

**BEST METHODS
OF RAILWAY
RESTRUCTURING
AND PRIVATIZATION**

RON KOPICKI
LOUIS S. THOMPSON

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COFINANCING AND FINANCIAL ADVISORY SERVICES
(PRIVATIZATION GROUP)
AUGUST 1995



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Manufactured and printed in the United States of America

First printing, August 1995

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Best Methods of Railway Restructuring and Privatization

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LIST OF ABBREVIATIONS

AAR	-	Association of American Railroads
ASTRO	-	America's Sound Transportation Review Organization
BOT	-	Build-Operate-Transfer
BR	-	British Rail
BRIS	-	British Rail Infrastructure Services
BRML	-	British Rail Maintenance Ltd.
BRT	-	British Rail Telecommunications Ltd.
BV	-	Banverket (Swedish National Rail Administration)
CGC	-	Canadian Grain Commission
CIS	-	Commonwealth of Independent States
CLC	-	Canada Labour Code
CLRB	-	Canadian Labour Relations Board
CLRs	-	Competitive Line Rates
CN	-	Canadian National Railway
CP	-	Canadian Pacific Railway
CTC	-	Canadian Transport Commission
CTC	-	Centralised Train Control
CWB	-	Canadian Wheat Board
CWPT	-	Chicago West Pullman Transportation Corporation
CWR	-	Central Western Railway
CWR	-	Continuously Welded Rail
D&H	-	Delaware & Hudson Railroad
EC	-	European Community
ESOP	-	Employee Stock Ownership Plan
EU	-	European Union
FA	-	Ferrocarriles Argentinos (Argentine Railways)
FC	-	FERROCARGO
FEMESA	-	Ferrocarriles Metropolitanos Sociedad Anónima
FSU	-	Former Soviet Union
GAF	-	Grupo de Apoyo Ferroviario
GTA	-	Grain Transportation Agency
GTK	-	Gross Ton Kilometers
HSE	-	Health and Safety Executive
ICC	-	Interstate Commerce Commission
IMU	-	Infrastructure Maintenance Unit
IPO	-	Initial Public Offering
JCC	-	Joint Cooperative Committee
JNR	-	Japan National Railway
JR	-	Japan Railway
JRCPC	-	Japan Railway Construction Public Corporation
MFRA	-	Maritime Freight Rate Act
MIS	-	Management Information System
NAFTA	-	North American Free Trade Agreement
NCA	-	Nuevo Central Argentino
NERSA	-	Northeast Rail Services Act
NLRA	-	National Labor Relations Act
NTA	-	National Transportation Act
NZRL	-	New Zealand Rail Limited
PCN	-	Public Convenience and Necessity
PPP	-	Public-Private Partnership

PSO	-	Public Service Obligation
PTA	-	Passenger Transport Authority
RDC	-	Railroad Development Corporation
RLA	-	Railway Labor Act
ROFE	-	Return on Funds Employed
ROI	-	Return on Investment
ROSCO	-	Rolling Stock Leasing Company
RSPO	-	Rail Services Planning Office
SJ	-	Statens Järnvägar (Swedish State Railways)
SOE	-	State-Owned Enterprise
SOS	-	National Statistics Office
STAA	-	Service Transportation Assistance Act
TRU	-	Track Renewal Unit
USRA	-	United States Railway Association
WGTA	-	Western Grain Transportation Act

ACKNOWLEDGMENTS

Grateful acknowledgments are due to the many contributors who made this volume possible. Special recognition must be extended to the principal authors of the case studies which provide the real world foundation for this report. The authors include Koichiro Fukui (Deputy Director General, Japan Development Bank), the principal author of the Japan Railways case study, Murray King (Executive Manager, Planning and Resources, New Zealand Rail), who researched and wrote the New Zealand Railways case study, Jorge C. Kohon (Adviser, Railway Restructuring Unit, Argentina), the principal author of the Argentina Railways case study, Jan-Eric Nilsson (Researcher at the Centre for Research in Transportation and Society, Sweden), the primary author of the Swedish Railways case study, and Brian Wadsworth (Director of Finance, Department of Transport, London, U.K.), the author of the British Railways case study. Without the keen insights of these individuals into the process and substance of specific railway restructurings, the present study would not have been possible.

In addition, we would like to thank Adil Cubukgil (President, Transmode Consultants, Inc., Ontario, Canada) and Richard Lande (President, Lande and Associates, Quebec, Canada), who contributed the substantive material that became the Canadian Railways case study, and Harvey Levine (Vice President, Association of American Railroads), who similarly contributed the core of the United States Small Railroads case study. We would like to extend additional thanks for refining and elaborating aspects of this last case study to William Loftus (President, The Short Line Railroad Association of America) and Alice Saylor (Vice President and General Counsel, The Short Line Railroad Association of America), and to John Dodgson (Reader in Economics, University of Liverpool, U.K.) for clarifying aspects of the British Railways case study, and also to Hans Hellström, Planning Manager, Statens Järnvägar, for clarifying data and other aspects of the Swedish Railways case study. We extend particular thanks to the contributors to the case study on the Japan National Railway and for this our gratitude is due to Kiyoshi Nakamura (Professor, Waseda University, Japan), Tsutomu Ozaki (Japan Development Bank), Hiroshi Sakamaki (Japan Development Bank), and Fumitoshi Mizutani (Associate Professor, Kobe University, Japan), all of whom contributed to the refinement and elaboration of this most interesting restructuring case study. Special mention goes to Heidi Mattila, Privatization Specialist, the World Bank, whose eleventh hour aid helped materially to strengthen the Swedish Railways case study.

In addition, we wish to thank the readers and reviewers of various drafts of this book. We benefited greatly from their critical and insightful comments. In particular, the contributions of John Meyer (Professor, Kennedy School of Government, Harvard University), Martha Lawrence (Principal, Transport and Management Consultants, Inc., Arlington, VA), Hernan Levy (Principal Evaluation Officer, Infrastructure and Energy Division, Operations Evaluation Department, World Bank), Klaus Schacht (Lawyer and Consultant, Treuhard Anstalt, Germany), Jorge Kogan (Director, Railway Restructuring Unit, Argentina), and Robert McAfee (Robert McAfee and Associates, Penn Valley, CA) were critical in helping us avoid problems that could have diminished the clarity and affected the content of the material in this volume. Their time and efforts are greatly appreciated.

Our special thanks go to the Governments of Japan, Sweden, Canada, and New Zealand, which provided the resources that funded the research represented in this volume. Without their generous assistance this effort would not have been possible and *Best Methods of Railway Restructuring and Privatization* would have remained uncollected and unavailable for future railway restructuring projects.

We are especially grateful for the support of Kevin Young, Manager of the Private Sector Development and Privatization Group of Cofinancing and Financial Advisory Services (CFS) of the World Bank, who encouraged us to undertake this study and whose valuable direction was instrumental in bringing this paper to completion.

Not least, we would like to thank those who labored with us in structuring, reorganizing, refining, polishing, and finalizing this paper. For their editorial excellence, hard work, and good spirits throughout the gestation of this volume, we thank most especially Emily Evershed, who kept this project on track and whose editorial expertise pervades every aspect of this study; John Swepston and Michael Watkins, whose desktop and graphic design skills were responsible for a document that provides strong visual support for the text; Heather Quick, whose research efforts helped amplify the text and confirm the concepts and theories contained therein; Andrea Chipman, who, with patience and expertise, typed much of the text and assisted with formatting; and Julie Fraser, of the Transport Division of the World Bank, who provided data from the World Bank Railway Data Base. In addition, special recognition goes to Druva Sahai, who, before he left the World Bank, managed the organization of the early study efforts for this project and whose good administrative efforts helped point the project in the right direction.

With so much capable assistance, it is difficult to acknowledge any shortcomings in the findings and conclusions presented in this volume. However, to the extent that these findings and conclusions may be deficient, the deficiencies are the sole responsibility of the two primary authors of this study.

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FOREWORD

This study, *Best Methods of Railway Restructuring and Privatization*, was developed as a reference work to provide practical information for public policymakers and railway executive managers and to provide context and guidance for their efforts to restructure the railways for which they have responsibility. The problems associated with railway restructuring differ from those that exist for other large-scale manufacturing or service enterprises. Railways have a unique position in the state ownership portfolios and industrial policies of most nations, by virtue of their long and complex histories and by virtue of the unique dual public utility/private use aspects of their industrial structure.

This study is designed to address the distinct structural issues associated with rail enterprise reform, the design of specialized intermediary institutions that carry out much of the work of railway restructuring, and the management techniques that are appropriately adapted to railway reform and restructuring. The theory that underlies this study is that lessons learned from a review of recent railway restructurings and privatizations may have a general application to railway structural reform efforts in other parts of the world. Hence, this study focuses on “best methods” and is built on seven case studies of recent railway restructuring efforts.

The case studies presented here cover Japan National Railway, New Zealand Railways, Argentina Railways, Swedish Railways, British Railways, small railroads in the United States, and Canadian Railways. The study found that no single restructuring approach adequately addresses the reform requirements of all carriers and all national transportation markets. However, valuable lessons can be learned in specific restructuring contexts that have general application to most other situations. This paper represents an effort to discover some of these lessons and to benchmark “best” enterprise reform structures, “best” designs for transformation institutions, and “best” restructuring management methods.

This study was prepared as part of the CFS Discussion Paper Series on privatization in developing and transition economies. Other papers in the same series have covered privatization programs in Argentina, the legal and regulatory frameworks in the countries of the former Soviet Union, privatization of the retail sector (or “small scale privatization”) in Hungary, Poland, and the Czech Republic, Japanese National Railways privatization, trade sale privatizations in Poland, Hungary, the Czech Republic, and the Slovak Republic, management contracts, Russian commercial real estate market development, and, most recently, new market opportunities in telecommunications.

The purpose of the Discussion Paper series is to disseminate current practices and the “lessons” learned in privatization. As a Department that covers all the World Bank’s borrowing countries, Cofinancing and Financial Advisory Services (CFS) endeavors to share with outside readers some of its cross-country experience in privatization. We are pleased to present this review of best methods of railway restructuring and privatization as part of the ongoing efforts of CFS to disseminate best methods of private sector development.

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EXECUTIVE SUMMARY

1. Introduction

Since the late 1970s many countries have been coping with the need to restore the financial and market performance of their railways. The need for competitive adjustments is a challenge that both privately owned and state-owned railways have had to face. Indeed, well-managed privately owned railways are in a perpetual state of strategic realignment. Continuous reinvention is their response to competition. Publicly owned railways, on the other hand, require higher government authority and explicit public policy re-direction before they can respond to the challenge of improving their competitiveness.

As the case studies in this report demonstrate, a fiscal "crisis" usually opens the door to state-owned railway restructuring. In many developing countries, when conventional management responses can no longer cope with a rapidly deteriorating fiscal or service breakdown, new options are considered and "crisis" managers are appointed and empowered. A fiscal crisis demonstrates the futility of "business as usual" and allows radical alternatives to be considered. Depending on the severity of the crisis, the options considered may be more radical or less radical and the design constraints placed on the restructuring agents will be more, or less, relaxed.

Modern technology effectively used by the trucking, water, and air competitors, and the rising service expectations of both shippers and passengers, typically precipitate the crisis that leads to change. It is important to note that market and competitive environmental developments, which diminish the competitive advantage of railways, appear to be universal and to adversely affect railways in many countries at the same time. To some extent competitive modal challenges across a broad international spectrum raise the basic issue of the continued viability of rail-based transport technology in an age of jumbo jets and high cube and heavy hauling tractor trailers.

However, the case studies presented in this report demonstrate that railway operations are in fact viable even in direct competition with non-rail private transport service providers equipped with modern technology. These case studies also demonstrate that to reclaim their inherent competitive advantage railways must reinvent themselves. Fundamental change is needed to restore the low cost and high quality service advantages that rail can provide vis-à-vis highway, inland waterway, and air modes. Restructuring entails a zero base review and realignment of existing as-

sets, liabilities, organizational structures, and even of the tasks that rail workers perform. Restructuring has proved an effective remedy for strategic drift in numerous real world cases, including those discussed in this report.

As the term implies, "restructuring" entails a clean break with past public choice practices, corporate governance protocols, management methods, and institutional arrangements. It implies, as well, a fundamental recalibration of service expectations and service delivery standards. Moreover, since railway restructuring affects the interests of multiple parties, it involves numerous political and economic trade-offs in the course of rebalancing these interests.

The objective of all restructuring activities is to enhance the value of railway assets. In general this is done in two ways: by putting available rail assets to their best and most valuable use as determined by open market prices, and by improving the productive use of assets or, to put it another way, by producing more transport services with fewer assets. Restructuring frequently leads to reinvestment. The zero base review of current operations and markets and the inventorying of existing assets frequently identify deferred capital projects which offer an investable rate of return. Restructuring frequently calls for recapitalization and greater private sector involvement. This private sector involvement takes many different forms — forms that are suited to the differing circumstances presented in this report.

In any case, the overriding objective of restructuring is to realign resources and their use with market needs in ways that will enhance the value of the surviving enterprise. Matching the service delivery capabilities of the rail enterprise with market requirements is the essence of the restructuring process. Changes in resources deployed by the enterprise that do not increase the value of the services provided to the enterprise's customers actually decrease the enterprise's economic value and should be avoided. Restructuring is typically intended to make rail enterprises financially self-sufficient. The assets and liabilities that the core rail business or businesses ultimately retain should be adequate to support their strategic mission(s) over the long term.

Other objectives may also be considered. These derive from the original rationale for government ownership, or for consolidation of diverse private operations under a single corporate control. The classic rationale for govern-

ment ownership and/or consolidated control stems from the presumed existence of natural monopolies. Traditional thinking about railways holds that the marginal cost of providing service declines as the scale and scope of rail operations increase. A primary rationale for the consolidation of rail operations under either private or public control often was to fully realize potential economies of scale. Another rationale was to control the economic power that a single source rail provider accumulates and to distribute the economic benefits among users. Economic theory tells us that an unregulated monopoly will price its services above the level of an enterprise in a competitive market or will simply produce less. Hence, a second classic rationale for government ownership was to curb the actual or potential abuse of market power that results from a natural monopoly.

However, scale economies, if they at one time existed in the rail industry, exist today only at the level of distinct functions or process elements, and these can and should be retained and, indeed, enhanced in the restructuring. However, as several of the case studies in this report clearly demonstrate, diseconomies tend to creep into large-scale public sector rail operations, which, over time, become bloated, slow to react, and bureaucratic, thereby losing their competitive edge. Evidence suggests that the ability of railways to change with the markets they serve, to rapidly develop new services that are responsive to shipper needs, and to become customer “problem solvers” (not simply “order takers”) is the primary source of competitive advantage in open transportation markets. Reclaiming this advantage is another key objective of restructuring and privatization.

Although the objectives of railway restructuring appear straightforward, in practice they are extremely difficult to realize. As is discussed in this report, it is useful to think of railway restructuring as a finite process or cycle with a definite beginning, middle, and end. During the restructuring process the cash flow generated by the rail assets, which are the focus of the restructuring effort, gradually improves and the value of these assets correspondingly increases. The time required to complete a railway restructuring is typically 6 to 12 years. Effective management of the restructuring process can reduce this cycle time and consequently can increase the time value of the cash flow generation and the value of the railway assets. This report identifies ways in which the restructuring process can be more effectively managed.

2. Case Study Experiences

The report is based principally on the experience gained in seven recent cases of railway restructuring. It attempts to extract from these case studies “best practices” that have relevance for other ongoing restructuring efforts. In par-

ticular, the report addresses four important aspects of railway restructuring: (1) the alternative forms that have been used to reorganize railway assets, liabilities, and work forces, and the alternative principles used to redefine organizational boundaries; (2) alternative mechanisms for disposing of railway assets and/or for attracting private sector investment; (3) the function, design, and organization of the intermediate institutions which typically carry out much of the work of railway restructuring; and (4) the project management methods that have proved effective in reducing restructuring cycle time and in realizing restructuring results. In addition, the case studies provide numerous “management lessons” that, although they are situation specific, nonetheless prepare and condition those contemplating railway restructuring for the work involved.

Five of the seven case studies, including the railways of Japan, New Zealand, Argentina, Sweden, and the United Kingdom, involved “top down” restructuring processes in which the government first designed an alternative organizational structure and then implemented a transition plan. The other two cases, which cover the emergence of a small rail industry in the United States and the reorganization of Canadian railways, deal with “bottom-up” restructuring processes in which the private sector took the initiative in divesting light density lines, merging corporate interests, or buying and selling trackage rights; in this process, government established and enforced general rules but the private sector took the restructuring initiative.

Each of the seven case study railway systems has recently been involved in a major restructuring effort. The lessons learned from the experiences of these railways are diverse, as can be seen from the following summaries.

In Japan the privatization of the former state-owned railway, Japan National Railway (JNR), took the final form of public stock offerings. Privatization was preceded by the restructuring of JNR into seven separate companies — six regional passenger railways and one national freight railway. The reform process took 10 years, from the time that it was recognized that radical restructuring was needed until the first of the JNR successor companies was sold to the public.

The New Zealand railway system was restructured in a multi-phase enterprise development program before it was ultimately sold to strategic investors. The transformation was motivated by transport deregulation but was propelled by a broad-based privatization program. The entire multi-stage process of reorganization took more than 10 years, commencing with the transformation of the former Railways Department into a statutory corporation and ending with the sale of corporate shares to prequalified investors through a competitive process.

The restructuring and concessioning of state-owned railways in Argentina took place over a remarkably short period of time (five years). This rapid privatization was motivated by the need to curb deficit spending and hyperinflation. Ferrocarriles Argentinos (FA), the state-owned railway, was restructured into 14 concessions, and over a five-year period all of these concessions were offered to the private sector.

Swedish state railways were separated into two activity centers. One center became the state-owned rail operating company, Statens Järnvägar (SJ). At this writing SJ held a monopoly for freight transport over the entire network and for passenger services over the main line network. The second center is Banverket (BV), the National Rail Administration. BV is responsible for providing and maintaining the country's railway infrastructure.

The reorganization of British Railways defines one extreme of the railway restructuring envelope. In the process of reorganization, British Railways was unbundled. The discrete value-adding functions, such as car maintenance, terminal operations, locomotive maintenance, track repair, unit train operations, etc., which are vertically connected in most other railways, were separated into numerous relatively small-scale enterprises. Each enterprise is to be offered for sale as a going concern or as an operating franchise to private operators. Ownership and management responsibility for the main line infrastructure remained unified in a state-owned track operating authority. Plans have been announced at the time of this writing to sell stock in this authority and to regulate it in the future as a public utility.

Railway restructuring in the United States has involved industry segmentation into two kinds of private carriers: (1) large inter-regional carriers and (2) small local carriers. Structural changes in the industry have been initiated primarily by the private sector within a regulatory framework that is supportive of railway reorganization. Since the liberalization of economic regulation in 1980, the U.S. rail industry has transformed itself in the face of strong competition from other modes. A distinguishing aspect of this restructuring process has been the creation of hundreds of small railways.

The Canadian experience is similar to that of the United States in the prerogatives given to managers of individual railways to restructure their own service networks, assets, liabilities, and work forces. However, unlike the U.S.-based railways, Canadian railways have been relatively slow to restructure in the face of challenges from both intermodal and intramodal competitors.

3. Alternative Railway Structures

Restructuring, in the sense in which it is used here, is an

inclusive term that refers to the recombination of enterprise building blocks in ways that enhance the economic value of the railway enterprise. Restructuring deals with the strategically significant changes that affect the railway as a going concern. Ultimately, value is measured in terms of the ability of the railway to satisfy the needs of its shippers and passengers in competition with other service providers.

The strategic building blocks with which restructuring deals include: (1) assets, (2) liabilities, (3) work forces, (4) management, and (5) strategic focus. As regards assets, restructuring begins with the division and reassignment, rehabilitation, abandonment, and/or replacement of physical assets. Where liabilities are concerned, restructuring includes the development of a balance sheet where none existed before, as well as the clarification and formalization of liabilities, and the re-engineering of outstanding debt to create a viable capital structure. Regarding the work force, restructuring deals with fundamental labor issues, including the number of employees, the mix of skills that the enterprise requires, and the conditions for employee severance or early retirement. With regard to management, restructuring addresses the values, skills, and capabilities of the management team and the possible need for change. Finally, in the area of strategic focus, restructuring relates to defining the railway's business, enhancing the source of its competitive advantage, and redirecting its competencies.

The specific form that railway restructuring takes in a particular setting derives, in part, from local design variables, the most important of which are the objectives being pursued through the restructuring process. It is important to note that the specific form also derives from the experience and creativity of the restructuring agent in defining potential restructuring options. The final choice of restructuring parameters occurs at the intersection of these two factors: design pre-conditions and options.

A number of asset restructuring prototypes emerged from the case studies. Once defensible markets are defined, a reasonable determination can be made regarding the appropriate complement of assets needed to serve each market. In successful restructuring, the reorganization of assets always comports with and responds to the needs of potential users. The following prototype asset segmentations have been used successfully by one or more case study railways to divide assets and to define distinct business activities.

CORE VERSUS NON-CORE ASSETS Every rail restructuring entails a fundamental segmentation of assets into "core" and "non-core" categories. The separation of essential from non-essential assets begins with the definition of the busi-

ness (or businesses) that will be pursued and the markets that will be entered. Typically, the result of this exercise is a vision of the business and of the ways in which the business can use its assets to create the greatest value.

In any case, all railways include under their stewardship some assets that are not essential to the core business, however it is defined. These “surplus assets” add no competitive advantage to the going concern. It follows that their liquidation will enhance the value of the entire restructured enterprise.

GEOGRAPHICAL DISTINCTIONS Unlike other markets, transport markets have a fundamental geographic dimension. Railway markets and the track and terminals that provide access to them can be segmented geographically in order to focus management attention on shipper and passenger needs which are typically local. Here a key analytical step involves segmenting freight and passenger use patterns into distinct and self-standing service sub-networks. Where traffic patterns are primarily local, economies of large-scale operation over a national network may not apply. Smaller operations may, in fact, be better suited to serving the needs of local shippers or passengers.

LINE OF BUSINESS DISTINCTIONS The logic that applies to geographic segmentation also applies to market-focused, line of business segmentation. Railways typically serve not one but dozens of distinct product markets, each with its own operating and geographic characteristics and each defined by different service needs and unique competitive challenges. Passenger and freight markets are the most obvious lines of business in which traditional railways participate. Unbundling rail assets along distinct lines of business makes sense when the objective of the restructuring exercise is to enhance the ability of the surviving enterprises to respond with tailored services to particular customer needs and when, moreover, the assets required to support distinct lines of business can be separately managed.

FUNCTIONAL DISTINCTIONS Another way of separating assets is along functional lines. Railways require at least four distinct value adding functions: train operations, track maintenance, equipment maintenance, and commercial (sales and marketing) functions. It follows that these distinct functions may be separated as part of the restructuring. The conventional wisdom in the rail industry has been that vertical integration is essential to efficient operations. However, the British Rail experiment with unbundling substitutes a fundamentally different paradigm — one based on competition in every function except that of train operating control, where a central track authority rents capacity to train operators.

HIGH DENSITY VERSUS LOW DENSITY TRAFFIC Another useful segmentation of rail assets involves a separation of lines that are profitable and that typically have high traffic density from lines that are less profitable (or not profitable at all) and that typically have low traffic density. This distinction can be used to facilitate abandonment of light density lines through a process regulated by government.

COMMON NETWORK USE VERSUS EXCLUSIVE NETWORK USE Another useful segmentation of assets is by category of track use. For example, private train operators can run over the tracks of multiple owners, as well as over their own terminal tracks or those of local service networks.

4. Alternative Asset Restructuring Mechanisms

Various mechanisms have been used in the case studies to separate, reorganize, and dispose of assets. An analysis of “best practices” reveals that specific mechanisms are best suited for the disposal or restructuring of specific types of assets and for the achievement of specific objectives. A list of mechanisms for disposing of reorganized assets follows.

AUCTION OF SURPLUS ASSETS The most direct and effective way to convert surplus assets into cash is through an open, contestable, and competitive auction process. Auctions do not always maximize the value realized from the sale of non-essential rail assets, but they require a minimum of management attention and typically are as effective in realizing full value as the preparation and marketing effort that goes into them is thorough. Not all alternative methods for liquidating surplus assets have proved equally successful. The lessons to be drawn from the case studies are that direct and open methods of disposing of surplus assets are frequently superior in realizing their full value than are more complex, negotiated, methods.

PUBLIC OFFERING OF STOCK The asset value of restructured railways frequently exceeds the value of the domestic or foreign corporations that are the potential purchasers. For this reason public offerings of shares may be the only viable domestic source of private capital. A public offering of stock is most appropriate for the transfer of ownership in a large corporatized railway that has successfully completed its restructuring and whose future earnings appear to have a high probability of growth. However, public offerings typically impose additional financial reporting obligations and additional fiduciary conditions on management, and also require more seasoning of the enterprise than does a sale to a strategic investor.

SALE TO PREQUALIFIED STRATEGIC INVESTORS The sale of restructured railway assets to strategic investors is appro-

appropriate when the enterprise is smaller in size, requires active management, and requires an immediate infusion of capital and/or improved technology in order to meet competitive challenges. The environment in which strategic investors are typically invited to participate is more risky than the environment in which a public offering of shares is possible. In the latter situation, the restructured railway has already demonstrated its viability. In the former, part of the work of restructuring remains to be accomplished.

An important issue involves the mechanism through which ownership rights awards are made to strategic investors. Under the best of circumstances, this process is open, contestable, and competitive. Frequently the sale is managed through a third party (for example, an investment banker) in behalf of the state. The third party qualifies potential investors, enters into a dialogue with them which results in a preliminary set of offering terms, and develops an offering memorandum. Then, after a period of due diligence review in which prequalified offerers are invited to examine both the financial and physical condition of the railway, qualified bidders are invited to prepare bids in response to formal offering terms.

CONCESSIONING UNDER CONTRACT Concessioning is an effective means of conveying ownership responsibility without conveying outright ownership of railway assets. Concessioning offers both the benefit and the risk of being revocable. Concessioning reduces front end capital costs to the concessionaire who uses public assets in return for a profit share and a commitment to reinvest in the railway. The concessionaire makes a contractual commitment to maintain assets under its custody, as well as to make additions and improvements as stipulated in the concession contract. Concessions also provide an instrument that government can use to contract out the operation of inherently unprofitable services, by asking concessionaires to bid on a minimum subsidy rather than a minimum profit-share basis.

FRANCHISING UNDER CONTRACT Franchises differ from concessions in that franchisees are not expected to make capital commitments to the business for asset renewal or expansion. Franchisees simply offer their technical and management capabilities and provide rail services using state-owned assets under contract to government departments. The terms of these contracts vary, but they usually include the specification of services provided and a basic fee and/or profit share.

LEASING AND OPERATING Another mechanism for restructuring assets involves leasing and operating. This has become a popular vehicle for the reorganization of assets operated by small rail companies. This mechanism substan-

tially lowers the entry cost since track and structures are financed by third parties.

MERGER, ACQUISITION, OR JOINT ASSET USE Mergers, acquisitions, and joint use agreements among private rail-based companies create the opportunity for ongoing asset restructuring and provide a safety net for the initial reorganization that conveyed rail assets from the state to private owners. The private sector is motivated to recombine rail assets in ways that enhance their value and realize operating synergies. The creation of operating synergies may take alternative forms: economies of scale through network expansion; economies of service through intermodal integration; or the serving of niche markets with minimal assets. The drive is always to realize greater market value with fewer assets.

One of the shortcomings of asset conveyance mechanisms other than outright sale is that the rights of concessionaires, franchisers, or contract operators are difficult to transfer to third parties or to merge. Under these circumstances, the benefits of restructuring may be short lived and the initially restructured enterprise may require future intervention to again adapt asset use to changing market requirements.

SALE OF OPERATING RIGHTS In contexts in which a track operating authority has emerged from the restructuring process to operate as a public utility, competitive mechanisms must be designed to ensure the fair and efficient allocation of operating rights over the network. However, the technical issues associated with auctioning operating rights over an integrated rail network to competing operators are complex, and only limited experience exists on which to base "best practices" comparisons.

5. Design of Intermediate Institutional Mechanisms

Much of the work of restructuring is done by intermediary institutions. These are typically separate and independent from the railways they help to reorganize. Railway reorganization normally requires an intermediary to (1) arbitrate between conflicting interests; (2) guide the process of restructuring toward its legislated ends; and (3) manage the entire process of reorganization as the primary enforcement agent, interpreter, and implementer of public policy.

The organizational forms, as well as the functions, of intermediating organizations vary widely. Intermediary institutions range from those playing well-defined transitional roles in the conveyance of assets from public to private ownership to those with no clearly defined "sunset," whose roles are more open-ended and self-perpetuating. Intermediary institutions may be regulatory bodies with the power to approve rail mergers, acquisitions, and line abandonments; special interdepartmental task forces that study spe-

cific aspects of reorganization and recommend specific enterprise reforms to legislative bodies; task forces within ministries of transportation with special responsibilities to oversee and direct the entire privatization process; or settlement corporations with charters to “buy out” surplus workers, to restructure rail liabilities into investment grade financial instruments, and to dispose of non-essential rail assets.

In some instances intermediaries have outsourced key functions to investment bankers and consulting firms. In other instances, they perform their work internally. In still other instances, they lead and direct interagency task forces. Institutions that carry out routine settlement functions — liquidating assets, resolving outstanding claims against railways, and restructuring residual liabilities — may take the form of large bureaucracies, sometimes staffed with surplus workers from predecessor railways.

A general lesson drawn from the case studies is that form affects function. The design of the intermediary institution, in particular, affects the time required to complete restructuring work and the effectiveness with which diverse interests can be reconciled. Smaller, leaner intermediary organizations staffed with competent professionals who also possess strong management skills appear to perform more efficiently than larger intermediary organizations. The former frequently engage and work with outside experts. The latter attempt to perform most of the work they undertake using internal expertise.

6. Managing the Railway Restructuring Process

Railway restructuring entails fundamental change, and fundamental change requires the organizational capacity to learn quickly and to work effectively in an environment characterized by profound uncertainty and significant professional risk. In the face of this uncertainty, participative managers create an environment in which change becomes the norm. They set in motion a process through which the entire intermediary organization learns together. This aptitude for institutional learning, more than any other attribute, distinguishes the effectively managed restructuring process.

More similarities than differences exist among effective restructuring management methods. One important common denominator is a process focus. Good managers understand and continually improve the work process from which restructuring results emerge. Through continuous process improvement, these managers gradually improve the timeliness, cost, and quality of restructuring outcomes.

Restructuring efforts are typically directed toward goals that are only partially defined at the beginning of the process. The goal at the outset is usually a completed transaction or a fully restructured and profitable railway organiza-

tion — or both. Goals are redefined and specified as the restructuring progresses through an interactive process typically involving analysis of alternatives, reconciliation of diverse expectations, and ultimate agreement on the “value” of the restructured assets and the best means for realizing full value potential. The intermediaries or regulatory bodies that oversee the process determine what will work and what will not by testing tentative solutions with potential buyers or customers, by probing knowledgeable and interested parties, and by refining original alternatives in light of this feedback — in short, by learning.

Open communication is essential to the learning process — communication with the numerous stakeholders in the process as well as communication with the general public. The processes involved in railway restructuring are only partially visible to the public. However when public communication does occur, active management is essential to assure a sustained political commitment. For example, deliberations or hearings are generally conducted at key points in the decisionmaking process in the public domain and are subject to open review and comment.

All key restructuring decisions involve some form of mediation among multiple, frequently conflicting, interests, and politically acceptable trade-offs require mechanisms for receiving diverse views and then reconciling them. It is important to comprehend the views and interests of various stakeholders clearly and to respond to them meaningfully.

Good restructuring management methods are effective and apply with positive results across national boundaries. Among these “best practices” are the following:

- Defining, before the process begins, the roles and mutual responsibilities among the intermediary institution, the railway, and other participants in the process, preferably by statute
- Setting explicit and quantitative performance improvement goals by benchmarking the performance of other restructured railways of similar size and service mix
- Elevating the project leader above the details and skirmishes of the reorganization process so that the leader can focus on recruiting a capable staff, directing the overall work process, and defining expected outcomes
- Pre-planning the work program so that modular elements are scheduled and sequenced in a rational and compressed order with some elements processed in parallel and others in series
- Recruiting expert staff with strong railway management skills, but who have not been inculcated with the railway’s change resistant “culture”

- Dividing the work into discrete modular components and assigning work on each component to cross-functional task forces
- Giving task forces ownership of their work and allowing them to make decisions close to the tactical details that they understand best
- Developing, early in the process, a model of the value of the railway and continuously refining and elaborating this model on the basis of market feedback; this model can be used to communicate with stakeholders and to focus policy dialogue on “value outcomes”
- Identifying and assessing multiple restructuring alternatives to create fallback positions and options for tactical retreat
- Reviewing periodically and reassessing the progress of the restructuring; this review should include the views of shippers and passengers, who ultimately determine the value of the reorganization, and of potential private investors
- Creating a market for new ideas by using multiple advisers to test and refine new directions in advance of a public commitment; the World Bank has participated in an advisory role in many railway restructuring activities
- Presenting the final vision of the restructured railway in a system plan and disseminating this plan among all stakeholders. The plan then becomes the architectural blueprint for reorganization activities. ■

CHAPTER ONE

INTRODUCTION

1. Scope of the Study

The subject of this study is railway restructuring. The point of view presented here is that of a senior railway manager or a public official charged with responsibility for improving the financial and market performance of a rail carrier. The study deals with both state-owned railways and private railways. The underlying premise is that in competitive markets both types of carriers require a periodic strategic overhaul.

Restructuring involves the radical reorganization of assets, liabilities, and work in ways that improve a rail carrier's ability to respond to its customer's needs. Railways, like other service providers, are in the business of creating value for their customers. As the needs of customers change, or as customers discover new ways to satisfy their needs, the railways must redefine their services, trim their cost structure, and reach customers more effectively in order to increase the value that they are able to deliver and thereby regain their customers' service commitment.

In the case of state-owned railways, the restructuring process is often quite radical: non-productive assets are sold off, debt is restructured or reassigned, and work forces are slashed. When the pressure for reorganization reaches the point at which politicians accept the need to restructure, state-owned railways have often lost touch completely with the customers that they were organized to serve. Therefore, with state-owned railways the restructuring process generally begins with first principles.

With private railways the process of restructuring is equally essential to regaining competitive advantage, but the gap between customer expectations and the ability of the carrier to productively respond is typically not as great. Private railways usually maintain closer links with their customers and markets. Nevertheless, competitive pressures compel private railways to use their assets and work forces more productively and also force them to refocus their strategies. In most cases restructuring necessitates reducing the cost structure. In many cases, however, restructuring may dictate additional investment to enter new markets or to provide new services.

This study is based on the premise that successful railway restructuring experiences can provide lessons that have relevance elsewhere. One set of lessons involves the restructuring archetypes that appear to work best. For ex-

ample, experience gained in reorganizing railway assets is represented in terms of a typology of different reorganization archetypes. Since railway assets are typically among the most valuable assets in the state's infrastructure portfolio, reorganizing them so as to enhance and not dissipate their value is important. Similarly, it is important to transfer experience gained with the reorganization of liabilities and with the reorganization of work forces. The reorganization of all three is, of course, interconnected. Our focus in this study is on "best methods." Using the experiences gained from case studies, we discuss how and under what circumstances assets, liabilities, and work forces can best be reassembled so as to better match market requirements.

The study also deals with the institutional arrangements that facilitate restructuring. Again, starting with the case studies, we identify a range of institutional forms through which restructuring is carried out. In the case of private railways, this work is performed by market makers (business brokers/investment bankers, etc.) and regulators. With state-owned railways, private owners are not often prepared to offer attractive terms for an "as is" purchase. The work of preparing a railway for sale, of restructuring it even if no sale is contemplated, of marketing the carrier and its assets, and of negotiating all of the restructuring terms typically falls to an intermediary agency. The present study characterizes the organizational forms that these intermediaries take.

Railway restructuring is a process as well as an outcome. The case studies suggest that certain management practices can facilitate the restructuring process. These management practices appear to speed the transition and produce better financial results during the restructuring. Therefore, this study attempts to identify "best management methods" employed in the case studies — methods that appear to reduce restructuring time and improve the positive flow of funds during the transition.

Privately owned railways are in a perpetual state of restructuring and realignment. Continuous reinvention is the essence of competitive response. The publicly owned railways require a decisive regime of restructuring before they can change ownership or compete. The speed with which railway assets are reorganized is one important measure of the effectiveness of the change management process.

This report is based on seven case studies. Five of these

— the railways of Japan, New Zealand, Argentina, Sweden, and the United Kingdom — involved “top down” restructuring processes in which the government first designed an alternative organizational structure and then implemented a transition plan. The other two case studies — the emergence of a small rail industry in the United States and the reorganization of Canadian railways — deal with “bottom up” restructuring processes in which the private sector took the initiative in divesting light density lines, merging corporate interests, and buying and selling trackage rights; in this process, government established and enforced the rules but the private sector took the initiative.

2. Importance of Railway Restructuring

Part of the rationale for railway restructuring that will possibly lead to privatization is the strategic importance to the national economy of the railway itself. Since railways are often the largest infrastructure component in a country’s investment portfolio, the government has a vast amount of capital tied up in railways. To the extent that the capital is used productively, the entire economy is enhanced; to the extent that this capital is not used productively, the opposite is the result.

Railways are among the largest enterprises in most emerging economies. Their economic significance can be measured in terms of the proportion of total gross revenue and number of employees in comparison with the manufacturing industry (Figure 1.1). However, the strategic importance of railways transcends their role as large-scale enterprises. In most economies, rail prices provide the basic parameters around which commodity markets take shape. In many countries railway rate structures define the economic geography for both internal and international product markets.

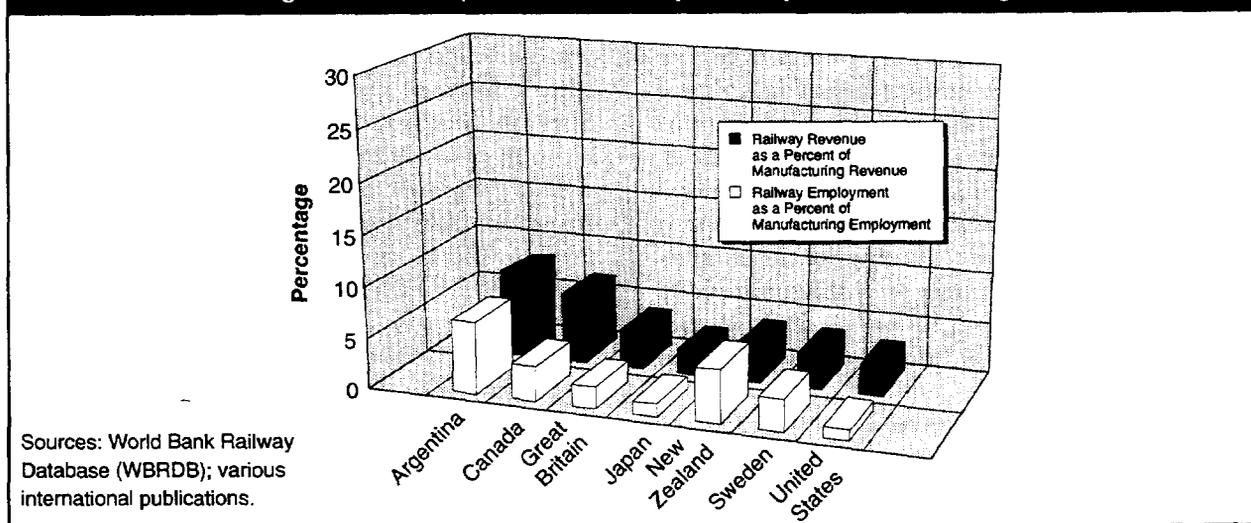
Railway prices define the parameters for commercial relations between producers and consumers, and the scope of feasible buy/sell transactions. To the extent that rail prices reflect the marginal cost of providing rail services, efficient economic decisions are made along the entire supply chain. To the extent that prices are too low or too high, the result is economic distortion. For example, plant location decisions or plant sizing decisions that do not reflect the full cost of transportation service tend to result in plants that are centralized and in which economies of scale in production overwhelm all other logistical cost factors. Such facilities become non-competitive when transport prices rise to world market levels.

Railway rates are the basis through which value at one location is translated into value at all other locations within the national market. Other transport modes typically price under published rail tariff “umbrellas.” It follows that railway price distortions will have a pervasive effect on an entire economy. While railway restructuring would be important for this reason alone, there are other areas that are important as well.

3. Economic Features of Railways

Railways define one corner of the envelope of state-owned enterprises that are viable candidates for restructuring or privatization. Railways define the frontier between public utilities and infrastructure and the outer limits for large-scale enterprises suitable for conveyance to the private sector. Not long ago, the textbook wisdom was that railways were a natural monopoly and that large economies of scale in producing rail services could be realized only through centralized management. State intervention was required not only to assure that the economies of scale were realized

Figure 1.1 - Comparison of Railway Industry to Manufacturing



through massive infrastructure investment but also to assure that they were fairly distributed within the national economy.

Clearly, this perception no longer applies. The technology base of the railway industry has shifted; with advanced technology the industry has become less labor and capital intensive and significantly more information and communication intensive. Transportation markets themselves have changed since most state-owned railways were organized. Today shippers and passengers require much higher levels of service: more frequent, more reliable, and faster service. They also expect greater customizing in their services: more door-to-door, just-in-time, flexible-lot-size delivery; more zero-defect delivery; faster claims adjustment, etc. Like consumer product markets, transportation markets evolve and user expectations rise with the rising wealth and education levels of the target market. Multinational corporations, more sophisticated travelers, and more demanding shippers define the increasingly high service requirements. In market after market, as threshold service requirements rise, alternative modes of transportation are challenging rail pre-eminence. Truckers and bus operators are better able to customize their service delivery, to handle smaller shipment sizes efficiently, and, with modern roadway equipment, to challenge the cost advantage of poorly managed railways. In particular, larger capacity highway vehicles have closed the payload "gap" that had traditionally been a source of competitive advantage for railways.¹

Three factors call into question the "natural monopoly" premise: (1) with new technologies and management methods the railway production function can be shifted, with the result that compelling economies of scale no longer apply; (2) in any case, some economies of scale are offset by more segmented transport markets in which shippers and passengers demand more custom-fit services; and (3) competition from other transport modes has intensified, particularly on a service basis. As a result, the cost advantage that rails formerly enjoyed has diminished in both market significance and relative size.

Despite the decline in the competitive position of railways, many governments have continued to use rails as instruments of economic policy. In particular, they continue to use railway employment as a social safety net and an economic stabilizer. Rail tariffs and fees are frequently used to combat inflation. Rail employment is used to absorb unem-

¹For example, the payload ratio of truck to rail car in Argentina has declined to 1:18. Heavy loading and longer truck combinations have tilted competitive cost advantages in favor of highway vehicles in most countries, while maximum axle load constraints set at the time of original track and structure construction have constrained most railways.

ployment. Regional development policies and the subsidies to internal commodity markets are effected through rail prices. However, as the inherent competitive advantage of railways has diminished, the state's continued use of railways as policy instruments tends only to further undermine their financial viability.

There are several unique features that to a greater or lesser extent characterize all railways (see Box 1.1). The most important is that railways are capital intensive. As an example, the capital turnover for railways in the United States is 6.4 compared with 23.9 for manufacturing industries and 12.6 for service industries. This means that for every dollar committed to a railway's asset base, only six dollars of revenue are generated.

Compared with that of its competition, the capital turnover of the railway industry is relatively low. For example, the trucking industry in the United States has a capital turnover ratio of 42.6. For every dollar committed to their capital base, truckers generate US\$43 in revenue. The capital turnover of the trucking industry is about seven times greater than that of the railway industry. One way in which restructuring should improve rail performance is by increasing the productive use of capital (see Table 1.1).

The second key feature of railways is that they are labor intensive. The turnover per employee for United States railways is 0.15. This compares with the turnover in manufacturing which is 0.16 dollars per employee, and compares unfavorably with service industries generally. The latter parameter is 0.02. A comparison of rail turnover with trucking shows that the trucking industry has the advantage. A second way, then, in which restructuring could improve rail competitiveness is through improved labor productivity (see Table 1.2).

The railway industry is a complex business which requires sophisticated control systems. It entails the day-to-day management and coordination of equipment and employees

Box 1.1 - Distinguishing Features of Railways

- Capital Intensive
- Labor Intensive
- Complexity of Business
 - Requires Intensive Management and Coordination
- Outdated Technology Base and Operating Methods
- Information Intensive
- Unionized Organization
 - High Wages
 - High Benefits
- Highly Specialized Skill Base

Table 1.1 - Railway Asset Utilization
(ton km + pass. km per track km [000])

	Before Restructuring	After Restructuring ¹
Argentina	567	n.a.
Great Britain ²	2,800	2,857
Japan	9,600	13,618
New Zealand	700	n.a.
Sweden	2,000	2,482

¹Most recent year available.
²Partially complete as of publication date.
n.a.: Not available.
Source: World Bank Railway Database (WBRDB).

counted in the thousands and scattered over an extensive geographic area. Along with the physical distribution of cargoes, railways include equipment manufacturing and maintenance, track maintenance, and large-scale civil works engineering in their core business activities. As a result of the diversity of their work requirements, railways have diversified the skills on which they rely and have evolved complex management structures, typically with functional orientations. Restructuring typically reverses this process of skill diversification and elaborate management structures by simplifying the work to be performed and by redirecting management toward the customer. For example, the number of distinct job classifications that existed before and after the restructuring typically decreases, as does the number of management reporting levels before and after the transformation.

Table 1.2 - Railway Labor Productivity
(ton km + pass. km per employee [000])

	Before Restructuring	After Restructuring ¹
Argentina	276	n.a.
Great Britain ²	260	343
Japan	606	1,428
New Zealand	154	192
Sweden	693	980

¹Most recent year available.
²Partially complete as of publication date.
n.a.: Not available.
Source: WBRDB.

Highly structured, multilayered management systems were needed to manage large and complex organizations in the days before computerized management information systems. De-layering has occurred subsequently, because computer systems enable each person to manage much more information. Organizational restructuring occurs where the railway organization catches up with employee capabilities.

Another key characteristic is that many railways, particularly many state-owned railways, have not updated their technology bases or operating methods. Where modern information technology has been implemented extensively, it has had a major impact on railways, transforming the nature of the work for these railways. Advanced information and communications technology has improved both labor and capital productivity and has upgraded the quality of services. Other basic technologies, such as heavy loading and specialized rail cars, high speed passenger trains, and intermodal technologies, have also improved significantly over the past 20 years. Collectively, these technologies offer an opportunity to radically transform the way that railways conduct business. This shifting technology frontier can make the industry less labor intensive. Track maintenance, for example, can be almost completely mechanized. Equipment maintenance can be partially automated. Smaller train crews can run further and operate heavier trains. Renewing the technology base should be one of the driving forces of railway restructuring, not the end result.

Another common feature of railways is that they are typically unionized. As a result, in many economies railway employees enjoy relatively high wages and high levels of benefits. In some economies rail unions pioneered the development of protective labor legislation, and as a result both rail unions and rail employees frequently enjoy unique statutory protection that may make rail restructuring more difficult to carry through.

In many cases the work performed by railway employees is not only defined by dated technology but is also constrained by scope and work rules contained in union contracts. As a result of this combination of factors, the skills that rail workers develop are highly specialized and have limited application outside the industry. This poses a labor market re-entry problem that is difficult to deal with when restructuring takes place. Significantly, railways tend to operate within a closed and private culture. Many state-owned railways operate schools and provide their own housing and health care. Replacing these services poses another unique challenge for those undertaking railway restructuring.

4. "Best Methods" Approach

Most governments, and indeed most railways, approach the restructuring process with little previous experience. They begin with only a general idea of the restructuring options

that are available to them, and with less of an idea of how to manage the process. The process of reform and restructuring is in itself a learning process. The intermediary agencies through which most of the work is carried out begin their efforts by noting the gap between the railway's current performance and some external measure of excellence. In subsequent steps they identify the root causes of the gap and take action to close it.

The approach taken in this study involves a systematic search for superior railway restructuring and privatization archetypes and methods, with the expectation that these can be adapted to future restructuring efforts and thus will improve future results. This study is intended to benchmark elements of the restructuring process by identifying and characterizing "best methods." In general, the study assesses two kinds of methods: (1) specific techniques and policies which appear, in specific case studies, to positively effect both the outcome and the timing of the overall restructuring process; and (2) general principles which stand behind specific techniques and policies and which apply to more than one case study.

This study is not intended to provide a recipe for railway restructuring. Indeed, the process is inherently situation-specific and should be developed in the context of a particular railway system. Rather, the study is intended to suggest superior ways of managing discrete value-adding elements that make up the overall process, and to separate methods that appear to work well from those that appear not to work. The intent is to provide a body of practical knowledge and specific tools, and also a conceptual framework and a comparative context for policymakers and railway reformers so they can understand the available options when they undertake railway reorganization.

The case studies presented here are the source of the "best methods." In the development of each case study the focus was on the underlying process and on the lessons that were learned from it. The question considered was what changes the implementing agency might make in its approach if it were to take up the challenge again, and what methods and policies it would maintain. More specifically, an attempt was made to answer the following questions:

- What restructuring options were initially considered and why was a particular option selected?
- What institutional arrangements and organizational designs were used to guide, direct, and manage the restructuring process?
- What specific management methods and policies were used to realize superior restructuring results?

From answers to the above, the best methods emerged.

5. Railway Case Studies

Each of the seven railway systems selected as a case study subject has recently completed a major restructuring. The lessons learned from the experiences of these railways are diverse; they are also still current. Indeed, in several cases the case studies took the form of work in progress. What follows is a brief description of each rail restructuring and an explanation of why it was selected for this report.

JAPAN In Japan the privatization of the former state-owned railway, Japan National Railway (JNR), took the final form of public stock offerings. Privatization was preceded by the restructuring of JNR into seven separate companies — six regional passenger railways and one national freight railway. The reform process took 10 years, from the time that it was recognized that radical restructuring was needed until the first of the JNR successor companies was sold to the public. The process of railway reform and restructuring in Japan took place in a crisis environment at a time when JNR's debt burden exceeded \$300 billion² and the financial drain of covering the mounting debt service exceeded the government's capabilities. Only a crisis of such serious dimensions caused political leaders to make decisions that entailed significant political risk. The reform of JNR that began in 1983 followed four unsuccessful efforts. Several aspects of this final effort were unique, including the high level of authority at which the reform was initially designed, the creation of a strong and effective intermediary agency to manage the implementation, and the sustained political will to support the reforms that the ruling party demonstrated through two governments. The case of JNR clearly demonstrates that a large state-owned railway can complete the transition from public ownership to private ownership successfully and at the end of the transition can compete successfully for passengers, freight, and capital. The transformation of JNR was neither easy nor smooth. However, the original restructuring blueprint, with several mid-course corrections, proved effective in guiding the privatization process through numerous unanticipated difficulties. Table 1.3 represents key parameters for the railway over the past six years.

NEW ZEALAND The New Zealand railway system was restructured in a multi-phase enterprise development program before it was ultimately sold to strategic investors. The transformation was motivated initially by transport deregulation but was propelled subsequently by a broad-based privatization program. The entire multi-stage process of reorganization took more than 10 years, commencing with

²Amounts in US\$ are indicated by \$.

the transformation of the former Railways Department into a statutory corporation in 1982. In 1990 the corporation was further restructured and New Zealand Rail Limited was established. This limited liability company was privatized in 1993. In July 1993, New Zealand Rail Limited was sold, as a single unit, to a consortium of New Zealand and foreign investors. This sale represented the culmination of a process that reformed labor-management law, developed a balance sheet and capital structure, downsized New Zealand Rail's asset base, refocused its commercial orientation, de-

regulated transport markets generally, transformed the carrier's culture, and built a separate and effective financial management capability where none had existed previously. Table 1.4 represents key performance parameters for the New Zealand railway over the most recent six years.

ARGENTINA The restructuring and concessioning of state-owned railways in Argentina took place over a remarkably short period of time — in fact, over five years. This rapid privatization was motivated by the need to curb deficit

Table 1.3 - Japan: Key Railway Performance Statistics

	1987	1988	1989	1990	1991	1992
Kilometers of track:	29,987	29,809	24,945	23,813	23,962	28,461
Net ton kilometers:¹	20,000	23,000	24,752	26,803	26,791	26,219
Net passenger kilometers:¹	204,679	217,587	222,670	237,551	247,031	249,603
Number of freight cars:	30,753	30,534	29,765	30,170	30,231	28,886
Number of passenger cars:	2,852	2,423	2,408	2,286	2,169	2,065
Traffic mix (Pass. km as % of TU):	91.1	90.5	90.3	90.2	90.1	90.6
Ton km + pass. km per km of track:¹	10.6	11.5	12.1	13.0	13.5	13.5
Ton km + pass. km per employee:²	1,125	1,214	1,256	1,364	1,417	1,428
Yield:³	n.a.	n.a.	n.a.	.11	.16	.15
Total employees:	199,740	198,164	197,052	193,763	193,251	193,196
Total asset value (Constant US\$000,000):	60,688	58,522	58,161	n.a.	173,995	169,861
Operating ratio:	96.0	94.3	93.0	91.5	84.7	80.1

¹In '000,000. TU: Traffic units.
²In '000. n.a.: Not available.
³Total US\$ revenue per (ton km + pass. km). Source: WBRDB.

Table 1.4 - New Zealand: Key Railway Performance Statistics

	1985	1986	1987	1988	1989	1990
Kilometers of track:	4,420	4,366	4,266	4,358	4,130	4,283
Net ton kilometers:¹	3,192	3,051	2,912	2,924	2,682	2,408
Net passenger kilometers:¹	n.a.	n.a.	n.a.	n.a.	n.a.	0
Number of freight cars:	22,176	19,516	17,219	14,770	12,306	10,067
Number of passenger cars:	176	162	160	104	107	108
Traffic mix (Pass. km as % of TU):	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ton km + pass. km per km of track:¹	.7	.7	.7	.7	.7	.6
Ton km + pass. km per employee:²	181	n.a.	232	233	214	192
Yield:³	.11	.10	.09	.09	.08	n.a.
Total employees:	17,638	n.a.	12,560	12,560	12,560	12,560
Total asset value (NZ\$ 000,000):	925	1029	1111	1102	1066	n.a.
Total asset value (Constant US\$000,000):	555	617	667	661	640	n.a.
Operating ratio:	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

¹In '000,000. TU: Traffic units.
²In '000. n.a.: Not available.
³Total US\$ revenue per (ton km + pass. km). Source: WBRDB.

spending and hyperinflation. Ferrocarriles Argentinos (FA), the state-owned railway, was restructured into 14 concessions, and over a five-year period all of these concessions were offered to the private sector. The Argentina experience was unique in that a small group of privatization intermediaries solved complex problems in an unprecedentedly short time and realized profound organizational changes, ownership changes, and cultural changes that were more far-reaching and complete in their implementation than those in any other emerging market economy in recent years. Although transformation was not complete at the time of this writing, and although uncertainties remain about the success that new private operators may have, the country has made a remarkable start in the effective private sector operation of its railway system. Table 1.5 provides a statistical picture of the Argentine railways for the period 1988-91.

SWEDEN Prior to 1988, the Swedish railway system operated as a government department subject to direct government control. The Railways Department pursued both commercial and social objectives, with social objectives often overriding commercial goals. The railway system's operations were protected from trucking competition by economic regulations. The deregulation of trucking unleashed competitive forces that threatened the viability of rail transport. In response, the Swedish state railways were separated into two activity centers in 1988. One center became the state-owned rail operating company, Statens Järnvägar (SJ). At this writing SJ held a monopoly for freight transport over the entire network and for passenger services over the main line network. However, legislation passed in 1994 and ef-

fective in 1995 opens the Swedish rail infrastructure to private sector access. In spite of its legal status, SJ, as a state enterprise, enjoys most of the freedoms of a private firm and is motivated by the same economic incentives. In recent years its management has succeeded in defining a commercial culture within the enterprise and in reclaiming market share previously lost to competing modes. The second center is Banverket (BV), the National Rail Administration. BV is responsible for providing and maintaining the country's railway infrastructure. It maintains way and structures, signaling, telephone services, and electricity supply. BV is supported by state appropriations and allocates its funds on the basis of cost-benefit principles. BV charges SJ for use of the rail infrastructure and it will be primarily responsible for leasing track use to other competing rail operating companies when entry is opened in 1995. While SJ is the primary operator on the national network, BV has the authority to reassign operating rights. Table 1.6 summarizes the performance statistics for the Swedish rail system over the period 1987-92.

BRITAIN The reorganization of British Railways defines one extreme of the railway restructuring envelope. In the process of reorganization, British Railways was unbundled. The discrete value-adding functions, such as car maintenance, terminal operations, locomotive maintenance, track repair, unit train operations, etc., which are vertically connected in most other railways, were separated into numerous relatively small-scale enterprises. Each enterprise is to be offered for sale as a going concern or as an operating franchise to private operators. Ownership and management

Table 1.5 - Argentina: Key Railway Performance Statistics

	1986	1987	1988	1989	1990	1991
Kilometers of Track:	35,818	35,300	21,682	35,754	35,754	35,754
Net ton kilometers:¹	9,066	8,257	n.a.	8,409	7,659	7,860
Net passenger kilometers:¹	10,288	12,495	n.a.	10,624	10,642	10,642
Number of freight cars:	40,321	40,321	n.a.	33,657	32,823	32,823
Number of passenger cars:	2,597	2,597	n.a.	2,498	2,483	1,702
Traffic mix (Pass. km as % of TU):		60		56	58	58
Ton km + pass. km per km of track:¹	.6	.6	n.a.	.5	.5	.5
Ton km + pass. km per employee:²	193	212	n.a.	204	211	276
Yield:³	391	n.a.	n.a.	n.a.	n.a.	n.a.
Total employees:	100,029	98,096	n.a.	93,415	86,856	67,000
Total asset value:	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Operating ratio (%):	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

¹In '000,000. TU: Traffic units.
²In '000. n.a.: Not available.
³Total US\$ revenue per (ton km + pass. km). Source: WBRDB.

Table 1.7 - Britain: Key Railway Performance Statistics

	1987	1988	1989	1990	1991	1992
Kilometers of track:	39,433	39,338	39,265	39,239	39,230	39,097
Net ton kilometers:¹	17,466	18,104	17,532	15,986	17,274	15,509
Net passenger kilometers:¹	33,140	34,315	33,323	33,191	32,058	31,718
Number of freight cars:	46,398	39,313	36,008	34,403	30,888	21,235
Number of passenger cars:	4,018	3,609	3,292	3,100	2,722	2,763
Traffic mix (Pass. km as % of TU):	64.7	65.4	64.7	67.3	65.3	66.7
Ton km + pass. km per km of track:¹	3.0	3.2	3.1	3.0	2.9	2.8
Ton km + pass. km per employee:²	314	350	379	363	358	343
Yield:³	.21	.19	.20	.21	.20	.19
Total employees:	161,188	149,900	134,013	135,321	137,788	137,729
Total asset value (£ 000,000):	1,788	n.a.	n.a.	n.a.	4,550	7,380
Asset value (Constant US\$000,000):	3,183	n.a.	n.a.	n.a.	8,099	13,136
Operating ratio:	92.1	87.4	81.6	120.8	102.2	101.7

¹In '000,000.

²In '000.

³Total US\$ revenue per (ton km + pass. km).

TU: Traffic units.

n.a.: Not available.

Source: WBRDB.

Table 1.8 - United States: Key Railway Performance Statistics

	1987	1988	1989	1990	1991	1992
Kilometers of track:	355,674	344,676	336,003	322,700	316,260	307,405
Net ton kilometers:¹	1,396,007	1,477,488	1,502,396	1,530,743	1,534,643	1,576,007
Net passenger kilometers:^{1*}	8,702	9,158	9,610	9,769	10,117	9,824
Number of freight cars:	688,784	652,123	630,852	604,672	580,471	552,787
Number of passenger cars:[*]	1,770	1,810	1,972	1,955	1,967	1,962
Traffic mix (Pass. km as % of TU):	0	0	0	0	0	0
Ton km + pass. km per km of track:¹	6.5	7.2	7.5	7.9	8.2	8.6
Ton km + pass. km per employee:²	5,617	6,264	6,603	7,073	7,436	7,983
Yield:³	.022	.022	.020	.019	.018	.018
Total employees:	248,526	235,880	227,548	216,424	206,386	197,421
Total asset value (US\$ 000,000):	55,581	57,669	58,657	57,387	58,028	58,400
Operating ratio:	89.7	88.8	89.6	86.9	100.8	89.3

¹In '000,000.

²In '000.

³Total US\$ revenue per (ton km).

^{*}For Amtrak only.

TU: Traffic units.

n.a.: Not available.

Source: WBRDB.

Note: All other measures except for net pass. km and number of passenger cars refer to U.S. Class I freight railways.

ing are quite strong. The regulatory environment, however, is not fully supportive of reorganization, and dual private/public ownership further complicates the reorganization process. Tables 1.9 and 1.10 demonstrate important and key statistics for the primary Canadian carriers for the period 1987-92.

6. Organization of the Study

The study that follows is divided into 12 chapters. The 3

chapters that follow this introduction deal with general lessons that can be drawn from the case studies. Chapter 2 is concerned with the substantive form of railway restructuring efforts. It develops a typology of alternative railway structures and deals with issues of assets, liabilities, and work force restructuring. Chapter 3 deals with the organization, design, and leadership of the intermediary institutions that carry out most of the work of restructuring. Chapter 4 discusses railway restructuring as a management process. The

CHAPTER TWO

STRUCTURAL OPTIONS

1. Introduction

All of the case studies included in this volume deal with railway restructuring. Restructuring, in the sense in which it is used here, is an inclusive term that refers to the recombination of enterprise building blocks in ways that enhance the economic value of the enterprise. Restructuring deals with all of the strategically significant changes that directly affect the value of a railway as a going concern. Ultimately, value is measured in terms of the ability of the railway to satisfy the needs of its shippers and passengers in an open market in which the rail carrier competes with other service providers. Competing service providers may include shippers/passengers who can satisfy their own logistics/mobility needs with their own resources, as well as third party service providers who operate independently. The value of rail service is simply the economic cost or service quality advantage that a rail carrier realizes vis-à-vis these alternative service providers.

The strategic building blocks with which restructuring deals include: (1) assets, (2) liabilities, (3) work forces, (4) management, and (5) strategic focus. As regards assets, restructuring begins with the division and reassignment, rehabilitation, abandonment, and/or replacement of physical assets. Where liabilities are concerned, restructuring includes the development of a balance sheet where none existed before, as well as the clarification and formalization of liabilities, and the re-engineering of outstanding debt to create a viable capital structure. Regarding the work force, restructuring deals with fundamental labor issues, including the number of employees, the mix of skills that the enterprise requires, and the conditions for employee severance or early retirement. With regard to management, restructuring addresses the values, skills, and capabilities of the management team and the possible need for change. Finally, in the area of strategic focus, restructuring relates to the definition of the railway's business, the source of its competitive advantage, and the redirection of its competencies.

This chapter is based on the observation that a periodic "zero based" review of railway strategy is essential to maintaining economic advantage in competitive transportation markets. Periodic restructuring is all the more essential for railways when competitors are private companies or owner operators, when these competitors have access to modern

technology, and when they deal directly and responsively with customer problems and are quick to redirect their resources to solve these problems. Significantly, this set of environmental conditions describes an increasing share of the world's national transport markets.

The need for restructuring also increases in proportion to the time that has elapsed since the last makeover. For this reason, the need to restructure state-owned railways is typically great, since most state owned railways may never have been recalibrated strategically and, as a result, have over time lost their competitive advantage vis-à-vis other transport modes.

In this chapter we develop a typology of restructuring forms that may prove useful in designing a restructuring plan appropriate to specific local requirements. The following section discusses general restructuring design considerations. It is followed by sections on asset restructuring, liability restructuring, work force restructuring, executive management restructuring, strategic refocusing, and legal issues. The chapter concludes with a discussion of best practices.

2. Restructuring a Railway: General Design Considerations

The specific form that railway restructuring takes in a particular setting derives, in part, from local design variables, the most important of which are the objectives being pursued through the restructuring process. The specific form also derives, in part, from the experience and creativity of the intermediary agent in defining potential restructuring options. The final choice of restructuring parameters occurs at the intersection of these two factors: design preconditions and options.

In general the objective of restructuring is to realign resources and their use with market needs in ways that enhance the value of the surviving enterprise. Matching the service delivery capabilities of the rail enterprise with market requirements is the essence of restructuring. Changes in resources deployed by the enterprise that do not increase the value of the services provided to its customers actually decrease the enterprise's economic value.

Restructuring is also typically intended to make rail enterprises financially self-sufficient. The assets and liabilities that the core rail business or businesses ultimately re-

tain should be adequate to support their strategic mission(s) over the long term.

Other objectives may also be considered. These derive from the original rationale for government ownership, or for consolidation of diverse private operations under a single corporate control. The classic rationale for government ownership or consolidated control stems from the presumed existence of natural monopolies. Traditional thinking about railways is that the marginal cost of providing service declines as the scale and scope of operations increases. A primary rationale for the consolidation of rail operations under either private or public control is to fully realize potential economies of scale. Once scale and scope economics are realized, the challenge is to distribute the resulting benefits equitably. Economic theory tells us that an unregulated monopoly will price its services above the level of an enterprise in a competitive market or will simply produce less. Hence one reason for government ownership is to curb the actual or potential abuse of market power that results from a natural monopoly.

However, scale economies, if they exist at all in the rail industry, exist at the level of distinct functions or component process elements, and these can and should be retained and, indeed, enhanced in the restructuring. However, as several of the case studies in this report clearly demonstrate, diseconomies tend to creep into large-scale public sector operations, which, over time, become bloated, slow to react, and bureaucratic, thereby losing their competitive edge. Evidence suggests that the ability of railways to change with the markets they serve, to rapidly develop new services that are responsive to shipper needs, and to become customer “problem solvers” (not simply “order takers”) is the primary source of advantage in competitive transportation markets.

The implications of dynamic markets and of the quest for competitive advantage based, of necessity, on superior customer responsiveness are profound. They go to the basic issues of railway organizational design (namely, broader customer interfaces; more resource control at lower levels of the organization, particularly for those with direct customer contact; and fewer decisionmaking layers). These implications also point to smaller-scale, more customer-focused enterprises as contrasted with large, fully integrated enterprises oriented toward large-scale production.

Another rationale, one that is often cited for direct government control and ownership of railways, encompasses nation building, economic integration of internal markets, and frontier resource development. Governments frequently develop rail services, just as they develop other infrastructure, to open economic frontiers and to foster economic opportunity in less developed areas. A collateral condition is government-enforced commodity pricing which treats all

customers equally without price discrimination or, alternatively, which discriminates explicitly in favor of specific commodities or regions. Frontier areas, however, may not grow as originally envisioned or they may recede in economic importance. Moreover, ad hoc price policy made without regard to the value that railways create for customers or without consideration of the competitive relationship with competing modes undercuts incentives for efficient operation and distorts resource allocations. At some point, the policy legacy of operating a state-owned railway for nation-building or market-building purposes needs to be reexamined in the light of shifting competitive balances.

A third rationale for government involvement involves softening the economic fallout from failed predecessor private railways on employment levels and on rail-dependent local industries. A fourth rationale for initial involvement is based on national security needs — needs related to defense and to the support of strategic imports and exports. Each of these basic rationales for government ownership of railways should be reexamined in light of its current relevance and of the possibility of achieving the same ends through a mechanism less costly than the continued operation of a rail system whose resource requirements exceed the parameters of its economically defensible markets.

The overriding design criterion for rail restructuring should be the value created and/or dissipated within the core rail enterprise(s). The most precise arbiter for value created in the ownership rights of the carrier is the market for corporate control. Hence, privatization of state-owned assets not only represents the logical extension of the restructuring process but also provides a material test of the correctness of the restructuring design. Restructuring designs that create value should cause that value to be reflected in higher ownership prices. As will be discussed in subsequent chapters, much of the learning that is essential to an effective restructuring effort goes into testing and confirming value-creating decisions with the help of capital market surrogates.

Another primary design criterion is simplicity. In general, the simpler the reorganization is the easier it is to implement, and to implement rapidly. The disaggregation of rail assets into multiple autonomous operating units may allow for increased private sector participation and possibly for greater competition. However, unbundling also compounds geometrically the number of commercial interfaces required between operating units. After the restructuring, arm’s length transactions that replace internal resource transfers create additional complexity, and additional requirements for conditional asset sales and regulatory oversight.

Another key design parameter involves the immediacy and completion date for rail restructuring. Frequently, as

the case studies in this report demonstrate, rail restructuring or privatization is high on the national agenda for overall fiscal reform because of the resources that poorly functioning railways absorb from the state. In the case of Japan National Railways (JNR), for example, the railway's current deficit reached 4.9 percent of the total national budget and 0.9 percent of GDP. Similarly, in Argentina the deficit of Ferrocarriles Argentinos (FA) accounted for 16.7 percent of the national deficit and 1.1 percent of GDP before radical reforms were initiated. Under such circumstances, expediency and a rapid reversal of deficit operations become design criteria.

Yet another set of design concerns involves historical precedents and cultural values. For example, in Argentina railways were developed in the nineteenth century as concessions to foreign companies. Owing to historical concerns that the outright conveyance of ownership rights to rail property would condemn rail infrastructure to an uncertain future and diminish the sovereignty of the state, the Argentine legislature specified that FA should be restructured as a concession or set of concessions. Similar historical factors frequently define the feasible set of restructuring options.

Political considerations impose their own design constraints on railway restructuring. Frequently, rail privatization is part of a larger and more encompassing privatization program, and compatibility requirements may delimit the options available to those implementing the railway restructuring. Thus rail restructuring must be designed to fit into the more general framework.

In some countries design constraints may affect only work force restructuring. For example, the resources needed to support a social safety net for displaced railway employees may be limited, or the ability to provide railway worker buyouts may be limited by precedents set in other sectors. Compliance with international treaties or trade agreements may also constrain the specific forms that railway restructuring may take. In the case of British Rail, for example, compliance with EC policy (EC Directive 91/440), which mandates reciprocal access for certain types of services among European railways, clearly affected the restructuring design of the railway's freight business.

A general finding of this study, then, is that no single correct template exists for railway restructuring but rather that diverse restructuring forms are workable — each of which may be more or less appropriate to a particular situation or context. From the case studies in this volume we have attempted to develop a topology of structural forms and to order these according to relevant policy variables in a way that may be helpful in imposing order on, or at least providing a perspective for, railway restructuring processes to come.

3. Asset Restructuring: Structural Forms

The most important element in the restructuring process is the reorganization of rail assets into distinct sets that can support viable business enterprises. All other enterprise design considerations are subordinate and follow from this first step. The basic questions addressed in reorganizing assets and defining the new businesses that emerge from a vertically and horizontally integrated railway include the following: In which markets can the available assets create their greatest value? Did the predecessor carrier use too many or too few assets to serve these markets? Are the available assets of the right kind and in adequately serviceable condition to support target customers in the future?

Restructuring assets involves first profiling the distinct markets that the predecessor railway served and then determining which of these markets, or which others, successor rail-based companies should serve. The overriding principle should be to enter into or to sustain business commitments only in markets in which available assets can be used to provide lower cost or superior quality service vis-à-vis competitors. Rail-based enterprises that emerge from this process are defined within market boundaries and by specific customer needs within these boundaries. Some markets may be internal to the core rail business, such as MIS services and car and locomotive repair services. Judging competitive advantage vis-à-vis competitors in external markets is typically less difficult than judging the ability of successor enterprises to create competitive advantage in internal markets where competition has not previously existed.

Once defensible markets (either "internal" or "external") are scoped, a reasonable determination can be made regarding the appropriate complement of assets needed to serve each market. A number of asset restructuring prototypes emerged from the case studies. The following prototype asset segmentations have been used successfully by one or more case study railways to divide assets and to define distinct business activities.

CORE VERSUS NON-CORE ASSETS Every rail restructuring entails a fundamental segmentation of core and non-core assets. The separation of essential from non-essential assets begins with the definition of the business (or businesses) that will be pursued and the markets that will be entered. Typically, the result of this exercise is a vision of the business and of the ways in which the business can use its assets and its competencies to create the greatest value — in the form of a hierarchy of economic activity ranked by competitive advantage. The core businesses thus identified are the going concerns which have the first call on available assets. Core businesses are typically able to support the fixed

and joint cost burden of the entire integrated railway. Other related businesses can be layered on top of the core businesses and operated profitably if they generate a positive contribution to joint and fixed costs. Efforts to define the core business or businesses invariably result in some "blurred edges." Ancillary services, for example, support the core business indirectly and may add value through service synergy. The ultimate arbiter of such issues is the market. Shippers and passengers know which service packages offer genuine value to them, and which they would prefer to have bundled for them and which they would prefer unbundled. Talking with key customers early in the process can help to avoid service packaging problems later on.

In any case, all railways include under their stewardship some assets that are not essential to the core business, however it is defined. These "surplus assets" add no competitive advantage to the going concern. It follows that their liquidation will enhance the value of the entire restructured enterprise. Non-core or surplus assets typically include real estate, duplicate repair shops, and affiliated service companies. Divesting surplus assets helps to simplify the restructuring process and to focus management attention on the core business and can also provide the core business with the liquidity needed to weather the transition.

The experience of Japan is instructive in this context. Early in the restructuring process non-core assets of the former JNR, in excess of those assigned to the individual JRs were conveyed to the JNR Settlement Corporation. The Settlement Corporation's mission was to liquidate the assets it held, including, significantly, excess real estate, and to apply liquidated proceeds against outstanding liabilities in excess of those that the core businesses had retained. As the Settlement Corporation's work wound down, residual liabilities in excess of proceeds would be converted into government debt. Proceeds of real estate and other non-core asset sales generated \$29 billion by the end of 1992. However, the original target had been to sell off US\$70 billion of surplus assets.

Selling off non-core assets, particularly real estate, requires knowledge, good market timing, and missionary market development if their full value is to be realized. In the section that follows, we discuss some of the mechanisms available for divesting non-core assets.

GEOGRAPHICAL DISTINCTIONS Unlike other markets, transport markets have a fundamental geographic dimension. Railway markets and the track and terminals that provide access to them are frequently restructured geographically in order to focus management attention on shipper and passenger needs which are typically local. Here a key analytical step involves segmenting freight and passenger use patterns

into distinct and self-standing service networks. An opportunity exists to separate an integrated rail operation into distinct, self-standing sub-networks when a significant volume of traffic moving over the network originates and terminates within contiguous service links. Modern information technology lowers the cost of assuring network connectivity and fluid interchange even when sub-networks are separately owned and operated.

Again, relevant lessons can be drawn from the experience in Japan. In order to make management more responsive to local market needs, JNR was divided into six separate passenger companies and a freight company. These were the JRs. The six passenger companies were organized into three contiguous regions on the main island and one region on each of the three islands of Hokkaido, Shikoku, and Kyushu. This division of assets corresponded to the scope of the underlying markets. A traffic study completed as part of the restructuring preparation revealed that 95 percent of all trips originated and terminated within one of these service territories. To adequately support its local market each carrier was assigned sufficient rolling stock to support its start-up operations, in addition to a geographically defined set of structures and track.

In cases where traffic patterns are primarily local, economies of large-scale operation over a national network may not apply. Smaller operations may, in fact, be better suited to serving the needs of local shippers. Thus in the case of Argentina's FA the integrated railway system was divided into six geographically distinct freight concessions and seven transit concessions. One benefit of separating operations into multiple geographic markets is that it diversifies the risk of new rail start-ups; another benefit is that such a separation creates more competition for operating rights and concessions in both the initial and the subsequent rounds of competition than does a "winner takes all" approach; a third benefit is that this arrangement allows smaller firms to participate in competitive sales of local operating rights. This last consideration has prevailed in Great Britain where 25 local passenger operations have been defined for competitive offer to private firms.

LINE OF BUSINESS DISTINCTIONS The logic that applies to geographic segmentation also applies to market-focused, line of business segmentation. Railways typically serve not one but dozens of distinct product markets, each with its own distinguishing operating and geographic characteristics and each defined by different service needs and unique competitive challenges. Passenger and freight markets are the most obvious lines of business in which traditional railways participate. However, there are numerous others as well. Freight markets, for example, can be sub-divided by

the distinct logistical service requirements associated with different shipment lot sizes, commodities, and shippers.

Unbundling rail assets along distinct lines of business makes sense when the objective of the restructuring exercise is to enhance the ability of the surviving enterprises to respond with tailored services to particular customer needs and when, moreover, the assets required to support distinct lines of business can be separately managed. In several of the case studies, railway assets were reorganized among separate lines of business organizations that operate over each other's tracks on the basis of mutual agreement. Thus, for example, in Argentina the restructuring agency defined three types of concessions, corresponding to different lines of business. When the agency divided concessioned rights and obligations, it assigned primary track use and rehabilitation responsibilities among freight operators, transit operators, or intercity passenger operators depending on which had the greatest need for track control.

In Japan, as has been noted above, freight and passenger service companies were separately organized. JR Freight emerged from this restructuring without track ownership but with a system-wide freight operating franchise. The six passenger railways emerged with regional track ownership rights and, of course, exclusive passenger service franchises within their local markets.

British Rail went even further in separating its freight business into the following: (1) three competing bulk commodity businesses, each of which was initially regionally focused but was nationally extendable; (2) a nationwide container service provider; (3) a provider of European freight services; (4) a nationwide express parcel provider; and (5) a nationwide mail service provider.

FUNCTIONAL DISTINCTIONS Another way of separating assets is along functional lines. Railways require at least four distinct "value adding" functions: train operations, track maintenance, equipment maintenance, and commercial (sales and marketing) functions. It follows that these distinct functions may be separated as part of the restructuring. Therefore, train operations and commercial relations may be separated from equipment leasing and maintenance functions, and these may be further separated from line maintenance and infrastructure custody functions. Train control and operating functions can also be separated in a second order segmentation.

The division of train operations from track maintenance corresponds to the division of responsibilities within the highway sector, where highway users pay fees for use of publicly furnished infrastructure and operate independently over it. Indeed, the "highway use model" was employed in Swe-

den to restructure the assets of the state railway. The former Swedish Railway was divided into two state-owned entities — one with a right to operate trains and to market rail services over the entire Swedish rail network and the second with custodial responsibility for maintaining and improving the network.

In Great Britain the unbundling of rail functions went even further. The restructuring of British Rail involved breaking up a vertically integrated railway into 1 unified national track authority, 3 equipment leasing companies, 25 passenger operating franchises, 3 bulk commodity operators, 1 container service provider, 1 European freight service provider, 2 small parcel and mail service providers, and numerous car and locomotive maintenance providers and track repair operators. In addition, the British may separate ownership and development rights for metropolitan stations. A primary design criterion in Great Britain was the creation of competition within distinct rail functions.

The radical restructuring of British Rail tests the conventional wisdom that single operator control and vertical integration are essential to rail network connectivity, efficient train and equipment control, and economies of scale in railway operations. The British Rail experiment with unbundling turns these assumptions on their head and substitutes a fundamentally different paradigm — one based on competition in every function, on open entry, on auctioning of asset use rights, and on train operating control through a central track authority.

HIGH DENSITY VERSUS LOW DENSITY TRAFFIC Another useful segmentation of rail assets involves a separation of lines that are profitable and that typically have high traffic density from lines that are less profitable (or not profitable at all) and that typically have low traffic density. In Canada this distinction was used to facilitate abandonment of light density lines through a process regulated by the federal government. As part of this process, rail carriers take the initiative to qualify lines as light density and unprofitable and hence trigger regulatory deliberations that lead either to divestment or to government subsidy of the ongoing operation.

A more laissez-faire version of this abandonment process operates in the United States and is the basis on which a new rail industry segment of more than 258 small railroads and 11 regional railroads has developed since 1980. All of these small railroads have been spun off from larger railroads. The high density/low density distinction is useful in restructuring assets not only because light density lines may be a drain on resources for large carriers but also because, as the emergence of a small railroad industry in the United States has demonstrated, light density railroading

differs fundamentally from high density railroading. Light density “short lines” require different types of organizational structures, technologies, and management techniques. They offer opportunities to create value through light density line divestment and sale to operators with an essentially different production function.

OPERATING ASSETS VERSUS FINANCIAL ASSETS An interesting approach to restructuring assets was conceived by the Japanese during the JNR reorganization. This approach involved the creation of income-generating financial assets that served in lieu of ongoing subsidies to make marginal rail operations perpetually viable and financially self-sustaining.

During the early stages of restructuring, financial projections indicated that the three island JRs could probably not cover their operating and capital costs from internally generated sources. To ensure their autonomous operation after restructuring, a stabilization fund was set up for each of the island JRs. This fund was endowed by the JNR Settlement Corporation with income-generating securities whose yield was projected to cover future capital replacement costs and thus assure economic success for the operating companies. In this way a new financial asset was created for the marginal JR carriers that allowed them to operate with the same kinds of profit and loss incentives as other JRs that served more robust markets. The creation of financial assets, however, creates unique problems when plans are developed to privatize the railways. Asset raiders may be tempted to gain control of the railways, to strip away their financial assets, and to leave them without sufficient resources to renew their capital base.

COMMON NETWORK USE VERSUS EXCLUSIVE NETWORK USE Another useful segmentation of assets is by different categories of track use rights. For example, single owner equipment and single operator train services can run over the tracks of multiple owners, as well as over their own tracks or local service network.

The distinction between common and exclusive track use was used in Japan to separate the high speed Shinkansen (Bullet Train) services from other passenger train operations. As was noted above, assets required to operate each of the seven JRs were segmented and ownership rights and other essential assets conveyed to the new companies upon their reorganization. The notable exception, at least initially, was the assets required to operate the Shinkansen services. Because the profitability of the various Shinkansen services differed significantly, the Supervisory Committee felt that an intermediary was needed to redistribute net income among the JRs on the basis of joint ownership shares. The Shinkansen Holding Corporation was established for this

purpose. Each of the six passenger JRs leased assets from this jointly owned company, which operated trains over the entire network.

A number of distinct contractual arrangements involving the separation of ownership and track use rights have evolved in North America. Table 2.1 describes some of these trackage rights agreements.

4. Asset Restructuring: Mechanisms

The alternative frameworks for asset separation cited above have been used in several of the case studies to reorganize rail assets and to dispose of assets through various mechanisms. The case studies reveal that specific mechanisms are best suited for the disposal or restructuring of specific types of assets and for the achievement of specific objectives. A list of mechanisms useful for disposing of reorganized assets follows.

AUCTION OF SURPLUS ASSETS Divesting assets that are not essential to rail operations can be carried out in a number of ways, including: (1) one-on-one negotiations; (2) contributions of in-kind assets to joint ventures; (3) joint development and lease or sale of developed property; (4) deferred payment; and (5) conversion of real assets into financial assets. However, the most direct and effective way to convert surplus assets into cash is through an open, contestable, and competitive auction process. Auctions do not always maximize the value realized from the sale of non-essential rail assets. On the other hand, auctions require only a minimum of management attention and typically are as effective in realizing full value as the preparation and marketing effort that goes into them is thorough. When the number and value of the assets is large, auctions appear to be the most appropriate mechanism for converting surplus assets into liquid assets.

In the JNR reorganization, for example, the chartering legislation that set up JNR Settlement Corporation stipulated that land sales should be carried out through a competitive bidding process. However, even as the JNR Settlement Corporation was being formed, land prices were appreciating rapidly and Japan’s “bubble economy” was coming into existence. In response, the Emergency Land Countermeasures Plan was enacted. This inflation-counteracting legislation required the Settlement Corporation to dispose of former JNR land without disclosing its price. Price disclosure was thought to be a stimulus to inflation. As a result, the Settlement Corporation developed the following alternative methods for the disposal of surplus JNR real estate:

- *Sale of Improved Real Estate.* This method involved the sale of land on which the Settlement Corporation had

Table 2.1 - Trackage Rights Agreements

Option	Ownership of Infrastructure	Ownership of Rolling Stock	Labor Arrangements	Services Rendered by OR to NO	Financial Relationship between OR and NO	Examples
Haulage Agreement(s)	Owning railway (OR) or track authority	Existing traffic: OR; Incremental traffic in specialized equipment; new operator (NO)	NO loads or unloads own trains; OR provides all other operating labor, including track maintenance; NO maintains own equipment	OR operates train services from terminal to terminal for the account of NO; NO carries traffic under contract or tariff for shippers; OR pays wholesale rate by NO; NO pays retail rate by beneficial owner of the freight	NO contracts with OR to move entire train-loads from origin to destination. Charge is volume and service quality specific but is not related to specific commodities	American Presidents Line (APL), CSX Corp., Intermodal, JB Hunt, Intercontainer
"Trackage Rights" or Access Agreement(s) — either Exclusive or Multiple	OR or track authority	Operators provide own equipment; NO provides equipment for new incremental services	All "below the rail" labor is OR's responsibility; All "above the rail" labor is NO's responsibility	OR provides "train paths"; NO runs own trains using own operating crews	NO pays for "train paths" on a tonnage or fee for service basis	Atchison, Topeka & Santa Fe (ATSF) operating over Conrail; Canadian National (CN) operating over CSX
Reciprocal Operating Agreements	OR or track authority; reciprocal owner/user arrangements	Operators provide own equipment; NO provides equipment for new incremental services	All "below the rail" labor is OR's responsibility; Other labor responsibilities shared or assigned by train service, depending on agreement	OR provides "train paths"; NO normally runs own trains; Arrangement is reciprocal; No joint marketing or selling involved	NO pays for train paths on a tonnage or fee for service basis	Burlington Northern (BN) and Grand Trunk Western (GTW); Conrail and Norfolk Southern (NS)
Reciprocal Marketing Agreements	OR or track authority; reciprocal owner/user arrangements	NO provides equipment for new incremental services; Rolling stock interchanged, with OR paying a per diem fee to owning carrier	No charge back; cross fees based on traffic activity	Services are coordinated, but operating functions on OR provided exclusively by OR personnel; Joint selling; Reciprocal pricing; Through services developed/ jointly marketed	Revenue shared based on reciprocal fees for cross-setting and for incremental traffic/development	BN and CSX; Conrail and NS

erected apartments or commercial buildings. Developed land and buildings were sold jointly. As the sale involved land value plus construction costs, the stand alone price of the land was obscured.

- *Trust Beneficiary Rights.* A second method involved entrusting land to bank trustees in exchange for trust beneficiary rights. These rights were subsequently subdivided and sold to investors through the mediation of banks.
- *Loan Conversion into Real Estate.* A third method involved the exchange to investors of options to jointly own a specific land development project with the Settlement Corporation in exchange for long-term, low-interest loans. The purchaser received the future right to joint ownership of a specific parcel of developed land in exchange for a long-term, low-interest loan of equivalent present value. After a specified period of time, the investor was able to exercise its conversion right.
- *Joint Development and Sale of Real Estate.* Under this method private companies were selected to construct residential buildings on land which the Settlement Corporation owned. Individual residences and contiguous land were subsequently sold. If all lots were not sold to homeowners, the private developer was still required to purchase the remainder from the joint venture. Thus, the Settlement Corporation was guaranteed a 100 percent "sell-out" even if the project did not sell out.
- *Issuance of Corporate Bonds Convertible into Stock.* This method typically involved large tracts of land with high asset values. A company was created in which the Settlement Corporation made an in-kind investment of undeveloped land. The company raised funds for the construction of buildings and other improvements collateralized by the real estate. For this purpose, convertible bonds with the right to equity conversion were issued. The bonds were converted and the Settlement Corporation sold off its remaining interest when the project was complete.

Not all of these alternative methods to liquidating surplus assets have proved equally successful. The lessons to be taken away from the Japanese experience are that direct and open methods of disposing of surplus assets are frequently superior in realizing their full value than are more complex and indirect methods. Another important lesson is that market timing and an ability to move with the market are essential to capturing the full value inherent in surplus assets. As of the end of 1992, value which the JNR Settlement Corporation realized through elaborate negoti-

ated sales of surplus assets had fallen \$41 billion¹ below expectations.

PUBLIC OFFERING OF STOCK The asset value of restructured railways frequently exceeds the value of the domestic or foreign corporations that are the potential purchasers. For this reason public offerings of shares may be the only viable domestic source of private capital. A public offering of stock is appropriate for the transfer of ownership in a large corporatized railway that has successfully completed its restructuring and whose future earnings appear to have a high probability of growth. Public offerings are more appropriate for seasoned companies than for emerging companies.

However, public offerings typically impose additional financial reporting obligations and additional fiduciary conditions on management, and also require more seasoning of the enterprise than does a sale to a strategic investor. For example, the proceeds from a public offering must typically be committed in advance of the offering to specific uses, frequently related to bolstering the balance sheet — that is, to the retirement of debt or the purchase of government shares — and not to direct investment in the business. The terms of the public offering are then represented to potential investors in the form of an "offering memorandum" which confirms and represents full compliance with the conditions of the stock exchange through which the shares are offered.

For example, as of this writing the three Honshu JRs in Japan have met the listing requirements of the Tokyo Stock Exchange. These requirements are quite stringent and include: (1) five years of continuous operation as a reorganized corporation; (2) paid out dividends during the preceding and current years; (3) minimum profit targets achieved during the previous three years; and (4) minimum net asset values realized during the previous and current years. The initial public offering of JR East in 1994 was a great success. The stock was initially oversubscribed and the offering generated substantially greater proceeds than was originally anticipated. Funds from the sale of JR East stock were used to retire the outstanding debt of the JNR Settlement Corporation which had resulted from the original restructuring.

SALE TO PREQUALIFIED STRATEGIC INVESTORS The sale of restructured railway assets to strategic investors is appropriate when the enterprise is smaller in size, requires active management, and requires an immediate infusion of capi-

¹Amounts in US\$ are indicated by \$.

tal and/or improved technology in order to meet competitive challenges. The environment in which strategic investors are typically invited to participate is more risky than the environment in which a public offering of shares is possible. In the latter situation, the restructured railway has already demonstrated its viability. In the former, typically, part of the work of restructuring remains to be accomplished.

An important step in selling interests to strategic investors involves the prequalification of the strategic investors. If direct investment is to open a window to advanced technology and modern management practices for the restructured railway, strategic investors must be screened and qualified on the basis of their access to "cutting edge" railway technology and management methods. Pre-screening investors on the basis of their previous rail operating experience may put domestic operators at a disadvantage and may give an advantage to foreign investors. The balancing of priorities for access to modern technology and management methods against domestic control is an issue frequently faced by restructuring intermediaries.

A second important issue involves the mechanism through which ownership rights awards are made to strategic investors. Under the best of circumstances, this process is open, contestable, and competitive. Frequently the sale is managed through a third party (for example, an investment banker) in behalf of the state. The investment banker qualifies potential investors, enters into a dialogue with them which results in a preliminary set of offering terms, and develops an offering memorandum. Then, after a period of due diligence review in which prequalified offerers are invited to examine both the financial and physical condition of the railway, qualified bidders are invited to prepare bids in response to formal offering terms.

Thus, in New Zealand, for example, the government sought out strategic investors to complete the privatization of New Zealand Railways and its strategic repositioning. The sale of the railway followed 11 years of state-directed restructuring, during which time the railway was strategically refocused and reorganized into a profit-making corporation. The New Zealand Railways Corporation Restructuring Act 1990 and the New Zealand Rail Limited Vesting Order of 1990 first established the railway as a corporation. Just before the privatization, the Minister of the Crown held all the shares in the new company in behalf of the Crown. Ownership of the New Zealand Railway shares was auctioned through a competitive process that was managed by an investment banking firm. The successful bidder included a consortium of interests including a foreign company which brought to the venture successful operating experience with foreign railways of comparable size.

CONCESSIONING UNDER CONTRACT Concessioning is an effective means of conveying ownership responsibility without conveying outright ownership of railway assets. Concessioning offers both the benefit and the risk of being revocable. Concessioning reduces front end capital costs to the concessionaire who uses public assets in return for a profit share and a commitment to reinvest in the railway. The concessionaire makes a contractual commitment to maintain assets under its custody, as well as to make additions and improvements as stipulated in the concession contract. This commitment is typically guaranteed by a bond or other irrevocable instrument. By reducing initial capital costs, concessions effectively broaden the market for private sector participation and offer opportunities to small firms that would not otherwise be available to them. Concessions also provide an instrument that government can use to contract out the operation of inherently unprofitable services, by asking concessionaires to bid on a minimum subsidy rather than a minimum profit-share basis.

The capital commitments of concessionaires are effectively leveraged by the government which absorbs the opportunity cost associated with sunk investment in rail infrastructure. Like all leveraged transactions, concessions are risky and susceptible to disruption, renegotiation, and/or rebidding if unanticipated difficulties make downstream operations financially non-viable. Under a "worst case" scenario, up front guarantees frequently do not provide an adequate incentive to keep the concessionaire in the contract.

The concessioning mechanism is particularly useful for rail operations that are in the process of being restructured and that require an intensive management commitment to complete the turnaround quickly. As the experience of Argentina demonstrates, concessions are a highly adaptable and flexible instrument which can be used to operate freight, rail transit, subway, or intercity passenger services. In Argentina, the Railway Restructuring Unit refined the concessioning process and the underlying contracts through several rounds of offerings involving 25 separate concessions. In an open process, concessionaires responded to government solicitations with multi-year profit-sharing and investment proposals. Successful bidders won the right to use state-owned assets and assumed obligations to provide specific services, under negotiated conditions, regarding minimum service levels and future investment requirements. Under these agreements the government retained ownership of rolling stock, rail infrastructure, and facilities, all of which were assigned to the concessionaire. The concessions were vertically integrated. The concessionaire had full responsibility for rail operations and for rail asset renewal, including commercial development of transportation service, maintenance of rolling stock, and infrastructure. Con-

cessions were granted for 10-year terms with 10-year extensions as agreed by the parties.

FRANCHISING UNDER CONTRACT Franchises differ from concessions in that franchisees are not expected to make capital commitments to the business for asset renewal or expansion. Franchisees simply offer their technical and management capabilities and provide rail services using state-owned assets under contract to government departments. The terms of these contracts vary, but they usually include the specification of services provided and a basic fee and/or profit share.

In Sweden, when the County Transport Authorities assumed full responsibility for county line passenger operations after 1990, they extended tenders for 16 train operating service franchises. In most cases, contract awards lasted three years. The Swedish National Railway (SJ) won 12 of these contracts. Four other contracts went to the private operator BK Tåg (BK Train). Although its share of the entire market was limited, BK Train demonstrated new ways of running the business which were emulated by SJ.

In the British Rail reorganization, franchising was the instrument used to convey operating rights over passenger operations. The Minister of Transportation chose franchising for three reasons: (1) franchising allowed competition for the market, and this ensured that private operators would provide good value for the public subsidies they received; (2) franchising offered a ready mechanism for protecting the taxpayer's interests over the entire franchise term (nonperforming franchisees could be turned out and replaced with better performing franchisees); and (3) franchising could be implemented gradually and progressively on a territory by territory basis. British Rail would continue to operate specific services until they were handed over to new franchised operators. No "big bang" transformation was required, with its attending risks, but rather a gradual phasing-in process.

LEASING AND OPERATING Another mechanism for restructuring assets involves leasing and operating. This has become a popular vehicle for the reorganization of assets operated by small rail companies in the United States, where many local railroads are owned and operated by local railroads over trackage leased from Class I carriers. This arrangement has proved mutually advantageous. It substantially lowered the entry cost since track and structures are difficult to finance with third party long-term debt. In addition, it established a close working relationship between the large and small carriers. For example, the Class I carriers used the arrangement to retain overhead traffic that the local railroad generated. Conversely, the local railroad ben-

efited from assured car supply and advantageous repair agreements with the larger railroads.

Norfolk Southern Corporation, a large Class I carrier operating primarily in the Southeast and Midwest in the United States, has been particularly active in developing joint marketing and operating synergies with its local railroads through lease/operate agreements. Some small railroads in the United States receive operating subsidies from local municipalities in the form of reduced fees for leased track.

REASSIGNING OPERATING ASSETS TO NON-RAIL STATE ENTERPRISES AND CONTRACTING FOR THEIR USE For various reasons, including property reversion provisions in original land grants, the retention by the government of ownership rights over land and other valuable assets may be essential to the restructuring process. In such cases, long-term contracts that provide for exclusive track use and/or long-term leases can be engineered so that they can be used in lieu of outright ownership transfer.

In New Zealand, for example, a leasehold asset was created in order to work within the reversion provisions of the Treaty of Waitangi Act, which gave to indigenous peoples a priority claim to surplus government property. As part of the restructuring process, the Railways Corporation was restructured into two separate entities, New Zealand Rail Limited (NZRL) and New Zealand Railways Corporation (NZRC). NZRL, a Crown-owned company, operated the core freight, rail, passenger, and interisland ferry services, while the surplus assets remained with NZRC to be sold. For a variety of reasons, including potential claims under the Treaty of Waitangi Act, NZRC retained land ownership, and NZRL leased the land needed for its operations back from the corporation.

MERGER, ACQUISITION, OR JOINT ASSET USE Mergers, acquisitions, and joint use agreements among private rail-based companies create the opportunity for ongoing asset restructuring and provide a safety net for the initial reorganization that conveyed rail assets from the state to private owners. The private sector is motivated to recombine rail assets in ways that enhance their value and realize operating synergies. The creation of operating synergies may take alternative forms: economies of scale through network expansion; economies of service through intermodal integration; or the serving of niche markets with minimal assets. The drive is always to realize greater market value with fewer assets.

As the history of the private rail industry in the United States clearly demonstrates when regulatory restrictions to rail asset rationalization are diminished to a minimum, the

private sector is highly efficient in realizing rail asset synergies through rebundling and/or unbundling in ways which enhance value. The process of railway restructuring goes on well after the initial reorganization and privatization of the state-owned railway. Indeed, the work of the initial restructuring is incomplete until regulatory mechanisms have been established for the abandonment of unprofitable lines, the sale of component assets, and the merger or combined use of rail assets.

One of the shortcomings of asset conveyance mechanisms other than outright sale is that the rights of concessionaires, franchisers, or contract operators are difficult to transfer to third parties or to merge. Under these circumstances, the benefits of restructuring may be short lived and the initially restructured enterprise may require future intervention to again adapt asset use to changing market requirements.

SALE OF OPERATING RIGHTS In contexts in which a track operating authority has emerged from the restructuring process to operate as a public utility, competitive mechanisms must be designed to ensure the fair and efficient allocation of operating rights over the network. The problem associated with auctioning operating rights over an integrated network to competing operators is complex, because tolerances in capacity-constrained rail networks are tight. Consequently, excess demand and undisciplined trains disrupt the entire network schedule. Hence, precisely matching the service window preferences of operators with available capacity may involve an iterative bidding process. Mechanisms for coping with this problem are being developed in Great Britain and Sweden where open competitive access over national rail networks managed by unified track administrations has emerged as the consequence of railway restructuring.

Table 2.2 presents the context in which the asset restructuring strategies and asset conveyance mechanisms described above have their most appropriate application. The table presents a typology of asset reorganization forms emerging from the case studies.

5. Liability Restructuring

An important part of the restructuring process involves developing a capital structure for the reorganized railway that will enable it to operate autonomously without ongoing government assistance. A well-designed capital structure should allow the railway to rely for its future financing needs exclusively on a combination of new and converted equity, external debt, and internally generated funds. The replacement of uncertain government funding with a combination of market-generated and internally generated sources represents a “coming of age” for the restructured rail enter-

prise. From this point onward the discipline of the capital market will provide assurance that only those restructured enterprises that create economic value and that sustain their competitive advantage will increase in asset size; restructured enterprises that fail the market test will shrink or disappear. Hence, the managers of restructured enterprises are highly motivated to increase the value of the assets with which they are entrusted.

The objective of liability restructuring is to initiate the process that substitutes financial market controls for administrative controls. The key is to design and implement a capital structure that is self-sustaining. Forming a new capital structure may involve, on the one hand, merely reassigning existing debt among the several public institutions and enterprises that emerge from asset restructuring and, in the process, “gearing down” to sustainable levels the debt assigned to the core rail business(es). On the other hand, liability restructuring may involve creating a balance sheet and capital structure from a zero base. The latter is required if the state-owned railway was previously financed directly from the general fund of the government and controlled as a line item in the national budget.

As a general proposition, a zero based approach to capital restructuring is preferable to an incremental approach. It provides greater assurance that risks associated with the new capital structure are appropriately matched with the business risks associated with the assets of the restructured enterprise(s). In any case, the development of a self-sustaining capital structure is almost always subject to constraints on available public sector funding. Thus the process can usefully be divided into two phases — a transitional phase and a long-term phase.

If the government is not in a position to provide bridge financing, the major challenge facing the railway in the short term is improving its liquidity. In this context, two sets of transitional issues need to be addressed. The first involves focusing management attention on cash generated from internal operations. This usually entails some form of operational triage — the termination of non-essential activities and activities that do not contribute to a positive cash flow within a short turnover cycle. For example, the following steps might be required: (1) adjusting prices on all business segments in which the enterprise enjoys a competitive advantage; (2) ensuring uninterrupted service for all activities that generate a positive cash flow; (3) critically reviewing credit policy and, on that basis, pruning and working down bad debt accounts; (4) terminating all non-essential payroll costs; (5) liquidating surplus inventories; and (6) reassigning all overhead activities that do not create customer value to other government agencies. This was the direction taken in Argentina prior to the sale of concessions to private op-

Table 2.2 - Typology of Asset Reorganization Forms

BASIS OF RESTRUCTURING	MECHANISMS FOR RESTRUCTURING				
	Administratively Reassign Assets	Tender Franchise or Concession	Negotiate Lease	Negotiate Merger, Divestment, or Joint Asset Use	Negotiate Sale of Operating Rights
Core vs. Non-Core Assets	Applicability: best Realized value: n.a.* Simplicity: good Speed: good Best Application: Assign operating assets to railway and surplus assets to a settlement corporation for liquidation.	Applicability: lowest Realized value: n.a. Simplicity: n.a. Speed: n.a. Best Application: n.a.	Applicability: lowest Realized value: n.a. Simplicity: n.a. Speed: n.a. Best Application: n.a.	Applicability: good Realized value: good Simplicity: good Speed: satisfactory Best Application: Sell redundant lines, real estate and/or excess stops to other rail carriers or non-rail investors.	Applicability: lowest Realized value: n.a. Simplicity: n.a. Speed: n.a. Best Application: n.a.
Geographical	Applicability: best Realized value: n.a.* Simplicity: good Speed: satisfactory Best Application: Assign track and equipment to separate regional carrier.	Applicability: best Realized value: satisfactory Simplicity: satisfactory Speed: good Best Application: Separate and franchise local transit operations to private service providers.	Applicability: best Realized value: good Simplicity: good Speed: good Best Application: Lease/operate rail lines; rent equipment to private rail operator.	Applicability: best Realized value: good Simplicity: good Speed: satisfactory Best Application: Combine weak carriers with strong carriers in an end-to-end rail merger.	Applicability: satisfactory Realized value: satisfactory Simplicity: good Speed: good Best Application: Sell trackage rights to competing railways and liquidate other assets.
Line of Business	Applicability: best Realized value: n.a.* Simplicity: good Speed: satisfactory Best Application: Assign equipment to separate line of businesses (LOB) and allow them to operate over a separate track authority.	Applicability: good Realized value: satisfactory Simplicity: satisfactory Speed: good Best Application: Separately franchise freight and passenger services over a track authority.	Applicability: lowest Realized value: n.a. Simplicity: n.a. Speed: n.a. Best Application: n.a.	Applicability: best Realized value: good Simplicity: good Speed: good Best Application: Strategic extension of service beyond a single railway infrastructure through intermodal integration and sale of intermodal use rights.	Applicability: good Realized value: good Simplicity: good Speed: good Best Application: Sell LOB operating rights to one or more strategic investors.
Functional	Applicability: best Realized value: n.a.* Simplicity: good Speed: good Best Application: Assign functional assets to separate profit centers; create transfer pricing and joint-use arrangements for a common infrastructure.	Applicability: best Realized value: satisfactory Simplicity: satisfactory Speed: good Best Application: Franchise equipment maintenance; contract for track and structure maintenance.	Applicability: lowest Realized value: n.a. Simplicity: n.a. Speed: n.a. Best Application: n.a.	Applicability: satisfactory Realized value: lowest Simplicity: good Speed: good Best Application: Create a common use terminal facility to serve a common customer base; lease or sell excess equipment to a third party to provide special equipment to multiple customers.	Applicability: lowest Realized value: n.a. Simplicity: n.a. Speed: n.a. Best Application: n.a.
Traffic Density	Applicability: best Realized value: n.a.* Simplicity: good Speed: satisfactory Best Application: Assign core network and peripheral feeder networks to separate operators.	Applicability: good Realized value: satisfactory Simplicity: satisfactory Speed: good Best Application: Franchise light density line operators.	Applicability: best Realized value: satisfactory Simplicity: satisfactory Speed: good Best Application: Lease and operate light density lines.	Applicability: best Realized value: satisfactory Simplicity: good Speed: satisfactory Best Application: Consolidate assets, increase line density on one of several parallel lines of the merged carrier.	Applicability: good Realized value: satisfactory Simplicity: good Speed: good Best Application: Sell light density operating rights.
Operating Assets vs. Financial Assets	Applicability: best Realized value: n.a.* Simplicity: good Speed: good Best Application: Assign endowment/maintenance trust to marginal operators spun off from an integrated network.	Applicability: lowest Realized value: n.a. Simplicity: n.a. Speed: n.a. Best Application: n.a.	Applicability: lowest Realized value: n.a. Simplicity: n.a. Speed: n.a. Best Application: n.a.	Applicability: lowest Realized value: n.a. Simplicity: n.a. Speed: n.a. Best Application: n.a.	Applicability: lowest Realized value: n.a. Simplicity: n.a. Speed: n.a. Best Application: n.a.
Unbundled/Track-Use Rights	Applicability: lowest Realized value: n.a.* Simplicity: satisfactory Speed: satisfactory Best Application: Divide overlapping and competing trackage rights or train paths.	Applicability: good Realized value: satisfactory Simplicity: good Speed: good Best Application: Separate and franchise geographically separate rail lines.	Applicability: best Realized value: satisfactory Simplicity: good Speed: good Best Application: Separate, lease, and operate geographically separate rail lines.	Applicability: best Realized value: good Simplicity: good Speed: satisfactory Best Application: Assign joint trackage rights to competing rail systems to reduce competitive equities.	Applicability: best Realized value: good Simplicity: good Speed: good Best Application: Negotiate and sell trackage rights.

Note: The following four-level scale has been applied in the above table: (1) lowest; (2) satisfactory; (3) good; and (4) best.
*Typically non-cash transaction. Railroad value is difficult to determine.
n.a.: Not applicable.

erators. Where bridge financing is available, the railway can be “weaned” from public support over a multi-year period. This was followed in New Zealand, where the railway was developed over an 11-year period, from budget dependence on the government to financial self-sustainability.

During the transitional phase of liability restructuring all net cash-consuming activities are downsized and all capital expenditures suspended. The objective is to shrink the enterprise so that it generates a positive cash flow from internal operations. Depending on the availability of bridge financing, this step may of necessity be short and blunt or more drawn out and benign.

The second key transitional issue involves formalizing the enterprise’s outstanding liabilities, including liabilities to the state. Formalization takes the process of securing future payment against specific assets or specific future cash flows and specifying the timing and amount of payments in formal contracts. Formalization of liabilities requires the negotiation of repayment terms with major creditors which anticipate the full array of contingencies that may affect the ability of the restructured enterprise to make payment against its contract obligations. It also involves specifying the order in which claims against future cash flow will be satisfied in the event that the railway cannot satisfy all creditors.

This process is sometimes referred to as hardening budget constraints. If the railway’s operating deficit was previously financed directly by the government with minimal fiscal controls and little prospect of repayment, the discipline of formalizing liabilities may, of necessity, proceed in several steps. These steps involve: (1) the “weaning” of the railroad from state financing; (2) the gradual substitution of state guaranteed financing; and (3) the gradual substitution of private sector financing without state guarantees. Equipment financing is typically the first type of financing to be secured from the private sector without guarantees.

In this context, it is worth contrasting fiscal reforms in New Zealand and Argentina. In both countries the railways operated, on the eve of reform, as government departments. In New Zealand a step-by-step process of liability restructuring involved the formalizing of outstanding liabilities in the form of security instruments that specified the terms and conditions for repayment of funds advanced from the Treasury to New Zealand Railways, the subsequent replacement of government liabilities with loans from private banks and other institutions, the conversion of government debt into equity, the re-engineering of a capital structure that matched the cash flow generating capacity of the core assets, and, finally, the development of a formal audited balance sheet for a functionally autonomous corporations. This process took three years to complete and ran parallel with a step-by-step enterprise reform process.

In Argentina, less time was available to complete the process of hardening budget constraints and formalizing liabilities because of the country’s runaway inflation and serious fiscal deficits, to which the railway was the largest single contributor. Under these circumstances, it proved impossible to organize the right-hand side of the railway’s balance sheet. An alternative strategy was adopted: the conveyance of use rights for specific railway segments to private operators in the form of concessions. This arrangement was tantamount to an asset sale. No liability restructuring was required; the state simply absorbed the outstanding debt. Developing a capital structure for the new operations was left to the concessionaires, with the consequent risk that some of them would fail and the asset use rights would revert back to the state.

If the restructuring is successful, transitional financing arrangements will be replaced by a permanent capital structure. Putting a viable capital structure in place usually involves strengthening the railway’s balance sheet with new equity or converting debt into equity. A permanent capital structure should take into account the types of assets that are being financed and their economic lives. In general, short-term debt should be used to finance short-term assets and long-term debt and equity should be used to finance long-term assets. Otherwise, a mismatch will occur between the generation of returns from assets and the repayment schedule for the debt. With railways, fixed assets account for a large share of the total asset base, and these fixed assets tend to be long lived (30 years or more). Hence, the permanent capital structure of the railway should include a large portion of long-term debt and equity. Ideally, the maturities on long-term debt should be leveled and financing needs smoothed to avoid the risks associated with interest rate fluctuation and market volatility.

In any case, the precise capital structure will be defined within the boundaries of the projected free cash flow from rail operations. Once the cash flow from rail operations has stabilized, it should become clear how much debt the carrier can support over the long term. Some additional debt capacity may be built in for near term capital requirements. The difference between the debt that the carrier can effectively support and the carrier’s nominal book debt (which may not be serviceable) must be reassigned to other branches of the government or simply forgiven. One of the lessons learned from the case studies is that the sins of the past must be forgiven and railways must be allowed to emerge from restructuring with only as much debt as they can reasonably service.

The debt that is left on the books of the surviving railway should be re-engineered within the free cash flow parameters of the going concern and should correspond in structure to the asset mix of the restructured enterprise. As

a general design principle, free cash flow should be two times the debt service. This is likely to require a substantial debt takeback by the government. This process may require more than one liability restructuring.

In New Zealand, for example, the railway was recapitalized several times by the government in order to create a sustainable balance sheet. At the beginning of 1990 the government agreed to take over the NZRC's debt to the extent of NZ\$1.1 billion. The New Zealand Corporation Restructuring Act 1990 provided for the restructuring of the corporation's balance sheet, either through the sale of supply assets or through the vesting of assets and liabilities in a limited liability company owned by the Crown.

The residual cash flow after debt service is available to equity holders. Generally, the proceeds of any new equity issuance are used to retire debt that the government has not assumed or are committed to specific recapitalization projects.

In Japan, the JNR Settlement Corporation initially assumed, and subsequently reassigned, accumulated long-term debt from JNR and affiliated organizations of \$337 billion. This debt included: (1) JNR debts of \$227 billion; (2) capital charges of \$41 billion for Japan Railway Construction Public Corporation (JRCPC); (3) other liabilities totaling \$17 billion and comprising management stabilization funds for the three island JRs as well as liabilities accruing from the Honshu-Shikoku Bridge Authority; and (4) future expenses (\$52 billion) stemming from unfunded pension liabilities of \$46 billion and a surplus employee separation fund.

Of these total liabilities, the JRs assumed only \$42 billion. These liabilities were distributed among four JRs on the basis of their ability to cover debt service. The three island JRs assumed no long-term debt. The Shinkansen Holding Company assumed long-term debt equal to the book value of its assets (\$52 billion), and JRCPC assumed \$11 billion of debt.

The remaining \$232 billion in long-term debt was taken by the Settlement Corporation. Of this amount, a total of \$26 billion was scheduled to be paid until fiscal year 2016 by three JRs for the rent of the Shinkansen facilities through the Settlement Corporation. The Settlement Corporation was obligated to redeem the remaining \$206 billion.

Four JRs inherited their own external debt of \$42 billion and, in addition, had to pay off \$89 billion to the Settlement Corporation, the Shinkansen Holding Company, and JRCPC. After the liquidation of all assets under its control, the Settlement Corporation was expected to convert the residual liability into a general obligation of the government.

Table 2.3 presents some of the recapitalization methods used in the case studies.

6. Work Force Restructuring

Railways are labor-intensive, and labor costs typically account for a large share of total operating costs. The objectives of work force restructuring are to improve labor productivity and thereby improve the competitiveness of the restructured company. In this context a key question is how many employees are needed to efficiently perform anticipated work. Without effective management oversight, normative relationships between work performed and payroll personnel tend over time to become obscured. This is an endemic problem particularly with state owned railways where personnel costs rarely move up and down with the level of output. Labor costs in privately operated railroads by contrast are significantly more "volume variable."

Labor costs and deferred labor benefit liabilities directly affect the economic value and viability of the railway. Hence, addressing the surplus labor problem is instrumental in trimming operating costs so that the railway can regain its competitiveness. Table 2.4 represents the labor cost to revenue ratios for railways in the case studies before and after restructuring. It should be noted that the ratios improve on average from 64.3 percent to 48.4 percent, excluding Argentina, for which data are not available.

Like the restructuring of liabilities, work force restructuring has both a tactical or short-term aspect and a strategic or longer-term aspect. The instrument that allows for tactical control of labor costs is the payroll system. In a first labor restructuring step the management team must gain control of the payroll system. No personnel additions should be made without management authorization, and the basis for compensating existing personnel should be independently confirmed by first line operating personnel and payroll clerks in the field. The next step involves separating essential work from non-essential work and interpreting existing labor contracts so that the railway pays only for essential work. Incentives should be set up that motivate first line supervisors to minimize arbitrary payments, overtime, compensation for outlaw crews, etc. Increased attention to operating details can significantly reduce overtime costs. This is part of the financial triage process described above.

One effective technique in zero-based work force resizing is to design a work force production function for each distinct type of work that requires a large number of railway employees. In the rail industry, work forces scattered over a large geographic area typically perform the same kinds of work. By analyzing the relationship between the quantity of work output and the number of employees performing the work, railway intermediaries can estimate "work force production functions" (see Figure 2.1). It can be seen that typical functions show initially increasing and subsequently decreasing or even negative returns to increased employ-

Table 2.3 - Recapitalization Methods

Method	Description	Applicable Context	Case Study Example
Create capital structure de facto	Create a balance sheet for the enterprise by assigning from the general fund of the government debt repayment obligations	<ul style="list-style-type: none"> No separate enterprise balance sheet exists Need exists to harden budget constraints and foster financial self-sufficiency First step in converting line ministry into a self-financing corporation 	New Zealand Railways (first phase) The Railways Department was converted from a government structure into a statutory corporation with clear commercial objectives. The government served as a guarantor of the company's obligations but was removed from the day-to-day railway operations.
Convert debt into equity	Convert a portion of outstanding debt into equity and correspondingly reassign debt repayment obligations from enterprise to government	<ul style="list-style-type: none"> Separate balance sheet already exists Debt service relief required by enterprise No near term external financing needed for major capital investment Net government debt burden remains constant Valuation basis created for sale of enterprise as a going concern 	New Zealand Railways The government took on NZ\$1.1 billion of NZR Corporation's debt and the balance sheet was restructured. The Railways Corporation was divided into two separate entities: the Crown-owned NZRL which operated the railways' core services, and NZRC which retained the surplus assets to be sold off. Steps were then taken to separate the assets and liabilities of the old corporation.
Provide equity capital infusion	Provide incremental government funds in the form of a direct equity contribution to the enterprise	<ul style="list-style-type: none"> Separate balance sheet already exists Debt burden exceeds free cash flow External financing requirements exist Government funding for enterprise must increase 	Canadian Railways The federal government provided, under subsequent Capital Revision Acts, periodic recapitalization of CN, including \$1.8 billion in 1937, \$1.5 billion in 1952, and \$808 million in 1978.
Stretch out debt repayment	Redefine debt repayment schedule while maintaining principal; reduce current payment obligations from the enterprise to government and push out future payments	<ul style="list-style-type: none"> Short-term debt obligations exceed free cash flow Longer-term prospects are positive Net agreement claim against railway remains constant 	Swedish Railways The capitalized value of the existing infrastructure was conveyed to BV from SJ's balance sheet, and a corresponding reduction of SKr 2.3 billion in outstanding debt was made on SJ's books. The railway was instructed to sell off some of its subsidiaries and focus on its core business.
Forgive or reassign debt	Remove debt obligations from the enterprise's balance sheet, either by reassigning debt to a settlement corporation or by government absorbing or forgiving debt	<ul style="list-style-type: none"> Short-term debt payments exceed free cash flow Longer-term prospects are unclear or negative Net government claim against railway declines and additional budget is actually required on government side 	Japan National Railway JNR Settlement Corporation (JNRSC) was created to repay the long-term debt held by JNR through the sales of surplus assets of the shares of the seven newly created JRs (six regionally based passenger companies and a freight-handling company). JNRSC inherited \$232 billion out of a total of \$337 billion of JNR's liabilities.

Table 2.4 - Labor Cost to Revenue Ratios
(in percent)¹

	Before Restructuring	After Restructuring
Argentina	168.1	n.a.
Canada CN	48.7	41.3
Canada CP	44.6	41.4
Great Britain	103.6	78.8
Japan	69.5	32.8
New Zealand	65.5	47.8
Sweden	82.5	69.6
United States	35.9	27.1

¹Total wages/total revenues.
Source: World Bank Railway Database.

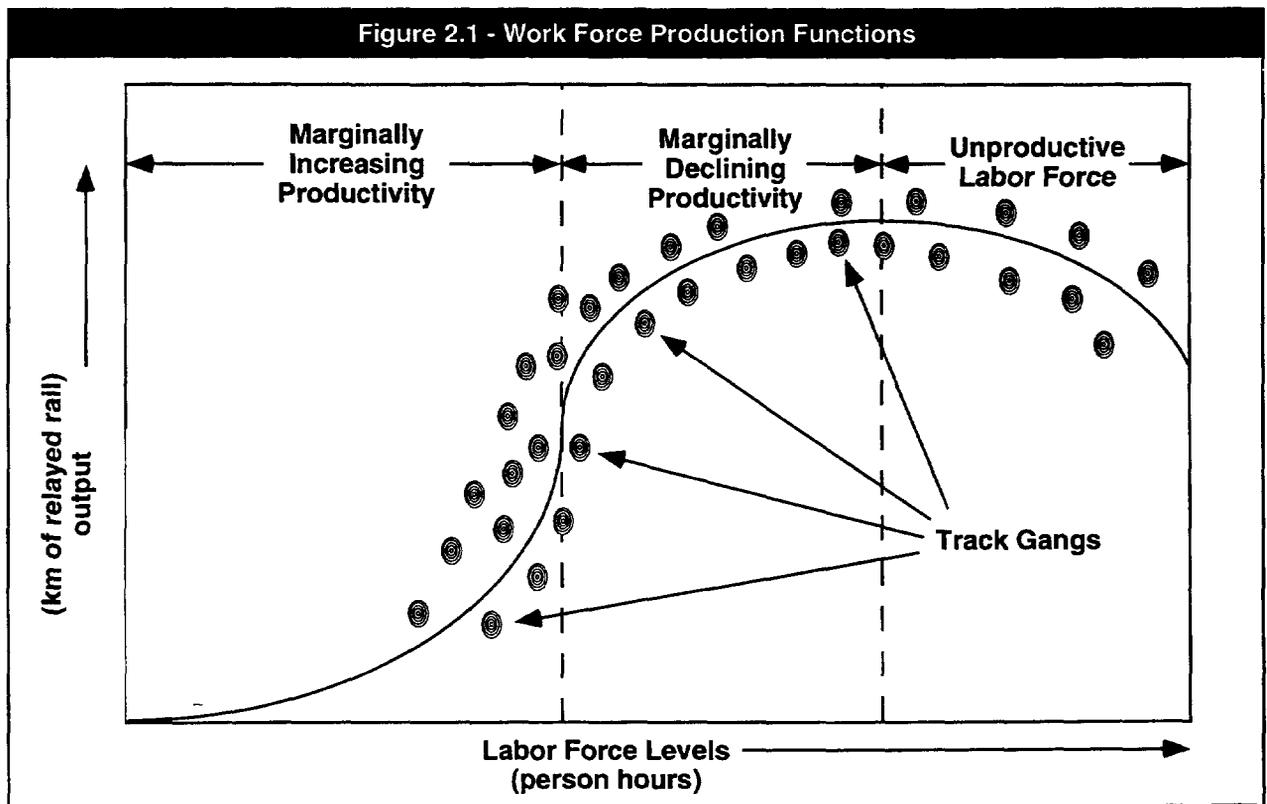
ment. Some work functions are performed less efficiently by large groups than by small groups. In any case, "benchmarking" or comparative output analyses can serve as a rigorous basis for craft-specific manpower budgeting and planning.

Work force planning affects not only productivity but also quality of service. When railways employ excess workers they actually create internal work that slows down response time to external requirements. The experience of

private railways in North America over the past decade has demonstrated that customer perceptions of service quality are correlated with how lean a rail operation is. Fewer employees focused on what creates value for the customer are more effective than more employees focused on internal work. The extent to which rail employees are empowered to make decisions in behalf of customers is also important in this context.

Successful restructuring involves not only downsizing railway work forces but actually redefining the work itself. Through the restructuring process the value added content of the work performed should increase and the "internally generated" work content should decrease. As a result of work force restructuring, railway employees should have more interaction with customers, should assume increased decisionmaking responsibility, should perform fewer routine, repetitive chores, and should spend no time waiting for decisions made at headquarters. Modern information technology makes it possible to increase the value added content of railway work. A second objective of work force restructuring, then, is to change the mix of labor and capital inputs so that the benefits of modern technology can be fully realized and the value added content of railway work increased.

However, these objectives are difficult to realize in contexts in which the railway may have assumed the de facto



role of a social safety net in absorbing underemployed workers and in providing health care, child care, and other social benefits to workers throughout the economy. In many national contexts, particularly in formerly planned economies, railway employment serves in lieu of missing macroeconomic stabilizers to absorb underemployed work forces. Railway restructuring entails the separation of these social obligations from the core business and their separate management, apart from all of the other challenges that railway managers must face. Over the longer term, management must address the strategic labor restructuring issues discussed immediately below.

WORK FORCE REQUIREMENTS AND DEMOGRAPHICS Railways employ large work forces with diverse skills. Within the overall work force, however, distinct cohorts exist, each of which possesses different skills and different age demographics and each of which is likely to respond in a different way to various downsizing incentives. The effects of alternative downsizing strategies can and should be tested in a series of "What if?" simulations against a model of the work force. Understanding the composition of the work force is important in targeting voluntary programs that are designed to retain skilled employees and to induce less skilled employees to leave. Understanding future skills requirements is equally important. The failure to develop effectively targeted programs may result in an inadvertent loss of needed personnel and in future recruitment and re-training costs. In most of the case studies, the restructuring of work resulted in a lower demand for clerical crafts and a greater demand for operating crafts — in a greater demand for skilled personnel and a lower demand for unskilled personnel.

STATUTORY OBLIGATIONS OF AND LIMITATIONS ON NEW MANAGEMENT The restructuring of a railway work force usually takes place in the context of labor legislation, which sets parameters for the size of work force reductions, defines the process through which reductions must be negotiated and agreed on by the affected unions, and specifies the liabilities that may be incurred in severing surplus workers. The rights of workers and the obligations of management under pre-existing labor-management contracts may or may not be transferred through restructuring and privatization to the new managers and owners. In Canada contract obligations negotiated by predecessor owners with rail unions remain in effect even after rail lines are sold to new owners. Indeed, transferable labor contract obligations are one of the inhibitors to the formation of a small railroad industry in Canada. In the United States specific compensation formulas have been developed through regulatory precedent for buying out surplus workers who lose their jobs as a re-

sult of a railway merger. In Argentina, similar legal principles were developed to respond to work force downsizing.

LABOR CONTRACT NEGOTIATIONS UNDER NEW MANAGEMENT/ OWNERS The process of restructuring almost always involves the negotiation of new contracts with railway unions. Under these circumstances management has an opportunity to establish productivity enhancing precedents, to revise inherited work rules so that they conform to best practices, and to adopt and support modern technologies. In particular, opportunities exist to effect some of the following reforms: (1) to reduce the number of distinct job classifications; (2) to simplify and expand the scope of work reserved for particular crafts; (3) to redefine the basis of pay so that it corresponds to a full normal work day and work week; (4) to minimize arbitrary pay, overtime, away-from-home pay, and other work rule based penalties; and (5) to re-establish the precedent that issues concerning safety and efficiency work rules, including minimum crewing and manning, are exclusive management prerogatives, subject only to government safety regulation.

MECHANISMS FOR WORK FORCE RESTRUCTURING Management has available to it a number of options for effecting reductions in work forces.² Some of the options used in the case studies include the following:

1. *Reduction through Attrition.* Work forces can be reduced naturally simply by ceasing to replace workers who leave the company through retirement or disability or to seek alternative employment. Normal railway work force losses are 4 to 5 percent per year for forces with uniform age distributions. Losses tend to rise significantly from that level depending on the age distribution of the work force, the alternative employment opportunities, and the relationship between rail wages and general inflation.
2. *Early Retirement.* The process of natural attrition can be accelerated by offering to support full or enhanced retirement benefits for members of the work force who elect to leave railway employment before the designated retirement age. This mechanism may be used in multiple rounds with marginally sweetened benefits or liberalized retirement conditions in order

²For example, in Sweden the number of full-time employees was reduced from 27,000 in 1988 to 13,800 in 1994. These reductions break down into the following categories: deaths, 215; dismissals by SJ, 2,450; transfers to subsidiaries, 4,375; activities sold off, 1,400; attrition, 255; age pensions, 2,410; illness pensions, 1,350; early retirement, 745.

to control the number of employees who elect to leave. However, early retirement mechanisms afford little control over the skills that exit from the restructured carrier.

3. *Severance Pay.* Another mechanism for reducing the work force voluntarily involves incentive payments. However, as was seen in the experience of New Zealand Railways, if this option is offered to the entire work force without qualification, the most skilled and most difficult to replace employees are the first to leave. In the case of New Zealand, multiple rounds of voluntary downsizing led to the refinement of the severance program to the point where both employee initiation and management acceptance were required before an employee could take advantage of this option.
4. *Reassignment to Non-rail Operations.* Under certain circumstances an opportunity may exist to reassign employees from core rail activities, where fewer employees are needed, to non-core activities, which are growing rapidly and which require additional employees. This mechanism typically is used only when railway restructuring takes place against a backdrop of general economic growth. This was the situation in Sweden, where SJ reassigned 5,000 employees from its core rail business to its subsidiary companies over a five-year period.
5. *Furloughing, Retraining, and Placement in New Jobs.* Forced firing represents a last and most difficult option. Employees were furloughed in Japan as a part of the railway restructuring in the face of a strong negative reaction from entrenched unions. To soften the social cost, furloughed workers were retrained and placed in new jobs through the mediation of a settlement agency. In Japan the JNR Settlement Corporation was remarkably successful in placing employees with private firms, local government, and other central government offices. As regards retraining, the greatest need for railway workers is training in how to find new employment.

7. Management Restructuring

The performance of restructured organizations is closely linked to the quality and effectiveness of the top management team. The management team is normally lead by a CEO who is responsible for selecting, motivating, and directing the rest of the team. The management skills of the CEO and the CEO's effectiveness in creating a management organization in which change becomes the norm and the marketplace is the final arbiter of enterprise success are the most important factors in determining whether the reorganization succeeds or fails.

Typically, the work of managing a large restructured enterprise exceeds the capacity of a single individual. Management of restructured rail assets is normally a shared effort and its success relies heavily on the values, knowledge, aptitudes, and style of the management team that supports the CEO. The management capability of individual team members and their mutual compatibility directly affects how productively the restructured assets under their stewardship will be used and how rapidly more productive use of these assets can be realized.

The recruitment of the top management team is highly idiosyncratic. In part, the selection of team members will mirror the management style, and will complement the strengths and compensate for the weaknesses of the CEO. At the same time, the team functions in a business environment which places a premium on specific technical skills — some of which have not previously been incubated within the railway and others of which can be found only in the railway.

The formation of an effective management team begins with an assessment of the business environment in which the restructured enterprise will compete. Competing successfully requires a specific set of values, knowledge, and aptitudes. Establishing explicit selection criteria that reflect these environmental requirements in advance helps to systematize a process that otherwise is subjective and intuitively interpersonal. Table 2.5 represents executive selection criteria for a typical reorganized railway.

One critically important criterion involves management values. In addition to having high ethical and professional standards, each member of the top management team should be fully supportive of the restructuring effort and fully committed to moving the restructuring process forward. No baggage should be retained from the management team that was in place before the reorganization. One lesson that emerges clearly from the case studies is that it is impossible to move into the future if the management team is mired in the past. Another lesson is that the new management team should have a strong bias to act and to translate its decisions quickly into action. Restructuring situations require decisive and action-oriented managers who are willing to take professional as well as business risks.

A second selection criterion involves technical knowledge and management skills. The top management team will require a mixture of knowledge and skills, the quality and sophistication of which should match the enterprise development agenda of the CEO. In general, this skills mix should include management expertise in marketing, sales, operations, and finance. However, more specific skills should be sought out which complement the overall strategy of the company. For example, the CEO may envision a rapid technology upgrading, in which case a working knowledge of state-of-the-

Table 2.5 - Executive Selection Criteria for a Typical Reorganized Railway

<p>Values</p> <ul style="list-style-type: none"> → Honest → Action-oriented → Strong commitment to reform → Performance-oriented → Manageable
<p>Knowledge</p> <ul style="list-style-type: none"> → Academic training in functional specialization → Experience in successful private sector corporation (5 yrs.) → Ideally, management experience in a turnaround situation <p>Experience in:</p> <ul style="list-style-type: none"> ✓ Operations ✓ Financial Management ✓ Sales ✓ Marketing ✓ Corporate Planning
<p>Aptitudes</p> <ul style="list-style-type: none"> → Flexible and adaptable → Effective communicator → Open to new ideas and approaches → Capable problem solver → Quality focused
<p>Management Style</p> <ul style="list-style-type: none"> → Direct → Team-oriented → Customer-oriented → Self-motivated → Willing to delegate responsibility

art rail technology with a strong background in equipment and project financing will be prerequisites.

It is likely that some of the essential skills and knowledge required by the team will be operational and will require previous rail industry experience. Other essential skills—including treasury, cash management, capital budgeting, pricing, sales, and marketing management—may not have previously existed within the railway organization. Candidates with these skills can be found outside of the railway industry—for example, in commercial banks, public accounting firms, competing private motor carriers, and key customer organizations.

Selecting and developing a management team is the most important work that the CEO performs. Opportunities to effect a wholesale change in the composition of the team are usually limited to the initial selection, owing to the pressures of the ongoing process and the high visibility of the restructuring itself. Hence, “getting it right” the first time is important.

The CEO has limited opportunities to redirect and refocus the management team once it is in position. Subsequent opportunities include the following.³

1. *Training and Skills Development.* The technical skills of the top management team should be renewed regularly through formal training. In addition, one-on-one counseling with individual team members can improve the bonds that link individual members to the team and can modify the management styles of individual executives so that they complement that of the CEO.
2. *Compensation Incentives.* Incentives provide another effective way to modify the behavior and improve the performance of the top management team.
3. *Use of Outside Consultants.* Where essential skills or technical capabilities are missing among the top management team, these can be supplemented by consultants. Consultants are particularly helpful in implementing discrete and well-defined projects, in carrying out projects that involve shifting authority and responsibility among the top management group itself, and in handling extremely controversial issues from which the management team prefers to maintain its distance until sides are joined around the issue.
4. *Marginal Replacements.* Although replacing the entire management team will signal serious internal leadership problems and will probably only compound the problems that it was intended to resolve, replacing one or more nonperforming members of the top management team is the normal prerogative of the CEO, particularly over the time span required to complete most rail restructuring.
5. *Team Additions.* The mission of restructuring tends to change form and direction more than once. As these changes take place, additions may be made to the top management team. For example, a focus on service quality control—a process that runs across traditional functional lines—may recommend the addition of a chief quality officer to the top management team. Similarly, the strategic decision to rely on third parties (i.e., freight forwarders) to sell services may suggest the consolidation of sales and marketing responsibilities under a single chief commercial officer.

8. Strategic Refocusing

Most state-owned railways have a strong production orien-

³For further discussion, see Donald C. Hambrick, “The Top Management Team: Key to Strategic Success,” *California Management Review*, Fall 1987.

tation. Strategic refocusing involves realigning the values and redefining the culture of the reorganized railway so that its employees manifest increased sensitivity to customer needs and expectations. A shift from an inward production focus to an external market focus is typically accompanied by an equally profound shift in the organization's sense of time and the immediacy of its collective decision/response reflex. Internal decisionmaking in production-oriented railways typically operates on a slower clock (for example, timetables are revised annually, capital budgets are generated annually, operating budgets are developed and revised monthly, blocking and scheduling is re-evaluated annually).

In a customer-oriented and market-driven organization, on the other hand, decisionmaking is generally carried out on a same day or next day response cycle. Adequate customer responses are measured in hours, not in days, weeks, or months. Restructured railways experience a distinct "fast forward" effect—an effect which results from the creation of a new bias to act, a new attentiveness to the customer, a newly discovered need to cut through multiple levels of time-consuming decisionmaking, and an imperative to empower new decisionmakers, particularly those employees with direct customer contact. Restructured railways manage time and compete on the basis of time of response.

Creating a market-focused railway organization requires setting in place administrative infrastructures through which the restructured railway can reach out to the market and close the feedback loop between itself and its customers. This administrative infrastructure may take the form of account planning through a dedicated sales force or market research undertaken through a central office staff. It may take the form of (1) periodic problem-solving and performance review sessions between the CEO and the largest customers or (2) an annual shipper survey, conducted by a consulting firm, which compares the railway's range of service offerings, quality of service, and price-to-value with those of its primary competitors. In any case, every reorganized railway must institutionalize a set of "market avionics" through which it can monitor its market position vis-à-vis its primary competition.

The process of strategic refocusing uses market feedback as the basis for critical self-assessment and the development of realistic, market-responsive action plans. Information on the enterprise's competitive position and its repositioning plans is widely disseminated throughout the organization and can become the basis of a shared commitment to transform the organization. Strategic refocusing entails a periodic environmental scan, which the top management team initiates and disseminates among all employees. This scan and the resulting action agenda become the scoreboard on which the carrier's progress is measured. In

Sweden, for example, SJ management used a well-publicized 100 point improvement program to demonstrate the step-by-step turnaround of the railway. Similarly, in Japan several of the JR's have developed explicit and widely advertised improvement plans designed to close the performance gap between themselves and private railway operations. An environmental scan and the consequent action agenda would typically include the following components.

ASSESSMENT OF THE CARRIER'S POSITION IN A CHANGING COMPETITIVE ENVIRONMENT The environment in which most railways compete is characterized by increased shipper sophistication and greater shipper sensitivity to the total logistics costs associated with the available modal choices. Sophisticated shippers require customized services designed to fit exacting production/distribution parameters. This in turn requires a refined segmentation of the market, an increased problem-solving dialogue with shippers, and highly differentiated services and tailored prices. Shippers' logistics costs are dependent on a combination of commodity characteristics, distribution channel characteristics, and carrier service characteristics. As the value-to-weight ratios of manufactured commodities increase, rail services lose their relative advantage and are forced to compete intermodally on a dock-to-door basis. Rails have retained their competitive advantage in natural resource and intermediary goods markets characterized by large annual volume movements and relatively low product value-to-weight ratios. In these niche markets, railways can increase their participation primarily by lowering production costs and differentially pricing into marginal geographic markets, thereby developing the underlying markets that are accessible to their shippers. A zero-based review of customer needs and the ability of the carrier to respond to those needs typically identifies areas in which resources can be productively redirected and new competencies profitably developed. The same process applies to passenger markets and also to other markets that a reorganized rail-based company may consider entering.

ASSESSMENT OF SERVICE DESIGN, RELIABILITY, PREDICTABILITY, AND SEAMLESS COMPATIBILITY WITH CUSTOMER NEEDS The key to service design is to produce services that have irresistible shipper functionality. The service design parameters available to most railways include departure, transit time, reliability, equipment capacity, equipment design (self-loading and unloading capacity), intermodal compatibility, ancillary information services, and price. Standard operating practices and the available assets of individual railways constrain feasible services to a subset of options that match customer needs. Expanding the envelope of service capabilities to encompass the needs of the largest number of

potential customers, and re-engineering train and car movement services to support key customer needs, are effective ways of growing new business and developing irresistible functionality. Two value-added service dimensions — information logistics services and intermodal services — offer attractive opportunities for differentiating rail services and improving their value-to-cost vis-à-vis other modes.

SHIPPER SOVEREIGNTY Recasting a traditional railway culture involves developing new customer supportive behavior as well as adopting new customer-oriented values. One fundamental shift involves the transformation from a passive and tolerant attitude toward customers to an attitude that is actively supportive of customer interests, welfare, and comfort. As with other service enterprises, the direct and personal experience that customers have with railway representatives largely determines their perception of the value received from the carrier. In the passenger services market, developing a “customer friendly” interface begins with a transformation to corporate values that uphold customer approval as the essence of enterprise success. Dealing with the public can be stressful, but employees should be motivated in every interaction to go beyond customer expectations in providing a friendly, knowledgeable response with a minimum of delay. Quality customer service entails expert product knowledge. Employees at every level who have contact with customers should be trained to find answers to complex customer problems quickly and to understand clearly what services the carrier offers to customers.

In the freight services market, developing a customer orientation involves transcending the traditional order-taking role and becoming a problem solver. Freight customers are interested in transportation services only as an instrument to satisfy the delivery requirements of their clients and to enhance their own markets. Customer-oriented carriers recruit and train sales forces that can satisfy these needs. Customer orientation also requires the development of an administrative infrastructure that will enable sales representatives to package transportation contracts that match customer needs and to mobilize internal resources on the behalf of customers.

CORE COMPETENCIES The most valuable resources that a reorganized carrier possesses are its human resources. Market-responsive carriers institutionalize the ability to adapt to customer needs, to develop new services that go beyond its competitors in responding to those needs, and to progressively reduce customer response time. The core aptitudes and institutionalized abilities that underlie sustained competitive advantage must be developed. Some of these aptitudes and abilities involve technical capabilities, but

many of them involve understanding and anticipating customer needs and translating those needs rapidly into new services. Several of the carriers in the case studies demonstrate the development of such core competencies. For example, in the United States regional carriers such as the Wisconsin Central have developed the ability to customize freight transport services in a job shop mode, and to respond to the tailored needs of a limited number of key customers. The core competencies that the Wisconsin Central developed in the United States freight market appear to be effective in other markets as well. The Wisconsin Central was part of the group that purchased the New Zealand Railways from the Government of New Zealand.

CONSISTENCY IN RESOURCE ALLOCATION Once a carrier has adopted a special strategy to serve a discrete set of customer uniquely well and to develop a set of specific competencies, all of the resource allocation decisions made within the carrier organization should be supportive of this strategic agenda. Capital budgeting decisions, organizational design decisions, and personnel recruitment and training decisions should be consistent with and instrumental to the achievement of the carrier’s strategic agenda.

SUPPORTIVE ADMINISTRATIVE INFRASTRUCTURE Similarly, administrative infrastructure should be continuously reinvented to reinforce the reorganized railway’s primary mission — creating value for its customers. In part, this involves periodically re-examining the processes through which the carrier does its work and streamlining those processes so that value adding activities are enhanced and non-value adding activities are diminished. In addition, the response time of the organization — its ability to react and change in the face of external competitive challenges — should be continuously improved.

9. Best Methods

The following “best restructuring methods” emerge from a review of the case studies.

- *Restructuring should begin with a zero based review of the railway’s strategic mission.* Those responsible for reorganizing the railways should first ask fundamental questions concerning the continued relevance of the railway’s historic mission. For example: Is this mission still worth pursuing? If assets are not already committed to the business would it make economic sense to commit them? Only if it is determined that the railway adds value to the economy and is essential to other productive activities should the restructuring proceed. Alternatively, consideration should be given to liquidating the railway’s assets.

- *An effective way to focus the restructuring process is through benchmarking.* Benchmarking involves a point-by-point comparison of current operating, commercial, and financial practices with those used by profitable railways, with the intention of learning and emulating practices that can improve enterprise efficiency. Benchmarking can point not only to areas of significant process reform but also to areas of potential structural reorganization.

- *Assets should be bundled to match market requirements.* The entire process of restructuring should be “market focused” from the beginning. The overriding criterion for enterprise reorganization should be “design to fit” customer needs. Each enterprise should be designed around a clearly defined strategic premise, which is to realize competitive advantage in cost or service quality vis-à-vis other service providers. Market focus entails understanding customer logistical problems, knowing the transportation market and, most important, understanding new market directions and knowing the cost structures of competitors, at least as well as the competitors themselves know them.

- *Railways can be productively reorganized in phases, with different structural archetypes being applied in each phase.* Enterprise redesign need not proceed in a straight line. The unbundling of railway assets can be piecemeal, with combinations of geographic, functional, and/or line of business segments. Restructuring may lead to multiple users operating over a publicly supported infrastructure. The most successful restructuring exercises blend several asset segmentation strategies.

- *Restructuring designs that lead to privatization should match the financial resources of potential investors.* An important consideration when segmenting rail assets for sale is

the size of the required investment that privatization implies. Rail-based enterprises can and should be scaled to match the capital formation capacity of domestic stock markets, domestic strategic investors, and/or consortia of foreign and domestic firms. Restructuring involves selecting an investment mechanism as well as reorganizing assets to match that mechanism.

- *In the course of restructuring work forces, the work process itself should be re-engineered.* A zero based review of rail work activities frequently identifies work practices, procedures, and processes that are based on inefficient and outdated technology and that are needlessly costly and non-responsive to the customer need for rapid, flexible responses. The opportunity exists when railway restructuring takes place to redefine essential work so that it supports modern technology and modern railway management methods. Information technology in particular allows for breakthrough gains in labor productivity and, simultaneously, in service quality and production flexibility.

- *Restructuring the finances of a railway enterprise is primarily a “bridging” issue and should be approached as such.* Railways whose operating costs and assets are appropriately matched to market requirements will generate free cash flow. Subsequently, if they are prudent they will rebuild their balance sheets and will reorder their own liabilities. “Dressing up” the balance sheet as part of the initial restructuring enhances the confidence of potential investors and reduces risks associated with operational surprises. However, the basic work of restructuring involves improved management of assets and work forces. Primary management attention should be focused on cash flow from operations. Getting this right is essential. ■

CHAPTER THREE

INTERMEDIATE INSTITUTIONAL MECHANISMS

1. Introduction

Much of the work of restructuring is done by intermediary institutions which are separate and independent from the railways they help to reorganize. Railway reorganization normally requires an intermediary to (1) arbitrate between conflicting interests; (2) guide the process of restructuring toward its legislated ends; and (3) manage the entire process of reorganization as the primary enforcement agent, interpreter, and implementer of public policy.

Intermediaries assume various forms. For example, they may be regulatory bodies with the power to approve rail mergers, acquisitions, and line abandonments; special interdepartmental task forces that study specific aspects of reorganization and recommend specific enterprise reforms to legislative bodies; task forces within ministries of transportation with special responsibilities to oversee and direct the entire privatization process; or settlement corporations with charters to “buy out” surplus workers, to restructure rail liabilities into investment grade financial instruments, and to dispose of non-essential rail assets.

This chapter describes both the form and the function of various intermediary institutions discussed in the case studies that follow. These institutions range from those playing well-defined transitional roles in the conveyance of assets from public to private ownership to those with no clearly defined “sunset,” whose roles are more open-ended and self-perpetuating.

As the case studies in this report point out, the organizational forms, as well as the functions, of intermediating organizations vary widely. In some instances intermediaries have outsourced key functions to investment bankers and consulting firms. In other instances, they perform their work internally. In still other instances, they lead and direct interagency task forces. Institutions that carry out routine settlement functions — liquidating assets, resolving outstanding claims against railways, and restructuring residual liabilities — may take the form of large bureaucracies, sometimes staffed with surplus workers from predecessor railways.

A general lesson learned from the case studies is that form affects function. The design of the intermediary institution, in particular, affects the time required to complete restructuring work and the effectiveness with which

diverse interests can be reconciled. Smaller, leaner intermediary organizations staffed with competent professionals who also possess management skills appear to perform more efficiently than larger organizations. The former of necessity engage and work through outside interests. The latter attempt to perform most of the work they undertake using their own internal expertise.

The present chapter discusses the need for intermediaries, the relationship of the intermediary to the railway, the various roles that intermediaries play in railway restructuring, and the alternative forms that these intermediaries take. The chapter concludes with lessons regarding the design of intermediaries drawn from the case studies in this volume.

2. The Need for Intermediation

The intermediary's role is to implement public policy in a way that fully complies with the enabling legislation that chartered the intermediary and that outlined the intentions of the lawmaking body with respect to railway restructuring. In areas of policy ambiguity, the intermediary's role is to interpret and extrapolate the intent of the original lawmaking body. In most cases this mission involves realizing the greatest potential stakeholder value and also minimizing subsidies that stakeholders continue to pay into non-viable railways.

The need for intermediation derives from the nature of the restructuring process. This process normally involves reallocating assets, reordering and reassigning liabilities, and renegotiating terms of employment in ways that balance the economic vitality of the surviving railway with the public and political costs of alternative restructuring solutions. In other words, each decision involves balancing “winner” and “loser” interests.

Intermediaries add value to the restructuring process in seven areas:

1. *Refinement and Articulation of Objectives.* The process of restructuring is dynamic and original legislation cannot anticipate all of the issues which surface during implementation. Intermediaries typically begin with objectives set out in enabling legislation or a chartering decree. However, as the restructuring

process proceeds, intermediaries are frequently required to interpret and apply public policy objectives in specific decisionmaking contexts that were not foreseen in the original legislation or decree.

2. *Resource Allocation.* The most important work of intermediaries is to allocate resources or to approve the division of assets and liabilities among surviving railways, companies supporting railway operations, or other branches of government.
3. *Performance Management.* Intermediaries typically negotiate productivity and profit performance commitments with railway managements during the initial phase of restructuring and monitor that performance by measuring actual against committed performance throughout the process.
4. *Communication and Securing of Agreement across Organizational Boundaries.* Perhaps the most difficult task of intermediaries is building support for restructuring decisions and actions. Frequently, it is left to intermediaries to secure political and public commitment to policies regarding work force downsizing, divestment, and enterprise refocusing in the face of unrelenting opposition and erratic mainstream support.
5. *Settlement of Outstanding Liabilities.* The liabilities of restructured railways frequently exceed their asset values. These excess liabilities may include benefit claims of displaced workers, unfunded pension liabilities, and environmental liabilities, as well as outstanding debt. Here, the role of the intermediary is to apply the proceeds of liquidated assets to outstanding liabilities, to formalize unsecured liabilities in contracts that fully comply with applicable laws, and, where possible, to convert liabilities into securities that are marketable as government debt.
6. *Execution of Contestable, Competitive Awards.* Intermediaries design and manage the competitive processes through which rail assets are sold and the ownership status of railways is transformed.
7. *Creation of Regulatory Institutions.* Intermediaries define the roles and authority of regulatory institutions that may be required to oversee the business practices of the private companies that emerge from railway restructuring. This function is needed only when insufficient competition has been built into the restructuring design.

Intermediaries typically deal with complex technical issues. These issues, for example, may relate to determining the economic value of alternative combinations of rail assets and liabilities or to assessing the consequences of restructuring alternatives for the re-balancing of modal equi-

ties within national transport markets once the restructuring is complete.

Intermediaries assume management responsibilities for liabilities from which railway managements have been relieved. Frequently, intermediaries deal with the separation and transitional support of surplus work forces — for example, with the implementation of worker consultation programs in which displaced workers are trained in job search techniques, or with the development of community support systems for towns whose industries are principally railway dependent and that may be adversely affected by railway restructuring. Intermediaries also deal with the disposition of non-essential assets, for example, the liquidation of surplus real estate and repair facilities and the securitization and sale of liabilities that the intermediary may have assumed from the restructured railway. In each of these areas, intermediaries relieve railway managers of post-closing obligations, thus leaving these manager free to focus on reorganization.

The valuation issues with which intermediaries deal often surface in the context of pending transactions. For example, intermediaries may serve as the primary broker between the former owners and the new owners of railway assets. In this capacity, they may represent the value of rail assets to potential investors. Intermediaries may also actively market new business opportunities in situations in which little private sector interest existed before the intermediaries become involved. Missionary selling is a prerequisite for bidding for franchises, concessions, or rail assets. In most instances, intermediaries also execute the transaction on behalf of the state. Hence, part of the role of an intermediary is to interpret and assess the market potential for new corporate control of railway assets.

The kinds of activities that intermediaries undertake require a wide spectrum of professional skills — skills which must be appropriately matched to the specific mission(s) of the intermediary. These skills may include skills in transportation network planning, alternative rail operations analysis, financial simulation and analysis, labor relations, employee outplacement, and contract negotiation. A strategy that several intermediaries have used successfully is to employ outside experts (for example, accountants, consultants, and investment bankers) to undertake specific missions which require skills more specialized than those immediately available to intermediaries. This is in lieu of staffing up to handle the multiple contingencies that surface in the course of restructuring. Under these circumstances, the intermediary becomes a project manager, a coordinating agency, and a decisionmaker.

In any case, the bedrock on which the authority of the intermediary rests is its incontrovertible integrity and its

unswerving commitment to the objectives defined in its enabling legislation. Intermediaries ultimately rely on their reputations for fairness and for the objectivity needed to mediate among multiple interests.

3. Relationship between the Intermediary and the Railway

One clear finding that emerges from the case studies is that railways cannot perform the work of intermediation themselves. Indeed, it is the separation of the intermediation functions from the railway that provides the dynamic tension and the leverage that propel fundamental change.

As the case studies for Argentina and Japan demonstrate, when state-owned railways are charged with reorganizing and reforming themselves the temptation to protect the status quo is too great to allow fundamental changes to take place. In both countries, initial efforts to restructure railways with internal resources failed dramatically before an alternative approach involving the formal delegation of authority to intermediaries proved successful.

An important conclusion of this study is that an external agency, focused on advancing the restructuring agenda, is essential to maintaining both momentum and unswerving direction. Although an “intermediary” was formally designated in the legislation or ministerial decree that authorized the restructuring process in only two of the case studies, in every case study an organizational “champion” stepped forward and assumed the role and function of an intermediary.

The relationship between the restructuring intermediary and the railway must be distant enough to avoid both conflict of interest and policy capture. Intermediaries rely heavily on their counterpart railways for information about day-to-day operations, financial performance, and market position. Hence, the relationship between the two must not be so distant that open and candid communication is impaired. Moreover, the relationship should not become adversarial and thereby interfere with agreement on strategic direction.

As the case studies on Argentina and Japan clearly demonstrate, adversarial relationships that develop early in the restructuring process can effectively be resolved by the early replacement of the railway’s top management team — the team that, in any case, brought the railway to the brink of financial failure. Both the New Zealand and Swedish experiences further reinforce the point that the installation of a pro-restructuring “caretaker” CEO, one who is ultimately replaced after the transition is complete, is a prudent step in avoiding an acrimonious and fault-finding relationship between the intermediary agency and the railway. Restarting the enterprise with a new management team when the

intermediary begins its work appears to be an effective way of enhancing cooperation before the two organizations become entrenched in polarized positions.

Another effective way to head off potential conflict is to clearly define the roles of the intermediary and the carrier early in the process. Respective responsibilities and roles should, if possible, be defined in the enabling legislation. For example, the intermediary organization might serve in lieu of a board of directors, or might assume primary oversight of strategic decisionmaking throughout the restructuring period in lieu of the carrier’s own management. Under this arrangement the carrier’s management would no longer be able to increase or decrease the company’s capital base or its work force without the approval of the intermediary agency until the restructuring was complete. Alternatively, the intermediary agency might serve as staff to the railway’s board through the transition period.

Once the major restructuring is in place and the reassignment of assets settled, the intermediary moves from a directive role to an oversight role. In the post-closing phase, the intermediary may take on the additional role of settlement agent and assume full management responsibility for liquidating liabilities and assets divested from the railway.

It is important that improvement in the railway’s service quality and in its capital and labor productivity be sustained throughout the reform process. Thus, the day-to-day tactical work of the railway needs to be performed well under different circumstances. To this end, the railway’s management should exercise full authority over operations from the beginning. The intermediary’s role is to provide railway management with adequate incentives to stay in the job and to improve both financial and service performance during the transition period.

The alternative, as the Argentine case makes clear, is an accelerated “hollowing out” of the railway with the result that the finances of the going concern and the physical condition of its assets deteriorate almost to the point of no return. The unfortunate implication is that during the restructuring period railway management may find itself in a dual reporting relationship: with a direct reporting relationship to its board of directors or responsible minister, and with a “dotted line” reporting relationship to the restructuring agency. At best this is an awkward situation which recommends a quick transition.

More than any other factor, the quality of the management that heads the railway during this transition period determines whether the railway will improve its financial performance and increase in asset value or will slide backward. Under ideal circumstances, management will buy into the vision of a restructured railway and will fully support the work of the intermediary agency.

4. Essential Functions Performed by Restructuring Intermediaries

The need for intermediation derives from the decisions made in the areas listed below, which are inherent in the restructuring process. Each of these areas requires effective management, successful consensus building, and technically sound judgment.

- Articulating and refining objectives
- Allocating resources
- Abandoning and assigning routes
- Downsizing employment and labor
- Supporting the surplus worker transition
- Defining national versus local responsibilities
- “Designing in” competition
- Disposing of excess assets and liabilities
- Managing the privatization transaction.

Critical decisions in each of these areas are discussed in this section and are illustrated by brief descriptions of the intermediary’s role in exemplary cases.

ARTICULATING AND REFINING OBJECTIVES A commitment to railway restructuring is typically memorialized in initial legislation. However, the initial commitment to restructure is typically sustained and energized through the ongoing efforts of the intermediary. The restructuring process can easily come undone. Restructuring efforts are seldom popular politically since they directly confront entrenched interests. Thus, an enduring and ultimately successful commitment to restructuring (and/or privatization) requires continuous restatement, reinforcement, and elaboration of goals and, most important, substantive progress. A key function of the intermediary agency is to provide the energy, as well as the intellectual road map, for the restructuring process. Increasingly, issues will arise that will test the validity of the original operative concept. In such cases, the intermediary should aid in balancing real world implementation priorities with the original policy and, within its mandate, assist in redefining the original concept.

In New Zealand, for example, consultants and investment bankers were engaged at several critical points in the process and served as “contract” intermediaries. They advised the government-appointed commercial adviser on restructuring options and articulated a vision of the end result of restructuring through multiple studies and organizational design engagements. For example, they assessed the “salability” of the railway, and they assessed whether its value would be greater under private ownership or under state ownership. In addition, consultants identified changes in the regulatory environment that were required to bolster

the competitiveness of the privatized company. They also assessed the social benefits that might be realized through privatization. Through a series of consultant engagements the design of New Zealand Railways took final shape. A government-appointed commercial task force managed the organizational redesign and monitored the financial performance of the railway through the transition.

In Argentina, the concept of private rail companies operating under franchise agreements with the state was first set out in the State Reform Law of 1989. This legislation gave the executive branch extensive powers to enforce privatization policy without the legislature’s approval. In Argentina two intermediaries, a Railway Restructuring Unit and a task force, were created to manage different aspects of the transition process. These intermediaries went well beyond the original enabling legislation in refining the franchise concept so that it became viable in long distance passenger and local transit markets as well as in freight markets, where it was initially mandated in the original statute.

ALLOCATING RESOURCES Intermediaries perform a function essential to restructuring in reallocating and reassigning railway resources. For example, intermediaries divide assets among the enterprises that emerge from the restructuring process. Where restructuring leads to privatization, the intermediary plays a key role in allocating liabilities between the railway and the state in ways that assure the viability of the surviving railroad. In other situations the intermediary develops the business plan for restructured enterprises and negotiates performance compliance with the railway management team.

In Sweden a special task force that reported to the Minister of Finance managed the reassignment of assets to the two divisions of the Swedish Railway — SJ and BV — on the eve of their separation. The same task force worked with SJ to develop a self-sustaining balance sheet for the new rail operating company.

In Japan, one intermediary, the Supervisory Committee, created another, the Shinkansen Holding Corporation, whose function was to redistribute lease payments for commonly used equipment among the reorganized railway units that emerged from the restructuring. After the first round of reorganization, the profitability of various Shinkansen (Bullet Train) services differed significantly. Most of the services bridged more than one of the newly organized regional railways. The Supervisory Committee for JNR Reconstruction was set up initially to make recommendations concerning the reorganization of JNR. Later, when JNR was organized into the JRs — six passenger companies and one nationwide freight company — the Supervisory Committee established the Shinkansen Holding Corporation as a fi-

nancial intermediary, to redistribute income back to the JRs, which is generated by their joint ownership of Shinkansen train sets. Each of the passenger JRs leased assets from this jointly owned company and made lease payments that were in part determined by each regional carrier's intrinsic profitability of the various JRs.

ABANDONING AND ASSIGNING ROUTES An important function for most intermediaries is to reorganize routes and terminals among the emergent railways so that they can provide effective service to their designated customers. The route assignment function goes to the heart of defining the markets that reorganized railways will serve. In this arena, the intermediary's role is to assess the traffic and financial implications of alternative network configurations and to recommend route assignments that best comport with natural market boundaries.

In Japan, for example, the Supervisory Committee for JNR Reconstruction divided JNR's passenger business into six separate railways. This made sense both economically and operationally since more than 95 percent of all passengers originated and terminated their trips within the same railway territory.

Similarly in Great Britain, a task force within the Ministry of Transportation, which played the role of intermediary in BR's reorganization, defined the service boundaries of 25 local passenger service franchises through a process of rigorous analytic traffic and financial simulation.

One of the routine functions of intermediaries in "bottom up" restructuring is to determine whether the statutory requirements that apply generally to rail line abandonment or rail mergers apply to specific cases. The decision to divest light density lines that are no longer economically viable is complex and politically charged in most countries since it directly affects the economic well-being of local communities.

In the United States this function is carried out by the Interstate Commerce Commission. As the case study in this report makes clear, the streamlining of the abandonment processes within the Interstate Commerce Commission in the early 1980s was a key prerequisite to the creation of a "small railroad" industry segment in the United States.

DOWNIZING WORKERS AND RELATED LABOR ISSUES Frequently, two sets of rights collide in the process of rail restructuring: the rights of union employees to claim specific work or to receive compensation in case of severance, and the right of the new owners of rail assets to use these assets productively without regard to prior labor agreements with predecessor railways. Intermediaries sometimes play a role in rebalancing these conflicting rights.

Once the intermediary determines that obligations to pay severance or to buy out surplus employees do in fact apply in a specific situation, the intermediary frequently specifies these liabilities, preferably in the form of a contract, so that they can be financed, "worked out," and/or transferred from the surviving railways to the government.

In Japan, a specific law passed early in the restructuring process defined funding mechanisms to facilitate the large work force reduction that resulted from the reorganization of JNR. The law also provided for a comprehensive re-employment program for those voluntarily retiring from JNR and those who were transferred to the JNR Settlement Corporation (the principal intermediary involved with the restructuring of JNR in its second phase). Repayment of outstanding employee obligations was partly funded by surplus asset sales, especially land sales. The JNR Settlement Corporation Law created a special agency to deal with the redemption of JNR's long-term pension and severance liabilities.

SUPPORTING SURPLUS WORKER TRANSITION Announcing publicly the options available to displaced workers and the process for their selection, as early as possible, is also typically the work of the intermediary. Job loss is a devastating experience for most railway employees. Adequate prior notice helps to absorb some of the trauma. Early notice provides increased opportunities for workers and their unions to mitigate adverse welfare consequences.

Other practices, in addition to advance notice, that may provide essential support to displaced workers include career consultation with individual workers, networking and job referral services, and directed access to community job development and income support programs. The effects of large-scale reductions in force are particularly difficult for "railway towns." Where railway downsizing causes massive local unemployment, the role of the intermediary may encompass community redevelopment as well.

In Japan, the Settlement Corporation provided for the re-employment and placement of surplus personnel. The Settlement Corporation worked with the private sector and the government to "place" surplus labor. To further facilitate re-employment, the government organized a Surplus Personnel Reemployment Measures Headquarters. In part because of the labor shortage resulting from economic expansion, re-employment proceeded smoothly. The Settlement Corporation absorbed 21,000 redundant workers after the 1987 restructuring, all but 1,000 of whom ultimately found jobs in the private sector.

DEFINING NATIONAL VERSUS LOCAL RESPONSIBILITIES State-owned railways typically serve the transit needs of local com-

munities as well as the national needs of the general population. Railway restructuring frequently involves a redefinition of federal responsibilities for regulating and funding continuing operations in many local communities. Intermediaries frequently play a key role in redefining the responsibilities of local and state governments in the vacuum created when national governments remove themselves from direct financial support of state-owned railways.

In Argentina, for example, the 1990-93 Railway Transition Plan outlined the process through which either Ferrocarriles Argentinos (FA) or private contract operators would provide "essential" transit services to communities with no alternative form of public transport. The Railway Restructuring Unit worked closely with local communities to design workable concessions. In a parallel development the Railway Restructuring Unit was instrumental in developing a new independent commuter transportation authority in Buenos Aires that filled the void left when FA itself was dissolved.

In Sweden, a similar process of local delegation of responsibility and reassignment of assets took place under the Transport Policy Act of 1988. The Act gave County Transport Authorities an exclusive franchise to operate passenger transport services on those county lines for which they accepted full financial responsibility. In exchange for accepting responsibility for unprofitable operations, counties were promised a "weaning" federal subsidy. The basis for these mutual commitments was set out in a formal agreement among the central government, the County Transport Authorities, and local communities. These agreements had a 10-year term. Under the agreement each county received a subsidy, the size of which was related to SJ's operating cost at the time responsibility was transferred. In each case, it was up to the county to decide how best to provide public transport services. Counties had no obligation to use the subsidy to operate trains. Those counties deciding to continue railway operations were given the rolling stock that was in use at the time of the transfer of responsibility.

After the restructuring of the Swedish railways, cross-support for regional transit services became available through three distinct mechanisms: (1) direct support through regional transport authorities for county line operations; (2) support through the Swedish State Railways (SJ) for non-commercial operations on main lines; and (3) support through the National Rail Administration (BV) for county line infrastructure.

"DESIGNING IN" COMPETITION Frequently, radical railway restructuring is triggered by an imbalance in equities among transport modes. The restructuring process itself can lead to a realignment of competitive balances among competing

modes. Ideally, the end result is an increase in competition and a rapid improvement in the quality of services available to shippers and passengers. Intermediary organizations play a key role in adjusting competitive balances in the enterprise engineering phases and subsequently in designing regulatory regimes that will control excess market power in cases where competition proves an inadequate check.

In Sweden, railway restructuring was explicitly directed toward rebalancing competitive costs in favor of rail and against trucks so that prices for services offered by the competing modes fully reflected what the Swedes determined to be their respective marginal social costs. In this case, the work of calculating and enforcing a pricing scheme for infrastructure based on social cost-benefit principles was left to BV, the state rail infrastructure company. However, the general principles behind the tariff were designed by the intermediary organization, a task force within the Ministry of Transportation.

Although the Swedish example is the most intrusive in terms of tilting competitive modal balances, there are other examples of reform efforts specifically targeted at redressing a lack of rail competitiveness. For example, railway reorganization in New Zealand was initially motivated by a need to support the operations of industrial shippers with a more balanced portfolio of viable transport options. Here, also, the intermediary agency played a key role in relieving artificial restrictions on truck operation authorities, at the same time that the efficiency and competitiveness of New Zealand Railways was being improved through a step-by-step restructuring process.

In Great Britain, the Ministry of Transportation has expended an enormous amount of effort and has committed resources to accountants, lawyers, and investment bankers in order to assure that the unbundling of BR would have pro-competitive consequences and that each unbundled service component would be opened to multiple competitors.

In some cases tension exists between grouping assets around markets and "designing in" competition. Since grouping assets around markets enhances a railway's future viability, tension may arise between viability and competition. Argentina, for example, grouped assets around geographical markets, with the result that regional rail monopolies were created. Presumably the intermediary felt that viable monopolies were better than no rail service, and that intermodal competition and certain rate controls would suffice. The British, on the other hand, seem to have "designed in" competition to the point where viability may be threatened.

Another common theme among the restructuring case studies involves divestment of non-rail transport companies. Intermediary agencies appear to agree in most instances

that focusing both management and financial resources on the “core” railway business and restricting the involvement of the rail carrier in the provision of nonrail transport services promotes competition policy and also encourages prudent asset management. As a rule, newly privatized or restructured railways provide weak platforms for multi-modal conglomerates. Few railway managements have succeeded in realizing genuine intermodal synergies, and fewer still have found themselves directing a major restructuring.

DISPOSING OF EXCESS ASSETS AND LIABILITIES Another function frequently performed by intermediaries is the liquidation of assets and the retirement of outstanding liabilities. When the liabilities of a railway exceed its assets, intermediaries are often called on to play a role akin to that of a trustee in a private sector bankruptcy. Intermediaries are obliged to resolve conflicts among stakeholders, take ownership title to and liquidate non-essential assets, and repack-age and sell off outstanding residual liabilities.

In Japan, for example, the independent Settlement Corporation facilitated the management of the railway’s massive US\$250 billion “work out.” The government organized the Settlement Corporation to serve as trustee and to manage the entire asset reorganization and liability restructuring process. Through this intermediary, the orderly disposition of surplus assets in auctions and negotiated sales, and of outstanding liabilities in reissued debt instruments, continues. The discretion given to this organization with regard to the timing of asset sales and the dissolution of liabilities has proved effective in balancing the multiple objectives that accompany the sale of US\$29 billion in assets.

FINANCIAL STABILIZATION Even after restructuring, specific lines or operations may require continued government assistance. Another function of intermediaries is to channel government funds to restructured railroads, private sector concessions, and franchises in a way that is consistent with underlying service contracts. Intermediaries use competitive bidding mechanisms to manage contract awards — mechanisms which assure that the government is receiving good value for its money.

A unique contribution of intermediaries in Japan was the establishment of special stabilization funds designed to fill the gap between income from operations and cash required to run the rail business efficiently. To ensure the financial stability of the three island JRs after restructuring, but at the same time to assure autonomous operations, a stabilization fund was set up for each island JR. This fund was endowed by the JNR Settlement Corporation with income-generating securities whose yield funded the projected ongoing operating requirements of the three island JRs. In

essence the funds served in lieu of ongoing operating subsidies. Yield from the funds provided a hard budget constraint within which the managements of the three railways were forced to operate, and the funds themselves enhanced the value of the railways and made it possible to consider their future privatization.

In Argentina the Railway Restructuring Unit designed and bid out seven service group concessions, to over 100 companies, in which the government assumed liability for ongoing deficit questions. Subsequently the Restructuring Unit became involved in managing compliance with concession contracts, which required concessionaires to invest in the operations over which they took control.

REDEFINING ORGANIZATIONAL STRUCTURES Intermediaries frequently assist the railway itself with strategic realignment and internal reorganization. The New Zealand case study is an excellent example of an organizational transformation that followed a deliberate, step-by-step conceptual road map. Through the reorganization the railway realigned resources and management structures along market lines, and with each step, departed further from a traditional functional organization. At the same time decisionmaking authority was pushed downward in the organizational structure toward line managers with a direct customer rapport. This process was driven by intermediaries and designed by outside management consultants. However, the railway itself had the difficult task of making it work.

Between 1982 and 1988 New Zealand Railways evolved from a functional organization to one organized around market-focused business groups (namely, Freight, Passenger, Property, and Communications). These groups initially shared common administrative functions. Gradually, however, each business group became autonomous and managed its own finances, industrial relations, and information systems.

MANAGING THE PRIVATIZATION TRANSACTION The award of rights either to use or to own state-owned railway assets normally involves an open, contestable process in which prequalified bidders compete with one another on the basis of objective award criteria. The privatization transaction may involve the sale of ownership rights, the award of concession rights or the assignment of franchise rights. The intermediary organization typically performs five distinct functions in managing the privatization transaction: (1) it develops a prospectus, offering memorandums or terms of concession; (2) it markets to qualified investors or operators; (3) it specifies the mechanism for bidding and the basis for awards; (4) it receives bids and selects winners; and (5) it negotiates final terms and conditions.

In the case of Argentina, all of these tasks were carried out by the Grupo de Apoyo Ferroviario (GAF) in the first railway freight concession — the Rosario-Bahía Blanca concession. The GAF was a task force of 20 specialists created under the Ministry of Public Works and Services. Subsequently another intermediary — the Railway Restructuring Unit — assumed responsibility for preparing terms of reference, issuing calls for proposals, awarding rights to negotiate, and negotiating final terms for additional freight concessions. With each concession round, the Railway Restructuring Unit became more expert and better attuned to the conditions and terms which bidders required in order to come forward.

5. Larger Transport Policy Context and the Need to Rebalance Policy Principles

In the process of guiding and directing railway restructuring, intermediaries frequently redefine the function of government in the transport sector and change the respective roles of public and private participants. Tacitly, but sometimes explicitly as well, intermediaries redefine the basic rationale for government involvement through their actions. Sometimes they go further and develop guidelines which delimit government's range of activities and define market intervention mechanisms through which it is appropriate for government to carry out its more circumscribed responsibilities.

The need for a fundamental review of government policy is particularly acute in areas in which pre-existing government policies intersect and conflict with railway restructuring objectives. For example, the enactment of the JNR Restructuring Law in Japan affected 150 other laws, which it became necessary to amend. Policy issues which needed to be reviewed and revised included the disposition of remote, light density railway lines; labor issues involving employee rights in the reorganized corporations; the redefinition of the role of the principal builder-operator of the Shinkansen network; and the role of local government and of public/private partnerships (so-called PPPs) in developing new rail lines. These and other issues required clarification and revision.

Invariably, the restructuring of a railway raises collateral policy issues. In particular, during the process of streamlining rail operations, the issues discussed below frequently arise.

REBALANCING MODAL EQUITIES Competitive relationships among surface transportation modes are determined by multiple policy parameters, the most important of which include: (1) infrastructure use fees; (2) taxes, including income taxes, fuel use taxes, payroll taxes, and sales taxes; (3) length and weight restrictions which effect the maxi-

mum cargo carrying capacity for single vehicles (such as truck trailers and rail cars); and (4) freedom of entry into the market. In the process of restructuring rail-based enterprises, intermediaries are likely to affect one or more of these parameters, with the result that pre-existing competitive equilibrium is disrupted and competitive cost advantages are tilted in favor of one mode over the others.

This process of modal equity rebalancing may be explicit and indeed it may be the primary objective of railway restructuring, as it was in Sweden. Or, it may be inadvertent or, rather, collateral to other public policy objectives. In any case, rebalancing competitive equities among modes has consequences which are far-reaching and which pervade all production and distribution sectors of an economy. For example, manufacturers in economies with no effective intermodal competition tend not to compete on a distribution channel basis, shipment lot sizes tend to be standardized, and more working capital tends to be tied up in packaging at the front end rather than the back end of distribution channels. In any case, public policies require externalized costs to be internalized and transport costs to be fully reflected in buy/sell transactions, leaving the ultimate determination of prices to the market. Rebalancing the system requires an analysis of the logistics cost implications of various transport cost-absorption policies.

In Canada an interesting situation exists in which two railways — one publicly owned and one privately owned — dominate the domestic market. The state-owned carrier has enjoyed access to capital comparable to that of the privately owned carrier, in spite of its significantly less profitable performance. Other policy variables — taxes, regulation, etc. — that effect competitive equity have been equalized between the two. At the time of this writing Canadian policymakers are wrestling with the issue of consolidating portions of the two carriers. If their merger, coordination, or integration should proceed, new issues involving intramodal equity are likely to arise.

LABOR-MANAGEMENT RELATIONS Another critically important area of policy intersection involves the balancing of labor protection and union prerogatives with the profit enhancement and efficiency objectives of the reorganized carrier. In most countries railway workers are unionized. The rights of railway unions are protected by statute and also by long-standing labor-management practice. Railways, as large-scale industrial enterprises, frequently pioneered in establishing the legal precedents on which labor-management relations in all industries are based. Thus, redefining management and labor prerogatives in the process of restructuring railways may require re-examination of the assumptions underlying labor-management relations in general.

In the area of labor relations the intermediary's role is to find a politically viable path between employee rights and the enforcement of existing labor laws on the one hand, and the need for deficit railways to shed excess staff, on the other. In certain cases an amendment or exemption from existing statutes may be required. The intermediary agency frequently takes the lead in realizing necessary changes. Table 3.1 represents the experiences of three case study railways in redefining public policies that affected labor management relations through this transition period.

In New Zealand, for example, the deregulation of labor markets took place at the same time as the restructuring of the railway and, indeed, enabled the privatization process to be completed more quickly and with fewer complications. Until the mid-1980s New Zealand law mandated compulsory union representation, blanket labor contract coverage, and contract arbitration in a special labor court. By the late 1980s, however, government control over labor-management relations was gradually attenuated, first with enterprise level contract negotiations, then with additional piecemeal liberalization. Finally, in 1991, the Employment Contracts Act removed the government from labor market oversight completely, except as regards the enforcement of labor-management contracts which were mutually agreed upon and which for the first time had the standing of common law.

Early in the restructuring process, the New Zealand Railways Corporation (NZRC) management controlled neither the wages nor the work rules of its forces. These were negotiated on behalf of the railway by other government officials in the context of government-wide labor negotiations. New Zealand Railways operated within the labor-management restrictions of an official state department until late 1987, when for the first time it came under the same labor legislation that applied to other state-owned enterprises. At that time NZRC became responsible for bargaining its own labor contracts. From 1986 onward, NZRC began to reduce personnel costs by increasing severance benefits under its voluntary redundancy program.

In 1990, following the New Zealand Railways Corporation Restructuring Act, the newly reconfigured New Zealand Rail Limited (NZRL) reached an agreement with the unions that enabled it to enforce redundancies. Finally in 1992, NZRL initiated major changes to collective employment contracts through the simplification of pay structures and the introduction of performance appraisals as a basis of compensation. With the reduction in labor forces, labor productivity increased by 171 percent between 1986 and 1993.

LAND ISSUES AND INDIGENOUS PEOPLES Another area of conflicting public policy involves the disposition of land and

its reversion to indigenous peoples or to some alternative use when it is no longer required for rail operations. Intermediaries again have a key role to play in steering restructuring policy through the narrow gap between legal action and real estate forfeiture.

This issue arose in New Zealand, where the State Owned Enterprises Act of 1986 gave state-owned corporations the opportunity to purchase assets from the state and to use them for commercial ends. However, the indigenous population had a prior claim to the state-owned land, which the government no longer required. The property that was conveyed as part of the railway privatization was potentially subject to a claim under the Treaty of Waitangi Act 1975. Under this treaty, the indigenous Maori people were able to file grievances against the Crown and to enjoin the transfer of land to new enterprises until the claims were resolved by the appropriate court.

Intermediary advisers and NZRC itself attempted to address this problem by suggesting that the land over which the rail system operated be placed in a separate state-owned organization. The railway company would then lease the land it needed from this organization. This issue was ultimately resolved with the enactment of the Treaty of Waitangi Act 1988, which established a system of safeguards to allow the transfer of assets to state-owned enterprises without protracted delay caused by conflicting land claims. The law provided for the retention of land by the Crown after other assets were transferred to restructured state-owned enterprises.

6. Alternative Organizational Forms

As the case studies demonstrate, intermediary organizations can assume a number of different organizational forms. As a general design principle, however, the intermediary organization should be built around the functional specifications of the work to be done. The value-added role of the intermediary is inherently transitional. "Sunset charters" keep intermediaries focused on the work that they were originally intended to carry to completion and prevent bureaucratic self-perpetuation.

The work of the intermediary involves a diverse array of tasks, many of which require coordination and consensus-building outside the intermediary organization itself.

Unfortunately, at the beginning of railway restructuring project, not as much time as is needed goes into the organizational design of the intermediary organization. The following set of organizational structures has been used by case study railways with more or less positive results.

TASK FORCES Much of the groundbreaking work of rail restructuring, the mapping of new railway organizational structures, the division of assets among distinct operating

Table 3.1 - Public Policy and Labor Management Relations, Case Study Experiences

Country	Labor-Management Framework	Changes during Transition	Remaining Issues
Japan	<ul style="list-style-type: none"> The Constitution guarantees individual carriers the right to organize, to bargain collectively, and to take other collective action. Since the right to representation and union membership resides with industrial workers, multiple and competing unions represent identical crafts in Japan. Trade unions are organized at the level of individual enterprises. Collective bargaining agreements are determined at this level. However, enterprise unions organize to form higher level industrial federations. Coordinated enterprise/national level wage negotiations, the so-called "shunto" or "spring offensive" is the key labor/management event. Stable labor relations with few strikes are the rule in Japan. Radical action such as that of other railway unions in the 1980s is the exception. Public employees do not have the right to strike. Labor relations commissions, as well as courts, provide several avenues for dispute resolution. 	<ul style="list-style-type: none"> Shifts in enterprise/union power relations and union affiliations with industrial (national) federations reflect shifting employee values from radical to moderate postures. Industrial federations dealt with national labor policy on behalf of individual enterprise unions. Policies have generally been conciliatory after radical clashes in the 1980s. Labor-management consultation system was reactivated, leading to direct discussion of work conditions and strategic enterprise needs. 	<ul style="list-style-type: none"> Employment stability Shorter working hours Social benefits Retirement age Seniority vs. skill-based wage system
New Zealand	<ul style="list-style-type: none"> Employment Act of 1991 eliminated state intervention in industrial relations. Post-1991 environment is characterized by voluntary unionism, contestable unions, enterprise level negotiated arrangements between employers and employees subject to minimal statutory conditions. A fundamental shift took place during the rail reform period from labor-protective regulation and compulsory arbitration in a special labor court to complete deregulation and replacement with a laissez-faire labor management policy in which negotiations are unconstrained by state oversight and labor contracts have the standing of common law. 	<ul style="list-style-type: none"> Railway was originally subject to omnibus federal labor contracts with little special conditions/provisions applicable to railway operations. Subsequently, NZRC negotiated its own labor contracts. The Employment Contract Act of 1991 made union membership "optional." However, 90% of NZRC employees elected to remain with one of two rail unions. Collective bargaining agreements persist but recently negotiated agreements contain liberalized work rules, a productivity incentive basis of pay, and more flexible manning and crewing arrangements. 	<ul style="list-style-type: none"> Multi-skilling and multi-task assignments Scope roles Redefined crew districts Basis of pay based on performance
Sweden	<ul style="list-style-type: none"> Right to organize and bargain collectively dates from early twentieth century. In the 1970s collective bargaining rights were extended to include all issues, with a material effect on workers. Extremely high level of unionization exists, involving both blue collar and white collar (management) positions. Direct government intervention in labor/management disputes is minimal. By statute, management is obliged to share strategic information with employees, and to allow employee representation on company boards and to negotiate in good faith on all issues affecting employee welfare. An extensive system of mediation and obligatory "peace commitments" between labor and management all but preclude radical labor action. 	<ul style="list-style-type: none"> No major labor-management institutional changes occurred as a result of rail restructuring. The existing framework was used to redeploy human resources and to effect the transition of SJ into a more productive and customer responsive organization. Unions are actively involved in rail restructuring activities through working groups and special committees. No special legislation or institutional framework applies to SJ and BV. Public and private sector labor laws and institutions are identified. Primary changes involve less restrictive "scope" rules in labor contracts; more "team" organization; productivity incentives; and fewer skills and craft restrictions. 	<ul style="list-style-type: none"> Multi-task assignments Retraining Seniority vs. performance compensation

units, and the external support and justification that are needed to encourage legislative bodies to make difficult political decisions comes from special committees or task forces. “Blue ribbon” panels composed of well-regarded industrialists can speak with unique authority to difficult enterprise reform issues — authority that transcends partisan political considerations. For example, in Japan the Supervisory Committee for JNR Reconstruction formulated concrete policies for the railway’s reorganization, which became the “blueprint” for subsequent restructuring legislation. The Committee consisted of five representatives from business and academia, with a small staff that was sequestered from various ministries. Similarly, in Canada a number of special commissions — the Duff Commission, the Rowell Siroix Commission, the Turgeon Royal Commission, and the McPherson Commission — helped define the country’s rail policy at critical turning points.

SPECIAL GROUPS ORGANIZED WITHIN THE MINISTRY OF TRANSPORTATION An alternative organizational design involves task forces within government that are specifically authorized to define, formulate, and implement restructuring policy. One drawback to this approach is that it may make restructuring a partisan political issue. An offsetting advantage is that the recommendations that emerge from ministerial task forces have the full support of the government in power. Special groups within the Ministry of Transportation, for example, developed the restructuring architecture for railways in Great Britain and Sweden.

SETTLEMENT CORPORATIONS Still another instrument through which restructuring results have been successfully realized is the settlement corporation. Settlement corporations are semi-permanent. They typically perform work that is routine and requires a longer time to complete than does the work performed by more transient organizations. Independent settlement corporations frequently manage asset liquidation and debt restructuring. Also, they often manage employee resettlement and retraining.

Not surprisingly, semi-permanent organizations such as settlement corporations tend to protract process cycles and to “find” new missions for themselves. However, they offer the benefit of insulation from political intrusion and decision override. In Japan the scale of the railway workout (US\$337 billion in outstanding debt) called for a well-insulated intermediary. That organization took the form of the JNR Settlement Corporation with 23,660 employees and an annual operating budget of approximately US\$30 million.

TRANSITIONAL RAIL REFORM AGENCIES Independent agencies reporting directly to ministers or prime ministers offer

still another organizational prototype. These transitional reform agencies usually begin their work with explicit charters and well-defined authorities. These charters typically mandate that the work of the transitional agency will be completed within a prescribed time period. Under the best of circumstances, transitional rail reform agencies are made up of small professional groups and have minimal internal hierarchy. These groups are, again under the best of conditions, staffed with highly motivated personnel with a diversity of technical skills.

Rail reform agencies cited in the case studies were able to achieve restructuring objectives quickly and to assume effective leadership for complex tasks. These groups can be particularly effective when they have a charismatic leader who communicates a strong sense of mission.

In Argentina, for example, a special unit — the Railway Restructuring Unit — with only one director and one railway expert was created to manage the transition. This unit, and a task force of 20 professionals, implemented the rail concessioning program in record time. The unit handled a diversity of issues including missionary selling of the concession concept to potential offerers, definition and specification of concession territories and assets, specification of concession investment requirements, competition for 25 concession territories, and final negotiations with successful bidders.

THIRD PARTIES: CONSULTANTS AND INVESTMENT BANKERS In lieu of internal staffs, some of the case study countries relied on private professional firms to carry out specific intermediary functions, such as scoping studies, business plan development, solicitation of interest from potential buyers, etc.

In New Zealand professional firms did much of the work of reorganization. The government used private sector consultants to advise on each stage of the multi-phased reorganization process. In 1971 the government commissioned a transport policy study to be undertaken by the U.S. consultants. At the commencement of its restructuring, New Zealand Rail lacked the skills to begin the restructuring process on its own. Its board and management looked outside and contracted with Booz Allen and Hamilton to review the operation and the strategic options available to the new corporation. Subsequently, the government engaged a commercial adviser to perform a scoping study of the business to be sold. The first stage of this study was a business evaluation which assessed the salability of the enterprise. Concurrently, officials engaged another consultant to identify any regulatory issues that should be resolved before privatization. Finally, the government hired an investment bank, Bankers Trust, to prepare an Information Memorandum, to invite bids, and to conduct the sale process.

Similarly, in Sweden the government engaged a consulting firm, Indevo, early in the reform process to explore emergency financing options and to redesign the organizational structure of SJ. A partner with Indevo served as the transitional general manager of SJ until a permanent general manager could be found.

In "bottom up" restructurings, third parties typically play key roles in critiquing existing structures and functions and in designing new approaches. They are also included in structuring the financial transactions that generally finalize bottom up restructuring processes.

STANDING REGULATORY BODIES Countries that are served by private sector railways also generally have some form of regulatory body to enforce and effect rate reasonableness criteria determined by regulatory statutes. These bodies also determine the reasonableness and public interest justification for rail mergers, acquisitions, and line abandonments.

In Canada, for example, this function is carried out by the National Transportation Agency. It is a standing body of nine members, nominated by the Federal Cabinet, each for a term of five years. The National Transportation Agency supports a staff of 483. In the United States similar functions are carried out by the Interstate Commerce Commission which in 1994, its last year of operation, had a staff of 404.

7. Prerequisites for Effective Intermediation Operations

Three prerequisites exist for effective intermediary work: (1) integrity, (2) technical expertise, and (3) credibility with the general public. In Japan, much of the formulation and analysis of the financial viability of the restructuring plan was completed by experts with no vested interest in the outcome. Following on several self-directed but unsuccessful attempts at restructuring, expert and impartial external guidance proved essential in building public confidence and credibility. Members of the two special commissions that began the restructuring process in Japan included industrialists and academics with excellent reputations for their impartiality and business acumen.

A key to maintaining public confidence through the restructuring process is the reinforcement in the media of the fact that the original commitments to the first principles of restructuring and/or privatization, as expressed in the original legislation or in the parliamentary debate that preceded enactment, were sustained throughout the process and that progress is being made step-by-step toward well-defined goals.

In Japan, for example, during the six years of planning and deliberation that preceded restructuring, the Provisional

Committee maintained scrupulous objectivity and impartiality in considering alternatives. The Committee maintained both public support and business support, not only because of the strong reputation of individual members but also because of the professional caliber of its work. The reputation of the Provisional Committee was enhanced by its excellent relationship with the press.

The support of international institutions like the World Bank can also be helpful in reinforcing the authority of the restructuring intermediary. In Argentina, for example, the World Bank played a catalytic role in lending its support to reform elements, at a critical time when the outcome of the process was most uncertain. By channeling technical assistance through the principal intermediary, the Ministry of Public Works and Services, the Bank enhanced this organization's reputation and increased public confidence in its work.

It is essential that restructuring proceeds deliberately and keeps to a schedule that demonstrates results. In Argentina, those managing the concessioning process found that, more than exploring every aspect of the process and constructing elaborate bidding mechanisms, it was important to maintain momentum and avoid being distracted by disgruntled bidders. The recommendations and study findings of third parties can also help in sustaining public visibility. Early in the reform process in Argentina, a report by Booz Allen helped sustain momentum by reinforcing strategies favored by the Ministry of Public Works and Services and by enhancing the Ministry's credibility through its economic analysis.

8. Best Methods

A review of the cases studies points to a number of "best intermediary design methods" that have proved successful in implementing rail restructuring:

- *Dedicated organizations with well-defined authorities perform best in uncertain restructuring environments.* Railway restructuring is complex and typically requires a relatively long period (nine years or more) to complete. Under these circumstances an organizational response is needed that involves committing resources exclusively to railway restructuring — as opposed to sharing resources with other state-owned enterprise restructuring/privatization activities. In addition, the authorities and responsibilities of the intermediary should be well defined in its enabling legislation or chartering decree.

- *Reporting relationships are important in assuring stability and mission-long survivability.* Since rail restructuring frequently requires more time to complete than the term of a single government, reporting relationships and insulation

from the mass turnover that typically follows changes in government should be designed into the intermediary agency. In particular the intermediary organization may be separated from direct government reporting relationships through a board which itself may be changed without diverting the intermediaries' mission or may be set up as a separate commission with multi-partisan support.

- *Small, flexible organizations with minimal internal structure are frequently more effective than large, less flexible organizations.* Much of the work of restructuring can be carried out through task forces which intermediary agencies manage and direct but which are staffed primarily with outside experts and members of other agencies and ministries. Drawing outside interests together and generating consen-

sus is a primary responsibility of the intermediary, and this task can be performed more effectively by a small organization. For this reason the intermediary itself should have only minimal hierarchy. Outsiders will prefer to take their issues to the top of the organization rather than working through lower echelons. A "flat" organizational structure will prevent the "queuing" of key issues outside the director's door.

- *The intermediary organization should be allowed to operate only within a limited prescribed time.* "Sunsetting" the intermediary within an ambitious five to seven year time frame will hasten the work and will give the intermediary fewer opportunities to redefine its mission in an effort to extend its life span. ■

CHAPTER FOUR

MANAGING THE RESTRUCTURING PROCESS

1. Introduction

Railway restructuring entails fundamental change, and fundamental change requires the organizational capacity to learn quickly and to work effectively in an environment characterized by profound uncertainty and significant professional risk. In the face of this uncertainty, participative managers lead by example and by inspiration. They create an environment in which change becomes the norm and the standard. Effective managers, when taking on a railway restructuring project, do not begin by telling their teams what to do. Instead, they set in motion a process through which the entire team learns together. It is this aptitude for institutional learning that, more than any other attribute, distinguishes the effectively managed restructuring process.

This chapter attempts to isolate the “best practices” among the management methods that were used in the rail restructuring case studies included in this report. A major finding of the present study is that good management methods are generally effective and that they apply with positive results across national boundaries.

Among these methods are the following:

1. *Elevating the project leader above the multitude of details and numerous skirmishes that accompany the reorganization process so that the leader can focus on defining the restructuring concept and directing the overall work process*
2. *Recruiting technical staff with a diverse set of railway problem-solving skills, who have not become inculcated with the change-resistant railway culture*
3. *Dividing the work into discrete modular components and completing work on each component through cross-functional task forces*
4. *Giving task forces ownership of their work and allowing them to make decisions close to the tactical details that they understand best*
5. *Developing, early in the process, a simple model of the value of the railway and continuously refining and elaborating this model and framing the policy dialogue in value terms*
6. *Periodically reviewing and reassessing the progress of the restructuring; this review should include the views of shippers and passengers, who ultimately determine the value of the reorganization, as well as potential investors*

7. *Identifying and assessing restructuring alternatives to create fallback positions and options for tactical retreat*
8. *Creating a market for new ideas by using multiple advisers to test and refine new directions in advance of a public commitment to such directions*
9. *Presenting a coherent future vision in a system restructuring plan and using this plan as the architectural blueprint for restructuring.*

A second major finding of this study is that more similarities than differences exist among effective restructuring management methods. One important common denominator is a process focus. Good managers understand and continually improve the work process from which railway restructuring results emerge. Through continuous process improvement, these managers gradually improve the timeliness, cost, and quality of restructuring outcomes. The effectiveness of the railway restructuring process can be measured in terms of cycle time — the elapsed time between the commencement of restructuring activities and their completion — and also in terms of the resources used in the process. The efficiency of restructuring activities is also directly related to the financial losses (or surplus funds flow) that the railway incurs during the process. In general, the shorter the cycle time, the greater the benefits are in terms of an efficient allocation of resources and a minimum commitment of public funds.

This chapter is organized into seven sections. Following the Introduction, the second section discusses differences among the processes found in the case studies examined later in this report. Section three highlights the similarities among the restructuring processes. The fourth section discusses process cycle time and resource requirements and their relevance as process management measures. Section five presents a typical “top down” restructuring process cycle. Modifications to this cycle appropriate to “bottom up” restructuring are discussed in section six, and, finally, section seven discusses best management methods relevant to railway restructuring.

2. Differences among Restructuring Processes

As the case studies in this report demonstrate, a “crisis” usually opens the door to railway restructuring. When conventional modes of response can no longer be used to cope

with a rapidly deteriorating fiscal or service breakdown, then new options are considered and “crisis” managers are duly appointed and empowered. A crisis demonstrates the futility of “business as usual” and allows radical reorganization to be considered. Depending on the severity of the crisis, more radical or less radical options may be considered and ad hoc design constraints on the intermediary restructuring agents will be more, or less, restrictive.

For example, in Sweden the crisis that provoked rail restructuring (namely, deteriorating rail market share and a mounting imbalance in modal competitive equity) was modest in its fiscal and political consequences compared with the crisis that set the stage for rail reorganization in Argentina, where the rail operating deficit accounted for 16.7 percent of the federal deficit in a macroeconomic environment characterized by runaway inflation. In Sweden relatively little discretion was left to the implementers of the rail restructuring solution; in Argentina far greater decisionmaking discretion was left to the intermediaries.

Differences in railway restructuring methods also relate to the objectives and to the institutional setting in which the reorganization takes place. For example, restructuring efforts differ in their point of departure (and consequently in both their objectives and their institutional setting), which may involve either initial public sector or initial private sector ownership. In this context it is useful to distinguish two types of restructuring: “top down” and “bottom up.”

Top down restructuring concerns the reorganization of assets owned and controlled by the public sector. In top down restructuring a design of the future rail organization is first agreed upon among high level government decisionmakers. A parliament or other representative forum usually memorializes the proposed design in legislation or in a formal agreement. Subsequently, this concept is made explicit and workable through iterative negotiating, planning, and market testing. Finally, a refined and pre-tested restructuring plan is implemented. The experiences of Japan, Great Britain, and Sweden fit this process paradigm quite well. The experiences of New Zealand and Argentina generally follow the same paradigm, differing principally in their iterative refinement through several discrete restructuring phases. In both of these cases multi-stage restructuring allowed for institutional learning, which greatly improved implementation in the later phases.

The precise objectives of top down restructuring may differ from case to case. In most (but not all) cases, top down restructuring leads to a change of ownership, from public to private sector control. In such cases restructuring is an essential prerequisite and precondition for privatization. The railway is reformed and restructured while it is still under public sector control in order to ensure its future viability under private sector control. The

case studies suggest that it is difficult to reverse the order of these two steps and to rely entirely on new private sector owners to complete the restructuring process. Even when restructuring is completed under private sector control, as was the case in Argentina and New Zealand, key restructuring steps (for example, state assumption of liabilities for environmental damage, outstanding debt, and employee severance) set in place the minimum prerequisites that are needed for private sector investors to be willing to invest.

Private investors deeply discount the value of those railways that require high front end investment, the strengthening of outdated assets, the assumption of vaguely defined liabilities, the deregulation of pricing and relief from other forms of government economic control, and the radical reduction of work forces. If the risks inherent in these activities outweigh the perceived value of the going concern, no private sector investor will come forward. Under such circumstances only government can effect the fundamental changes needed in labor-management relations, the necessary strengthening of the enterprise’s balance sheet, and the clarification of the new owner’s future obligations. Part of the value-added role of the restructuring intermediary under such circumstances is to determine, early in the process, the minimum pre-conditions for an early sale of a partially restructured railway.

A less ambitious objective for top down restructuring may be a fundamental change in strategic direction. The overriding goal of every railway restructuring is to refocus the available resources and the management direction of the railway so that they better match shipper needs and more appropriately respond to competitive challenges from other modes of transport. This fundamental refocusing follows automatically with privatization, as a result of the strong performance incentives that emerge with the transformation of ownership. The new owners usually act immediately to increase the financial value of their investment by improving the railway’s competitiveness and actively seek new sources of value that the carrier can deliver to its customers. However, where the outright transfer of state ownership rights is not viable, restructuring may become an end in itself. Under such circumstances — Sweden and Argentina provide two very different examples — the restructuring process may stop short of outright ownership transfer.

However, as several of the case studies demonstrate, stopping short of privatization means that future rounds of restructuring and reorganization may be required. If the new operators are not adequately motivated, if they do not have sufficient capital at risk, the assets of which they are the custodians may not be productively used and may be orphaned a second time at the doorstep of the public sector.

The need for periodic enterprise restructuring is inherent in any competitive market. Challenges from new competing technology and from underlying market shifts call for change in the modes of production and of marketing. For example, private railways that operate effectively in the dynamic transport markets of North America build change into their corporate strategies — change in technology dependence, in service mix, in basic service design, and consequently in the railway's work and the way in which that work is organized. Under both public sector direction and private sector control, restructuring is necessary to maintain the competitive advantage of railways that operate in open transportation markets.

Bottom up restructuring differs from top down restructuring in that, with the former, the private sector takes the lead and assumes the full financial risk for restructuring without prompting from the public sector. In this context, the government's role is to establish the rules and regulations under which private sector participants can pursue their interests in ways that also protect the public interest.

In bottom up restructuring, private buyers and sellers negotiate terms for the transfer of railway ownership rights and hence create a market for these rights. The ultimate transaction may result in a diversity of outcomes, such as outright sale of rail companies as going concerns or as parceled assets to other rail companies, abandonment or divestment of light density lines, mergers of separate railways, or sale of trackage use rights or pooling and sharing of operating rights. Any number of recombinations of assets can and do take place when markets are created for railway ownership rights, particularly when these markets are minimally restricted by government regulation.

Bottom up restructuring is a logical extension of top down restructuring. As several of the case studies in this report make clear, it is important not only for government to advance the process of restructuring state-owned railways through to privatization, but also for it to establish workable rules and regulations that will allow additional restructuring to take place even after assets have been conveyed to the private sector. As has been noted, the need to restructure continues after privatization since underlying markets continually shift and competitive relationships among transport modes constantly change. Thus, it is essential that government policymakers provide the means and the opportunity for privately owned railways to continue the restructuring process. One aspect of this process involves bankruptcy and the forced liquidation of rail assets. Some countries provide special arrangements for the reorganization of rail assets under bankruptcy. An example is provided by the United States (see Box 4.1).

The process of bottom up railway restructuring, in the few countries that have experienced it, follows relatively

well-defined regulatory procedures. Government regulation sets out the specific forms that private sector restructuring may take and also defines the formal regulatory process and the public interest test that both buyer and seller must meet to gain approval from regulators. Ironically, this "formal" aspect of bottom up restructuring distinguishes it more than anything else from top down restructuring, which is most distinctive in its originality and its "one off" process characteristics.

Governments go through top down railway restructuring only infrequently. Indeed, if they "get it right" the first time they go through the process only once. Hence, top down restructuring is very much a learning process. Government officials responsible for managing the process typically begin their assignment with little experience in railway reorganization. The essence of their task is the formulation and reality testing of alternative restructuring concepts in an environment characterized by uncertainty. Ultimately their goal is to create a market for railway ownership rights where none existed before. In this environment the intermediate organization must learn rapidly what the railway's own management has not been able to learn: namely, how to enhance the value of the assets entrusted to them. It follows, then, that railway restructuring requires rapid learning, strong technical abilities in order to diagnose business problems, and even stronger implementation capabilities in order to fix what appears to be broken, frequently in the face of entrenched opposition.

Privatization of state-owned enterprises — or even radical restructuring that stops short of privatization — is inherently more complex than the buyer/seller transactions between private parties that typify bottom up restructuring. Bottom up restructuring is also less original in its conformity with regulatory process requirements, although the specific restructured enterprise forms that emerge from the process can be quite diverse. In bottom up restructuring the buyer's need to value the pending transaction, to resolve uncertainties, and to test and confirm the seller's representations prior to closing is of paramount importance. The bottom up restructuring process requires thoroughness in preparation as well as creativity in transaction design. Still, as will be discussed, both processes have more commonalities than differences.

3. Similarities among Restructuring Methods

The "best restructuring methods" used in the case studies in this report share several attributes. For example, restructuring efforts are typically directed toward goals that are only partially defined at the beginning of the process. The "going in" goal is usually a completed transaction or a fully restructured and profitable railway organization — or both. Goals are articulated as the restructuring progresses

Box 4.1 - The United States and Railroad Bankruptcy

The experience of the United States with railroad bankruptcy has particular relevance for private sector reform because in the United States railroads have historically been owned and financed primarily by the private sector. Moreover, the number of private railroad bankruptcies in the United States has been quite large¹ and has led directly to changes in the applicable law.

In 1933 Congress passed the Bankruptcy Act with a section applicable to railroad bankruptcies (Section 77). Section 77 distinguished the rules and guidelines for railroad bankruptcies from those for other bankruptcies and attempted to establish a basis for balancing the interests of private creditors and shareholders against the public interest in continuing railroad operations. Section 77 established the legal theory that railroads are public utilities and that the public retains primary rights of access and use which prevail against the rights of owners, creditors, and mortgagees. In cases of bankruptcy, when the courts took possession of railroad assets and proceeded to restructure the companies, Section 77 facilitated remedies that involved shrinking the carrier's capital structure to match the debt service and dividend payment capacity of the ongoing operation, extending maturities on fixed obligations, and converting lower priority debt into contingent payment securities. Financial restructuring remedies were appropriate and adequate to bankruptcies created by a combination of excessive financial leverage and periodic dips in the macro business cycles, which included most railroad bankruptcies until the 1960s.

In the 1960s and 1970s railroad bankruptcies began to emerge in which the cash-generating capacity of the carriers was inadequate to cover current operating expenses, with no free cash flow left to repay external financing. The bankruptcies of the Penn Central, the Erie Lackawanna, the Lehigh Valley, the Lehigh Hudson, the Reading, the Central of New Jersey, the Ann Arbor, the Rock Island, and the Milwaukee Road were caused by problems more profound than excessive leverage.

In 1978 Congress revised the Bankruptcy Code. Subchapter IV of Chapter 11 of the revised code contains special rules that apply to railroads. Subchapter IV reconfirmed the unique treatment given to railroads in bankruptcy and the need of receivers to balance the dual objectives of preserving the estate for creditors and shareholders and protecting the public interest in continuing rail service. Subchapter IV provides that a trustee will assume full control over the estate during the restructuring; that the trustee will prepare a restructuring plan subject to the review and approval of the courts and based on specific criteria contained in the Subchapter (most likely, to maintain adequate rail service in the public interest); and that execution of the approved restructuring plan shall be subject only to certain regulatory authorities over pricing, line abandonment, and work force reductions also specified in the legislation.

¹Approximately 1,750 railroads in the United States have failed since 1820; a large number of these failures reflected bankrupt operations. (There is not a distinction between railroad failure and bankruptcy. This estimate covers the period from 1820 to 1987.) Source: K. Eric Wolfe, "The Downside Risk: An Analysis of Local and Regional Service Failures," *Journal of the Transportation Research Forum*, Association of American Railroads, Vol. 29, No. 1, 1988, p. 124.

through an interactive process involving analysis of alternatives, reconciliation of diverse expectations, and ultimate agreement on the "value" of the restructured assets and the best means for realizing full value potential. The intermediaries or regulatory bodies that oversee the process determine what will work and what will not by testing tentative solutions with potential buyers or customers, by probing knowledgeable and interested parties, and by refining original alternatives in light of this feedback — in short, by learning. Open communication is essential to the learning process. This should include the communication of sensitive market and financial information among railway management, potential investors, and other stakeholders. Mediating, validating, and facilitating this flow of information is an essential value-added function of the intermediary.

The restructuring process itself is finite. It has a begin-

ning and an end. The parameters that measure the efficiency of railway restructuring are the time and the resources required to complete the process. The time can be measured in terms of the length of the cycle — the elapsed time required to complete the full set of value-adding tasks that lead to the intended outcome. Resources can be measured in terms of the staff time and overhead expenses required to complete the process, as well as by the ancillary resources — for example, the services of consulting firms and investment banking firms — that may be required to complete discrete project elements.

The top down restructuring process typically includes three phases: (1) a political agreement phase; (2) a planning phase; and (3) an implementation phase — possibly leading to a transaction. These distinct phases are logically sequential. However, discrete value-adding work elements

within each phase may overlap. A major challenge in managing the restructuring process is to define and to organize these discrete work elements in ways that will facilitate overall project completion.

Effective management of the learning process can significantly reduce cycle time. For example, management may organize discrete work elements so that they are performed in parallel rather than in end-to-end sequence. Management may delegate discrete value-added work units to task forces made up of personnel with multi-functional skills and with effective network relations to key outside constituent groups. Management may also facilitate an open exchange of views and flow of information among task forces involved in different value-added tasks and may periodically redesign task forces in response to a shifting agenda. Under the best of circumstances the process itself is adaptable and flexible. It should be designed for rapid learning and for the immediate application of new information.

The railway restructuring process is highly technical and calls for a diverse skill mix. It requires expert determinations concerning the operational viability and the financial value of alternative railway organizational forms. For example, the organizational redesigning of an enterprise relies heavily on professional judgment, as well as on financial simulation and operations modeling techniques. Testing the market for new price/service packages and projecting future revenue levels require sound judgment as well as adequate skills. In addition, the restructuring process typically requires negotiating skills to translate potential enterprise value into realized value, and communications and political skills to effectively garner support and public approval at key points. Overall, process management, which is the keystone skill, entails the integration of all these multiple functions and perspectives.

Significantly, the processes involved in railway restructuring are at least partially visible to the public. Deliberations are generally conducted in the public domain and are subject at key points in the decisionmaking process to public review and comment. All of the key decisions involve some form of mediation among multiple, frequently conflicting, interests and require mechanisms for receiving diverse views and then reconciling them. It is important to comprehend the views and interests of potential investors clearly and to design these views into the final plan.

Management methods that appear to apply with equally good effect across the case studies include the following.

- *Encouraging a participative culture.* Participative leadership appears to work best in railway restructuring.

This type of leadership involves the creation of organizational cultures that are open and that make full use of the skills and experience of team members. The creation of a pro-change culture is made more difficult for the process leader by the fact that the work of railway restructuring takes place in an environment characterized by uncertainty and professional risk. By virtue of their own dedication to the restructuring process and their articulation of achievable expectations, leaders can evoke commitment from their teams. Leaders of effective restructuring efforts are typically visionaries who realize their visions with and through the organizations that they create and empower. Effective leaders rise above details to focus on the long vision and on the overall work process.

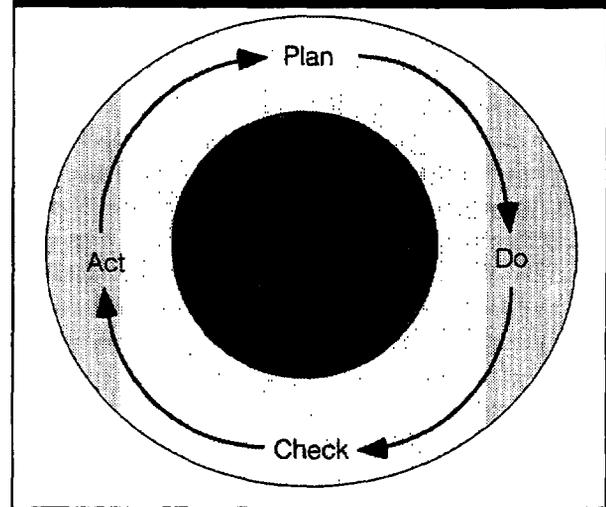
- *Recognizing the importance of cross-functional task forces.* Most of the work associated with restructuring is performed by task forces which are organized and reorganized around the changing work requirements of restructuring. Task forces should work backward from the desired result and concentrate their efforts on realizing the modular components of a comprehensive plan. Task forces are particularly effective in railway restructuring because they allow multiple skills to be applied directly to problems and issues that may have no precedent and that are often poorly defined. Within task forces individuals can apply their skills in an environment that has little hierarchical structure and that thus allows for free form discussion and effective cross-disciplinary exchanges. It should be borne in mind, however, that task force members are collectively responsible for solutions, not for simply providing their unique functional point of view. Cross-functional task forces thus provide the best kind of reality testing for key restructuring concepts.
- *Benchmarking comparable rail operations.* The concept, or vision, that leaders initially define in outline and that task forces elaborate in considerable detail emerges from "benchmarking": from setting restructuring "stretch" goals against current operations and finances. Benchmarking isolates specific areas of railway performance and compares them with "best practices" used by other railways of similar scale and service mix. Benchmarking creates the tension and calibrates the expectations and improvements that are the driving power behind the restructuring process.
- *Defining discrete restructuring work elements.* Significantly, benchmarking also provides the context for

disaggregating the overall restructuring project into discrete tasks, each of which can be assigned to a task force. The project leader's responsibility is to disaggregate the restructuring "problem," to give each task force clear direction regarding expected results, and then to give each task force the discretion to find workable solutions.

- *Developing and refining a conceptual model of railway asset value.* Implicit in the entire restructuring effort is a conceptual model of the value of the railway that is being restructured. This model provides the common intellectual foundation on which all task force efforts are based. As the restructuring progresses, the cause and effect relationships between organizational redesign and asset redeployment on one hand, and railway going concern value on the other, are tested and become more explicit. An important aspect of the restructuring process is to elaborate this model so that relationships between specific restructuring actions and consequent increases or decreases in railway asset value become clear and certain. This represents the most important institutional learning aspect of the entire restructuring process.
- *Testing and continually refining preliminary restructuring results.* It is necessary to retarget and continuously refine restructuring activities to ensure the positive effect of these activities. This retargeting and refinement also serves as a process quality control mechanism. The most effective learning takes place in a "real time" environment in which task forces deal with concrete issues. An iterative learning cycle, the "Plan-Do-Check-Act" cycle,¹ is a simple example of the kind of iterative review and reassessment of restructuring work that is essential to its success (see Figure 4.1). As has been stated above, feedback on preliminary restructuring plans should include the views of shippers and passengers, who will ultimately determine the value of the reorganized railway.
- *Identifying multiple restructuring alternatives.* The restructuring process should involve, to some degree, the development of parallel options. By identifying and assessing the implications of multiple restructuring alternatives the project team creates fallback positions and options that save time and resources should the premier option prove infeasible. Multiple option or multiple scenario development can also point out the relative strengths and weaknesses of the premier option and can thus contribute to resolving

¹As described by Deming.

Figure 4.1 - Learning Cycle



some of the uncertainty associated with its implementation. These methods also provide a context and help develop a framework for a process for which there is little precedent in most countries.

- *Reality testing new ideas.* Another method shared by several of the cases involves the use of outside advisers and/or consultants who have no self-interest in the outcome but who, by virtue of their experience, can provide a valuable sounding board for ideas and a low-risk litmus test for new policies.

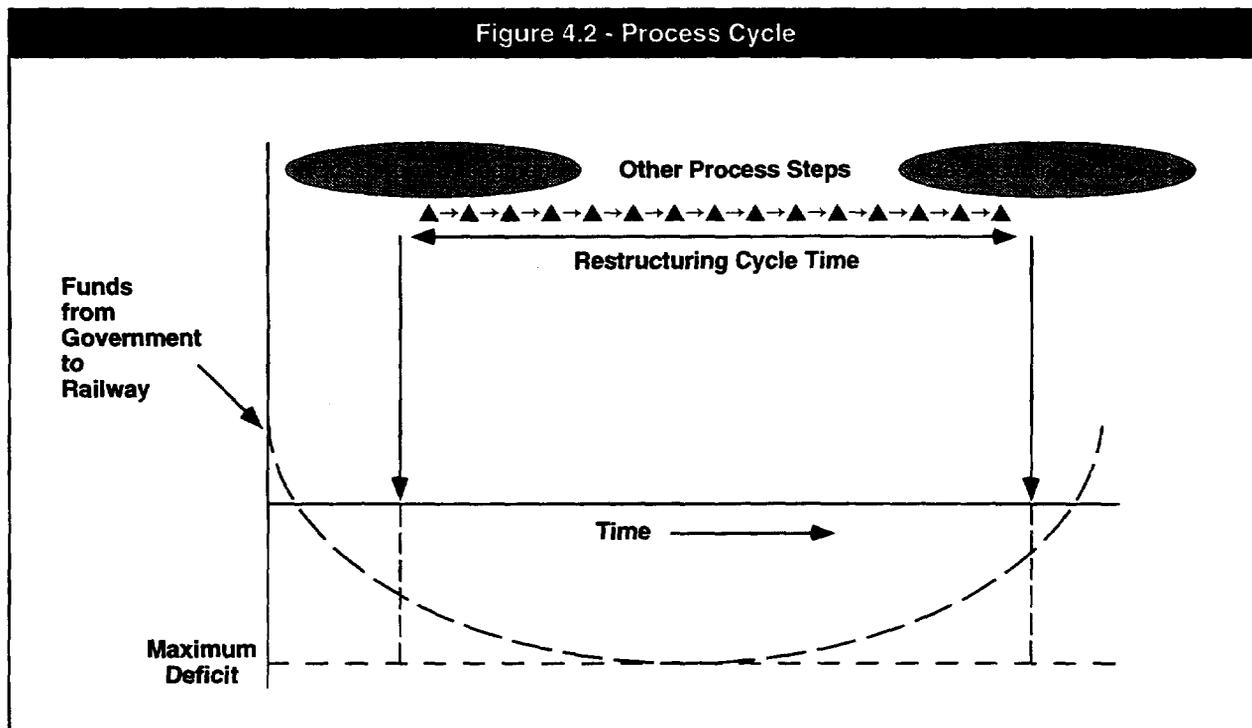
4. Cycle Times and Resource Requirements

Time is the most valuable resource managed by restructuring intermediaries. As was noted above, the restructuring process itself entails multiple value-adding activities, all of which require coordination and active management over a complete project life cycle. Typically, during the process cycle, the railway being restructured continues to generate accounting losses and negative funds flows. Shorter cycle times require fewer subsidies and produce collateral economic benefits more quickly — benefits associated with a more market-responsive provision of transport services. Hence, minimizing cycle time should result in substantial social gains.

Figure 4.2 presents a typical railway restructuring project cycle. It should be noted that, as the restructuring process progresses, the external funding requirements of the railway typically diminish and eventually the enterprise begins to generate positive internal funds flows, which are available to its stakeholders in the form of repayment for invested capital, taxes, and/or dividends.

The effectiveness with which the restructuring process is managed can be measured on the basis of the three pa-

Figure 4.2 - Process Cycle



rameters: (1) the cycle time; (2) the net funds flow; and (3) the resources committed to implement the reform process. The case studies in this report suggest that the top down restructuring and privatization of a railway has required from 5 to 12 years to complete. Figure 4.3 reviews the experience of the railways in the case studies.

One finding of the study is that, since railway restructuring is inherently complex, the turnaround time frame is inherently quite lengthy. Successful efforts to turn failing railways around can require time frames in the order of 7 to 12 years. Other studies have suggested that a symmetry may exist in railway financial decline and turnaround — that the time frame for railway financial failure is as long as that for railway renaissance.² According to research in North America on the financial performance of railways, railway bankruptcies and/or forced liquidations appear to be predictable 7 to 10 years in advance. This finding suggests that restructuring time, from initiation to completion, may be reduced for railways whose reform is begun before financial and operational deterioration has reached the crisis stage.

Another significant finding is that the cycle time is positively correlated with the resources committed to the re-

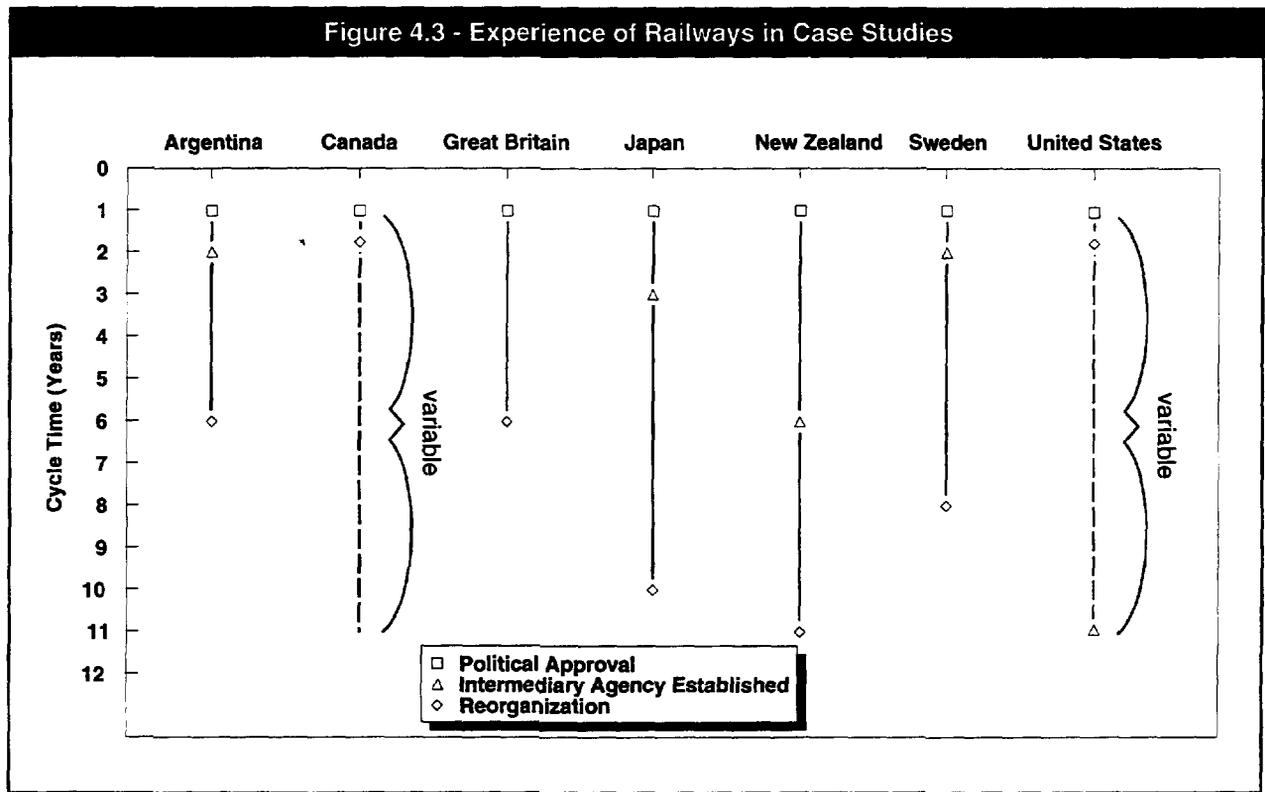
structuring process. In other words, the greater the resources committed to the process are, the longer the cycle time appears to be. This correlation might indicate that more severe problems require more resources and a longer time to correct and that process efficiency declines as more resources are committed. As is discussed in the previous section, restructuring is an institutional learning process. Larger organizations with more bureaucratic structures learn more slowly than smaller, flatter organizations with less formal structures. A second possible interpretation of the positive correlation is that the restructuring process may reach an early diminishing return with the size of the intermediary organization involved in the restructuring.

The cycle time for bottom up restructuring varies with the complexity of the regulatory regime within which the process takes place. The cycle time for bottom up restructuring tends to be shorter than that for top down restructuring when downsizing guidelines constrain the time allowed for regulatory deliberation, as they do in the United States. In other instances, bottom up restructuring can be a lengthy process. In Canada, for example, government regulation and labor laws have impeded the process. In general, when fewer restrictive regulatory requirements are imposed on private sector railways, the result is lower transaction costs and more efficient and more frequent restructuring of railway assets.

Among the case studies in this report, the restructuring process was shortest for the Swedish and Argentine rail-

²K. Eric Wolfe, "The Downside Risk: An Analysis of Local and Regional Railroad Service Failures," Association of American Railroads, *Journal of the Transportation Research Forum*, Vol. 29, No. 1, 1988, p. 124.

Figure 4.3 - Experience of Railways in Case Studies



ways. For Sweden, the initial reorganization took five years complete. However, the process was less complex than that of other rail restructurings since it did not lead to a change in ownership. In the case of Argentina the process required six years but again failed to lead to an irrevocable transfer of ownership rights. Instead, it resulted in concessioning contracts between private sector operators and the government, the terms of which continue to be renegotiated and partially modified in the light of ongoing operating experience. In these two examples, speed in the restructuring process reflected in part political and economic exigencies and in part the revocable nature of the end result, which requires ongoing institutional maintenance and renegotiation.

At the other end of the spectrum are the experiences of New Zealand and Japan. The restructuring of New Zealand Railways involved several distinct phases of reform and stretched over more than 11 years. Restructuring resulted ultimately in the sale of the carrier to a strategic investor in a contestable, competitive process. In the case of Japan, restructuring was followed by privatization in the form of a public offering of shares in the several regional railways that emerged from Japan National Railway. Both of these examples entailed a completed restructuring process (that is, the refocusing of the carrier's strategy, the zero-based reorganization of assets, debts, and work forces, and the

seasoning of the new corporate structure) before ownership interests were transferred to the private sector. In these examples government assumed most of the risk associated with the reorganization before relinquishing control to the private sector. In both cases cycle times were correspondingly longer.

5. A Conceptual Model of Top Down Restructuring

The essence of restructuring is institutionalized learning. Institutional learning is the primary process through which innovation occurs. It involves the transformation of individual insights into shared knowledge that the organization can use to achieve its objectives. In the case of railway restructuring, institutional learning leads to shared knowledge about the competitive economics of the carrier, the structure and dynamic evolution of the market in which the carrier operates, and the means that the carrier can use to achieve a sustainable competitive advantage vis-à-vis competitors that is based on lower cost operations and/or superior service quality.

As was discussed in the previous chapter, the intermediary agency typically leads in developing the ways in which both the value of the railway and its competitive advantage can be enhanced. The intermediary agency also leads in transforming these insights into effective business

actions that realize the carriers full potential value in the form of enhanced prices — the best circumstances for ownership rights. However, other participants are important as well. These include the management of the railway itself, the minister of transportation or the equivalent official, the parliament or equivalent lawmaking body, labor union leaders, and potential buyers. Third parties such as investment bankers and management consultants also phase in and out of the process.

A defining aspect of the restructuring and privatization process is this diversity of interests. An effectively managed restructuring process must reach the entire community of interested parties through various institutional arrangements — for example, public hearings, informal briefings, one-on-one information exchanges, negotiations, and joint problem-solving sessions. At various points in the process any member of this community may assume leadership. However, the intermediary agency should continue to set the agenda and provide continuity in the process.

When the restructuring process is most effective it is characterized by experimentation and continuous feedback from the community of interested parties. One particularly effective way to stimulate change in the way the railway conducts its business and to evoke new thinking about its organizational design is by developing alternative scenarios. Feedback from the community tests the practicality of alternative restructuring plans and can serve as the basis for the resolution of political and technical uncertainties.

The ultimate challenge is not simply to reorganize rail operations in ways that match customer needs, but to reorganize operations and assets so that market needs will be met well into the future. Hence, the learning process that underlies restructuring must anticipate future needs, future competitive responses, and future capital requirements and must build into the restructuring the capacity to continuously respond — in essence, to extend the competitive “shelf life” of the solution that is eventually implemented.

In this environment, few if any precedents exist for the type of work that needs to be completed. Hence a “going in” model of the process is helpful in defining that work and, even more important, in explaining the general nature of the work.

As was noted above, the restructuring process involves three phases — political agreement, planning, and implementation. Each of these phases can be divided into a number of discrete value-adding activities. Activities that enhance the value of rail assets are value adding. All other activities undertaken in the course of the restructuring cycle are non-value adding and nonessential to the outcome.

During the restructuring cycle, only a small portion of total resources and total time is committed to value-adding activities. By improving the targeting and planning of task force efforts, institutional learning can reduce the cycle time and also improve the efficiency with which resources are used.

Figures 4.4 to 4.6 show, schematically, representative value-adding activities that might be expected under each phase of the restructuring cycle. The figures also show interactions among the participants in each value-adding step. The following discussion of the process cycle for top down restructuring corresponds to the schematic.

POLITICAL AGREEMENT PHASE Most top down restructuring efforts are motivated by a major fiscal and/or political crisis. They are driven by the public perception that the status quo is so unsatisfactory that profound change is needed. The instrument through which this public concern is transformed into action is a statutory authority or a legislated mandate for restructuring. Hence, the first phase of the restructuring involves the development of political agreement. This phase can be represented by the following six activities.

- *Acknowledging the crisis.* The first step in the restructuring process may follow upon more than one false start. As the Japanese, Swedish, and Argentina case studies demonstrate, the idea of railway reform can be taken up more than once before the necessary authority and the commitment to radical change are vested in an independent agent outside the railway. The process cycle begins with the acknowledgment that a fiscal or economic crisis is sufficiently grave to warrant fundamental change in the country’s approach to providing railway service. In this step, political leaders within the ruling party or within the parliament acknowledge the crisis and champion a radical solution.
- *Building support for radical solutions.* The next step involves building political agreement around specific responses to the crisis. At this point political leaders may offer one or more concepts of railway reform and then build a consensus behind one concept to be carried out. Typically, the debate which follows deals with the consequences of the proposed reform for labor force reduction and cost recovery from users. It also deals with the issue of whether restructuring should precede privatization or vice versa. Political leaders translate the agreement that emerges from this policy debate into enabling legislation. Hereafter, this legislation serves as the source of political

Figure 4.4 - Political Agreement Phase

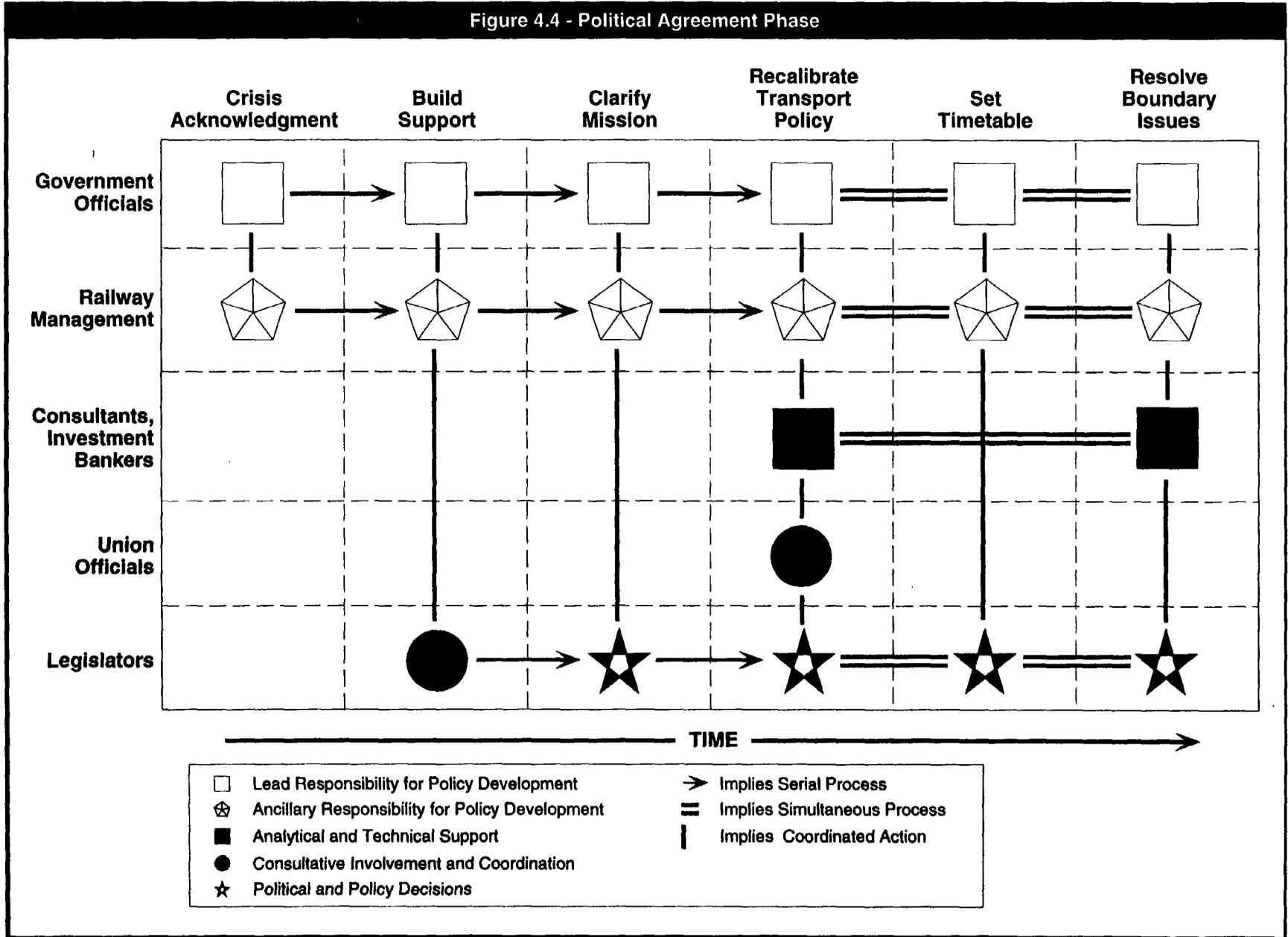


Figure 4.5 - Planning Phase

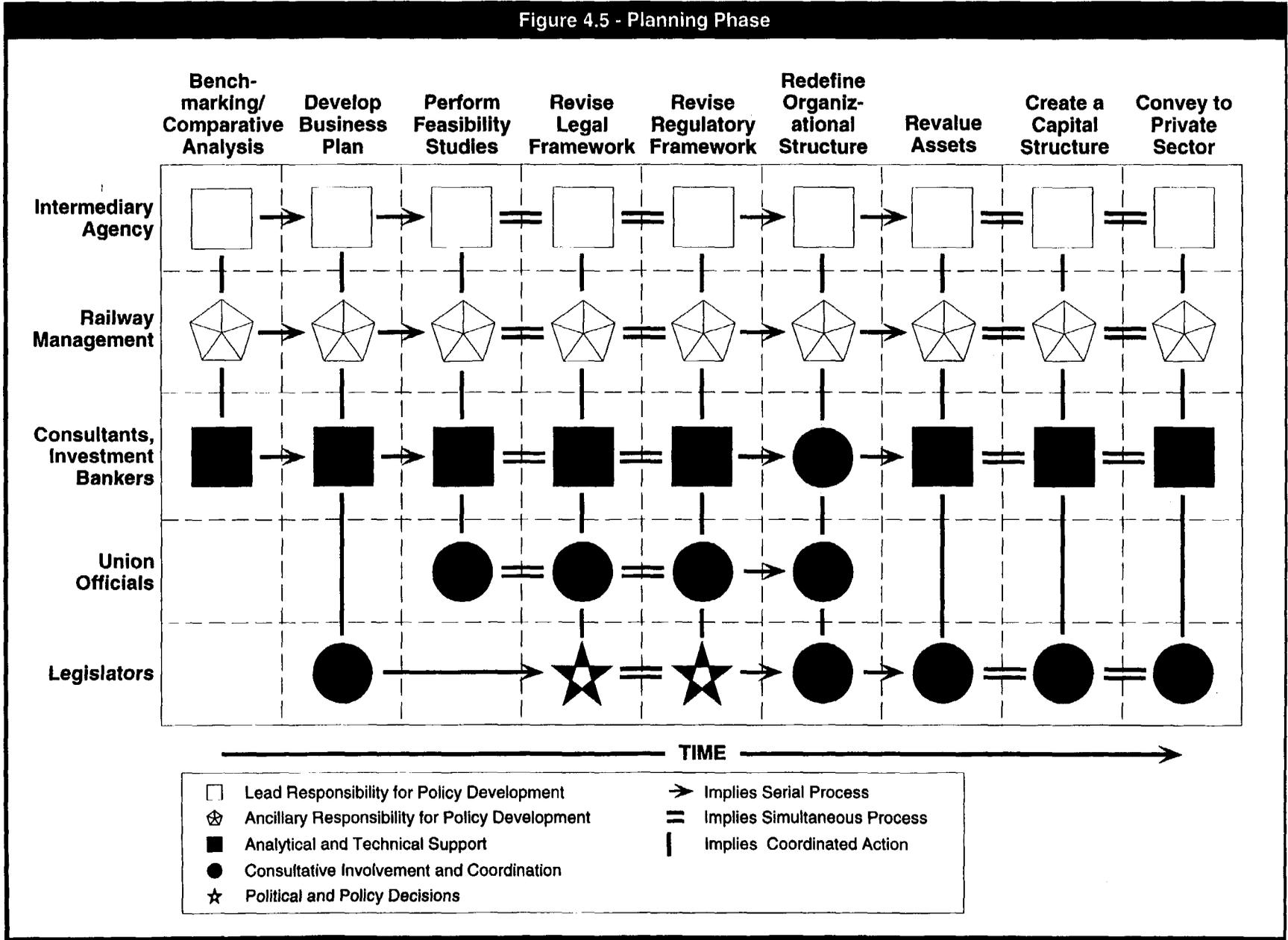
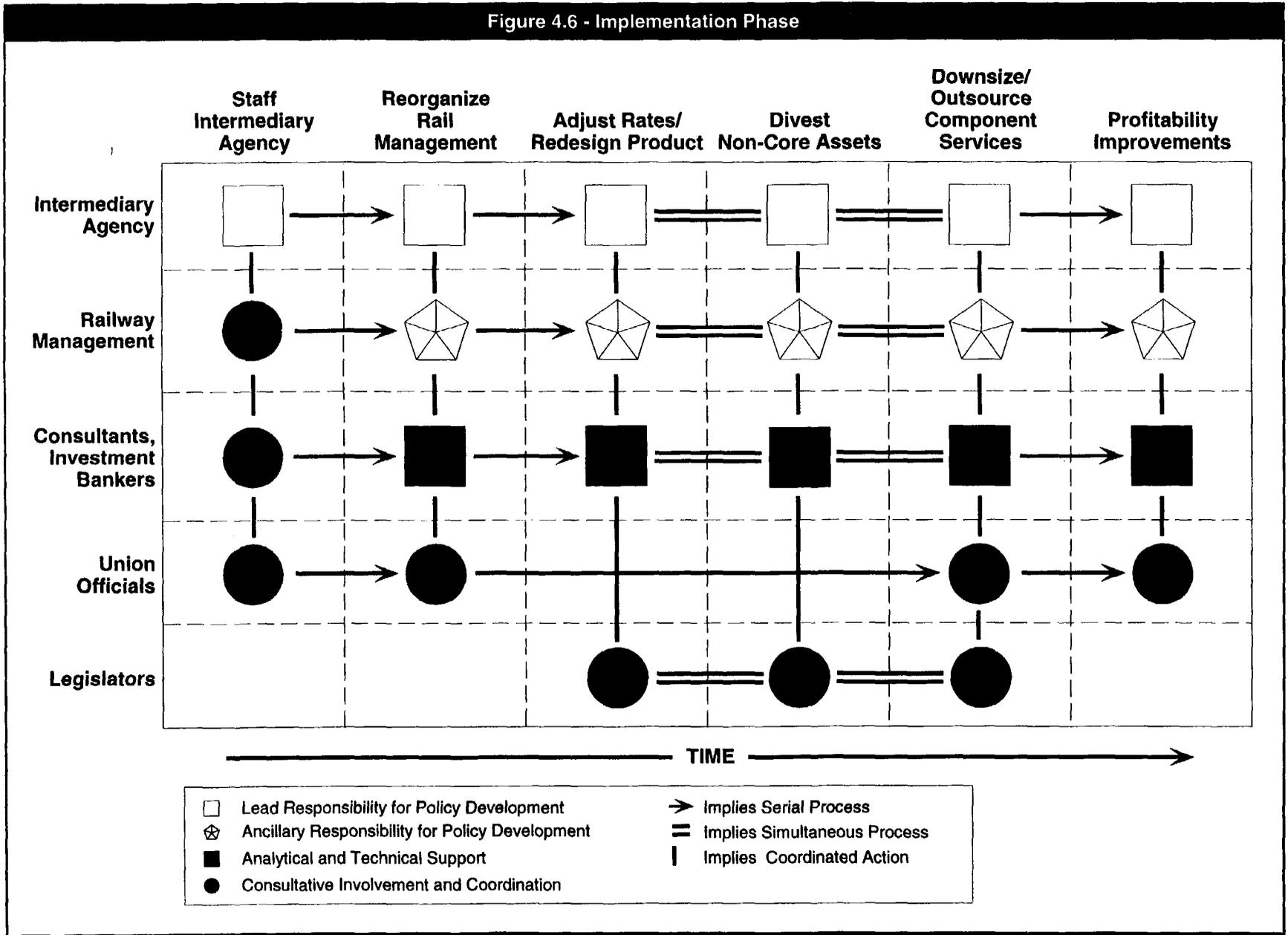


Figure 4.6 - Implementation Phase



legitimacy for all of the restructuring processes that follow.

- *Clarifying the future rail mission.* Issues concerning the future mission of the state-owned railway require more technical clarification than can emerge from a public debate. Part of this clarification involves identifying railway markets that can be profitably expanded or totally eliminated. Part of the additional clarification involves determining what public resources can be made available to continue to subsidize those uneconomic services that are determined to be socially desirable. In adopting a service policy that determines generically the categories of service that the carrier will offer on a full cost recovery basis, as well as the categories of service for which the carrier will be subsidized, lawmaking bodies frequently encounter technical issues beyond their expertise; such issues are generally delegated to special committees or interagency task forces. The work of these ad hoc groups frequently becomes the architectural blueprint that subsequent planning efforts take as a point of departure.
- *Recalibrating national transportation policy.* Radical reform affects not only the rail sector and its users, but other modes of transportation as well. In this step, senior government officials identify aspects of the national transport policy that may require revision or reconsideration in the light of emerging railway restructuring plans. The result of this action is typically an agenda of collateral policy reform and targeted amendments to the legal and institutional framework within which all modes compete. As the case studies on Sweden, New Zealand, and Japan demonstrate, the issues of intermodal competitive equity directly affect and are closely linked to railway reform.
- *Setting a timetable for reform and empowering the intermediary agency.* The work of restructuring is usually entrusted to a specific intermediary agency, which is accountable for the results. Railway restructuring will typically fill all of the time that is allocated for its completion. Therefore, it is prudent to outline expectations and to set a timetable for the intermediary agency before it begins its planning and implementation efforts. The lawmaking body, in the initial enabling legislation, or else the executive branch, by decree or directive, will usually define the mission of the intermediary agency and will include a timetable for the completion of its activities.
- *Resolving key boundary issues.* Before the implementation phase begins, senior government officials gen-

erally determine the “boundary conditions” within which the intermediary agency will work. These conditions address such issues as the following:

- The implementing agency’s role in planning and implementing railway restructuring
- The role of the railway vis-à-vis the implementing agency
- The role of other branches of government
- The degree of foreign participation in the process and in subsequent rail ownership
- The degree of post-reform government control and regulation
- The degree of residual social service commitments
- Budget constraints affecting rail subsidies during the transition and intermediary agency overhead.

PLANNING PHASE The restructuring process relies heavily on planning. Planning is the language through which the intermediary agency communicates with railway management and with the public. Accordingly, planning is the leverage point for redirecting resources within the railway and the primary management control for monitoring improvement in operating performance. Planning is also the means by which the intermediary agency establishes a dialogue with the community of interested parties, including the private sector investors. The documented results of the planning process provide the basis on which these investors begin their own assessment of the value of the railway. The planning phase can be broken down into the following nine value-adding activities.

- *Benchmarking and undertaking comparative analysis.* Planning activities begin with the establishment of achievable, normative standards for service and financial performance. The answer to the basic question, “What levels of performance can reasonably be expected?” comes from analyzing the actual performance of other railways with comparable market characteristics. Benchmarking is an effective way to calibrate future expectations of improved performance and a good way to compare on a point-by-point basis the operating practices, organizational structures, and management methods of the railway being restructured with those of railways that generate a greater service output with a smaller labor, capital, and energy input. This work is typically performed by an independent consultant or by the staff of the intermediary agency.
- *Developing a business plan.* The business plan serves

multiple uses. It is the definitive statement of the rail carrier's business strategy and of the intermediary agency's expectations for the carrier's turnaround. The business plan is also a working document in which strategic refinements are tested and worked through. The plan is revised numerous times during the planning phase. In its final form the business plan is also a contract between the rail carrier's custodial management and the government. It articulates an agreed upon strategy that enables functional managers to understand the context and background for their performance requirements. The business plan also serves as a vehicle for soliciting interest from potential investors and as a representation of value to potential private purchasers. It should be borne in mind that the development of the plan and its iterative refinement are more important in the institutional learning process than is the substantive content of the plan itself. In this regard, the benefit comes from explicitly considering alternative ways of operating and managing the railway. The discipline of integrating operating, capital investment, marketing, pricing, and sales strategies into a single set of financial projections provides valuable insight into the constraints and limitations on productive resource use. Developing the plan involves performing numerous controlled business experiments.

- *Performing feasibility studies.* If the business plan provides the big picture, a series of microanalyses is equally important to attacking more tactical problems and equally essential to turning the railway around. Microanalyses keep the railway focused on areas of highest investment payoff and of greatest profit and loss leverage with regard to operating policies. The intermediary agency, sometimes with the help of outside consultants, usually performs a zero-based business policy review of the following matters: overhead expenses; divestment value of surplus property; sufficiency and physical condition of equipment; new versus rehabilitated rolling stock; opportunities for terminal rationalization; opportunities for maintenance facility rationalization; customer credit policy; cash management methods and working capital needs; loss and damage; and hidden environmental cleanup liabilities.
- *Developing or revising the existing legal frameworks.* A number of critical legal issues surface that materially affect the financial value and possibly the economic viability of the railway. Once analyzed, these issues may recommend statutory relief. For example, the existing statutory basis for labor-management rela-

tions may effectively prohibit a needed redefinition of job classifications and the productive consolidation of work among fewer employees. The rights of workers to job protection and/or severance payments may substantially reduce the interest of the private sector in direct investment. Similar issues involving the clarification of owner liability for unfunded pension benefits and environmental cleanup generally require new legislation. In this area the intermediary agency will typically take the lead in defining the collateral legislation that the legislature needs to consider to complete the restructuring process.

- *Developing or revising the rail regulatory framework.* A change in ownership requires a redefinition of public and private sector roles. The specification of the rights and obligations of new private sector rail operators may require statutory revision. Issues of relevance in this arena include: the contract status of trackage use rights, accounting and reporting requirements, rate regulation, competitive awards of operating franchises, safety and environmental regulations, and line abandonment. Even in circumstances in which the control of rail operations remains in the hands of state-owned railways it may be desirable to have new legislation that separates regulatory and operating roles for the government in the sector and establishes new arm's length regulatory compliance mechanisms between government-sponsored operations and regulatory overseers. The intermediary agency usually takes the lead in the justification and development of this new legislation.
- *Redefining legal form and organizational structure.* In railway restructuring, a general design principle is that function follows form. How a railway is organized directly affects the railway's work and consequently its ability to compete with other modes. At some point in the restructuring process it is appropriate to reorganize the railway into a market-focused company or companies, each with profit and loss responsibility and with full management accountability for financial results. The intermediary agency will normally take the lead in prompting the reorganization. However, the railway's own management must buy into the reorganization and ultimately take ownership of whatever market-focused reorganization emerges from the process — a process that frequently involves the joint efforts of the intermediary and the railway.
- *Revaluing assets.* State-owned railways typically do not maintain balance sheets or even inventories of assets that can be useful in determining the liqui-

dated value of the company, and these are important in determining the appropriate disposition strategy for assets under the railway's control. At some point in the restructuring process, the railway's management, possibly with the help of an outside management consulting firm or auditing firm, will restate the value of the assets on the basis of their alternative use and will recreate the carrier's balance sheet on this basis. The intermediary agency generally oversees this activity and serves as an independent authority in certifying the validity of the results.

- *Creating or redefining a workable capital structure.* A sound principle for restructuring a railway that will operate autonomously is to forget the sins of the past and design into the new enterprise only as much debt as the company can comfortably service. Another such principle is to build a financial firewall between the railway and the government so that the liabilities of both parties are clearly defined at closing and no opportunity remains for subsequent soft lending. As part of this process the government may be obliged to assume a large part of the carrier's debt burden before the restructuring is complete. Any residual debt of the carrier which the government continues to carry should be fully collateralized and formalized in a debt instrument that the government can sell into the capital markets. The intermediary agency, assisted by the railway's management and frequently by the minister of finance, will complete this task.
- *Designing market mechanisms for private sector conveyance.* If the restructuring is to be followed by privatization, a mechanism should be developed for selling equity in the railway. Various options exist for distributing equity interests, ranging from a public offering of stock to the sale of the entire railway as a going concern to a strategic investor. Different capital distribution mechanisms achieve different public sector objectives, as is seen in the case studies in this report. The final step in the planning phase involves adopting a specific mechanism for distributing ownership interests. The process should always be open and contestable, and the outcome should be pro-competitive. Here the intermediary agent will take the lead and will normally be assisted by an investment banking company with experience in privatization.

IMPLEMENTATION PHASE – The end result of the railway restructuring process is change. The most visible signs of change are shifting organizational structures and new management personnel. It should be borne in mind, however,

that the most important aspects of organizational change are the least tangible ones — improved service quality, improved profitability, and a refocused culture. The outputs of the change process begin to manifest themselves in the implementation phase. With the previous two phases as a foundation, the implementation phase should produce a minimum of resistance. This phase can be divided into seven value-adding activities.

- *Staffing the intermediary agency.* Since the intermediary agency drives the process of reorganization, highly committed, motivated, and skilled personnel are essential to success. As has been noted, the size of the staff is less important than its quality. Indeed, smaller staffs appear to be more productive and to accelerate the kind of institutional learning that is essential to efficient restructuring. The director of the intermediary agency is responsible for recruiting and selecting the personnel for the unit.
- *Reorganizing the rail management team.* Several of the case studies make the point that restructuring can be implemented successfully only when both the railway management team and the intermediary agency are pulling in the same direction and share a commitment to change. It follows that managers who are not part of the solution automatically become part of the problem. The reorganization process begins with the recruitment of a management team with balanced skills that are well matched with the work to be done, a compatible style, and a strong commitment to change. Recruiting the CEO may be the responsibility of the new railway board or the implementation agency or both.
- *Adjusting rates to reflect the value of the services offered.* The easiest and most effective way to improve overall financial performance is to price transport services on the basis of their value to the passenger or shipper. Value-based pricing implies understanding customer needs, segmenting customers into groups with distinct needs, and understanding the pricing strategy of competitors. Railways that strengthen their marketing and pricing capabilities early in the restructuring process avoid some of the sharp work force reductions later in the process. The new railway management team assumes full responsibility for re-engaging the market.
- *Redesigning the product.* The next action follows logically from the previous one. Early in the restructuring process the railway's management should begin to act on the principle that they are no longer in the railway business but in the customer satisfaction

business. The implications of this shift in emphasis are profound. For example, the railway is expected to understand the logistics problems that its customers confront and is therefore called upon to marshal the resources to address these problems. These implications lead directly to the design, development, and launching of new services that are better matched to customer needs.

- *Divesting non-core assets.* Almost every railway includes in its portfolio of assets some assets that are not essential to the carrier's core business. The most obvious surplus assets are real estate and use of the right of way for fiber optics networks. The separation of core and non-core assets generally precedes the restructuring of the railway's core business. The intermediary agent usually takes the lead in identifying surplus assets, in negotiating their release and their valuation, and in carrying out their sale.
- *Renegotiating and codifying property use and service arrangements.* In order to separate the functional components of the railway, formal contractual agreements need to replace the informal agreements that existed when the railway was a single enterprise. In fact, all of the processes for sourcing services and/or materials which formerly involved intermural providers require re-engineering and the deployment of competitive procurement processes. In addition, negotiations need to be completed to contract for use, to lease back, or to concession assets that the state will continue to own exclusively. These may include assets for which it is difficult to determine a market value, such as stations, terminals, parallel undeveloped rights of way, track, and structures. Negotiations over these arrangements usually take place between the intermediary agent and the railway's management.
- *Implementing profitability improvements.* The new railway management will need to take some combination of the following initiatives:

For operational restructuring:

- Increase train size
- Reduce crew sizes and consolidate crew districts
- Close low-traffic branch lines
- Increase the cargo hauling capacity of rolling stock
- Add specialized equipment to the fleet
- Reduce the number of stations
- Size locomotive power to work load
- Rationalize terminal crews
- Implement a quality improvement process

For work force restructuring:

- Simplify collective employment contracts
- Size the work force to the work load
- Simplify the work and substitute information technology for clerical input
- Promote multi-skilling
- Consolidate depots and shops
- Develop performance appraisal systems
- Base salaries on performance appraisal
- Redefine basis of pay on the basis of productivity.

6. A Model of Bottom Up Restructuring

Bottom up restructuring is initiated by the private sector. It involves a transaction between private interests. However, the transaction that emerges from private sector negotiations typically requires review and approval by public sector regulators before it can take legal effect. For example, the governments of Canada and the United States have reserved for themselves the right to approve the sale, transfer, combination, merger, and abandonment of rail assets. These unique control rights derive from the public responsibility that a rail carrier assumes as a condition for its license to operate, as a common carrier, in the public interest.

Like top down restructuring, bottom up restructuring can be divided into three phases, in this case a planning phase, a regulatory approval phase, and an implementation phase. The first and last phases take place between private buyers and sellers of rail assets. Only the second phase is conducted in a public forum where evidence and arguments are presented before regulatory bodies that determine whether the proposed transaction is in the public interest. The criteria are usually based on the pro-competitive or anti-competitive consequences of the proposed asset transfer.

Planning and implementing a private sector rail reorganization is similar to planning and implementing a public sector rail reorganization. Both involve learning processes and concern themselves with creating value through the reorganization of assets. Typically, in bottom up restructuring the rail assets involved have different values to buyers and to sellers and their simple transfer is the source of value increase. Much of the planning in bottom up restructuring involves the identification of synergies between the existing asset base of the restructuring or merging railway and its new assets. Much of the implementation process involves management actions designed to realize potential synergies after the transaction has closed.

The planning and implementing phases of top down restructuring primarily begin with an in-depth understand-

ing of the economics of rail asset use from the point of view of both buyers and sellers. Negotiating the most advantageous division of that increased value or synergy follows from this understanding. Typically, top down rail restructuring is a positive sum game in which both buyer and seller realize net benefits as a result of the transaction. One role of the regulatory bodies that review and approve these transactions is to adjust the terms of the transaction, so that the interests of third parties are protected as well.

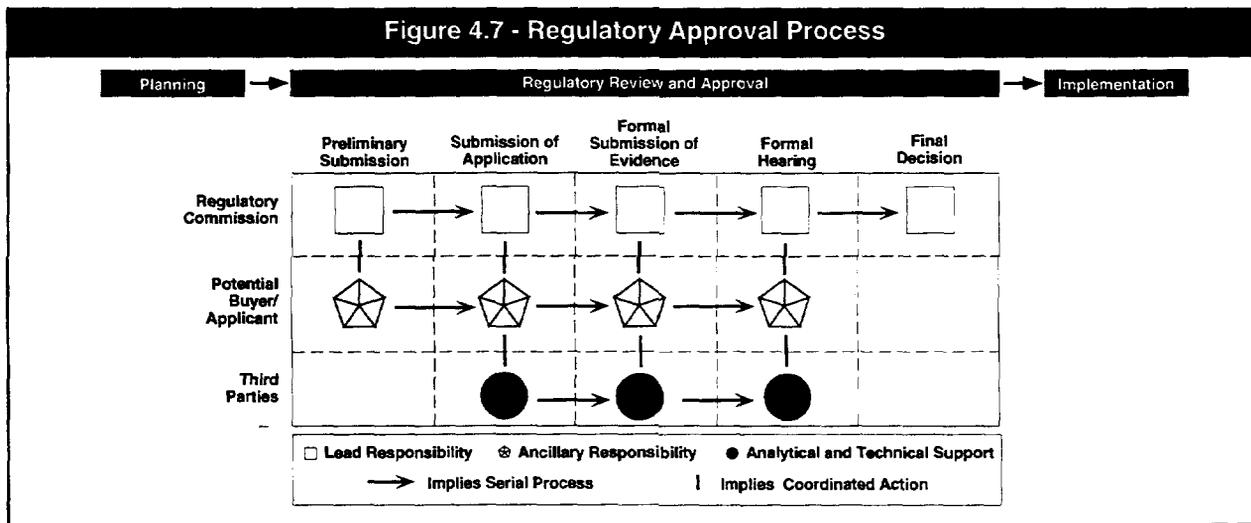
Frequently, it is the regulatory review and approval phase of bottom up rail restructuring that paces the entire process and that both determines process cycle time and increases transaction costs. Typical activities in the regulatory review process are listed below and are shown in Figure 4.7.

- *Preliminary submission.* The degree of regional or national transportation market significance typically plays a role in determining applicable procedural standards. If the proposed transaction will significantly increase competition, it is likely to be subject to less detailed application requirements than if it decreases competition by removing one or more participants from the market. A typical application is initiated by filing with the regulatory commission a petition that describes the line/railway to be purchased, the details of the offer (including the offering price, if established), and evidence of its public interest consequences and the “financial responsibilities” of the parties. The commission may approve, modify, condition, or reject any application, with or without a hearing. If the regulatory commission determines that the applicant is financially responsible and the offer sound, the parties will be directed to complete

their negotiations. The regulatory commission may, depending on the circumstances, establish conditions for the transaction, the closing date, and other sale terms.

- *Submission of the application.* The timing of subsequent events depends on applicable statutory provisions, which affect the sequence and timing of submissions, responses, hearings, and final decisions. The kind of application which is submitted will be determined not only by the type of transaction but also by the position of the parties. For example, the form of the application may depend on: (1) whether the buyer is a rail carrier at the time of purchase, (2) whether the sale is negotiated or forced, and (3) whether the selling carrier (or government) is in bankruptcy. The application will typically explain the transaction that the parties propose to execute and the anticipated impact of the proposed transaction on labor, shippers, and other carriers, as well as ways in which the parties propose to ameliorate any adverse impacts on these parties. Notice of the application will be published and other interested parties invited to submit evidence concerning the effects of the proposed transaction.
- *Formal submission of evidence.* The submission of evidence typically proceeds in several rounds and imposes requirements on both parties to the transaction and on third parties that may be adversely affected by the transaction. In particular, evidence concerning the impact of the transaction on labor, shippers, and affected communities is likely to be submitted. Other public interest criteria include service and safety standards, environmental protection, and rate increases. The transaction may only be

Figure 4.7 - Regulatory Approval Process



authorized if the regulation commission finds that the present or future “public convenience and necessity” (PCN) justifies it. Regulatory agencies may grant a certificate of PCN prior to the transfer of rail assets or the commencement of rail service by a new entity. Major issues affecting the buyer include the degree of labor protection imposed by the regulator and whether a transfer of assets will result in adverse operating conditions and consequently in increased cost. Major issues concerning shippers and passengers include future levels of service and traffic and evidence concerning the impact on competition and trade. User interests may support those of the buyer, if, for example, the transaction involves a sale that results in a “major market extension,” or “an end-to-end extension of buyer’s routes and services.” Other interested parties have the opportunity to respond to the evidence submitted and to supply additional evidence of their own.

- *Formal hearing and final decision.* The parties to the transaction have an opportunity to argue in a quasi-judicial proceeding in support of their positions and to rebut the arguments of those who oppose them. The hearing must conform to applicable legal codes and must be consistent with underlying regulatory principles. The regulatory commission will weigh the interests of persons served by the railway against the interests of the parties involved in the transaction. The regulators will consider whether the transaction is likely to cause a lessening of competition, the creation of a monopoly, or a restraint of trade, and whether the anti-competitive effects outweigh the public interest. The final determination may involve conditions imposed by the regulator that are designed to ameliorate some of the impacts found in the proceeding.

7. Best Methods

The following “best management methods” and procedures appear to facilitate institutional learning, reduce restructuring cycle time, and improve the design of railway restructuring solutions.

- *Managing the work process and not the work product.* The work of restructuring/privatization should be managed systematically. It can be organized, for example, into discrete work elements, with work elements subsequently being assigned to multi-functional task forces. A participatory environment should be created in which institutional learning can take place, in which the experience of task force members is fully used, in which restructuring solutions can be appropriately designed to permanently cor-

rect competitive deficiencies, and in which innovation in restructured enterprise design are rewarded with actual market trials.

- *Developing an understanding of the factors that directly affect competitive advantage and, consequently, the value of the railway as a viable business.* Over the course of the project, it is important to develop and continuously refine a conceptual model of the “value” of the railway that is both simple to communicate and directly relevant to shaping the restructured enterprise. It is also important to continuously track market, financial, competitive, and operating information that is relevant to this model. All policy options and environmental developments should be assessed in terms of their effect on “modeled” enterprise value. On the basis of this model a common paradigm should be created for communicating with all interested parties. Typically, the factors that are the basis of real value assessment are also the factors that directly affect the interest of potential buyers.

- *Creating multiple restructuring alternatives.* It is important to create and test the feasibility of several restructuring alternatives and thus to create negotiating flexibility and confidence by designing second best alternatives. An array of feasible options or scenarios provides perspective on the distinct merits of the premier option and also generates confidence that the correct option has, in fact, been chosen. If unexpected contingencies arise, second best alternatives can be quickly activated.

- *Allowing task forces and work groups to make concrete policy recommendations and accepting these recommendations with only slight refinement unless some grave error is evident.* The expectations set for each task force should be clearly defined at the outset of the project and the relationship between the work of individual task forces carefully mapped out and monitored. All task force team members should be actively involved in decisionmaking. Responsibility for detailed decisions should be distributed among task forces, and task forces should be made responsible for developing and defining specific plans.

- *Continuously refining and improving each process element and integrating the entire process.* Iterative process refinement appears to work best in sharpening and refining restructuring solutions. It is particularly valuable when restructuring involves dividing the railway into sets of assets that require parallel processing and whose restructuring allows for iterative process refinement. Each time the cycle is completed, past decisions and directions should be reviewed: to assure thematic integrity; to identify any mismatches between past and current decisions; to attempt to fill in missing information; and to test and confirm tactics on the basis of best current information. ■

CHAPTER FIVE

JAPAN NATIONAL RAILWAY CASE STUDY

SUMMARY

1. Introduction

The case of Japan National Railway (JNR) clearly demonstrates that a large state-owned railway can complete the transition from public ownership to private ownership successfully. At the end of this transition it can compete successfully for passengers, for freight, and for capital. The transformation of JNR was neither easy nor smooth. Indeed, several unsuccessful efforts to reform the enterprise preceded the reform effort that was successfully carried out in 1987. Moreover, the final restructuring was conceived and executed in a crisis environment, at a time when JNR's debt burden exceeded \$300 billion¹ and the financial drain of covering the mounting debt service exceeded the government's capabilities. A resolute political commitment at the highest level of the Japanese Government was required and the government needed to face down strong opposition from organized labor as well as from JNR's own management. Nevertheless, the 1987 blueprint for restructuring, once it was agreed upon among JNR's key constituencies, proved effective in guiding the privatization process through numerous unanticipated difficulties.

The reform process itself — from the recognition that radical restructuring was needed until the first of the JNR successor companies was sold to the public — took 10 years to complete.

Although the flotation of shares in JNR's successor enterprises was not completed at the time of this writing, the dramatic improvement in financial performance once restructuring was complete clearly indicates that JNR's transformation has succeeded in improving the labor and capital productivity of the successor railways. Before JNR's restructuring the government provided a subsidy of \$50 billion per year to JNR. After restructuring, the JNR successor railways provided a net contribution after subsidies to the Japanese government of nearly \$6 billion per year; this was in the form of taxes and fees.

2. Lessons Learned from the Experience

A number of lessons can be learned from the JNR experience. Some of these derive from the unique features of

the Japanese reform process. The restructuring and subsequent privatization of JNR was unique in several ways:

- In the sheer size of the original enterprise. In 1986 JNR employed 224,000 workers and generated operating revenues of \$31.1 billion.
- In the high degree of asset maintenance and the advanced level of technology. For example, at the time of restructuring JNR was operating over 420 Shinkansen trains (Bullet Trains) per day. Of these daily trains, over 260 per day were for the Tokaido line (between Tokyo and Fukuoka in Kyushu Island), with the fastest speed at 260 km per hour.
- In the enormous scale of the liabilities that it had accumulated prior to its restructuring into seven operating companies. At the time of privatization JNR's debt was \$227 billion. Together with the debt accumulated by the Japan Railway Construction Public Corporation (JRCP) and other liabilities related to JNR, the total debt settled for the JNR restructuring was determined as \$337 billion, of which JRs owed \$42 billion.
- In the speed and orderliness with which the restructuring was carried out once a plan was adopted.

Many of the lessons learned from the JNR experience have relevance to rail reform in other countries and would be transferable to other reform contexts. These include the following:

- Financially troubled railways are difficult to sell "as is." In the case of JNR, a transition preceded private ownership: first reorganization, then economic recuperation, and finally privatization. This multiple step process clearly enhanced value when the final transfer of ownership was accomplished; however, it also entailed the risk that the government might be called upon to renew its financial support if one or more of the JNR successors failed.
- The use of an independent "settlement corporation" proved useful in managing the "work out." The government organized an intermediary to serve as the government's trustee in managing the orderly disposition of non-core assets and of outstanding liabilities. The discretion given to this organization

¹ Amounts in US\$ will be indicated by \$.

with regard to the timing of asset sales and the dissolution of liabilities proved effective in balancing the multiple objectives that accompany any major privatization.

- Out of more than 200,000 workers in 1981, roughly 130,000 left JNR through retirement (or early retirement) in the period prior to restructuring (1981-85). In 1986, 53,000 workers left JNR, out of which 39,000 were absorbed by the private sector. After the restructuring in 1987 the Settlement Corporation absorbed 21,000 redundant workers, 20,000 of which had found jobs in the private sector by 1990. Only 1,000 workers were finally dismissed in 1990 because they had rejected other jobs. Thus the government and the settlement corporation worked with the private sector to “place” surplus labor.
- Endowments were used in lieu of ongoing operating subsidies. During the restructuring it was determined that two of the surviving operating units required an ongoing subsidy. The government attempted to minimize these subsidies and to assure independent financial viability by committing additional assets to these units in the form of financial securities with yields adequate to cover operating deficits. In this way the managements of the two companies, like the managements of the other operating units, were given incentives to manage for maximum profit with the assets available to them.

3. The Case Study

This case study details the plans and process by means of which the JNR restructuring and ultimate privatization was carried out.

Part I provides the history and background of the railways in Japan before privatization, together with the organization of JNR before privatization and the setting in which it operated — in other words, the baseline conditions.

The reform and restructuring process is detailed in Part II, and the performance of JNR since 1987 is covered in Part III. Part IV points to the lessons gained from the process.

PART I: BASELINE CONDITIONS

1. Brief History

Prior to World War II the railways in Japan were operated as part of a government ministry, the Ministry of Railways. At the end of the war the occupation forces introduced an organizational innovation to Japan, the public corporation. In 1949 JNR was organized as a “public corporation.” The new structure was intended to provide more autonomy to JNR’s management. However, despite this new arrange-

ment key decisions remained outside the control of management, including decisions concerning fares, investment planning, and wages. These key parameters directly affected the financial performance of the enterprise and were controlled by the Diet and the government. Over time, JNR became highly susceptible to political influence.

The crisis that resulted in the restructuring of JNR and in its ultimate privatization was slow to develop. The railway began to lose market share to competing private railways and to other modes as early as the late 1950s. Through the 1960s and 1970s market erosion continued, while JNR’s management grew less successful in curbing operating costs. In 1964 JNR had its first operating loss, a loss which continued to increase in subsequent years. By 1985 JNR was generating losses at the rate of \$20 billion annually. The government allowed these deficits to be accumulated and financed them in the form of deficit bonds, the payment for which the government provided the ultimate guarantee. Deficit financing accumulated rapidly on JNR’s balance sheet — to the extent that by 1987 the enterprise could no longer generate sufficient cash flow to service its more than \$300 billion in accumulated debt. Even the government’s \$5 billion annual subsidy was not sufficient to service the debt.

On four separate occasions between 1969 and 1980 the government attempted to catalyze the internal reorganization and economic reform of JNR. All of these attempts were led by JNR’s own management and all proved unsuccessful. Finally, in 1981 a high level independent commission, the Provisional Committee on Administrative Reform, was appointed by Prime Minister Suzuki to devise the measures necessary to address the country’s fiscal crisis without raising taxes. This commission recommended in 1982 that JNR be restructured and that a second commission be organized to complete the effort. The second commission, the Supervisory Committee for JNR Reconstruction, began its work in 1983 and after four years of planning and consensus building completed it in April 1987, when JNR was dissolved as a public corporation and replaced with seven joint stock companies — the JRs — each with a regional or line of business focus.

The privatization of JNR was intended to be multi-phased. The operating entities that emerged from JNR were intended to be sold to the public in a series of initial public offerings (IPOs) after they demonstrated their economic viability and once they fully complied with the listing requirements of the Tokyo Stock Exchange.

To date, individual railways among the seven JRs (Japan Railways) have demonstrated significant financial improvement. An annual cash flow drain of over \$5 billion on the Japanese Treasury was transformed into a net cash flow contribution of \$3.1 billion in 1991. Significant

progress has also been made in transferring ownership of the JRs. In September 1993, 62.5 percent of JR East's stock was offered on the Tokyo Stock Exchange. The remaining 1.5 million unsold shares of JR East, as well as those of JR Central and those of JR West, are not expected to be sold off until fiscal year 1995. This case study explains the circumstances underlying that reform and highlights the lessons learned from it.

2. The Market and Competition

Passenger transportation is the primary business of railways in Japan. Both commuters and intercity passengers continue to have a strong preference for rail transport despite an ongoing decline in total share (see Figure 5.1). In 1990 the market share measured in passenger km was 30 percent for rail, 65 percent for motor vehicles, and 4 percent for airlines in Japan. The corresponding figure for railways in the United Kingdom was 6 percent, in former West Germany, 6 percent, in France, 9 percent, and in the United States, less than 1 percent. The passenger density in Japan was correspondingly high — 36,000 daily passenger km per km — compared with 4,000 to 5,000 for the United Kingdom, France, and former West Germany. The successor companies to JNR operated a 20,000 km intercity network.

This strong passenger preference is partly explained by the urban geography of Japan, which is particularly amenable to high quality rail transport. The population of Japan (120 million) is densely concentrated in the 20 percent of the nation's land mass that is made up of plains. Fully half of the population lives in the mega-metropolitan Pacific coastal plain centered around Tokyo, Nagoya, and Osaka. Tokyo alone contains a quarter of the nation's population. The Nagoya urban center, 300 km to the west, con-

tains 11 million, and the Osaka metropolitan area, a further 200 km to the west, contains 18 million. Traditionally, JNR had operated the trunk line network which connected the major metropolitan areas within Japan. For example, the first Shinkansen (Bullet Train), which went into operation over JNR in 1964, connected the three metropolitan areas via the high speed Tokaido line.

More than 100 private companies offer local and commuter rail services and operate 6,000 km of intra-metropolitan track which interconnects with the network operated by JNR's successors. Many of these private rail companies built lines in the 1950s and 1960s. Their activities had a material effect on the radial geography of suburban development in Japan. During this period, private rail lines frequently served as anchors for real estate and commercial development projects. Private rail companies subsequently diversified their commercial interests outside the transport sector into activities such as hotel and retail operations, as their real estate projects developed.

Within metropolitan areas, commuter train service remains the mode of preference for salary workers and students. Commuter railways, including both private and JNR roads, carry more than 35 million passengers daily. In Tokyo, for example, 60 percent of all commuter traffic is carried via subway and trains and fully 95 percent of salary workers commute by train. The result is a sharp dual peak use during weekdays with "standing room only" on most commuter lines.

Railways enjoy much less of a competitive advantage vis-à-vis other modes in the cargo market (see Figure 5.2). In 1990 rails held a 5 percent market share measured in ton km, as against 50 percent for highway transport and 45 percent for coastal shipping. The market position of rails in Japan's freight market has deteriorated as the nation's

Figure 5.1 - Japan: Passenger Transportation Shares by Mode

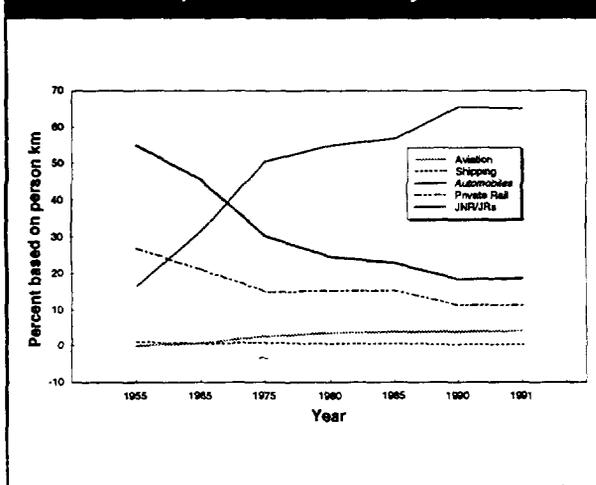
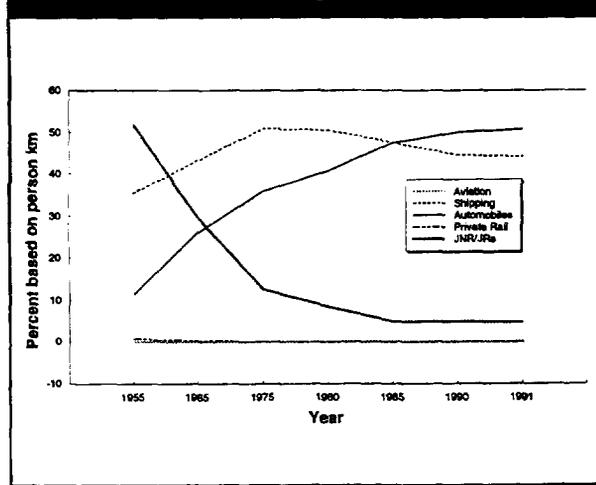


Figure 5.2 - Japan: Freight Transportation Shares by Mode



industrial mix has shifted from semi-finished products with low value-to-weight ratios to high value finished products. Another factor that has accelerated the decline of rail competitiveness in cargo handling is the country's geography. Japan is an island economy with a well-developed coastal shipping industry.

The decline in rail competitiveness has principally affected JNR, the only intercity operator. Private railways dropped out of the cargo business in the early 1980s. Railways in Japan had enjoyed a monopoly position in the market for surface cargo transportation services until the 1950s, when highway improvements opened the market to effective road transport competition. With more flexible and market-responsive competitors, JNR lost market share rapidly in the 1960s and 1970s. At about the same time, improvements to ports and harbors opened the bulk commodity market to coastal shipping. A gradual process of market erosion followed, during which the share of freight handled by rail slipped from 30.8 percent in 1960 to 13.0 percent in 1975, and to only 5.0 percent in 1980.

Most of the commerce within Japan takes place among coastal cities and to and from industries located on or near the water. Hence, most bulk commodities are moved by intercoastal vessels. Most general merchandise freight is handled via highway. In 1991, JNR Freight handled 58 million tons or 26.8 billion ton km. This represented less than 1 percent (in terms of tonnage) and less than 5 percent (in terms of ton km) of the total freight market.

JNR and JR Freight had shifted from bulk cargo to container transport. In 1991 containers represented 70 percent of the total freight traffic of JR Freight in terms of ton-km and 35 percent in terms of tonnage. Items transported by container included chemical products, food products, textiles, and agricultural products. Newly emerging customers served by JR Freight were long haul truckers who forwarded their trailer load freight between terminals via JR Freight's "piggyback" service. However, the "piggyback" service market was limited to only about 1 percent of the total tonnage of JR Freight in 1991.

For these shippers, JNR provides services that satisfy the following needs:

- Reliable "alternative" service which can be used to handle surge demand and large volume shipments which exceed motor carriers over the road capacity
- Reliable ramp-to-ramp service designed around the late PM departure and early AM arrival requirements of general merchandise shippers
- Wholesale prices and wholesale service packages designed to complement and support door-to-door motor carrier services.

In a highly competitive freight market, JNR Freight has found a defensible niche by exploiting the fact that it is the only railway freight company with a nationwide network. This niche can be defined as terminal-to-terminal wholesale container freight. Central to this effort is an improvement in service, for example, through increased dispatches and a greater variety of containers and rail cars. However, JNR's reliance on a single forwarder, Nittsu, for pickup and delivery services as well as for retail marketing, has forced the company to provide deep discounts.

3. Organization Prior to Privatization

JNR was organized as a public corporation in 1949 under the Japanese National Railways Law. In its charter JNR's range of commercial activities was tightly circumscribed so that the corporation would have minimal adverse impact on the private sector with which it competed. When JNR was initially established, government assets held in the government's Special Account for the Governmental Railways were conveyed to the new corporation.

JNR's management reported to a board of directors. The governor of the board was appointed by the Cabinet and he in turn appointed other directors with the approval of the Minister of Transportation.

As a public corporation JNR had several distinguishing features:

- It was not subject to the same civil and commercial laws as private companies. For example, its officers and employees were public servants. Hence, the unique provisions of Japanese law that apply to public servants applied to JNR employees. Although employees had the right to organize into unions and to negotiate labor contracts collectively, they did not have the right to strike.
- JNR had a diversity of public interest objectives beyond the single profit-making objective of a private corporation. One result was that JNR continued operations over light density lines that were not economically viable. A second result was that, increasingly, capital investment decisions were divorced from financial performance. In the face of mounting operating deficits, JNR's capital budget increased.
- JNR's resource allocation decisions (budgets and operating plans), fares, and key staffing decisions were subject to the approval of the government and the Diet. The JNR annual operating budget required annual approval from the Diet. Until 1984 JNR's rate structure was uniform throughout the country and fare increases required the approval of the Minister of Transport.

4. Business Reorganization

JNR was organized as a public corporation. However, this form of business organization proved increasingly ineffective in coping with competition, as JNR's preeminent position was challenged increasingly in the 1970s and 1980s.

As a public corporation, JNR was restricted in the scope of the economic activities that it could undertake. Those activities were limited to its core business of providing rail service. However, its competition had no similar restrictions and increasingly developed strategies to tap the synergies inherent in rail operations and related activities such as real estate development and hotel services.

A second closely related problem was the sheer size of JNR. JNR was too large and its line and staff organization, which was spread over the four major islands of Japan, was too awkward to effectively respond to the needs of local passengers and shippers. The railway's unified nationwide management proved unable to interpret local needs and to design effective local services. The result was the further erosion of JNR's competitive position vis-à-vis private railways.

The problems inherent in JNR's organization included the following:

- *Government Intervention.* JNR was subject to close supervision and control by both the government and the Diet. For example, JNR's annual operating and capital budgets had to be approved by the Diet. Inevitably, the result was interference in the application of resources (i.e., non-economic light density lines) and in the procurement of goods and services.
- *Inadequate Management Incentives.* JNR's management lacked a profit motivation. Its management was compelled to balance multiple, frequently offsetting objectives instead of focusing on a single encompassing objective (such as profit maximization) against which their performance could be clearly measured. The management also lacked an incentive system linking company performance with compensation.
- *Slow Reaction to Competitive Challenges.* The operating line/centralized functional staff organization had been organized in 1946 when JNR enjoyed a monopoly in surface transportation. This organizational structure proved more effective for processing routine decisions than for responding in innovative ways to the competitive challenges increasingly required in the 1970s and 1980s. Decision processes and information flows within JNR were too slow for an effective response to mounting competition.
- *Insulation of Labor Unions from Economic Difficulties.* Adversarial relations between the labor unions and

management at the center imposed increased formality on relations between field supervisors and employees, with the result that the service delivery system became increasingly rigid. The unions distrusted and disregarded information furnished by management regarding JNR's deteriorating financial position and refused to cooperate in efforts to reduce costs or to streamline service.

5. Role of Government

In addition to having direct control over JNR, the government also regulates and licenses all participants in the railway business, including all private carriers. Government regulatory authorities are defined in the Railway Business Law, which was passed in 1986. This law specifies the conditions for the maintenance of a public service certificate including the reporting requirements to the Ministry of Transportation. Licensed railways must comply with safe operating practices and technology standards specified by the Ministry. They must also periodically submit development plans for the review and approval of the Ministry.

The Railway Business Law also sets out a regulatory regime for tariffs. The guidelines in the law require that tariffs be: (1) compensatory — that they fully compensate for operating costs incurred under efficient management, and (2) adequate — that tariffs return a profit margin that allows an adequate return on investment. The Ministry of Transportation is ultimately responsible for approving tariff levels, and all tariffs must be filed with the Ministry. In practice these principles have proved difficult to enforce. A closely related issue is the timing of tariff revisions. Again, the Ministry of Transportation approves the effective date for tariff revisions. There is less delay in gaining approval for railways that are demonstrating financial distress.

Another area of government involvement is investment in new rail lines. The Railway Business Law defines three types of railway ownership and/or operating licenses. The act establishes a regulatory framework for multiple levels of ownership, control, and operations involving both the public and private sectors. This is the so-called "vertical separation" or "Build-Operate-Transfer" convention.

Public investment in new rail lines can take a number of different forms:

- *Through a public enterprise or municipal corporation.* Even after the failure of JNR this remains the modality under which most subway systems are financed and operated in Japan.
- *Through direct government support of a project.* This is the form of financial aid that supported the Shinkansen network and that, through the Railway Development

Fund, continues to support new Shinkansen projects and urban railway development under public-private partnerships (PPPs).

- *Through PPPs.* PPPs are joint stock companies in which both local governments and private firms invest. This latter arrangement is unique to Japan and is worth discussing further.

Typically, private partners in a PPP have interests that complement rail operations — interests in developing resi-

dential and commercial real estate or in completing line construction. PPPs qualify for low interest loans from the Railway Development Fund and have become increasingly popular as a way of spreading risks associated with new rail construction. In spite of their profit orientation, most PPPs rely on grants and subsidies, mainly from local governments as well as the private sector. Box 5.1 reviews recent financial performance for three PPPs.

In 1986 private railways were given a further incentive to invest in new rail lines with the passage of a Law on

Box 5.1 - Japan: Financial Data for Three Typical PPPs

NAGARAGAWA PPP

(thousands of passengers, million yen)

	1986	1987	1988	1989	1990	1991	1992
Passengers	469	1,669	1,609	1,565	1,706	1,767	1,804
Operating Revenue	142	407	394	386	434	445	449
Operating Expense	156	450	443	487	568	559	524
Operating Profit/Loss	-14	-43	-49	-101	-134	-114	-75
(Subsidies)	4,386	140	484	244	121	141	106
Profit/Loss	-6	-26	-1	0	-10	6	5

Source: "Unyu to Keizai" (Transportation and Economy), Transportation Research Bureau.

MINAMI-ASO PPP (before and after establishment in 1986)

(thousands of passengers, million yen)

	1979	1985	1986	1987	1988	1990	1991
Passengers	626	432	374	343	417	411	408
Operating Revenue	49	60	113	104	108	101	99
Operating Expense	349	352	127	133	122	126	135
Operating Profit/Loss	-300	-292	-14	-30	-14	-26	-36

Source: "Daisan Sekuta No Kenkyu" (Study on PPP), Public Management Research Center.

KUMAGAWA PPP (before and after establishment in 1989)

(thousands of passengers, million yen)

	1984	1988	1989	1990
Passengers	2,217	1,343	705	1,415
Operating Revenue	168	215	130	249
Operating Expense	833	463	124	267
Operating Profit/Loss	-665	-248	6	-18

Source: "Daisan Sekuta No Kenkyu" (Study on PPP).

Special Measures to Promote Specific Urban Railway Development. The law allows private railways to receive a tax exemption and to set aside funds for future urban railway capacity expansion. Appendix 1 to this chapter summarizes several funding and subsidy mechanisms that exist in Japan for the building and operation of new commuter lines. JNR and its successor companies are the beneficiaries of many of these programs.

6. Sources of Funding

From 1982 through 1986, JNR covered only 79 percent of its expenses with fares and other revenues and generated operating losses of \$37.9 billion. Over the same period JNR was the beneficiary of \$27.8 billion in local and national government subsidies. These subsidies took a number of different forms, as has been discussed above, including capital subsidies, contributions to debt interest payments, and direct subsidies to compensate for losses. Between 1980 and 1986, JNR increased its long-term debt burden by \$82 billion and suspended additional liabilities to the government Treasury of \$41 billion.

As a public corporation JNR was exempt from income tax. However, the corporation was required to pay property and service taxes. Over the period 1982 to 1986, JNR's payments to the government in taxes and other contributions amounted to a little less than \$2 billion. The level of net cash flow from the government into JNR in the period immediately preceding the restructuring was \$5.5 billion annually. This did not include the increase in long-term liabilities which the public was ultimately assuming.

7. Description of the Network

The first rail line in Japan was built between Shinbashi and Tokyo in 1872. From this base, railways expanded rapidly in Japan. By 1945 more than 25,600 km of railway lines covered the country. The national railways operated 20,056 km of these lines and private railways operated 5,543 km. By 1981 the JNR system had grown to 21,418 km.

Currently, the JR's operate about 20,000 km of track (see Figure 5.3). Private railways operate an additional 5,000 km. This represents 72.9 km per 1,000 sq. m for the four islands that have rail service. Most of the service network of the private carriers is in the major metropolitan areas of the main island of Honshu (i.e., Tokyo, Osaka, and Nagoya). Only 8 percent of the total trackage of the JR's, in contrast, is located in high density metropolitan areas. The remaining 92 percent is made up of intercity trunk lines. The JR's represent fully 86 percent of total trackage on the three smaller islands of Hokkaido, Shikoku, and Kyushu but only 71 percent of the trackage on Honshu. Table 5.1 shows the distribution of the rail network among the four islands, as well as passenger density for each of

the JR's and the private railroads operating in the same service territory.

In 1970 the National Shinkansen Development Act was passed. Subsequent to the passage of this act, two sets of high speed rail development plans were drawn up, one in 1971 and a second in 1973. Two lines included in that plan, the Tohoku line between Tokyo and Morioka and the Joetsu line between Tokyo and Nigata, were in operation in 1982, with Omiya Station, 30 km north of Tokyo, as the station of origin in the Tokyo metropolitan area. These lines have been extended from Omiya to Tokyo since 1985.

Subsequent to the reorganization of JNR, the 1973 plan was revisited and priorities for new construction were revised. In 1989 the government announced plans for developing, operating, and funding additional Shinkansen projects, as follows:

- The original plan was that the Shinkansen Holding Corporation, wholly owned by the government, would own the Shinkansen lines and lease them back to the JR's. However, in 1991 the Shinkansen Holding Company was dissolved and the track that it owned was sold to the JR's. The proceeds of that sale were used to form the Railway Development Fund.
- JR's will operate Shinkansen lines but will not own them. Lease payments will be made by JR's to the government based on the net benefit to the operator and should ensure that the JR will marginally improve its profitability in every case.

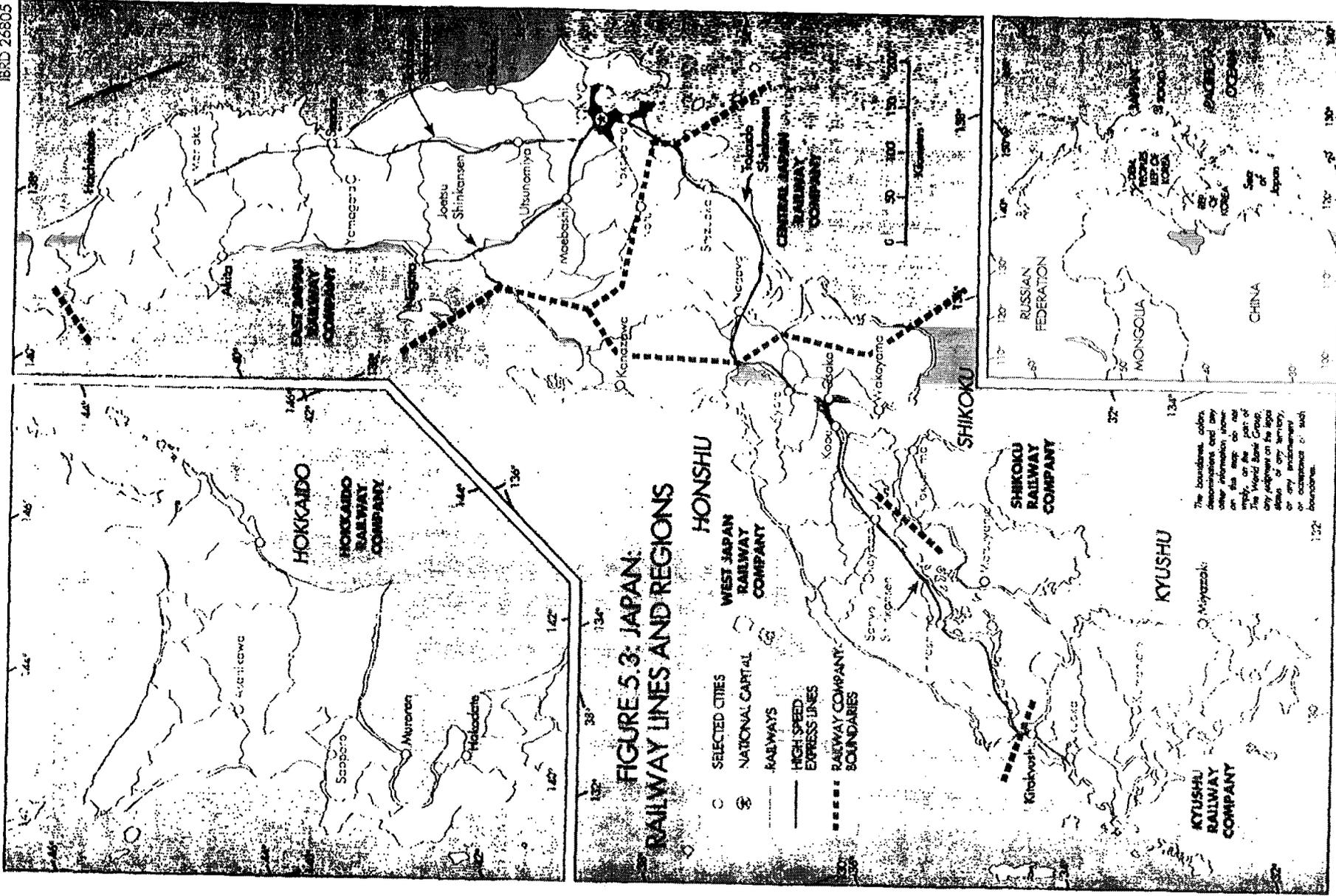
8. Labor Relations

Organized labor had effectively blocked earlier restructuring efforts. One of the prerequisites for successfully implementing railroad restructuring in 1987 was to resolve the competing demands of JNR's several labor unions and to gain union concurrence with the overall plan.

Plural unionism is a distinctive feature of Japanese labor relations. In 1985 all JNR employees were represented by one of four unions. Each of these unions had its own ideological orientation and each demonstrated a different willingness to accommodate political compromises over the restructuring plan. In the heated public debate that took place as elements of the final plan were adopted, public perceptions and worker support shifted dramatically among the several unions, and membership and consequent political influence shifted correspondingly.

At the beginning of the debate, the most influential unions representing JNR employees included the following:

1. The National Railway Workers' Union, or KOKURO. In 1985 KOKURO was one of the most powerful



unions in Japan, representing almost two-thirds of JNR's total work force. It supported the Japan Communist Party and the Japan Socialist Party and had often taken the lead in promoting illegal work stoppages.

2. The National Motive Power Union, or DORO. DORO was the most radical union; with 38,000 members, it was also the second largest. Its leftist members had previously been involved in violent actions.
3. The Japan Workers' Union, or TETSURO, which had 35,000 members and supported the Japan Democratic Socialist Party. It was centrist and supported democratic socialism.
4. All National Railways' Permanent Way and Construction Labor Union, or ZENSHIRO. ZENSHIRO supported another centrist party, the Komeito.

When the reform plan was initially being debated KOKURO, DORO, and ZENSHIRO were united in opposition to it. Only TETSURO supported the plan. However, as it became clear that the plan had strong public support, the union coalition shifted. DORO, the most radi-

cal union, joined TETSURO in support for the plan, and was followed by ZENSHIRO. The three formed a Labor-Management Forum to negotiate with JNR. They stated, on the eve of the forum: "In view of the present situation of JNR, we cannot help adopting realistic measures for restoring railway services based on privatization and division promoted by the government and JNR."

The largest union, KOKURO, was isolated and found itself increasingly unable to cope effectively with a rapidly changing environment. A growing number of rank and file KOKURO members abandoned their leadership and decided not to oppose reform. In April 1986, 1,000 splinter members of KOKURO formed SHINKOKURO. As KOKURO's leadership continued to oppose reform in the face of overwhelming popular support, the union's membership continued to abandon the union. By the end of 1986 KOKURO's membership had fallen to 100,000 and in February 1987 former KOKURO members established the Japan Railway Union Federation and accepted the reorganization plan. KOKURO collapsed and was dissolved after 40 years of representing JNR employees. Also in 1987 the JNR Reform Labor Union Conference was reorganized into the All-Japan Railway Union Federation.

Table 5.1 - Route Length of Japan Rail Network, March 1993

	(km %, km/000 m ² , person/km)				Total	Density (Area) ²	Density (pop.) ³
	JRs		PRs ¹				
Three Islands	5,584.8	85.6	942.1	14.4	6,526.9	45.2	3,545
Hokkaido Island	2,628.3	92.3	218.6	7.7	2,846.9	34.1	1,984
Shikoku Island	855.8	82.5	181.9	17.5	1,037.7	55.2	4,035
Kyushu Island	2,100.7	79.5	541.6	20.5	2,642.3	62.7	5,034
Mainland	14,555.8	69.9	6,281.2	30.1	20,837.0	90.2	4,784
East	7,502.0	71.6	2,979.6	28.4	10,481.6	80.7	5,157
Center	1,994.7	58.1	1,441.4	41.9	3,436.1	117.3	4,157
West	5,059.1	73.1	1,860.2	26.9	6,919.3	96.4	4,529
TOTAL	20,140.6	73.6	7,223.3	26.4	27,363.9	72.9	4,488
Metro Area⁴	1,631.0	30.9	3,639.2	69.1	5,270.2	n.a.	n.a.
Three Metros⁵	1,587.4	37.3	2,664.4	62.7	4,251.8	272.0	11,722

¹PRs include Eidan (Teito Rapid Transit Authority) and other publicly owned railways, and are allocated in each region by the area of the Transportation Administration, which is not wholly compatible with the area covered by the corresponding JR.

²Area Density indicates route length (km) per thousand m².

³Population Density indicates person per route length (km).

⁴Metro Area represents such major metropolitan areas as Tokyo, Osaka, Nagoya, and other city areas with a population of over a million (data from *Railroad Traffic Statistics Annual*).

⁵Three Metros are the Tokyo, Osaka, and Nagoya metropolitan areas (data for March 1990 from *Metropolitan Traffic Annual*).

Notes: the columns to the right of JRs and PRs represent the percentage shares of JRs and PRs in the total route length. Surface area and population are not wholly compatible with the area covered by each JR. The population figure is an estimate as of October 1991 based on the national census conducted in October 1990.

Sources: *Metropolitan Traffic Annual*, *Railroad Almanac*, *Railroad Traffic Statistics Annual*, and others.

9. Legal Framework for Collective Bargaining

UNDER JNR With the end of World War II, democratization and the chaotic economic situation resulted in the radicalizing of the Japanese labor movement. In 1948 the occupation forces prohibited public servants from striking and directed the Japanese Government to establish public corporations and to transfer employees working in such areas as railway operations. In this way, JNR was established in 1949 as a public corporation. A special labor law (Public Corporation and Labor Relations Arrangement Act) was enacted for these public corporations. Through this law, JNR employees were given the right of collective bargaining but were not allowed to strike. The Japanese Constitution guarantees the rights of workers to organize, bargain, and act collectively. The government played no role in contract negotiations. "Open shop" unionization prevailed and workers could choose not to join a union or could choose any one of several unions qualified to represent them, but most workers, in fact, joined.

The National Railway Workers' Union, or KOKURO, was the largest and most powerful union and represented all types of workers. Three other large rail unions split from KOKURO. The JNR management negotiated with each union on pay raises, work rules, terms of service, and other matters. Management was obligated to negotiate in good faith once a union was registered in accordance with the Labor Union Act. Most agreements had a one-year term.

In actual practice, negotiated increases in compensation usually equaled those recommended annually by the National Personnel Authority. In principle, compensation was equalized across the crafts, with little differentiation by type of craft (or for night work, etc.). Retirement age was also agreed upon between management and each union, and was basically the same as that for public servants. Generally, although competition existed among unions for membership, no differentiated treatment or discrimination existed on the part of management regarding workers belonging to different unions.

Indeed, management was prohibited by law from discriminating against workers because of union membership, from refusing to bargain, and from intervening in union administration. Politically, the leadership of KOKURO and DORO had a strong socialist orientation. However, new workers tended to choose their unions not on the basis of their political orientation, but rather on the basis of which union was dominant in the division or district to which the workers were first assigned.

UNDER THE NEW JRs In the final days of JNR, three unions (other than KOKURO) inaugurated the Japan Confedera-

tion of Railway Workers' Union (JR Soren). After restructuring in 1987, separate workers' unions were organized within the new JRs with JR Soren serving as the upper body of a confederation of craft unions. These unions and the JRs signed joint declarations and for the first time established stable labor-management relationships. Each union continued to negotiate separately with the management. As a result, from 1987 onward the rate of pay raises began to be differentiated. In 1990 a confrontation emerged between the Japan Workers' Union (TETSURO) and DORO over the hegemony of JR Soren. In July 1991 JR West's union seceded from JR Soren, and JR Central's union followed in November. The unions that organized JR Shikoku and JR Kyushu seceded in the following years and formed another upper body, RENGO. In this union, the old TETSURO group was dominant. Within these four companies, the old DORO group established other minority unions.

10. Labor and Capital Productivity

Labor productivity measures indicate a mixed performance. Annual freight productivity fell from 135,000 ton km per employee to 69,000 in 1984. In 1986 it began to recover and reached 89,000. The passenger transport sector was more positive: from 1970 to 1978 passenger transport productivity behaved erratically, but then it increased fairly steadily, and growth accelerated in the early 1980s. By 1986 it had reached 885,000 passenger km per employee.

Asset turnover, defined as the ratio of total operating revenues to total assets, more than halved over the same period, falling from 32 percent in 1970 to 15 percent in 1986. On the other hand, track utilization behaved more erratically. The ton km per passenger track km ratio declined almost without interruption from 1970 to 1987, at an annual compound growth rate of 6.6 percent. Passenger km per passenger track km measures improved from 1970 to 1975, then declined until 1982. From 1982 to 1986, these measures grew again, only to fall back to 1985 levels in 1987, when they stood at 9.7 million passenger km per passenger track km. Compared with 1970 this represents a 4.5 percent increase.

11. Operating Performance: 1970-87

Over the period 1970-87, both internal and external factors contributed to JNR's performance difficulties. The internal causes, as cited by the Ad Hoc Commission on Administrative Reform of JNR, were: (1) too much government involvement, (2) unclear management responsibilities that were subject to frequently conflicting pressures from different stake holders, (3) a labor-management relationship that was characterized by an adversarial union

and very high wage levels, and (4) limitations on the ability to pursue varied and dynamic business activities.²

The external factors that contributed to JNR's deteriorating performance had their origins in the technological advances and infrastructure improvements benefiting alternative modes of transportation in the mid-1960s, as well as in increasing urbanization. This resulted in decreasing shares for both passenger and freight transport. While revenue from freight services continued to increase, freight volume reached a peak in 1970 and declined sharply in 1980. From 1970 to 1987 freight volume in terms of ton km fell by more than two-thirds, from over 62 billion ton km to just over 20 billion.

In passenger service, revenue continued to increase during this period, although passenger volume levels peaked in 1974. Passenger traffic volume in passenger km grew until 1976. Then it declined continuously until 1982, at which point it improved again, although it rarely grew more than 1 percent annually (except from 1986 to 1987, when it jumped 3 percent to reach 205 billion passenger km).

Over the period 1970-86, operating revenues fell short of operating costs. Revenues increased from \$10.3 billion to \$31 billion. Figure 5.4 represents the failing financial performance of JNR during this period. While both total revenue and total operating expenses increased steadily, the compound annual growth rate for revenues was only 7.1 percent and fell short of the annual compound growth of operating expenses at 9.2 percent. As a result, the absolute level of the operating deficit increased from \$1.5 billion to \$17 billion over the period. By 1987 total losses had reached \$22 billion before subsidies. The primary forces driving this operating deficit were very high labor costs, high capital investment levels, and the interest burden associated with increasing debt levels. At their peak, labor costs amounted to 78 percent of total revenues, compared with 40 percent for private railways.

JNR's declining financial performance affected not only its profitability but also its cash flow. If free cash flow is defined as net income plus depreciation, JNR was in the black in only one year, 1970, after which depreciation fell short of JNR's annual net loss. In 1986 depreciation was only about a fourth of the total net loss of \$12 billion.

The general shift away from rail travel had differing impacts on JNR and on private railways. Private railways responded with profit-oriented operational strategies to cope with the changed competitive environment. In con-

trast, JNR continued to expand its unprofitable remote railway network, on the grounds that it was a public service-oriented enterprise. Remote railway routes accounted for more than 40 percent of the lines run by JNR but represented only 5 percent of total transport volume.

JNR's debt burden became so heavy because (unlike its loss-making European counterparts) its yearly deficits were covered by borrowing. In Europe, deficits were addressed through subsidies so that no debt was carried over to the next fiscal year. JNR first borrowed money to meet operational costs in 1971. A solution might have been to give JNR greater freedom in its fare-setting (which remained under legislative control until 1977) and to allow divestiture of certain operations, or to subsidize JNR. Japan's high economic growth at the time made this issue less pressing and led to the expectation that continued increases in traffic volume would allow JNR to pay back its loans. By 1987 JNR's debt had reached \$337 billion.

PART II: REFORM OF JAPAN NATIONAL RAILWAY

1. Overview

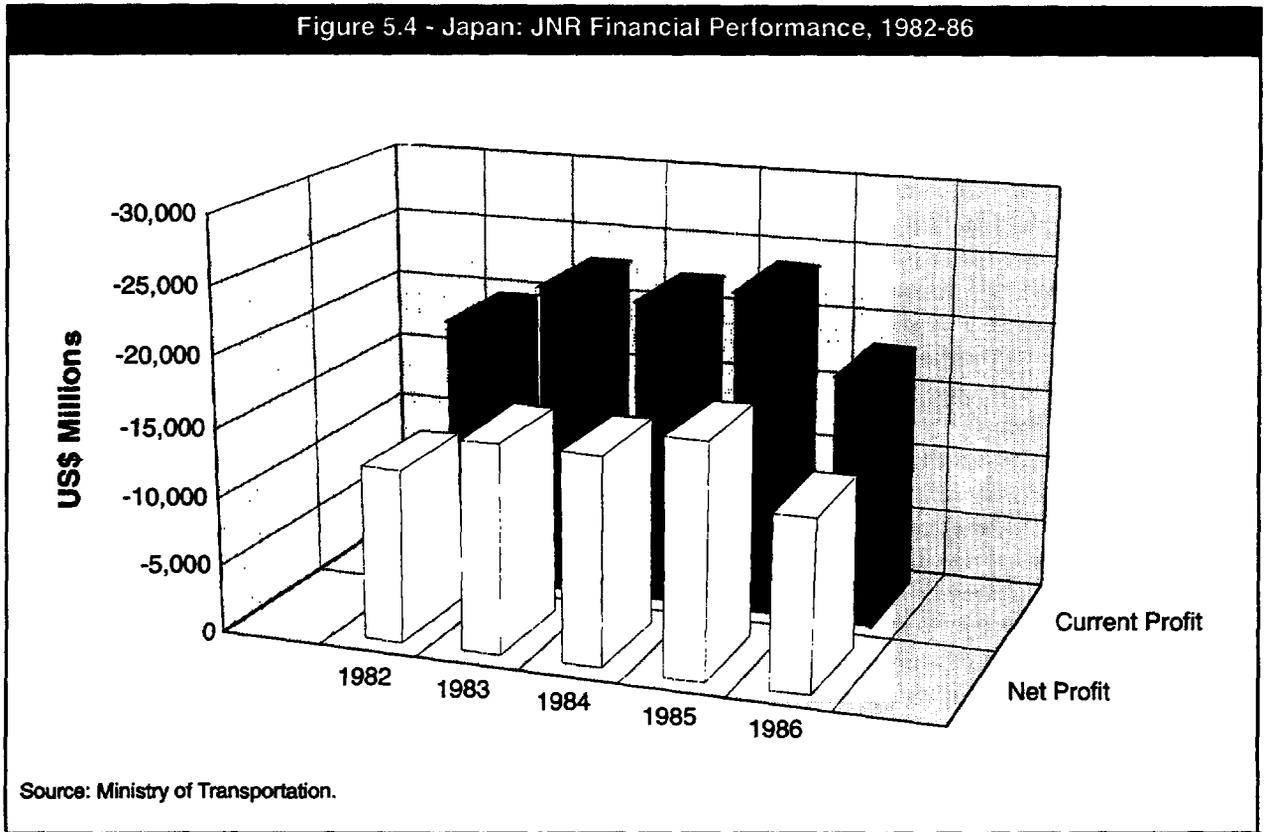
In 1980 the Japanese Government was in critical financial condition after two oil crises. In that year the Liberal Democratic Party (LDP) won a large majority in the general election and the Suzuki Cabinet assumed power with a clear mandate to radically reform the government's finances. Early in his administration, the new Prime Minister established the Provisional Committee on Administrative Reform. This committee was headed by a highly regarded industrialist, Mr. Toshio Doko, with extensive experience in business turnaround. In the recommendations it presented to the Diet in 1981, the Provisional Committee recommended not only the radical reform of the government's administration but also the privatization of the three largest public corporations: JNR, Japan Monopoly Corporation (tobacco and salt), and Nippon Telegraph and Telephone Public Corporation.

By 1980 JNR employed some 414,000 workers. It was one of the largest enterprises in Japan and its annual losses were increasing every year. The Provisional Committee concluded that restoring JNR's financial health would be impossible as long as the railway was operated as a centralized, nationwide public corporation. The Provisional Committee further recommended that a supervisory committee be set up for the reconstruction of JNR and that this committee (the Supervisory Committee for JNR Reconstruction) be charged with implementing concrete policies for the railway's reorganization.

In 1987 the plans developed by the Supervisory Committee were implemented, with the result that JNR was

² See Masami Sakita, "Restructuring of the Japanese National Railways: Review and Analyses," Final Report. Prepared for the Urban Mass Transportation Administration, Washington, D. C., 1988.

Figure 5.4 - Japan: JNR Financial Performance, 1982-86



broken up into six regionally based railroad passenger companies and a seventh company for freight services with a nationwide market franchise. The seven companies are referred to as the JRs in this report.

The major portion of JNR's debt, which had reached \$337 billion by the end of 1986, was assigned to the Japan National Railways Settlement Corporation along with surplus real estate and shares in the newly created JRs. The transfer of ownership between the Settlement Corporation and the general public was to take place in a series of initial public offerings (IPOs) as individual JRs matured and demonstrated compliance with the listing requirements of the Tokyo Stock Exchange. The first of these IPOs was successfully completed in 1993.

KEY PARTICIPANTS The process of railway reform and restructuring in Japan took place in a crisis environment that required political leaders to focus on difficult issues and to make decisions that entailed significant political risk. The reform of JNR that was begun in 1980 followed six previous unsuccessful efforts. What was unique about this successful effort was the level of authority at which the reform was designed and the political will to support the reforms that the ruling party demonstrated through two governments.

Some clarification of the strategic significance of the "JNR problem" may help to explain why the political will to confront these problems was galvanized at this particular time. In 1980 JNR represented to the Provisional Committee not only the largest single contributor to the nation's fiscal deficit but, perhaps more important, a prototype of the problems with efficiency and public response that the Committee faced more generally. Thus, to the extent that JNR reforms could be implemented, a precedent could be established for other public administration reforms. By the same token, to the extent that JNR reforms failed, reforms in other parts of the government bureaucracy might similarly fail.

When the Supervisory Committee began its work in June 1983 it was made up of five representatives from business and academia, three of whom had served on the predecessor Provisional Committee. In this way, continuity of policy was maintained in the dual reform effort. Mr. Masao Kamei, Chairman of Sumitomo Electric Industries Ltd., chaired the committee. The committee carried out its work with the assistance of a small staff seconded from the Ministries of Transportation, Finance, Health and Welfare, and Labor, and the Management and Coordination Agency.

During the six years of planning and deliberation that preceded restructuring, the Provisional Committee and its

staff maintained scrupulous objectivity and impartiality. The committee maintained the full support of business circles, as well as the support of public opinion, throughout the process. This support was garnered in part through an excellent relationship with the press throughout the process.

The Provisional Committee reported directly to the Prime Minister. Both Prime Minister Suzuki who formed the Provisional Committee and Prime Minister Nakasone who formed the Supervisory Committee were strong supporters of privatization. At critical decision points they supported the recommendations of the committee, as did the Ministry of Finance.

Neither labor nor JNR's own management participated directly in the work of the Provisional Committee. Instead, these two groups participated from the outside in the policy debate: first by offering alternative, less radical, restructuring plans; then by criticizing the plans offered by the Provisional Committee; and finally by defining the public debate in terms of parochial interests opposed to reform and general public interests supportive of reform. The more recalcitrant elements of organized labor and JNR's executive management lost their positions of power because of their intractable opposition to the process.

Throughout this period the LDP held a significant majority in the Diet. Early in the process most members of the LDP supported the less radical restructuring plans put forward by JNR's management. Only a minority of senior LDP representatives supported the more radical agenda of the Supervisory Committee and attempted to influence JNR's management in this direction. However, as the de-

bate sharpened and as public opinion shifted in support of the Supervisory Committee's reform agenda, rank and file members of the LDP became fully supportive of restructuring.

SEQUENCE OF ACTIVITIES Six years elapsed between the establishment of the Provisional Committee in March 1981 and the corporatization and restructuring of JNR in April 1987. Six more years went by before the public offering of shares took place in Japan Railway (JR) East in September 1993. The time line shown in Table 5.2 represents all of the critical events antecedent to the final privatization of JR East.

The critical period of debate during which time the basic form of the restructured JNR was decided upon was from 1983 to 1985 — when the Supervisory Committee completed most of its analysis and planning. Early in 1985 Prime Minister Nakasone signaled that opposition within his own LDP party had been overcome by dismissing JNR's governor, who opposed the restructuring.

In July 1985 Mr. Nakasone convened a Cabinet Ministers' Conference on the JNR restructuring, during which the Supervisory Committee's report, "Opinions on the Reform of JNR," was reviewed and adopted as the plan to be implemented. Shortly after the conference, the Ministry of Transportation created a headquarters for JNR restructuring and set up a liaison committee with JNR.

In the 1986 elections Mr. Nakasone led a strong LDP resurgence. At this time he made JNR privatization an issue. When the Diet reconvened in 1986 it passed a series

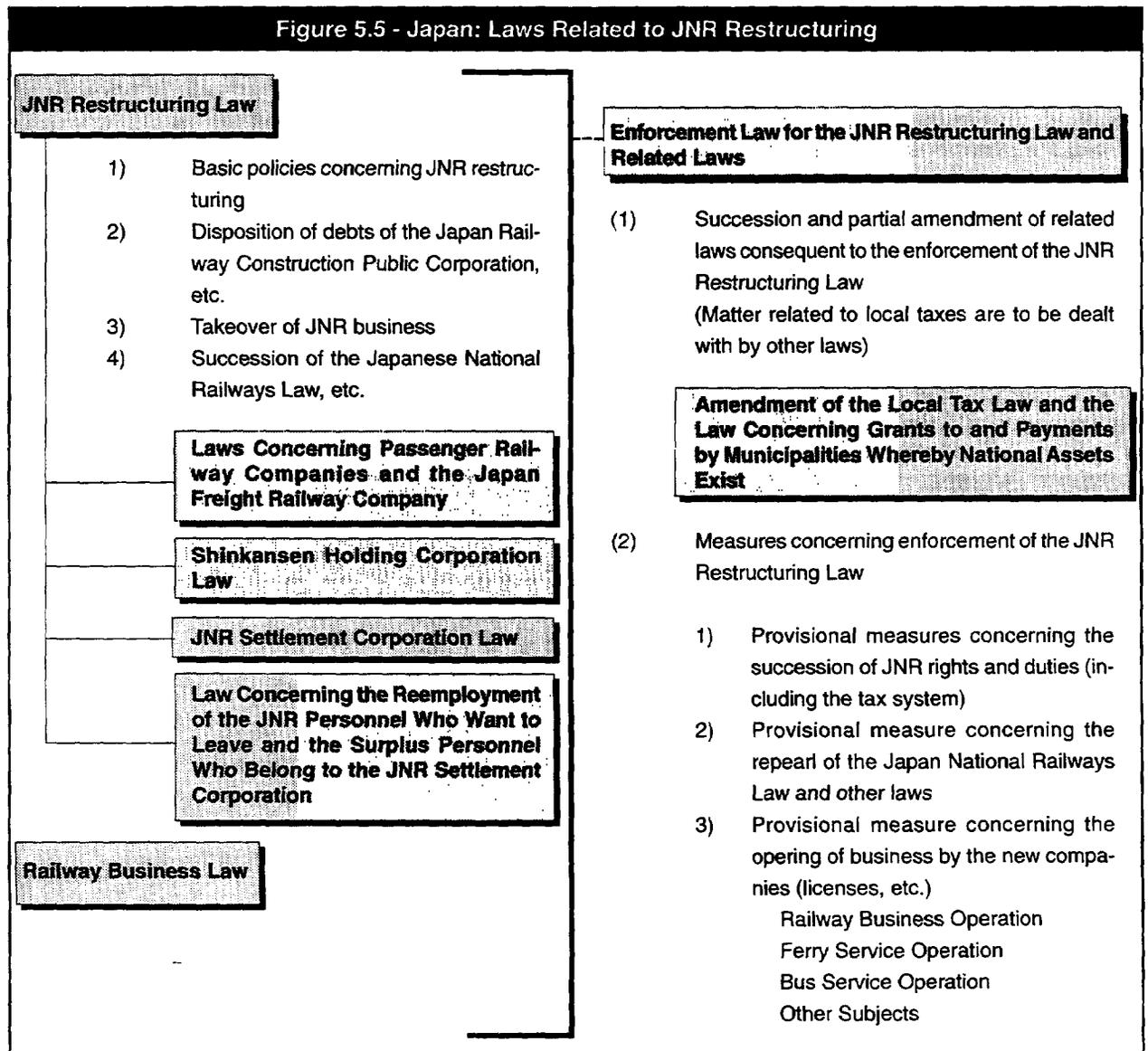
Table 5.2 - Japan: Time Line of Critical Events Preceding Privatization of JNR

DATES	EVENTS
March 1981	Establishment of the Provisional Committee on Administrative Reform (Provisional Committee)
March 1981-May 1982	Deliberations by the Provisional Committee
July 1982	Third report of the Provisional Committee (Basic Report)
August-September 1982	Adjustments made to the report by the LDP
September 1982	Ratification of the Cabinet's "Outline for Administrative Reforms"
September 1982-May 1983	Diet deliberations (legislative proposal concerning the establishment of the Supervisory Committee for JNR Reconstruction)
June 1983	Establishment of the Supervisory Committee for JNR Reconstruction
June 1983-July 1985	Deliberations by the Supervisory Committee
July 1985	Report submitted to the Supervisory Committee ("Views Concerning the Restructuring of JNR")
August-October 1985	Adjustments made to the report by the LDP
October 1985	Ratification of the Cabinet's "Basic Policy on JNR Restructuring"
October 1985-March 1986	Legislation drafted by the government, including the JNR Restructuring Law
March-November 1986	Diet deliberations on legislation, including the JNR Restructuring Law
December 1986-March 1987	Government preparation for the privatization and division of JNR
April 1987	JNR corporatized and divided and new JR companies established

of laws that established the legal framework for the restructuring and privatization that followed. This legal framework comprised six related laws detailing the restructuring process. A seventh law addressed the need to amend existing laws affected by the enactment of the new ones. Figure 5.5 presents a diagram of this legal framework. The seven laws can be described briefly as follows:

- *The JNR Restructuring Law.* This law stipulated the basic rules for the restructuring, addressing the privatization and requiring the division of JNR into six passenger operations, the Shinkansen Holding Corporation, and a single nationwide freight operation. The law also addressed the redemption of long-term liabilities.

- *The Law Concerning Passenger Railway Companies and the Japan Freight Railway Company.* This law provided operating autonomy to six passenger railway companies and a freight railway in railway operation and related activities. Other business activities required approval by the Minister of Transport. The law also provided for the creation of the Management Stabilizing Fund and the debt exemption of the three island companies. The following matters also required Minister of Transport approval: election of a CEO and auditors, issuance of securities and long-term borrowing, business plans, sales of important assets, and revision of the articles of incorporation.
- *The Shinkansen Holding Corporation Law.* This law provided for the creation of a government agency



that wholly owned the Shinkansen facilities and rented them to the passenger railway companies concerned. The agency would determine both the rentals and the lease periods, which would depend on the remaining life of the facilities. At the end of the term the Shinkansen facilities were to be transferred to the relevant passenger railway companies under terms to be determined by another law.

- *The JNR Settlement Corporation Law.* This law provided for the creation of a government agency to deal with the redemption of JNR's long-term liabilities and to provide measures for the re-employment of surplus personnel. Repayment of debts would be partly funded by asset sales, especially land, in a competitive business process. The annual repayment plan required Minister of Transport approval.
- *The Law Concerning the Promotion of the Re-employment of the JNR Personnel Who Want to Leave and Surplus Personnel Who Belong to the JNR Settlement Corporation.* The major work force reduction associated with the restructuring and privatization process was addressed by this law. The law also provided for a comprehensive re-employment program for those voluntarily retiring from JNR and those transferred to the JNR Settlement Corporation. This law expired in April 1990.
- *The Railway Business Law.* This law provided for new statutory regulations to cover all railway business operators, both the former JNR and the private railways. Specifically, it provided for flexible licensing standards, allowing a transportation business operator to operate a railway line from another company. In addition, existing restrictions on private railways were relaxed considerably.
- *The Enforcement Law for the JNR Restructuring and Related Laws.* The enactment of the JNR Restructuring Law affected 150 other laws, making it necessary to amend the latter. Issues included the disposition of special remote railway lines of unclear status, labor issues involving employees of the new corporations, and the redefinition of the principal builder-operator of the Shinkansen as "a corporation appointed by the Minister of Transport."

2. Origins and Objectives of Reform

The privatization of JNR was triggered by a government fiscal crisis that began in the latter half of the 1970s. By 1980 the snowballing deficits and mounting debts of JNR and several other state-owned enterprises had reached an unacceptable level that threatened the financial integrity of the government. Hence, a key objective of the JNR re-

structuring was to transform the railway from a major source of fiscal deficits to a generator of fiscal contribution.

In addition, it had become clear that JNR in its existing form could not cope with the competitive challenges from increasingly sophisticated alternative service providers. JNR's inflexibility and its relatively high cost structure accelerated its deteriorating financial performance in an increasingly competitive market environment. With several failed reorganizations led by JNR's own management and with frequent strikes by JNR's unions, it was clear by 1980 that only radical reorganization imposed from outside could address the serious management problems. Therefore, a second objective was to improve JNR's ability to respond to its customers and to compete effectively with private transport companies.

At the same time, it was clear that JNR's assets were superbly maintained and that its technology base, including the Shinkansen network, was among the most advanced in the world. A third objective of the restructuring was to maintain the value of JNR's assets and to continue to support advanced transport technology and the corresponding high quality services.

3. Reorganization of JNR

The details of restructuring were hotly debated within the Supervisory Commission, in the Cabinet, and the Diet. Issues of particular concern included: (1) the treatment of redundant workers; (2) debt that exceeded the financial capacity of the operating unit; (3) the viability of the three less dense island service systems; and (4) the feasibility of breaking up the mainland system, in particular the Shinkansen lines.

Nevertheless, once a consensus was developed within the LDP, the reconstruction activities centered around the detailed recommendations of the two blue ribbon working committees. Implementation proceeded rapidly and smoothly.

The reshuffling of JNR's top management prior to the restructuring was one of the keys to the successful implementation. In 1986 Prime Minister Nakasone, acknowledging the JNR management team's inability to resolve internal conflicts and move the implementation forward steadily, appointed a new president of the JNR, Mr. Takaya Sugiura, who immediately called for the resignation of all the JNR board members and re-appointed board members who supported drastic reform. JNR's new management team focused on transition issues.

RATIONALE The Supervisory Committee recommended reorganizing JNR on the basis of its assessment of the problems inherent in JNR's organization, namely:

- JNR was too large to allow for effective control, efficient operations, and market-oriented management.
- The centralized management structure of JNR was not sufficiently responsive to local needs.
- Too little competition existed. It was felt that competition should be encouraged among the new operating units.
- Other factors had prevented JNR from responding flexibly to changes in transport markets. These included: (1) outside interference in management decisions; (2) obscure managerial responsibility and little managerial accountability for strategic decisions; (3) adverse labor-management relations; and (4) legal limitations on the scope of activities that JNR could undertake.

RESTRUCTURING "BLUEPRINT" The conceptual "blueprint" for the restructuring was the report submitted by the Supervisory Committee in July 1985, entitled "Views Concerning the Restructuring of JNR." The restructuring strategy represented by this report became the cornerstone of the LDP's policy. The Cabinet confirmed this strategy with minor modifications in its white paper, "Basic Policy on JNR Restructuring," published in October 1985. The strategy was made operational through enabling legislation that passed the Diet between March and November 1986.

MULTI-PHASED PROCESS Because JNR was insolvent on the eve of restructuring, it was impractical to sell the enterprise "as is" to private investors. Instead, the Committee recommended a multi-phased process of addressing and solving the most acute problems first and then turning to problems that permitted long-term solutions.

The first management initiatives were therefore designed to assure that the successor companies maintained a stable revenue base. The next set of initiatives was designed to separate unprofitable operations from the core businesses. (For example, light density lines were converted to bus routes.) Following this were initiatives designed to correct for major profit differentials among the successor companies based on a distribution of liabilities and income-generating assets. (For example, the unprofitable passenger division was separated from the other passenger divisions.) Finally, steps were taken to comply with the listing standards of the Tokyo Stock Exchange.

4. Restructuring

The restructuring of JNR involved the reorganization and reassignment of core business definitions, assets and operations, organizational structure, work force, management,

liabilities, and commercial orientation among the successor companies.

REDEFINING THE SCOPE OF THE SURVIVING BUSINESSES To render management more responsive to the markets, a strategic decision was made to divide JNR and its assets into separate passenger and freight companies (these were the JRs). As has been mentioned, six passenger companies were created from JNR, organized into three contiguous regions on the main island and one region on each of the three islands of Hokkaido, Shikoku, and Kyushu. This division of assets and service territories corresponded to the scope and range of the underlying markets. A traffic study revealed that 95 percent of all trips originated and terminated within one of these service territories.

Freight operations were organized into a separate company serving a nationwide service territory. JR Freight would own no track of its own but would operate over the track of the other JRs under trackage rights agreements.

ASSETS AND OPERATIONS Assets required to operate each of the seven JRs were identified and segmented and their ownership rights were conveyed to the new companies on their reorganization, with the notable exception of the assets required to operate the Shinkansen services. Because the profitability of the various Shinkansen services differed significantly, the Supervisory Committee felt that a vehicle was needed to redistribute net income among the JRs on the basis of joint ownership of assets. A financial intermediary, the Shinkansen Holding Corporation, was established for this purpose. Each of the six passenger JRs leased assets from this jointly owned company.

Financial projections indicated that the three island JRs would probably not generate sufficient revenue to cover their operating and capital costs. To assure their financial viability and autonomous operation after restructuring, a stabilization fund was set up for each of these JRs. This fund was endowed by the JNR Settlement Corporation with income-generating securities whose yield was projected to assure economic success for the operating companies.

ORGANIZATIONAL STRUCTURE All non-core assets and liabilities of the former JNR in excess of those assigned to the individual JRs were conveyed to a new entity — the aforementioned JNR Settlement Corporation, a government agency. The Settlement Corporation, which held the shares of each of the seven operating companies that emerged from the restructuring, was intended to liquidate the assets it held, including — most important — excess real estate, to pay back as much as possible of its outstanding liabilities with the proceeds of this liquidation. As the

Settlement Corporation's work wound down, residual liabilities in excess of proceeds would be converted into government debt.

The JR companies were organized as joint stock companies, each with its own board of directors and management.

The organizational structure is similar in JNR and the JRs, except that in the JRs departments related to railway operation are bundled within the new Railway Administration unit, so that operation-related decisions can be made in a more coordinated way. Since the regional departments of JRs are smaller than that of JNR, the local orientation (meeting local needs) of JRs seems to come not from the change in organization structure, but rather from the breaking up of headquarters, the manageable smaller size, and

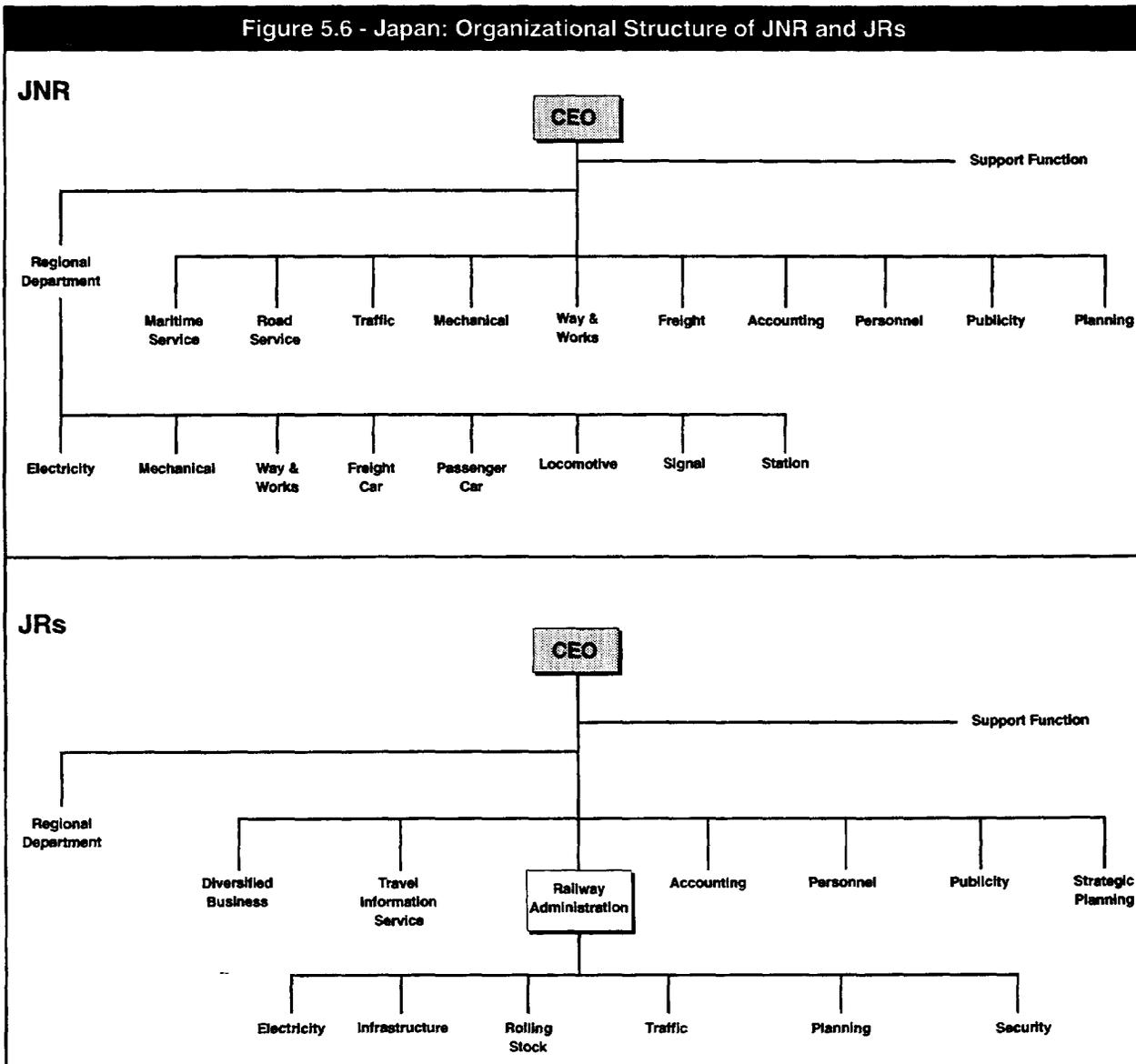
an appreciation of the fact that change is necessary for survival. Figure 5.6 diagrams the two organizational structures.

RESTRUCTURING THE WORK FORCE In July 1985 the Supervisory Committee estimated that JNR had approximately 93,000 excess employees. The total number of JNR employees had been declining sharply since 1982. That trend continued, as can be seen from Figure 5.7, through the restructuring period.

The restructuring plan made specific provisions for surplus employees, as follows:

1. A special fund was established for the voluntary early retirement of 20,000 employees. A special incentive

Figure 5.6 - Japan: Organizational Structure of JNR and JRs



equivalent to 10 months in compensation was made available to employees over 55 years of age.

2. Provisions were made for the transfer of 32,000 employees from the passenger JRs to other parts of the restructured JNR.
3. The remaining 41,000 excess employees were assigned to the Settlement Corporation which was responsible for re-employing them and providing severance to those who could not be placed within a specific time period.

To further facilitate re-employment, the government organized a Surplus Personnel Reemployment Measures Headquarters. In part because of the labor shortage resulting from economic expansion, re-employment proceeded smoothly. By April 1, 1987, 46,410 employees had been placed. As a result, only 23,660 employees were ultimately transferred to the JNR Settlement Corporation.

RESTRUCTURING LIABILITIES An important issue in reorganizing JNR was restructuring its liabilities. As Figure 5.8 shows, long-term liabilities were estimated at \$337 billion at the beginning of 1987. These included the following major elements: (1) JNR debts of \$227 billion; (2) capital charges of \$41 billion for Japan Railway Construction Public Corporation (JRCPC); (3) other liabilities totaling \$17 billion and comprising management stabilization funds for the three island JRs and liabilities accruing from the Honshu-Shikoku Bridge Authority; and (4) future expenses (\$52 billion) stemming from unfunded pension liabilities of \$46 billion and a surplus employee separation fund.

Of the above liabilities, the JRs assumed \$42 billion. These liabilities were distributed among four JRs on the basis of their ability to cover debt service. The three island

JRs assumed no long-term debt. The Shinkansen Holding Corporation assumed long-term debt equal to the book value of its assets — \$52 billion, and JRCPC assumed \$11 billion of debt.

The remaining \$232 billion in long-term debt was taken by the Settlement Corporation. Of this \$232 billion, a total of \$26 billion was scheduled to be paid until fiscal year 2016 by three JRs for the rent of the Shinkansen facilities through the Settlement Corporation. Therefore the Settlement Corporation itself had to redeem \$206 billion of debt. Four JRs inherited their own debt of \$42 billion and, in addition, had to pay \$89 billion originally inherited by the Settlement Corporation, the Shinkansen Holding Corporation, and JRCPC.

After liquidation of all assets under its control the Settlement Corporation was expected to convert the residual liability into a general obligation of the government.

COMMERCIAL REORIENTATION Perhaps the most significant restructuring involved the commercial reorientation of the company. Shortly after the restructuring, each JR clarified the profit objectives outlined by its board and established a management incentive system to reinforce these objectives. JR East, for example, developed a retraining program in which every employee was required to participate. The program was designed to make JR East employees more customer-oriented. The other JRs took similar steps to transform their company cultures.

As a result of consistent management efforts to increase the customer awareness of employees, the quality of JR services gradually improved. For example, the frequency of trains in high density corridors increased; the quality of concessions and station facilities improved; and automated ticketing helped to reduce queues.

5. Privatization

OVERVIEW From April 1987 the JRs operated as commercialized stock companies. Having satisfied the listing requirements of the Tokyo Stock Exchange the JRs were to be sold to the public. At that point the transition to a private enterprise would be complete.

As of this writing, stock in only one JR — JR East — had been sold to the public. In September 1993, 62.5 percent of JR East's shares were offered to the public. The remaining JR East shares, as well as shares of JR Central and JR West, were scheduled to be sold in 1994. Among the remaining JRs only JR Shikoku has met the profit requirement for listing on the Tokyo Stock Exchange. However, it is profitable only because of the income generated through the Management Stabilization Fund. The future ownership prospects of the remaining JRs are uncertain.

Figure 5.7 - Japan: Changes in Numbers of Personnel and Retirees for JNR, 1977-86

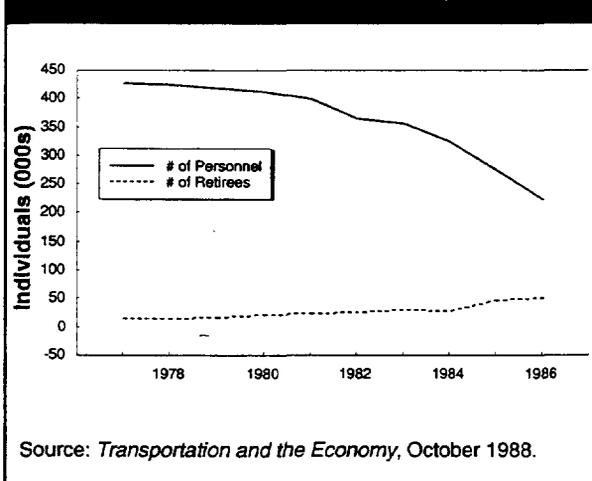
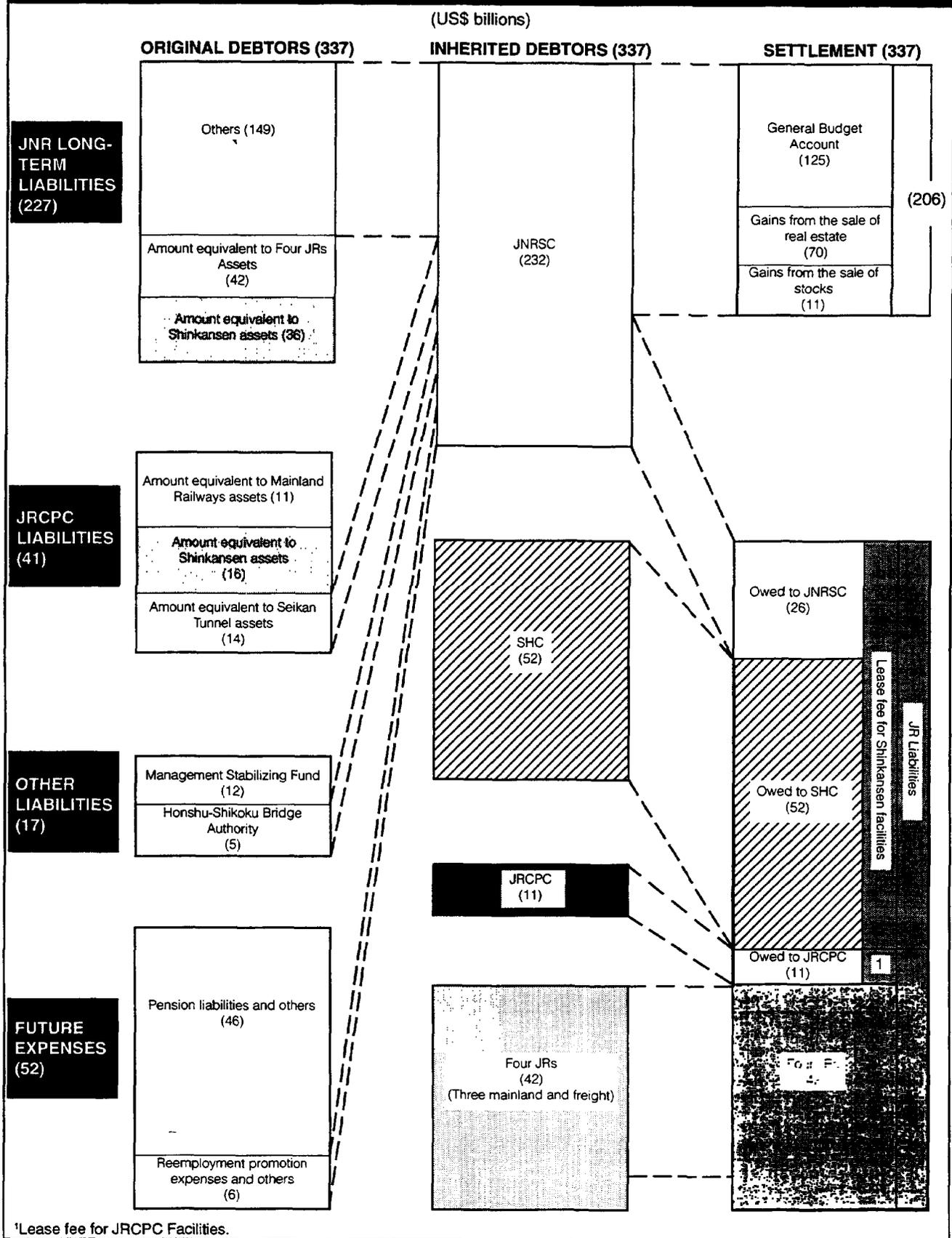


Figure 5.8 - Japan: Settlement of JNR Long-term Liabilities, 1987



CAPITALIZATION AND TIMING OF PUBLIC OFFERING The JNR Settlement Corporation holds the stocks of all seven JRs. The position espoused by the government in 1987 still holds: namely, that the government intends to sell 100 percent of each of the JRs to the public and ultimately to retain no interest in the privatized companies.

The book value of the JNR shares is \$4.2 billion. All together, 9.19 million shares are outstanding. Table 5.3 summarizes the capitalization of the JR group.

Three of the seven JRs have fully complied with the listing requirements of the Tokyo Stock Exchange, as Table 5.4 demonstrates. The Asset Disposal Council within the JNR Settlement Corporation determines the timing of equity sales. When the Council met in April 1992 it recommended a schedule for the selling of the three main island JRs. However, because the Exchange remained depressed through 1992, the initial public offering of JR East was postponed until September 1993.

INITIAL PUBLIC OFFERING OF JR EAST When shares of JR East stock were offered to the public in September 1993 they were immediately oversubscribed. The public offering had been preceded by a price finding auction of 600,000 shares to investment bankers in August 1993. Shares were offered to the general public at the average price tendered by the investment bankers. General investors offered to purchase 10.48 million shares at this price; however, initially only 1.4 million shares were offered to the public. Investors were selected by lottery. To brake a rapid run up in price, the Settlement Corporation sold an additional 500,000 shares into the market.

PART III: PERFORMANCE SINCE 1987

1. Overview

The performance of the successor companies to JNR was particularly strong between 1986 and 1990, in part because of the country's economic growth. The annual increase in

passengers during this period was 5 percent and the annual increase in freight volume was 10 percent. Increased demand in the face of continuing cost retrenchment has significantly improved the bottom-line performance of the JRs. By 1989, profit performance had improved by \$25 billion over pre-1986 levels.

By 1990 employee numbers in the JR system had been further reduced to 191,000. At the same time, service quality was demonstrably better and the attitude of operating personnel was markedly improved. The JRs began to enjoy a positive public image. During this period labor-management relations continued to improve.

In 1991 a prolonged recession began in Japan and the performance of each JR has been more or less adversely effected. The overall passenger volume of the regional JRs continued to increase, albeit at a slightly slower pace. In 1991 passenger demand increased by 4.9 percent and in 1992 it slowed to 1.0 percent. However, JR Center and JR Shikoku had declines in passenger volume. Demand for the services of JR Freight was flat in 1991 and declined by 1.9 percent in 1992.

2. Employment and Productivity Improvements

Since the restructuring of JNR, the managements of the JRs have rationalized their operations considerably. They have continued to reduce their work forces, from 200,650 in 1986 to 164,671 in 1987 and to 132,296 in 1991.

Yearly comparisons between the JRs and large private railways indicate that the JRs are closing the productivity gap. The Honshu JRs have made the greatest progress. In 1987 their productivity was only 68 percent of that of comparable private railroads, and it has risen steadily to 86 percent of the private carrier benchmark in 1991.

3. Liquidated Assets and Capital Expenditures

Of the non-core assets conveyed to the JNR Settlement Corporation, \$29 billion had been sold by the end of 1992. The original target was to sell off \$70 billion. Most of the

Table 5.3 - Japan: Summary of JR Stocks

	Par Value (thousand yen)	Stock Issue (thousands)	Capital (billion yen)
JR Hokkaido	50	180	9.0
JR East	50	4,000	200.0
JR Central	50	2,240	112.0
JR West	50	2,000	100.0
JR Shikoku	50	70	3.5
JR Kyushu	50	320	16.0
JR Freight	50	380	19.0
TOTAL	-	9,190	459.5

Table 5.4 - Japan: Tokyo Stock Exchange Listing Requirements

			(billion yen)						
			Hokkaido	East	Central	West	Shikoku	Kyushu	Freight
	Standards	Required Net Assets as of the end of the preceding fiscal year	18	400	224	200	7	32	38
Stockholder Equity	Net Assets as of the beginning of FY 1987		259	297	166	155	104	311	34
	Net Assets as of the end of FY 1992		264	544	399	260	120	320	46
(Net Assets)	Requirements qualification		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Profits (less current profits and profits after tax)	Standards	Three years earlier	2.7	60	33.6	30.0	1.1	4.8	5.7
		Two years earlier	2.7	60	33.6	30.0	1.1	4.8	5.7
		Preceding fiscal year	3.6	80.0	44.8	40.0	1.4	6.4	7.6
	FY 1990		1.6	107.8	117.2	60.5	7.4	3.0	6.1
	FY 1991		1.3	108.0	117.0	66.1	7.0	2.4	1.9
FY 1992		6.0	100.9	67.6	55.7	3.5	3.5	0.2	
Requirements qualification		No	Yes	Yes	Yes	Yes	No	No	
Dividend	Standards	Dividends at the preceding fiscal year (FY 1991)	No	Yes	Yes	Yes	No	No	No
Other	Standards	Operating more than 5 years after establishment	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Requirements on the listing for Tokyo Stock Exchange			No	Yes	Yes	Yes	No	No	No

Note: Net assets of the three island JRs are calculated after deducting the Management Stabilizing Funds.
Source: Ministry of Transportation.

assets liquidated by the Settlement Corporation consisted of undeveloped land (3,917 hectares). At the beginning of 1993, the Settlement Corporation retained 5,314 hectares that remained to be sold, but the Corporation sold its 53.5 percent interest in the Teito Rapid Transit Authority to the government during a four-year period from 1987 through 1990 for the total value of \$8.9 billion.

The pace of liquidation and the value realized to date have been somewhat below original expectations. In 1987, with soaring real estate prices, the government decided to end competitive bidding for JNR real estate, despite strong protest from the Settlement Corporation. Since 1991 land prices have fallen off sharply and the value of the remaining inventory has diminished correspondingly.

Capital expenditures have increased steadily for the JR group since 1987 from \$1.9 billion in 1987 to \$6.5 billion in 1992. To date, the JRs have restricted their capital expenditures to internally generated funds. The enabling legislation requires the Minister of Transportation to approve any external financing and specifically prohibits the three island JRs from issuing bonds.

4. Liabilities

Regarding the value of the JNR Settlement Corporation's

remaining inventory, it can be estimated that (1) the land has a value of \$76 billion based on the posted price of April 1993, and (2) the share of the three Honshu JRs has a value of \$29 billion based on the market price of the JR East share as of August 1993. As a whole the inventory value of the Settlement Corporation is currently worth \$105, without considering the transaction and opportunity cost.

Reducing the debt burden inherited from JNR has proved difficult. When the JR group was organized in 1987 total long-term debt was \$337 billion. This included liabilities of \$232 billion assumed by the Settlement Corporation and liabilities of \$195 billion assumed by the newly established entities other than the Settlement Corporation, of which \$42 billion was assumed by the JRs themselves.

Through 1993 the JRs themselves effectively limited their investment within the amount of their internal fund resources (depreciation plus retained earnings) and refrained from aggressive external financing in order to reduce their liabilities. The effect has been a net reduction of their long-term debt of \$13 billion, excluding the newly assumed liabilities of \$9 billion for Shinkansens in 1991.

On the JNR Settlement Corporation's side, \$61 billion in original debt has been paid down from the pro-

ceeds of asset sales, but additional debt has been raised to cover interest payments on the existing debt. As a result, the net debt burden has actually increased by \$19 billion to \$225 billion, as can be seen in Table 5.5.

5. Overall Financial Performance of the JRs

The financial performance of the JRs as a group has been a success, as is illustrated in Table 5.6. The operating ratio of the group improved from a negative 27.7 percent in 1985 to a positive 18.9 percent in 1992 — a clear improvement, even if the bases of the two figures are not really comparable. Operating profits have correspondingly swung from

a negative \$8.3 billion in 1985 to a positive \$6.9 billion in 1992, although it should be borne in mind that, again, the bases of these two figures are not truly comparable.

It is significant that free cash flow from operations improved from \$12.6 billion in 1985 to \$2.3 billion in 1991. Net profit after interest, taxes, and extraordinary items has also improved from a negative \$16.8 billion in 1985 to a negative \$2.7 billion in 1991. It should be noted that the Ministry of Transport neither produces nor publicly announces the consolidated financial figures of the JR group as is shown in Table 5.7.

Some JRs have performed better than others. As Table

Table 5.5 - Japan: Trends in the Long-Term Liabilities of JRs, 1987-92

End of Fiscal Year	(US\$ billions)						
	Beginning of 1987	1987	1988	1989	1990	1991	1992
JNRSC	206	211	219	228	221	223	225
JRs	131	128	122	117	115	115	n.a.
JRs themselves	42	40	35	34	32	31	n.a.
Owed to SHC ¹ & JNRSC	78	78	76	74	74	74	n.a.
Owed to JRCPC	11	10	10	10	10	10	n.a.
TOTAL	337	339	341	345	336	337	N.A.

¹Shinkansen Holding Corporation was reorganized as the Railway Development Fund in October 1991.
Note: In this table, final debtors (payers) are shown; therefore, they are different from legal debtors.

Table 5.6 - Japan: Financial Status of JNR (FY 1982-86) and JRs (1987-91) Including JNRSC

	(US\$ millions)									
	JNR					JRs				
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Operating Revenue	26,812	26,915	28,206	30,095	31,062	32,117	34,554	35,907	38,588	40,140
(% change from preceding period)	(4.2)	(0.4)	(4.8)	(6.7)	(3.2)	(3.4)	(7.6)	(3.9)	(7.5)	(4.0)
Operating Expense	35,249	36,701	36,330	38,420	34,298	29,784	30,710	32,195	33,077	35,418
(Personal Expense)	(18,704)	(19,219)	(19,035)	(20,931)	(19,229)	(16,220)	(15,563)	(16,811)	(15,862)	(16,470)
Operating Profit	-8,436	-9,786	-8,125	-8,324	-3,237	2,334	3,844	3,712	5,511	4,722
CURRENT PROFIT	-19,470	-22,633	-22,065	-23,499	-17,915	-12,052	-11,891	-11,686	-9,495	-10,248
Extraordinary Profit	7,243	7,909	7,349	6,980	6,467	3,411	4,635	9,083	17,645	9,640
(Gains from Sale of Fixed Assets)	(643)	(1,510)	(1,392)	(1,404)	(2,927)	(1,207)	(1,850)	(2,265)	(7,373)	(7,065)
Extraordinary Loss	307	371	287	279	926	590	1,038	1,238	1,940	2,107
NET PROFIT (Seven JRs)	-12,525	-15,095	-15,004	-16,798	-12,373	-9,231	8,295	-3,925	6,211	-2,715
	-	-	-	-	-	(1,399)	(1,991)	(2,632)	(2,750)	(2,784)

Source: Ministry of Transportation.

5.7 suggests, the Honshu JRs show the best performance. The profits of JR East, JR Central, and JR West have increased steadily each year since the restructuring. None of the island JRs has as yet generated a profit from operations, and the yields generated from their Management Funds have begun to decline in recent years. The performance of JR Freight has been erratic. The company faces increased competition from truckers and is dependent on

third parties to re-market its services. Both its fundamental operating economics and its sales/distribution strategy will be tested over the next five years.

6. Service Quality

Customer survey results suggest that the perceived value created by the JR group for its customers has increased steadily since restructuring. Individually and collectively,

Table 5.7 - Japan: Revenue, Operating Profit, and Retained Earnings of JRs

		(billion yen, %)					
		FY87	FY88	FY89	FY90	FY91	FY92
JR Hokkaido	Revenue	92	94	100	105	106	105
	Profit	-54	-53	-53	-49	-48	-47
	(Ratio)	(-58.5)	(-56.7)	(-52.8)	(-46.7)	(-45.4)	(-44.4)
	Earnings	1	2	0	1	1	0
JR East	Revenue	1,566	1,664	1,736	1,852	1,950	1,981
	Profit	296	323	281	292	*355	*439
	(Ratio)	(18.9)	(19.4)	(16.2)	(15.8)	(18.2)	(22.2)
	Earnings	27	41	57	58	57	57
JR Central	Revenue	875	969	1,003	1,103	1,131	1,111
	Profit	72	102	114	133	*288	*405
	(Ratio)	(8.2)	(10.6)	(11.3)	(12.1)	(25.4)	(36.4)
	Earnings	17	35	67	53	56	33
JR West	Revenue	763	807	834	892	917	923
	Profit	71	79	91	122	*128	*144
	(Ratio)	(9.3)	(9.8)	(10.9)	(13.7)	(13.9)	(15.6)
	Earnings	2	5	26	30	36	32
JR Shikoku	Revenue	35	44	44	48	51	51
	Profit	-15	-11	-12	-9	-9	-11
	(Ratio)	(-42.4)	(-24.7)	(-26.4)	(-18.1)	(17.8)	(-21.5)
	Earnings	0	2	4	4	4	2
JR Kyushu	Revenue	130	140	144	151	160	167
	Profit	-29	-29	-29	-29	-28	-27
	(Ratio)	(-22.2)	(-20.4)	(-20.0)	(-19.0)	(-17.5)	(-16.4)
	Earnings	1	1	4	1	2	2
JR Freight	Revenue	173	183	192	205	215	216
	Profit	11	11	10	11	7	6
	(Ratio)	(6.5)	(5.8)	(5.1)	(5.5)	(3.1)	(2.6)
	Earnings	2	3	3	3	1	0

Notes:

- Operating Revenue: Revenue from railway business (fare revenue and other revenue) and side business, not including subsidies.
- Operating Expenditure: labor, energy, repair, miscellaneous expenses, taxes (not including corporate tax), and depreciation.
- (Ratio): Ratio of operating profit to operating revenue.
- Operating profit for JR East, JR Central, and JR West in 1991 and 1992 increased owing to the decrease in the Shinkansen lease payment.

the JRs have improved their service reputation through new developments. One such improvement has been due to increased frequency and speedups of trains. The mainland JRs' frequency of car operation (car km per route km) increased by 19 percent from 1987 to 1991. This increase is both a result and a cause of an increase in transport volume over the period. Service has also been upgraded through improved station facilities and the introduction of new types of passenger cars.

For example, JR East's investment effort has focused on improving transportation capacity and services in the Tokyo metropolitan area, including the introduction of double-deckers and increased numbers of trains with air conditioning. In northern Japan, JR Hokkaido has a new airport access line connecting Chitose Airport and Sapporo, competing with a previously overcrowded bus service. JR Shikoku has increased train speed through greater electrification and the introduction of tilting trains to deal with the region's rugged topography. JR Kyushu has responded to population growth and the resulting commuter demand in the Fukuoka metropolitan area with a 10 percent increase in number of stations and a 40 percent increase in train frequency between 1987 and 1992.

JR Freight has improved service quality through opening new routes, optimizing schedules to better meet customer demand, speeding up trains, and developing new transport systems, including new types of rail cars.

7. Beneficiaries of Reform

The greatest beneficiary of the JNR restructuring has been the government itself, especially as far as the net fiscal effect is concerned. Before restructuring, the government passed subsidies of \$5.5 billion to JNR. Following restructuring, these subsidies have declined sharply (to \$1.0 billion in 1991). However, the restructured JRs are taxpayers and the net effect of taxes plus remaining subsidies is a significant net funds flow into the government. In 1991 that net positive flow to the government was \$3.0 billion. Table 5.8 shows the fiscal effects of JNR restructuring.

PART IV: LESSONS LEARNED

Several key lessons that emerged from the JNR restructuring experience may have relevance for rail reform in other countries. These potentially transferable lessons include the following:

- *Strong political support is essential to successful restructuring.* In the case of JNR, first Prime Minister Suzuki and then Prime Minister Nakasone resolutely supported railway privatization as an essential element of their overall government reform package. In the face of potential dis-

Table 5.8 - Japan: Fiscal Effects of JNR Restructuring

(US\$ millions)

	Taxes and		
	Contributions	Subsidies	Balance
FY82	320	6,631	-6,311
FY83	348	6,380	-6,032
FY84	421	5,885	-5,465
FY85	435	5,455	-5,021
FY86	455	3,433	-2,977
FY87	2,006	1,761	245
FY88	2,234	1,918	315
FY89	2,092	5,755	-3,664
FY90	2,722	1,428	1,294
FY91	4,039	984	3,055

Note: For taxes, contributions, and subsidies following the privatization of JNR, the figures represent a total of those from the individual JRs, JNRSC, the Shinkansen Holding Corporation, and the Railways Maintenance Fund.

sension within their own parties they continued to stand firmly behind the recommendations made by the two outside expert panels, the Provisional and Supervisory Committees. During the period the LDP continued to maintain a stable majority and was able to pass the legislation.

- *Practical reorganization plans are better developed by experts isolated from political pressure.* Much of the formulation and analysis of the financial viability of the restructuring plan was completed by experts with no vested interest in the outcome. Expert and impartial guidance was essential to process credibility. The two blue ribbon planning groups at the center of the privatization process were made up of industrialists and academics with impeccable reputations and practical business acumen who could address the restructuring issues with a unique authority.

- *For a railway in JNR's condition, restructuring logically preceded privatization.* In view of JNR's deteriorated financial condition, it was impractical to consider selling the railway "as is." The value inherent in JNR's assets could only be realized by turning the business around before selling it and resolving a number of difficult and highly political issues while the railway was still under public sector control.

- *It is important to separate out and to deal with short-term problems first before long-term problems are dealt with.* The first priority was to stop the fiscal drain caused by JNR. The second was to address each of the railway's other major problems — redundant work force, large debt, antagonistic labor relations — in turn.

- *Restructuring the operation into market-focused operat-*

ing components proved helpful to the process. JNR was restructured into several smaller railway companies, each focused on specific regional passenger markets or, in the case of JR Freight, on a specific line of business. Only 5 percent of all passenger trips involved more than one of the newly structured companies. These organizations were small enough to respond to local needs, and, as an added advantage, they were headquartered in the markets that they were intended to serve.

- *It is important to set management incentives early in the process.* The signals given to JNR's management were unambiguous. Each new JR was structured to operate for a profit, and profit maximization was the principal motivation of the new management.

- *The surplus work force should be compensated and/or reabsorbed.* Every effort was made to compensate fairly and to re-employ surplus workers. The private sector assisted materially in placing surplus employees who were interested in resuming work.

- *The economic viability of each restructured component should be reinforced.* Each of the emerging JR units assumed a level of debt commensurate with its ability to cover its assigned burden. For the three island JRs, in lieu of debt an endowment was provided that was sufficient to assure

autonomous, profitable performance. From the beginning, the restructuring blueprint assumed that debt in excess of liquidated assets would become the general obligation of the government.

- *The commitment of the management team is essential to the transition.* JNR's management as well as its work force was reorganized. The new management team was committed to the success of the reorganization plan.

- *It is useful to set limits to the cross-subsidies involved in restructuring.* Initially, a leasing company was created that would own and lease back to the JRs the Shinkansen lines. The Shinkansen Holding Corporation was designed to equalize the economic impact of leaseholds among the JRs and to blend the costs of newly built lines and older lines. Shinkansen's assets were sold to the JRs that operated them on the basis of their market value. Before this simpler approach was adopted, management time and resources had been taken up in determining appropriate equities.

- *The original privatization plan should be carried through to final execution.* Most of the government's original objectives had been attained for the JRs even before ownership had passed into private hands. However, the process is continuing to move toward its original objective of full privatization. ■

APPENDIX I

FUNDING AND SUBSIDIES FOR LIGHT DENSITY LINES

The Special Act for the Promotion of JNR Reconstruction of 1980 recommended that unprofitable local lines be phased out through measures such as conversion to bus services. Since then, 83 lines (total route length of about 3,160 km) were selected to be phased out. Of these, 45 lines have been abolished and transformed into bus services. The remaining 38 lines (total route length of about 1,310 km) are operated by 31 newly established PPPs and 2 local private railway companies. In addition to the 31 PPPs that took over the existing low density lines, 6 PPPs were established to operate 15 new local low density lines whose construction had been put on hold during the JNR years and then restarted, with the provision that a railway company other than the JRs would operate the lines.

The equity share of local governments (prefecture and municipality governments) in PPPs is not predetermined by any regulation. However, in most cases it exceeds 50 percent. Other investors include interested private companies, various organizations, and individuals. The following grant and subsidy programs are available to PPPs:

- Infrastructure assets are either transferred or leased to these PPPs at no cost.
- Local and central government together provide a transfer subsidy (“dowry”) to the PPPs to compensate for the unprofitable assets, with a maximum

amount of 30 million yen per operating km for the existing 38 lines and a maximum amount of 10 million yen per operating km for the 15 new lines.

- During the initial five years of operation, local and central government subsidized half of the current losses from the railway.
- Car purchase and rail track improvement are funded from an “endowment.” Surplus current income from the “endowment” supplements contributions from local governments and other investors in support of PPPs. These “endowments” are similar to the Management Stabilizing Fund set up for the three small island JRs.

A 1994 study conducted by Mr. Nishida, Director of the Management Research Center, Transportation Research Bureau, has shown that the operating ratio of the PPPs varied from 90 to 250 percent, with 82 percent of the PPPs having a ratio ranging from 90 to 140 percent, whereas 62 percent of the small private railway companies have a ratio ranging from 90 to 120 percent. The study indicates that although, in general, the performance of most PPPs was not as good as that of the equivalent small private railway companies, the performance of the PPPs has improved since their establishment, owing mainly to the reduction in labor costs. ■

CHAPTER SIX

NEW ZEALAND RAILWAYS CASE STUDY¹

SUMMARY

1. Introduction

In July 1993 New Zealand Rail Limited was sold, as a single unit, to a consortium of New Zealand and foreign investors. This sale represented the culmination of a process, begun in 1982, that was designed to reform the national railway system.

Prior to 1982 the railway system was operated as a government department, subject to direct control by the government of the day. The Railways Department was used to achieve both commercial and social objectives, with social objectives often overriding the commercial goals. The railway system's operations were protected from competition by regulations that limited the operations of trucking companies.

By the late 1970s the Railways Department displayed the typical characteristics of a monopoly government-funded enterprise without economic performance incentives. It was: (1) unprofitable; (2) very inefficient, with a huge labor force relative to output; (3) production focused rather than customer focused; (4) relatively lacking in commercial management skills; and (5) ill prepared to meet potential competition. At the same time, pressure was growing to reform the freight transport industry by allowing trucking companies greater access to the long haul market.

In response to these pressures the government decided to *refocus the rail transport operation on the basis of commercial criteria*. To facilitate this process the government established the railway system as a state-owned corporation in 1982.

New Zealand Rail remains the country's largest surface transport company. Its principal business is the transport of freight. The company operates a comprehensive rail network over the two main islands comprising New Zealand. New Zealand Rail also owns and operates three roll-on/roll-off interisland ships, which provide the critical link between the two island networks. The total rail system comprises 4,000 kilometers of track.

The railway also operates a complementary intercity rail

passenger service that uses spare capacity on the freight rail network. The ferries provide passenger services and transport for passenger vehicles as well as for commercial road vehicles.

Currently, New Zealand Rail carries about 10 million tons, or 2.8 billion net ton kilometers (ntk), of freight a year. This represents a 20 percent share of the inter-regional freight market. The passenger group carries 10.5 million rail passengers and 1 million ferry passengers. New Zealand Rail has a fleet of about 7,500 rail cars, 200 locomotives, and 3 roll-on/roll-off ferries. The system employs a staff of about 4,500. The company's total revenue is NZ\$500 million per year.

2. Lessons Learned from the Experience

The reform and restructuring of the New Zealand railway system proceeded in multiple, well-managed steps to final conveyance. In the final step a relatively efficient and financially viable going concern was sold in a competitive process to private sector bidders. The lessons to be learned from the New Zealand experience are those of continuing commitment over an 11-year period to step-by-step restructuring activities that, when completed, made final privatization relatively easy. At each step, the government's fiscal burden was reduced and the competitive position of rail in relation to other modes of transport improved.

The successful reorganization of the railway system involved a progressive loosening of government control over pricing, wages, labor relations, and capital expenditures, and a simultaneous increase in financial self-sufficiency involving a progressive hardening of budget constraints and, subsequently, development of a self-standing capital structure.

Although the reforms passed through a number of discrete phases (each distinguished by a *different, increasingly self-sufficient legal structure and a progressively more market-oriented organizational structure*), a strong management team made possible a steady quarter over quarter improvement in profit performance. At the completion of the restructuring process, sufficient improvement in market share and profit performance had been documented *so that offers from fully qualified railway operators reflected the high value that the private sector placed on the successful restructuring effort*.

¹The principal author of this case study is Murray King, Executive Manager, Planning and Resources, New Zealand Rail.

3. The Case Study

This case study, which is organized into four parts, details the process whereby New Zealand's rail system was transformed from a government department into a privately owned commercial enterprise.

Part I describes the state and structure of the railway operation prior to the beginning of the reform process in 1982. In other words, it describes the baseline conditions that the reform process was designed to alter. Part II details the reform process and discusses the rationale for the reform strategy that was adopted. In Part III, the impact of the reforms on the company is analyzed. Part III also provides a financial analysis of the company's viability before and after the reforms began. Part IV draws out the lessons learned from the reform process.

PART I: BASELINE CONDITIONS

1. The Market and Competition

New Zealand has had a national railway organization, in various forms, since the 1870s. From its inception, rail transportation in New Zealand has been subject to some degree of competition. In its early days rail transportation competed with coastal shipping and horse-drawn vehicles in both passenger and freight markets. The relatively high capital costs of rail gave other, smaller-scale, operations some advantage in New Zealand's relatively light-density transport markets. However, the introduction of the motor vehicle presented the most significant threat in both passenger and freight markets and by the 1920s notable declines in train traffic began to occur.

By the mid-1930s the government had passed legislation to regulate what was considered a serious oversupply of transport services in the country; this legislation severely restricted long distance road transportation. The primary freight restriction was a 30 mile limit for road services. Further, the operation of a transport service required a license for which criteria such as financial viability and public interest considerations had to be met. These regulatory changes effectively restored the rail monopoly on inland long distance freight traffic. In 1961 the primary freight restriction was eased to 40 miles and in 1977 to 150 kilometers. In 1983 the government removed all distance limitations on road transport, providing a challenging competitive environment for railways.

The Transport Licensing Act 1931 introduced licensing requirements for passenger services, with criteria similar to those that applied to freight transport. This qualitative licensing regime initially restricted the degree of competition in the passenger market. In addition to long distance passenger services, railways provided suburban passenger

services in five centers (reduced to two centers in the last 30 years). These latter services have always faced healthy levels of competition from buses and private automobiles. Losses incurred in these services were funded by central government subsidy. As government control over passenger transportation liberalized, rail share of the long-haul market diminished. Figure 6.1 shows shifts in market share over the period 1960-93.

The railway itself diversified into other modes of transport. In 1962, after the withdrawal of a non-rail-owned shipping service across the Cook Strait, the railways introduced their own roll-on/roll-off ferry. Four more ferries have since been added to the fleet (and two have been retired), in response to the large increases in interisland traffic. Since that time several new maritime services have challenged rail dominance, including coastal freight services such as the former Wellington to Lyttelton ferry service and Pacifica Shipping, as well as an array of passenger air and ferry services.

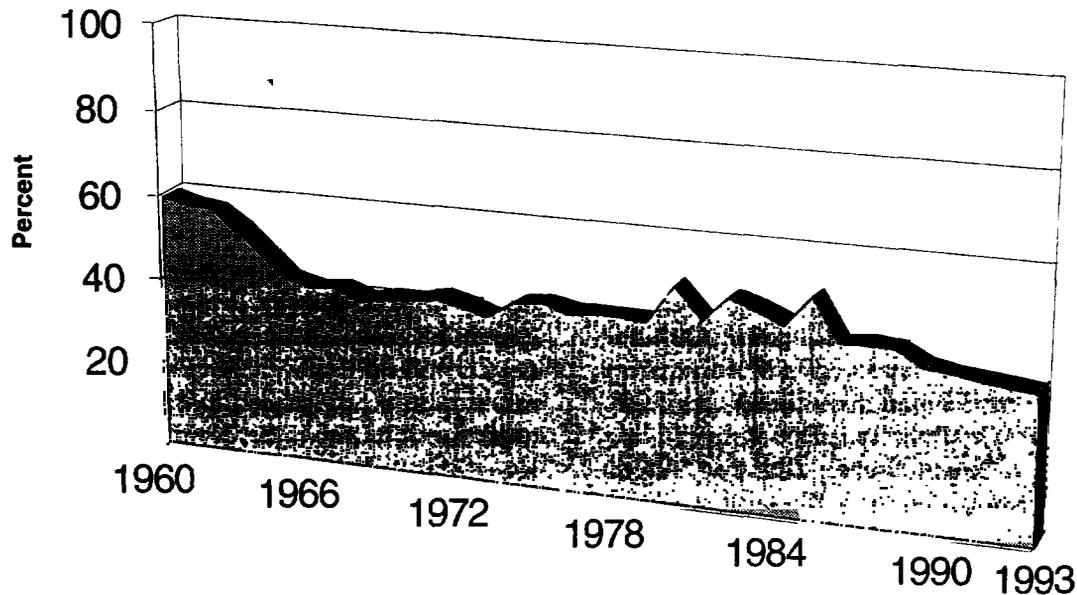
2. Objectives of the Business Prior to Privatization

The degree of legislative protection afforded to railways allowed them to pursue non-commercial objectives. Prior to 1982 the railways were in the main organized in the form of a government department, with the Minister of Railways responsible for all aspects of performance. In practice this meant that the railways could be used as an instrument of macroeconomic policy. In the area of maintaining full employment, this was evidenced by periods of changing staff levels without consonant changes in output. Inflation was countered by the freezing of freight rates or passenger prices; for example, between 1971 and 1976 both the National and Labour Governments expressly froze rail rates in order to stabilize the economy. In addition, uneconomical regional services could be retained if there was strong enough political pressure. Since the corporatization of railways in 1982, the direct influence of government has been progressively reduced, although the scrutiny of select committees and the vulnerability to public pressure continued, at least up to privatization.

3. Business Organization

Prior to 1982 the business of railways was basically controlled by the government. Historically the government controlled rail operations through different organizational structures, including railway commissioners and boards of directors. However, the underlying issue was whether management would be allowed to independently operate the railways as a commercial proposition, or whether the railways would operate with a mix of commercial and politi-

Figure 6.1 - New Zealand: Rail Share of the Long-Haul Market, 1960-93



Note: Market share data include domestic air and shipping freight but exclude road freight.
Sources: New Zealand Official Year Books (various years); New Zealand Annual Reports.

cal/social objectives. While the balance between the two approaches shifted back and forth over the years, ultimate responsibility always rested with the Minister who was accountable to Parliament. Within the railway organization itself there were branches that dealt with the main aspects of railway management — civil and mechanical engineering, traffic, road services — with smaller branches for commercial/marketing, finance, stores, and publicity. Since corporatization, there have been several structural changes — all emphasizing the commercial focus of the organization.

4. Role of Government

From the early years of its development, the railway has been a vital part not only of the government's transport system but ultimately of its national development strategy. Moreover, the government could balance transport objectives against external objectives that, from time to time, it considered more important. The government's overriding goal, for most of this period, has been to ensure that a railway system exists in combination with a national road network to meet the changing transport needs of the community at large. Prior to 1982, through its ownership of

the railway system, the government controlled the extent of the system's investment/divestment in assets (infrastructure, locomotives, rail cars, etc.) and had full control of the funding mechanism.

Another part of the government's planning role is to be a regulator of the transport industry. To that extent it could be said that the government has previously been both player and referee in the transport game.

As the railways were being developed, it became necessary to resort to the public purse to fund capital works. This meant in effect that either tax revenue or public debt was used to finance the early developmental stages of the railways. Thereafter, financial controls stipulated a return on the capital invested. In the years when revenue proved inadequate to pay the interest on debt there was recourse to the Consolidated Fund. After 1925, when railway accounts were separated, shortfalls were met from general government funds. The rationale for this practice was that deficits occurred because some unprofitable lines continued to be operated and some non-commercial rates continued to be charged for social/political reasons. Hence, deficits should be paid by the collective beneficiaries (the taxpayers) rather than by the direct users.

5. Description of the Network

Initially, the development of railways was under the control of the provincial governments. Provincial requirements and policies toward railway management varied from province to province. In 1870 a Parliamentary Select Committee established a 3 foot 6 inch gauge standard; conversions to this gauge were made where necessary when provincial control was taken over by central government, as it was during the remainder of the nineteenth century. While this gauge was considered sufficient for the level of traffic envisaged at the time, over the years it limited commercial capacity.

In the first decade of the twentieth century a substantial degree of construction resulted in a 1,770 kilometer rail network. By 1920 this figure had risen to 4,830 kilometers and in 1954 the historical peak of 5,641 kilometers was reached. In the following three decades low traffic density levels brought about the gradual closure of a significant number of branch lines. By 1982, 4,397 kilometers of route remained, with 70 to 75 percent of the network being constructed with rail weights of 85 pounds and above. The signaling systems that predominated at this time were a combination of Centralized Train Control (CTC), single and double line automatic, and Tablet systems. Figure 6.2 is a map of the current railway network in New Zealand.

6. Employment, Unionization, and Technology Development

Employment conditions in the early years of railway development were particularly harsh in terms of both injury risk and hours worked. The advent of the Liberal Government in the 1890s and the development of the early rail unions brought about improvements in wage rates and conditions (for example, the standard work week was reduced to 48 hours from 54 to 60 hours). By 1940 railways employed some 25,000 workers (see Table 6.1), a significant part of the country's work force at that time. In New Zealand, unionization of the work force has been a standard feature of railways and most other enterprises of this size.

The 3 foot 6 inch gauge and lighter rail weights were the biggest limitations on locomotive power and speed in the early years. As railways assumed a more prominent role in the country's development, rail weights were increased, especially on key routes, to permit greater traffic density. In the 1930s a new class of locomotive, 50 percent more powerful than the previous standard mainline locomotive, was introduced. The network's productivity was further improved by the introduction of the CTC signaling system in some sections and the electrification of some routes, including mainly passenger routes such as the Wellington re-

gion. In the 1950s diesel-electric locomotives were introduced, which had the immediate effect of reducing operating costs significantly and at the same time increasing haulage capacity. The greater efficiency of these locomotives led to the speedy retirement of steam-powered locomotives. Similarly, the introduction of articulated rail cars did much to improve the performance of passenger carriage at a time when competition was becoming troublesome. In more recent times the building of bogie cars has improved the productivity of the rail car fleet as the bogie cars have superior load to tare ratios and speed capability.

The productivity of railway workers over the years is more difficult to establish, as it is a function of various intangible factors such as training expertise and general morale. Productivity has, however, been constrained from time to time by political pressure to keep unemployment under control by increasing railway staff. A composite index of workload for the period 1973-83 showed a drop of 15 percent with a drop of only 3 percent in staff numbers.

7. Performance, 1980-83

The process of corporatization had as a main aim improving the commercial viability of the organization (namely, making the organization self-supporting and profitable). To this end, significant advances in productivity and efficiency were required — especially since competition in the industry was considerably increased with the removal of distance limits on truck operators at the time of corporatization. Traffic levels in 1980-82 were steady at around 3.2 billion ton km. After corporatization, traffic diminished as competitors made significant inroads into the rail market base. The 1980-82 traffic levels were attained with a total staff of about 22,000. This staff number was reduced dramatically after corporatization and labor productivity improved correspondingly. Virtually all staff were unionized during this period. The percentage of unionized staff was not greatly affected by the reform process. Labor legislation supported strong labor unions in New Zealand until the Employment Contracts Act was passed in 1991. Overall, the unions played a constructive role in the restructuring process, allowing changes to occur without major industrial action.

During the period 1980-83, rolling stock declined from 28,112 to 25,754 and diesel-electric and electric locomotives remained unchanged at about 440. The profitability of the company during this period was poor, with operating losses ranging between NZ\$50 million and NZ\$60 million per year. Since the reform process began, steady progress has been made in improving financial performance, despite greater competition.

Table 6.1 - New Zealand: Railway Staff, Rolling Stock, and Tonnage, 1893-1990

	Staff	Locomotives	Rail Cars	Tons (000)
1893	4,462	269	8,357	2,258
1900	7,236	304	10,295	3,252
1910	12,224	465	17,220	5,490
1920	13,385	616	22,493	6,000
1930	19,410	657	26,909	7,788
1940	25,710	627	30,008	7,673
1950	26,780	652	34,326	9,948
1960	25,519	722	33,825	10,543
1970	21,082	508	—	11,593
1980	21,608	521	26,899	11,520
1990	8,418	322	11,479	8,451

PART II: CORPORATIZATION AND REFORM OF NEW ZEALAND RAIL

1. Overview

The privatization process for New Zealand Rail began in 1982 when the operations of the former Railways Department were reorganized into a state-owned corporation. This transformation was in response to growing concerns about the transport industry's ability to provide efficient services for New Zealand industry. Corporatization of the Railways Department marked a significant first step in the government's overall strategy to reform the transport industry. Corporatization was followed over the next 11 years for internal restructuring and for a step-by-step structural reform of rail activities. Eventually this reform led to the sale of New Zealand Rail to strategic investors in an open, competitive process.

2. Origins of Reform

The need for reform of the transport industry was pointed out at a much earlier date by the National Development Conference — a government sponsored group charged with advising the government on long-term economic development issues. In 1969 the Conference's Sector Committee on Transport made the following recommendations for transport policy reform:

- Economic efficiency should be promoted, as well as the minimization of economic costs, by each mode carrying the traffic to which it is best suited.
- Each transport agency should bear its fair share of the real costs of resources provided at the public's expense, and, conversely, each transport agency should receive credit for the national, social, or development purposes it services.

- Impartial regulatory policies should exist, so that unfair advantages are not conferred on any one transport agency or transport user.
- There should be a review of transport legislation with the intent of assuring that users have an unrestricted right to select their preferred transport mode.
- There should be continuing review of regulatory policy to ensure that it is appropriate to the economic and social conditions of the day.

In 1971 the government commissioned a transport policy study to be undertaken by the U.S. consultants Wilbur Smith and Associates. In 1974 Wilbur Smith reported back with the following recommendations:

- The financial viability of government transport agencies should be secondary to transport efficiency and service.
- The road transport industry should be delicensed and limits on the industry's size should be removed.
- The 40 mile (64 kilometer) protection limit should be phased out in keeping with adjustments to rail and road infrastructure.
- There should be specific taxation on transport to raise revenue, rather than general taxation such as sales taxes on trucks. Specific taxation should be introduced in the form of long distance fees based on long-run marginal cost pricing and should reflect the disbenefits of long distance road transport, the marginal resource costs of the facilities and services used, the social costs inflicted, including accidents, pollution, and the loss of utility caused by heavy vehicles.

The report also noted that rail was better suited to long distance and bulk commodity transport, and that short dis-

tance transport and small lots would shift to road. Cargoes that, on economic grounds, should be divested, were estimated at about a quarter of rail's tonnage.

The resulting government discussion paper, "A New Direction for New Zealand Transport," was presented to Parliament in 1974. It incorporated Wilbur Smith's belief in the viability of user choice and market forces. It expressed discomfort with government controls over transport generally. The paper defined two transport sectors: the competitive sector and the public sector (which included services not able to withstand the competition of market forces but that were viewed as desirable or in the public interest). The paper also proposed the formation of a Railways Corporation.

On the whole, the principles contained in this "Green Paper" were adopted in transport policy throughout the 1980s. The paper marked the beginning of a long process in which the Railways Department emerged from a protected environment characterized by restrictive licensing and serious obstacles to entry, and became a government corporation making its way in a deregulated transport market.

3. Corporatization of New Zealand Rail

The New Zealand Railways Corporation Act 1981 converted the Railways Department into a Crown-owned statutory corporation. The new corporation was given clear commercial objectives and the opportunity to compete in a new transport industry which was being deregulated at the same time.

Ministerial involvement in managing the business was reduced, and monitoring and control of the corporation were largely transferred to a board of directors and the chief executive officer. The Minister of Railways retained the power to give directions on passenger services, to approve the sale of land and the cessation or setting up of operations, and to approve various financial transactions. The corporation was free to fix rates and fares. Ministerial involvement in operational issues was minimal. The board was able to spend money without Treasury approval, and could borrow on its own account. The Railways Corporation Act also provided for contributions from local authorities toward the cost of providing urban transport social services.

Although reform of the railways commenced in 1982 with the New Zealand Railways Corporation Act 1981, the subsequent restructuring of the railway system was significantly influenced by changes in the government's general industry policy. These changes, which commenced in the mid-1980s, applied to all government departments. In general, all reforms were directed to improving the effective-

ness, efficiency, and accountability for expenditures of government departments. Those providing commercial services were increasingly challenged by private competitors. Political interference was increasingly regarded as a contributing factor in poor decisionmaking. A tendency persisted to encourage state trading departments to pursue social goals that these departments were not suited to achieve.

This government reform involved transforming the structure of the state trading enterprises from a government department structure to a corporate one. The new trading enterprises were established under the State Owned Enterprises Act 1986. This legislation required that new state-owned enterprises (SOEs) be established under the Companies Act in the same manner as any other company. They were thus required to operate as profitable businesses. The 1986 Act changed the focus of most state trading operations, by ensuring that the prime objectives of the new companies were commercial rather than a contradictory mix of commercial and social objectives. The social objectives that had previously been set for state trading operations were either transferred to other government agencies, or else the SOE itself was paid by the government on a commercial basis to carry out these functions.

The corporations purchased their assets from the Crown at negotiated prices and were required to produce commercial rates of return. This was consonant with the view that SOEs should not enjoy a competitive edge over other organizations operating in similar fields. Boards of directors were established, comprising professionals and sector experts. Subject to accountability safeguards, each board was left to govern its own affairs in operating the business. Managers were given full freedom over decisions on inputs, pricing, and marketing, while the government retained ownership, as the sole shareholder, and also retained ultimate control by being entitled to modify the Statements of Corporate Intent and by setting the expected rates of return on investment.

One area in which problems arose concerned land that was surplus to the commercial requirements of the SOEs. Surplus land was potentially subject to a claim under the Treaty of Waitangi Act 1975 (see Appendix 2 to this chapter), which provided a forum for grievance cases against the Crown by the indigenous Maori people. Surplus land could not be conveyed to a new SOE until conflicting claims had been dealt with by the appropriate court.

The "land issue," which had the potential to delay the commercialization program indefinitely, was resolved with the enactment of the Treaty of Waitangi (State Owned Enterprises) Act in 1988, which established a system of safeguards to allow the transfer of assets to SOEs without pro-

tracted delay because of land claims. The Act provided for the return of surplus land to the Crown after it had been transferred to an SOE.

In 1986 New Zealand Railways Corporation (NZRC) became subject to the monitoring provisions of the State Owned Enterprises Act. However the New Zealand Railways Corporation Act still pertained to all other aspects of corporate affairs.

Corporatization was followed by deregulation (see Appendix 1 to this chapter for further discussion). Deregulation put SOEs into a competitively neutral environment so that they no longer enjoyed special government support or advantages. For example, Crown immunity from prosecution under the Commerce Act 1986 for anti-competitive behavior and the Fair Trading Act 1986 for unfair trade practices was removed in sectors in which the Crown “engages in trade.” In addition, a number of other disciplines have been placed on SOE behavior to ensure that the pursuit of profitability objectives does not exclude consumer satisfaction, particularly when the corporation is a monopoly. An example of such a discipline is the realistic valuation of the assets transferred to SOEs together with reasonable rates of return to the government.

While SOEs were accountable to their owners, the Minister of State Owned Enterprises and the Minister of Finance, the ministers and Parliament were ultimately accountable to the public. Both the Official Information Act 1982 and the Ombudsmen Act 1975 apply to SOEs and other government agencies, although not to their private sector counterparts.

The Official Information Act 1982 provides access to “official” information — that is, information held by government agencies — to the extent that the provision of this information is consistent with the public interest and with personal privacy. The Ombudsmen Act 1975 established a public watchdog office to investigate actions and omissions by government agencies. The commercialization of government entities presented an issue in terms of the need to protect sensitive information in the same ways in which confidentiality is protected in private commerce.

However, as the committee proposing the legislative reform for official information in 1980 had commented, given the combination of commercial, social, and economic objectives, it would be impossible to devise a comprehensive rule for disclosure in the case of railways and cases would have to be judged on their individual merits. The mechanism proposed was a balancing test between private and public interests.

Official information may be withheld if disclosure would divulge a trade secret, would prejudice a commercial position, or would prejudice commercial activities or put them

at a disadvantage, *unless* these considerations are outweighed by the public interest. With hindsight, the comments by the reform committee and the choice of a balancing test proved astute, given the government reform that was to follow, including railways reform. After the Railways Department became a corporation in 1982 and its political and social objectives were removed, there were fewer reasons to support disclosure of information in the public interest and the balancing test provided the requisite flexibility. Nevertheless, unlike other private transport operators, the railways continued to be subject to scrutiny by competitors, the media, the public — and the Ombudsman, until full privatization in 1993.

4. Financial Restructuring

At the beginning of 1990 the government agreed to take over NZRC’s debt to the extent of NZ\$1.1 billion, comprising accumulated losses from earlier political pressures to maintain high staff levels, electrification of the North Island Main Trunk (NIMT), redundancy costs, and other post-1982 transition costs. The New Zealand Railways Corporation Restructuring Act 1990 provided for the restructuring of the corporation’s balance sheet, either through the sale of surplus assets or through the vesting of assets and liabilities in a limited liability company owned by the Crown.

The Railways Corporation was restructured into two separate entities, New Zealand Rail Limited (NZRL) and the Railways Corporation (NZRC), which had a new mandate. NZRL, the Crown-owned company, operated the core freight, rail, passenger, and interisland ferry services, while surplus assets remained with the Railways Corporation to be sold. For a variety of reasons, including potential claims under the Treaty of Waitangi Act, the Railways Corporation retained land ownership, with NZRL leasing land needed for its operations from the corporation.

The New Zealand Railways Corporation Restructuring Act 1990 and the New Zealand Rail Limited Vesting Order 1990 established the rail business as a company under the Companies Act 1955. The Minister of the Crown held all the shares in the new company. As a result of the act, the rail business could be privatized without the need for further legislation.

After enactment of the New Zealand Railways Corporation Restructuring Act, steps were taken to establish the new operating company and to separate the assets and liabilities of the old corporation. The key issues involved creating a company based on the standard SOE articles of association; dealing with industrial relations issues and with the transfer of staff to a new organization; establishing a new balance sheet and asset/liability register; transferring

external and other contracts with minimum disruption to customers; and negotiating and preparing the leasing of core land and the vesting of core railway business.

5. Restructuring the Organization

Figure 6.3 summarizes multiple structural changes that have taken place since 1982. The reorganization of New Zealand Rail proceeded incrementally through the restructuring

phases with each phase distinguished by a different legal standing and enterprise status.

The major changes to New Zealand Rail's corporate constitution involved the transformation from a government department, New Zealand Rail (NZR), to a state-owned corporation, New Zealand Railways Corporation (NZRC), in 1982, to a state-owned limited liability company, New Zealand Rail Limited (NZRL), in 1990, and

Figure 6.3 - New Zealand: Rail Restructuring - from 1982

Government Department	Corporation	New Zealand Rail Ltd.	Private Ownership
Control Structure <i>Strong political focus</i> <i>Social and economic role</i> <i>Ministerial control</i>	Reduced political focus and control <i>Crown Corporation</i> <ul style="list-style-type: none"> • Not limited liability • Quasi-private sector orientation 	Limited liability company Commercial directors No overt political control <i>But</i> <ul style="list-style-type: none"> • Subject to SOE Act accountability • Subject to intense monitoring • Not able to fully emulate private sector 	Accountable to private sector shareholder Limited liability company not subject to political control Governed by normal commercial ethos Subject to standard legislation, e.g., Companies Act, Commerce Act, Fair Trading Act, Resource Management Act
Competitive Environment and Industry Position <i>Protection from competition</i> <ul style="list-style-type: none"> • Licensing regulations and 150 km limit 	<i>Transport deregulation</i> <ul style="list-style-type: none"> • 3 year phaseout of 150 km limits 	Deregulated competitive transport industry Fully contestable marketplace	n.a.
Organizational Structure <i>Functionally organized, e.g.:</i> <ul style="list-style-type: none"> • Operations • Engineering • Sales 	<i>Organized by business group</i> <ul style="list-style-type: none"> • Freight • Passenger including road • Property • Interisland 	Rail freight (including ferry) with complementary passenger businesses (rail, ferry), and ferry commercial vehicles	n.a.
Management Focus <i>Operational and technical</i> <ul style="list-style-type: none"> • Engineering excellence 	<i>Restructuring</i> <ul style="list-style-type: none"> • Operational efficiency • Cost cutting 	<i>Commercial</i> <ul style="list-style-type: none"> • Customer orientation • Market emphasis • Cost containment 	<i>Full commercial mandate</i>

finally to a privately owned company in 1993. Each stage entailed different organizational objectives and strategies.

- As a government department, New Zealand Rail had a mandate to provide an effective transportation service while supporting the social and economic priorities of the administration of the day. The Crown was liable for all obligations incurred by the department and had corresponding freedom to direct the day-to-day decision making of the operation. Although the general policy was for New Zealand Rail to operate on a commercial basis, exceptions were frequently made “in the public’s interest,” for example, to combat unemployment and to provide non-commercial services to outlying areas. New Zealand Rail therefore tended to focus on technical and operational excellence on the one hand, and on the satisfaction of political and social needs on the other, while exercising reasonable (rather than rigorous) budget control.
- NZRC was given a more explicitly commercial mandate that required the company to earn revenues in excess of costs, including interest expense. A board of directors composed largely of people with private sector experience was established to act as agent for the government in commercializing the business. The government served as guarantor of the company’s obligations but was removed from the control of day-to-day operations. The focus of the business was primarily to become a viable commercial entity in the face of the removal of regulations and taxes that had restricted the scope and competitiveness of the trucking industry.
- NZRL was established to take over the core railway business, operating as a limited liability company (without the financial guarantee of the Crown). The aim of the enterprise was more explicitly to prepare for privatization, which meant that emphasis on achieving an acceptable return on funds employed increased. The board, as agents of the Crown, were inherently conservative; the strategic priority was to reduce costs rather than to expand the business.
- NZRL continues to be a limited liability company, now under private ownership. The objective now is to prepare the company for a public float, and increasing emphasis is being placed on enhancing value through the recapture of market share.

The evolution of strategic priorities was not simply the result of changing corporate structure; changes in the business environment and the cost reductions achieved under

earlier structures also played a significant role. But progressive separation from Crown control has helped to abate traditional risk aversion and to precipitate greater management initiative.

The corporatization of New Zealand Rail involved remolding the following four dimensions of the business:

- Operations
- Corporate and organizational structure
- Employment
- Financial structure.

It also involved reducing the scope of operations -- separating the core rail business from ancillary road passenger, parcel, and property development services. The core business, set up as a limited liability company in 1990, included rail freight, urban rail passenger services in Wellington and Auckland, intercity rail services, interisland ferries, and the necessary corporate support functions. Ownership of land remained with the Crown, with surplus property targeted for disposal, and land required for rail operations leased to the core business on a long-term basis at a nominal charge.

At the commencement of the restructuring, New Zealand Rail lacked the skills in “change management” and business needed to ensure a successful outcome. In recognition of this, the board and management turned to consultants. Booz Allen and Hamilton was contracted to review the operations and strategic options available to the new corporation.

The consultants’ report identified a number of opportunities to significantly improve profitability. In the operations area, these included:

- Increasing train sizes
- Eliminating guard vans
- Rationalizing marshaling yard crews
- Closing low traffic branch lines
- Improving the rolling stock, including replacing four-wheel rail cars with bogie cars and increasing the draw gear capacity
- Moving to fewer crew members on trains
- Reducing the number of freight centers
- Increasing locomotive power to enable longer trains to be hauled.

Over the course of corporatization and privatization, the organizational structure of the company is in an almost perpetual state of flux. The key drivers of these changes have been the need to improve productivity and the desire to increase responsiveness to the demands of the market. Given the scale of the downsizing task, the

rationalization of facilities and labor has been particularly important.

As a department, the Rail's organizational structure was strongly hierarchical, with costs and revenues offset only at the general manager level. An example of the extent of the bureaucracy can be seen in the 1,270 pay codes and 500 allowance codes in the salary administration system. At the end of its last year as a department, Rail had 21,608 employees compared with fewer than 5,000 today. Figure 6.4 shows the organizational structure at that time.

The Booz Allen and Hamilton report described this structure as a portfolio approach, oriented toward the production side of the rail business. This structure focused on the provision of a single product, rail transportation, and failed to reflect the real situation — that the rail business operated in a number of distinct markets.

After corporatization, the functional structure was abandoned in favor of business groups, namely, Freight, Passenger, Property, and Communications. Initially served by common administrative functions, these groups gradually became largely autonomous by managing their own finances, industrial relations, and information systems. In November 1988 this structure was disaggregated to focus attention more keenly on the bottom line of each function (as is shown in Figure 6.5), with all groups except Information Services and Railnet (responsible for track and signals) operating as profit centers.

These business groups were created with clear business and repositioning objectives in view, for which their managers were fully accountable. A transfer pricing system was devised to identify the "contribution" of each function, with each group pricing internally on a "steady state" basis and

Figure 6.4 - New Zealand: Railways Department, 1982

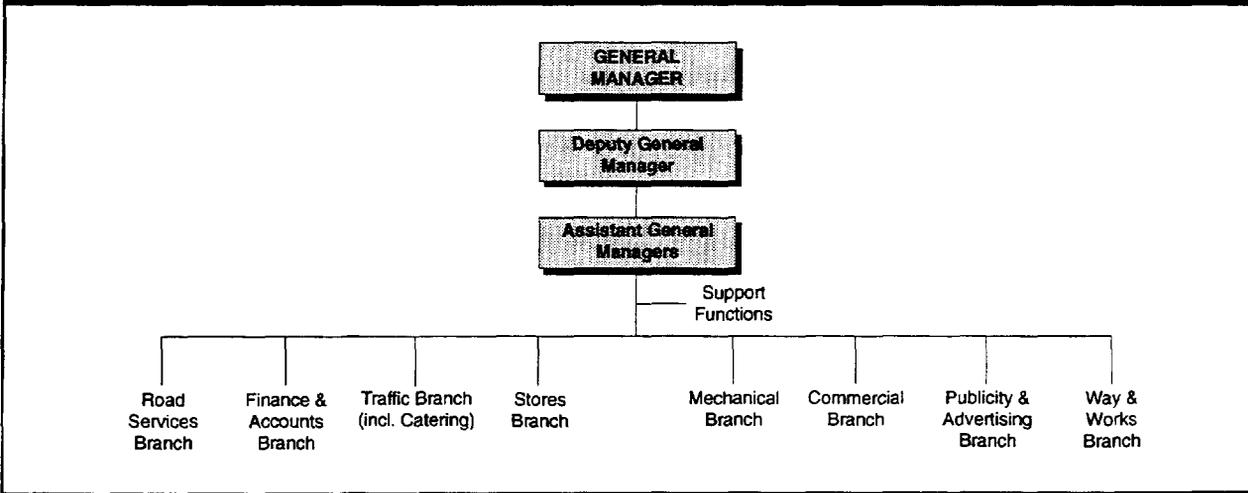
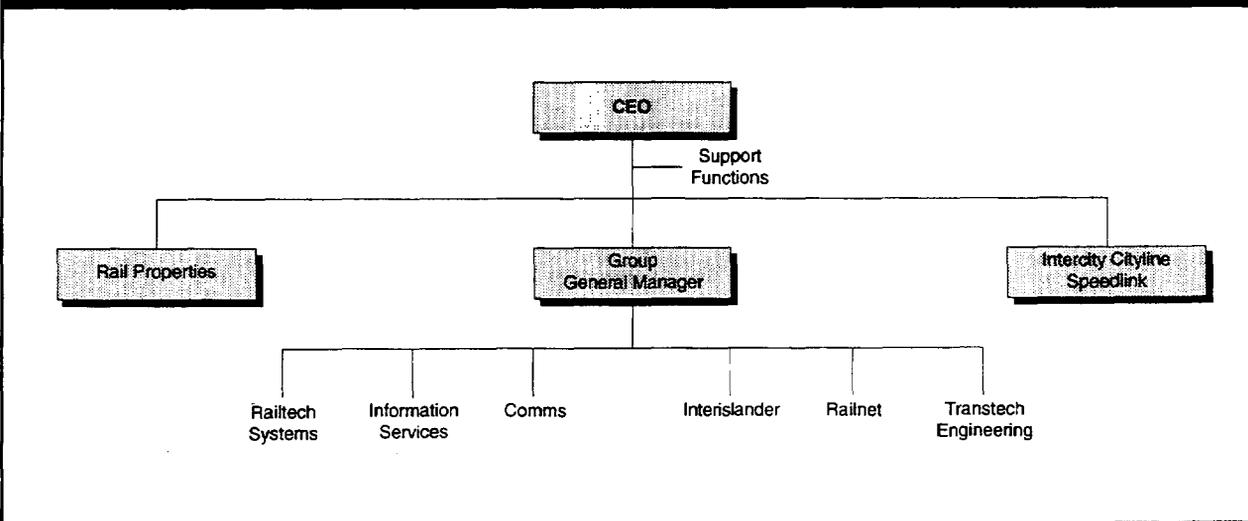


Figure 6.5 - New Zealand: NZRC, 1988



bearing the transitional losses necessary to achieve its re-positioning goals. This arrangement exerted considerable pressure on groups to make productivity gains and to focus on and meet customer needs. The combination of accountability and individual responsibility contributed to a new management ethos within the rail system.

With the further restructuring and downsizing occasioned by the establishment of NZRL as the core rail business, the organizational structure eventually coalesced into two marketing groups — Freight and Passenger — and an Operations group, as is shown in Figure 6.6. Initially, all groups were profit centers and were priced internally to achieve a return on net assets. As the commercial culture has taken root and matured, however, the emphasis on transfer pricing has shifted to the allocation of direct costs, and the Operations group is now a cost center.

The structures described above illustrate some of the key stages of development on the way to corporatization, but represent only stages in a continual (and sometimes cyclical) evolution. This continual change has had some unsettling effects on morale but has led to a more flexible corporate culture and has improved productivity through rationalization. Morale has been remarkably positive overall throughout the process.

6. New Technologies and Work Restructuring

A number of new technologies have been introduced that have permitted a reduction in staff or have enabled more work to be undertaken with no increase in staff. Chief among these new technologies have been the following:

- Two-way radio communication with locomotive drivers, which has allowed a move to single person crewing.
- Flash butt welding with a machine which welds rail into a continuous line and thereby reduces track maintenance expenditures, which are significant when rail is joined but not welded.

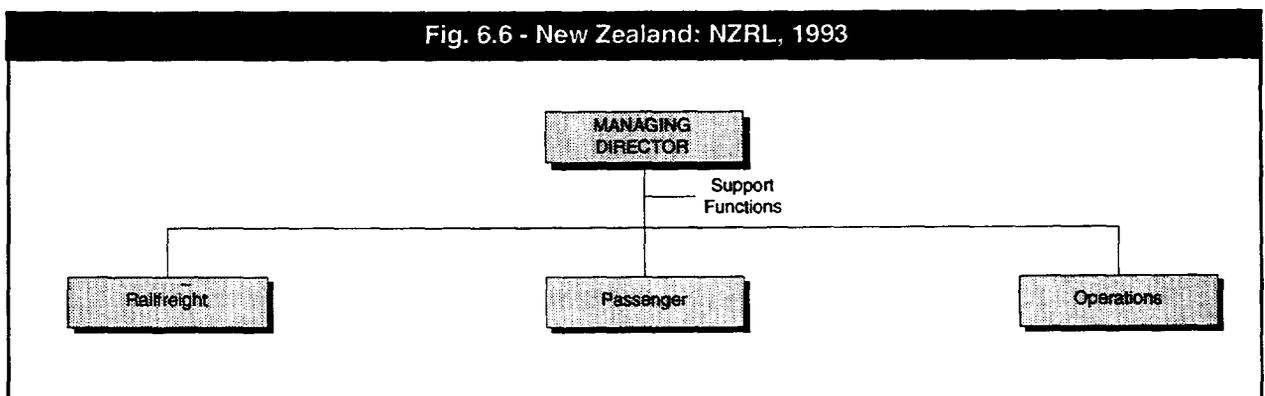
- Mechanized track equipment such as tampers. This enables more work to be done on tracks by fewer people.
- Train end monitors, which allow train crew size to be reduced. The monitor informs the operator about such matters as brake pressure at the end of the train. This has eliminated at least one of the functions for which a rear guard is needed.
- Personal computers, which have reduced the need for administrative staff.

In addition, basic management processes have been streamlined. More decisions have been pushed down to lower levels within the organizational structure and staff have been made more accountable. This has made it possible to reduce the overall administrative structure of the company.

Another set of management initiatives has focused on allowing personnel to complete multiple tasks and reducing the level of specialization in the definition of positions. At the time of this writing, however, only limited moves have been made toward multiskilling of staff. Longer-term plans include combining train operators with a ground-based staff (for example, shunters). Possible multiskilling opportunities also exist in combining the functions of track and structures (for example, bridges, tunnels) maintenance gangs. Currently, track and structures are maintained by separate gangs.

The company formerly provided housing for staff. This provision has been terminated — which has provided significant administration cost savings.

Train crewing has been reduced from three to one. This has been facilitated largely by the introduction of the new technologies listed above. Track maintenance gangs have been restructured and rationalized on a number of occasions. Initially, gangs comprised four workers. The gangs were later amalgamated into larger gangs when mechanical track equipment was introduced. Mechanization meant



that, overall, fewer people were required, and larger gangs enabled heavier work to be undertaken by each gang. The amalgamated gangs were later structured back into small gangs which, in turn, were supported by larger production gangs. The smaller gangs were involved in routine maintenance while the larger gangs undertook the large jobs such as new track work. Subsequently, the production gangs were disposed of and the smaller gangs were supported by additional equipment and contract labor. Track gangs continue to be reorganized as the company identifies new and better ways of maintaining its track.

Removal of some non-core business activities has also caused personnel to be reduced. Non-core businesses that were disposed of include the bus operation and the road parcel business.

Rosters are under continuous review. Among the issues that are the subject of review are: changes to train running times; removal of short shifts where possible; assignments that take into account sleep patterns; extended running hours; and point-to-point running rather than mid-point servicing of trains.

The number of workshops has been reduced gradually from ten to two; of these two, one concentrates on locomotive rebuilding and one on wagon construction. This reduction has been driven by improvements in operating procedures, a reduction in fleet size — including the elimination of guard vans (caboose), and standardization of the wagon fleet to a smaller range of wagon types. Overall, this reduction has eliminated the duplication of facilities, reducing both capital and maintenance costs of workshop activities. The reduction process has been gradual because the optimal number could be found only through the experience of operating with fewer workshops.

Depots, which provide regular maintenance service for rail cars and locomotives, have been reduced in number from 33 to less than 20. The number has been reduced as fleet size has decreased and also as a result of a change in work practices, which involves maintenance being done on rail cars in the yard rather than hauling them to a depot. This reduction in depots has meant that fewer staff are required and that overhead costs associated with depots are reduced.

Freight branches are the points to which carload and less than carload freight is delivered by rail and from which the freight is dispatched to the final destination. The number of branches has been reduced from over 100 to 16, which has resulted in savings in personnel costs and in overhead costs of branch operations. This change has been, in the main, driven by market factors.

In the past, a large number of branches were needed because customers were usually required to collect their

freight from the branches. However, increased competition has led to door-to-door delivery. That is, rail needed to deliver freight to customers in order to provide service that was competitive. With the advent of door-to-door delivery, freight could be dispatched to customers from a more centralized branch.

The implementation of the strategies discussed above has resulted in significant reductions in labor costs. Between 1986 and 1993 labor productivity increased by 171 percent. Much of the improvement in labor productivity has been achieved through reductions in staff numbers. In 1986 the corporation took tentative steps to reduce its personnel costs by improving the payments under its voluntary redundancy program. The stance of the government of the day was that there would be no compulsory redundancies and as a result the program relied on high payments to induce employees to resign.

7. Work Force Restructuring

In 1992, NZRL negotiated major changes to its collective employment contract. Among other reforms, the new contract provided for a severance payments formula based on the individual employee's salary, service length, and number of dependents. Previously, the redundancy payment had been based on the following parameters:

- 17 weeks pay for the first year of service plus 2 weeks for each subsequent year of service (maximum 20 years service)
- plus 23 days pay for each dependent (including a spouse)
- plus retirement leave (employees over age 50) or resigning leave (employees under age 50 with at least 20 years service).

In 1988 the formula had been revised, absorbing the spouse supplement and reducing the allowance for dependent children to 20 days per child. Until 1990, redundancies were voluntary and severance payments were sufficiently attractive to generate the required redundancies. In 1990, the corporation reached an agreement with the unions whereby compulsory redundancies could be enforced. This agreement increased some payments, especially for employees who had not been eligible for retiring/resigning leave. A new scale applied to new employees included six weeks' pay for the first year of service and two weeks' pay for each subsequent year of service. From October 1992 service was capped as of that date for employees in the modified 1988 formula and employees engaged after that date were disentitled to any payments.

Initially, this strategy achieved its objective of generally

reducing employee numbers, but because it was voluntary it was dependent on employee decisions and was not oriented to business requirements for the shape and size of the organization.

Although some of the SOE legislation applied to NZRC in 1986, NZRC remained firmly within the central state department model with regard to applicable labor law. It was not until late 1987 that NZRC came under the labor relations legislation that applied to other SOEs. At this time NZRC became independently responsible for the bargaining of its own labor contracts. NZRC made a modest beginning, and the three key features of its first collective contract of November 1987 were the following:

- The simplification of the collective employment contract and the removal of artificial distinctions of so-called Salaried and General Divisions
- The removal of state service seniority and appeal systems from the appointments/promotions process
- The removal of senior management from collective salary fixing to individual employment contracts, including incentives based on individual performance.

The voluntary redundancy program continued in its earlier form, but by 1989 management processes had been strengthened and there was greater focus on making changes to match corporation requirements. By April 1990 redundancy agreements were made with the unions which included the ability to enforce redundancy. To achieve this agreement, an increase was made in the already high compensation paid for redundancy. A less generous scale was adopted for new employees.²

In successive years gradual changes were made to collective employment contracts through the simplification of allowance structures, which included increases to some base pay rates to absorb allowances that were routinely paid. Salaries or incentive payments based on performance appraisals were also introduced for a wider range of managers and white collar employees.

While collective employment contracts were simplified in 1992, they still reflected the essential conditions of employment inherited in the state sector of the mid-1980s applying, for example, to hours of work, overtime, and penalty payments. As a result of the flexibilities provided under the Employment Contracts Act and the removal of

²While there was a large net reduction in employee numbers, the changing mixes of skills needed has meant that some recruitment continues. As of February 1994, 24 percent of land-based employees were engaged after January 1, 1987 (after commencement of the major voluntary redundancy program in 1986).

the national awards system, some sectors of the New Zealand economy (such as New Zealand Rail, which operated outside the Monday to Friday work week) began making significant changes to their employment contracts.

In 1992 NZRL negotiated major changes to collective employment contracts. The bargaining was difficult, and the negotiations lasted from April to December. A key aspect of these negotiations was management's effort to keep employees informed of developments and to take account of employee comment and advice. The ensuing changes included the following:

- More flexible hours of work (including overtime after 80 hours a fortnight instead of after 8 hours a day)
- Fewer penalties on work outside the conventional eight hour day, Monday to Friday
- A change from one to five collective contracts³
- No weekend or night work penalty payments for new employees.

These changes are the acknowledgment of the seven day week/24 hour schedule of a competitive railway with a diversified customer base. Employees whose earnings were most affected by changes to overtime, penalty payments, and allowance reductions received lump sum payments.⁴

A major reform in the employment contracts of sea-based staff also occurred in 1994. The main purpose of this reform was to reduce significantly the labor cost of operating the company's three interisland ferries and to allow for the continuous (or 24-hour) sailing of vessels. This purpose was achieved by reducing staff levels and requiring the remaining staff to accept fewer leave days.

8. Capital Structure

The capital structure of New Zealand Rail has changed with its organizational structure, as is shown in Table 6.2. The private company's full balance sheet is not publicly available.

The capital structure of New Zealand Rail was progressively strengthened in a number of debt conversion transactions between the state and the carrier:

- When the railway was a government department, infusions of capital from public coffers appeared in

³For Operations, Railfreight, Passenger Services, Support Services, and Engineering (two main workshops). While these contracts have similar conditions, they allow each of these businesses to negotiate future changes more appropriate to the business.

⁴"Payback" is estimated to be under one year.

Table 6.2 - New Zealand Rail Capital Structure, 1982-93

(NZ\$000)				
	Government Department (3/30/82)	NZRC (3/30/83)	NZRC (6/30/90)	NZRL (6/30/93)
Total Assets	816,635	910,000	650,561	419,664
Equity	289,146	702,267	428,307	265,445
Term Debt: Equity	1.69	0.17	0.00	0.23

the balance sheet as a term liability called "Advances from Government." When NZRC was formed, this liability was converted to equity, thereby eliminating the requirement that the corporation repay the advances.

- On January 1, 1990, NZ\$1,087 million in loan and swap obligations was assumed by the Crown in a debt defeasance agreement with NZRC. During the same financial year, the government provided NZ\$360 million in additional equity capital. Fixed assets were written down by NZ\$856 million, and a provision for restructuring costs of NZ\$166 million was established.
- On October 28, 1990, NZRL was established with NZ\$185 million in equity capital. An additional NZ\$60 million in equity was raised in the form of Redeemable Preference Shares, which were owned by the Crown. These were fully redeemed by December 21, 1992.

9. Labor Relations

The state no longer directly regulates the key processes of representation and negotiation in industrial relations, a change which represents a radical departure from historic precedent in New Zealand. The replacement of the regulated arbitration system in favor of a flexible contract model to govern the employment relationship reflects important shifts in the operations of the entire economy and corresponding shifts in economic and political power.

Historically, New Zealand governments believed that the state should protect vulnerable groups by moderating the impact of market factors on employment conditions. This was achieved by maintaining statutory regulation of representation and negotiation in industrial relations through an arbitration system. To a significant degree, the arbitration system became a substitute for New Zealand's poorly developed welfare state. Government policy on labor and social welfare became intertwined.

The reforms of the 1980s entailed a revision of the principles and objectives of state activity, and both the Labour

and National Parties became skeptical about state involvement in industrial relations. Commensurate with the wider economic changes, proposals for radical changes to the industrial relations regime were received more sympathetically than in the past. Further significant reforms of employment conditions for seafaring staff were achieved in 1994 without disruption to sailings.

Voluntary unionism was first introduced, albeit temporarily, by the National Government in 1983. In 1984 the Labour Government abolished compulsory arbitration to spur efficiency gains by encouraging industry awards and enterprise bargaining. However, Labor's approach to industrial relations sought to balance efficiency with equity concerns. Labor's traditional union links led them to reinstate compulsory union membership, and thus a monopoly over membership and bargaining rights, blanket award coverage, and compulsory arbitration in the Labour Court. Other measures were introduced to change the structures of unions and to help them represent the interests of their members more effectively. The Labour Relations Act 1987 contained a provision that allowed unions to exclude individual companies from award coverage and to negotiate separate enterprise agreements. However, enterprise bargaining did not take off under Labour, and the award system was in fact strengthened as unions pulled their members back into award coverage to protect their conditions.

In 1990 the National Government returned to power, with a strategy for abolishing the statutory regulation of the labor market as quickly and as comprehensively as possible. The justification for statutory regulation had always been that it contributed to industrial stability and social equity and therefore was not inconsistent with economic efficiency. However, these considerations no longer influenced the National Government. Unemployment would ensure industrial stability more expeditiously than statutory regulation of representation and negotiation, while social equity was not a major policy priority. Labor market flexibility was identified as the key to economic growth.

The Employment Contracts Act 1991 is commonly interpreted as eliminating the state from any significant role

in industrial relations. The act stripped away what remained of the arbitration system and overturned the system of collective representation and negotiation. Trade union registration, monopoly membership and bargaining rights, blanket award coverage, and the right to negotiate a closed shop were no longer matters of statutory regulation. The act allowed voluntary unionism, contestable unions of any size, and any arrangements between employers and employees (subject to a limited range of statutory conditions), at either a joint or an individual level. The focus of the new system moved from the collective to the individual, and from multiple employer awards and agreements to enterprise bargaining.

The state now regulates the labor market chiefly through the common law of contracts and remains involved in the process of contract enforcement, mediation, and arbitration of disputes and personal grievances. The Employment Contracts Act replaced the Labour Court, which had jurisdiction over 60 percent of the work force, with the Employment Tribunal and the Employment Court, which have jurisdiction over all employment contracts including individual contracts.

Union membership and collective bargaining coverage have fallen (not by as much as was generally expected) and enterprise bargaining is now completely dominant. Unions continue to represent the great majority of workers covered by collective contracts. Many conditions of employment have come under pressure, especially penal rates and hours of work, and wage increases have been small or nonexistent. The common law's hostility to collective organization and practice tilts the industrial balance against trade unions. This, combined with the independent impact of a depressed labor market, has made it difficult for unions or groups of workers to defend even pre-existing employment conditions.

Prior to November 1987 the Railways Corporation was subject to the State Services Conditions of Employment Act. From 1987 the corporation put in place its own conditions of employment agreement — the NZRC Composite Agreement — and at the same time obtained by order in council full SOE status for industrial relations matters and freedom to negotiate with unions on the same basis as private sector organizations.

The Employment Contracts Act 1991 offered further flexibility in adapting employment conditions to the unique requirements of the railway market. Progress at NZRL involving the benefits of a deregulated labor market has been incremental: One of the most important developments involved the gradual substitution of a basis of pay that is tied more closely to individual performance than to seniority and length of service. A major industrial rela-

tions breakthrough occurred in 1991 with the signing of employment contracts with three ferries service unions — the Merchant Service Guild, the Engineers, and the Seafarers Union. Among the changes that resulted were the removal of demarcation lines in certain shipping duties and reduced crew levels for off seasons.

The current state of labor relations in NZRL is built on the foundations of NZRL's earlier incarnations as a government department, government corporation,⁵ and SOE. Two-thirds of the current land-based employees began their work in the New Zealand Government Railways Department that existed prior to March 1982 and have been affected by that change.⁶ They have adapted from rigid central government controls to employment in a profitable limited liability company owned by private shareholders. However, the change to standard New Zealand private sector labor legislation for NZR employees has been incremental, which has restricted NZR's progress toward becoming a viable, and later a profitable, enterprise. There is an argument to be made that NZR has survived despite the gradual change to private sector labor law rather than because of gradualism.

Until November 1987 the labor relations framework of New Zealand Railways (Department and Corporation) reflected its role as an agency of state policy, including its former role as a development agency prior to the growth of road transport earlier in the century. Despite the transfer of control from the Minister of Railways to a private sector board of directors in 1982, vital elements remained under the direct control of the government and government systems. This included wages costs and rigid civil service appointment processes and traditions.

Thus, while the corporation was at arm's length from the government for so-called commercial/business decisions, the greatest single factor affecting its cost — namely, employment — was effectively withheld from the Board and management. The tension between the call for New Zealand Railways to be "more commercial" on the one hand, and to surrender management of its own costs on the other, was highlighted in 1986 when the state wages

⁵Although it ceased to be a rail operator in 1990, New Zealand Railways Corporation still exists as a separate organization whose role is the disposal of land that was not vested in New Zealand Rail Limited in 1990.

⁶This section does not discuss the labor issues of the Interisland Line (IIL). IIL labor relations reflect IIL's history as part of maritime traditions. NZR owned the ferry service in 1962 with crew provided by the previous operator. NZR became the employer of crew in 1971, but it was not until 1993 that ratings were employed directly by NZRL, after having previously been engaged through a shipping industry manpower pool.

rates (including those of New Zealand Railway) were increased by a minimum of 20 percent, and by an average of about 25 percent, while the typical increase for other industries (and for New Zealand Railways' competitors) was about 15 percent. This situation was compounded by six months of backdating of the wage increase.

Because of New Zealand Rail's industrial work force and because of the important central role of the government in employment-related decisions, there is a long history of union involvement in the railway. Since "compulsory" union membership was removed as an option from New Zealand labor law in 1991, union membership has remained high in NZRL. Over 90 percent of land-based employees are members of one of the two railway unions.

The union memberships are drawn almost solely from NZRL employees, are supportive of the railway, and are led by former railway employees. The members prefer collective employment contracts and as a result most employees are employed under such contracts. The important and influential role of the union members fosters a high level of consultation with them over changes to work practices or the introduction of new technology.

10. Privatization of New Zealand Rail

By 1990 restructuring of the railways had progressed sufficiently for the government to consider privatization. Other state-owned assets had been privatized by this time. Thus, a precedent for asset sales existed, and the government had a well-developed rationale for privatization and had established processes for asset sales.

The sale of state-owned assets was favored in those circumstances in which the economic value of the asset would be greater in private hands than it would be if retained by the government. A number of arguments were made in favor of the view that private ownership would be more likely to generate high value than would continued state ownership. These points included the following:

- Ownership is contestable under privatization. The threat of takeover or bankruptcy motivates managers and directors to achieve better performance.
- Directors and managers can hold shares in a privatized company. This provides an additional incentive to perform that is not available in an SOE.
- Publicly listed companies are generally scrutinized by stockbrokers and analysts on their own account. This process provides an effective cross-check on the company's performance. The same check does not exist for SOEs, although the SOE monitoring framework attempts to mirror this market process. The monitoring process established for SOEs is, how-

ever, costly to administer and absorbs the time and resources of management and the time of officials acting on behalf of the state owners. Further, such a monitoring regime is likely to be less effective than that provided to a public company by investment analysts, as officials have less incentive to monitor as carefully as private sector analysts who have a financial stake in the company. At the same time, SOE management does not have the incentive that its counterpart in publicly listed companies has to provide information on performance because this information does not have an impact on a daily share value.

- With privatization, any implicit government guarantee is removed. In other words, company managers and directors do not have the luxury of believing that, if things go wrong, the government will fund them out of their difficulties. This is another incentive for performance improvement.
- Privately owned companies are less easily manipulated by government for political purposes. In private hands, assets can be focused with greater confidence on achieving commercial goals that maximize their value.
- Privatization removes commercial activity from the legislative constraints that govern SOEs. These constraints include the need to comply with the Official Information Act which deems all government and government agency information public unless it can be shown to be commercially sensitive.
- Privatization enables the business to manage its assets with greater flexibility. If the business can convince creditors and shareholders of the worth of new projects, private ownership enables the business to divest, invest, acquire new assets and sell redundant assets, diversify, and otherwise reorganize its operation with much greater latitude than is available under state ownership.
- When it is privately owned, a company has greater ability to equity fund new investment. Competing social demands for government funds and an inability to tap into private sector equity markets can be a major restraint on a state-owned asset.
- Under private ownership, board members will be appointed for their commercial reputation. Under state ownership, there is a possibility that directors, who are appointed by government, will be selected for political reasons.
- Private ownership brings with it the prospect of benefiting from the new owner's industry-specific expertise, as well as its financial, managerial, marketing, and technological expertise.

The government proposed using the proceeds of asset sales to reduce debt. The government also saw privatization as a way of avoiding future funding commitment, particularly in the form of additional equity required to fund new capital, and as a means of reducing the taxpayers' exposure to business risks.

At the same time, the government was concerned to ensure that privatization of assets would not disrupt social goals or provide an opportunity whereby a private owner could exploit a dominant market position.

11. Privatization Process

By the time that New Zealand Rail was considered for privatization, the government had a well-established process in place for evaluating the appropriateness of privatizing each of its businesses and had a preferred method of selling.

The government had decided to use private sector consultants to advise on each stage of the process. In the first instance, the process required a scoping study of the business to be sold. The first stage of this study was a business evaluation, carried out by an appointed commercial adviser. The purpose of the evaluation was as follows:

- To assess the salability of the enterprise. In particular, this required an evaluation of the company's attractiveness to a buyer, which in turn required an evaluation of the company's future ability to generate positive cash flow and of its net present value.
- To determine whether the value of the company would be greater in private ownership than it would be under continued state ownership.

Concurrent with the business evaluation, officials undertook a study with the following ends in view:

- To identify any regulatory issue that needed to be resolved before privatization. In particular, it was necessary to identify (1) regulatory factors that might impede the ability of the newly privatized company to operate in a fully commercial manner on an equal basis with its competition, and/or (2) regulations that might protect it from competition.
- To identify any social goal that might be compromised if the state enterprise were privatized.

The final product of the scoping study incorporated both the commercial adviser's business evaluation and the officials' evaluation of public policy issues. After the scoping study, the next stage was to resolve, where possible, any impediments to the sale. Following such resolution, the sale could proceed.

In most cases the government had decided to sell by open tender. This method was assessed to (1) maximize sale proceeds and (2) produce the most efficient outcome in terms of reducing debt. There was also a preference for selling the whole business. The sale was to be conducted by commercial advisers.

The government commissioned its first scoping study of NZRL in 1990. The terms of reference for this study required the following:

- Identification of the best options for restructuring the Railways Corporation — for example (but not limited to): the number of new limited liability companies that should be established, and which business units/activities should go into which companies
- Identification of the assets (including staff and the core operating land) and the liabilities that should be transferred to the new limited liability companies
- Assessment of the viability of the corporation's various business units and valuation of the assets and liabilities to be transferred for the purpose of establishing balance sheets for the new limited liability companies
- Assessment of the need for social contracts that would ensure that the Crown's goals and objectives were met and, if such contracts were required, options that would provide incentives for efficiency
- Identification of other issues, such as those involving the Commerce Commission, that might arise during the restructuring and any subsequent sale of any part of the Railways Corporation (either through a direct asset sale or a sale of shares in any limited liability company established as a result of the restructuring of the corporation)
- Assessment of the value to the Crown of continued ownership of the Railways Corporation's various business units/activities versus the value the Crown would be likely to receive from selling the business units/activities
- Identification of possible impediments to the sale of any of the Railways Corporation's various business units/activities, and options for resolving those impediments.

The study identified the core business as the transportation of freight by rail. Included in the core business were the freight marketing operation, the railway system, the workshops, the Interisland Line, and corporate services, as well as rail passenger operations, and the company's interests in companies that supported the rail freight operation. Excluded from the definition of the core business were the company's bus and coach services, the parcels

business, the advertising billboard company, and surplus property.

The first scoping study indicated that the core business had positive economic value based on expected future cash flow, but noted some risks and uncertainties that could adversely affect actual cash flows over future years. Consequently, the advisers concluded that a commercial bidder might be willing to pay a much lower price than that suggested by the net present value estimate in order to compensate for the perceived high uncertainty of the cash flow forecasts.

Also unfavorable for the potential sale value of the company were forecasts that net cash flow over the following two years would be negative. These forecasts reflected planned severance costs and high transitional capital expenditure. The advisers believed that the need to fund these negative cash flows over two years could reduce bid prices excessively. Other points considered by the advisers in evaluating impediments to a potential sale included the following:

- *Management Attitude.* This was not considered a risk to a sale, as management expressed support for a sale.
- *Industrial Relations.* It was considered that union reaction to a sale could be negative but the chances of industrial action were not considered significant.
- *Financial Information.* The advisers reviewed the financial information available to determine its suitability for use. They were concerned about ensuring the comparability of the information from year to year, and about ways of ensuring that the confidentiality of sensitive material would be preserved during the sale process.
- *Contingent Risks.* The advisers reviewed and identified any contingent risks that could arise from the company's contractual relationships.
- *Political and Public Resistance.* The advisers considered that political uncertainty would complicate a sale.
- *Regulatory Uncertainty.* Potential changes in the regulatory environment were identified. The advisers considered that potential changes, particularly to the regulations affecting trucking companies, could adversely affect a sale.
- *Land Issues.* Land claims by the indigenous people could potentially threaten a sale. The advisers agreed that this possibility could be avoided if the land over which the rail system operated were placed in a separate organization. The railway company would then lease the land it used from this organization.
- *Response of Regulatory Authorities.* The advisers reviewed the likely response of regulatory authorities to

a sale, especially if the sale were to an existing transport industry participant. The objective was to determine whether the regulators were likely to object to a proposed sale on the grounds that it would create or strengthen a dominant position in the industry.

The advisers also considered the value of the company if it were to be liquidated or if it were to be run down over a period of time. However, the advisers preferred the option of a sale, since they considered that a private owner would have a greater incentive to manage any restructuring of the company than would be the case under continued state ownership.

In formulating their recommendations, the advisers examined the public policy implications of privatization but concluded that there were few public policy issues. A mechanism had been established to ensure that public transport could be maintained and the roading system would be able to cope if new owners adopted a run-down strategy over time.

The government did not accept the advisers' recommendation to sell the company at this time. Instead, management was given a mandate to implement the reforms necessary to transform the company to a stronger commercial position. To facilitate this process, the government decided to take the following steps:

- To separate the core rail business from the land and surplus property.
- To dispose of non-core business (the bus and coach services were sold).
- To defease debt. Much of the debt on the company's accounts was incurred to fund government-directed actions that were not always commercial in nature. To provide the company with a balance sheet appropriate to a commercial enterprise, it was necessary to remove this debt. This was achieved through defeasance.

Two further scoping reports were commissioned, the last in July 1992. When this final report was prepared, the internal restructuring had advanced significantly and there was tangible evidence of a positive cash flow given management's business strategy.

12. Final Sale

The sale process adopted for New Zealand Rail was consistent with the procedures for previous asset sales. The government decided that the day-to-day hands-on management of the sale process should be conducted by a private sector agent. The process was overseen by a Treasury

official. This approach was preferred for the following reasons:

- It provided sales expertise not available within government for the sale process
- It complemented the skills of officials in the sale process and provided flexibility of resources: extra resources were available for the resource-intensive sale process without the need to remove too many officials from their core activities
- It reduced the risk of political interference in the sale process and, especially, in the selection of the successful purchaser; however, ministers retained overall control of the outcome of the sale through the Cabinet's determination of the final sale decision.

The broker, Bankers Trust (New Zealand), was selected through a tender organized by the New Zealand Treasury on behalf of the government.

Bankers Trust in the first instance prepared an Information Flyer — essentially, a sale announcement, containing a brief description of the business and inviting potential purchasers to indicate interest. Subsequently the advisers prepared a full Information Memorandum, describing the business and providing the following information:

- A brief history of the origins of NZRL, a description of the overall corporate structure, details of the operating businesses together with an outline of support services, and summary asset schedules
- The historical and the forecast financial performance of NZRL as well as a broad range of information covering joint ventures and investments, funding facilities, and other financial background
- Human resources and industrial relations issues information
- Arrangements under which NZRL had the right to use the land that it occupied
- Other details on the company, such as employment agreements and haulage statistics
- A discussion of the economic environment of New Zealand
- Some background and history on the Treaty of Waitangi and its importance with respect to certain issues such as land ownership
- A summary of statutes and regulations that might have relevance for a rail operator and/or a party contemplating purchase of NZRL.

This Information Memorandum was provided to selected parties that had demonstrated to the government a

genuine interest in the acquisition and the financial capacity to complete it. These parties were required to sign a confidentiality agreement, as some of the information made available to them was of a competitively sensitive nature.

Selected parties were asked to submit a non-binding indicative bid based on their assessment of the company following the issue of the Information Memorandum. These indicative bids were used to formulate a short list of prospective purchasers.

To facilitate comparison, potential purchasers were asked to present their indicative bids in a specified format which comprised the following:

1. Total enterprise value
2. Object of the offer (that is, all or some of the shares or assets of NZRL)
3. Details of the bid, including:
 - (a) Clear identification of the bidder (or, where a consortium was bidding, clear identification of all members or major shareholders)
 - (b) Sufficient financial information to enable an assessment to be made of the bidder's financial capacity to complete the transaction
 - (c) Major assumptions on which the bid is based (to ensure comparability)
 - (d) Any material conditions affecting the offer
 - (e) Details of further information and other requirements with respect to due diligence.

The advisers selected a short list of prospective purchasers on the basis of the indicative bids, taking into account the government's primary criterion of maximizing total sale proceeds. Short-listed parties were entitled to undertake due diligence. During due diligence, parties were given the opportunity to visit key NZRL sites, interview senior managers, and have access to confidential information. In addition, parties were able to submit supplementary questions.

To facilitate the efficient processing of supplementary questions, a computer-based filing and reference system had to be developed. This was essential, in view of the large number of supplementary questions that required answering.

The privatization of New Zealand Rail Limited was completed in August 1993, when a consortium comprising Wisconsin Central Transportation Corporation (United States), Berkshire Partners III LP (United States), and Fay Richwhite and Company Limited (New Zealand) completed the purchase of 100 percent of the shares in the company.

13. Role of the Private Sector

The private sector has had a major role in the reform process since its commencement in 1982; the board of the corporation and the consultants have been key players in this process.

Members of the board of the corporation established in 1982 came from the private sector. The need for a commercially oriented board was enhanced in 1990 when New Zealand Rail Limited was formed. All board positions were filled with individuals who had considerable experience of, and a high reputation in, commercial operations. This professionalism proved invaluable to the company in restructuring so as to ensure the success of the privatization.

In addition to the board, consultants were also hired from the private sector. This brought new methods of evaluation and analysis to the company, and these were transferred to the staff. This exposure to the private sector also introduced a new view of the organization and helped management identify new ways of enhancing the company's value.

External consultants have continued to play an important role in the organization. They provide specialist methodologies (such as rail costing model advice), they are a

resource that can be tapped when in-house personnel are otherwise occupied, and they provide an independent opinion on management issues.

As has been discussed above, external advisers were also contracted to evaluate the salability of the business (that is, the scoping studies) and to execute the sale.

PART III: PERFORMANCE SINCE REFORM

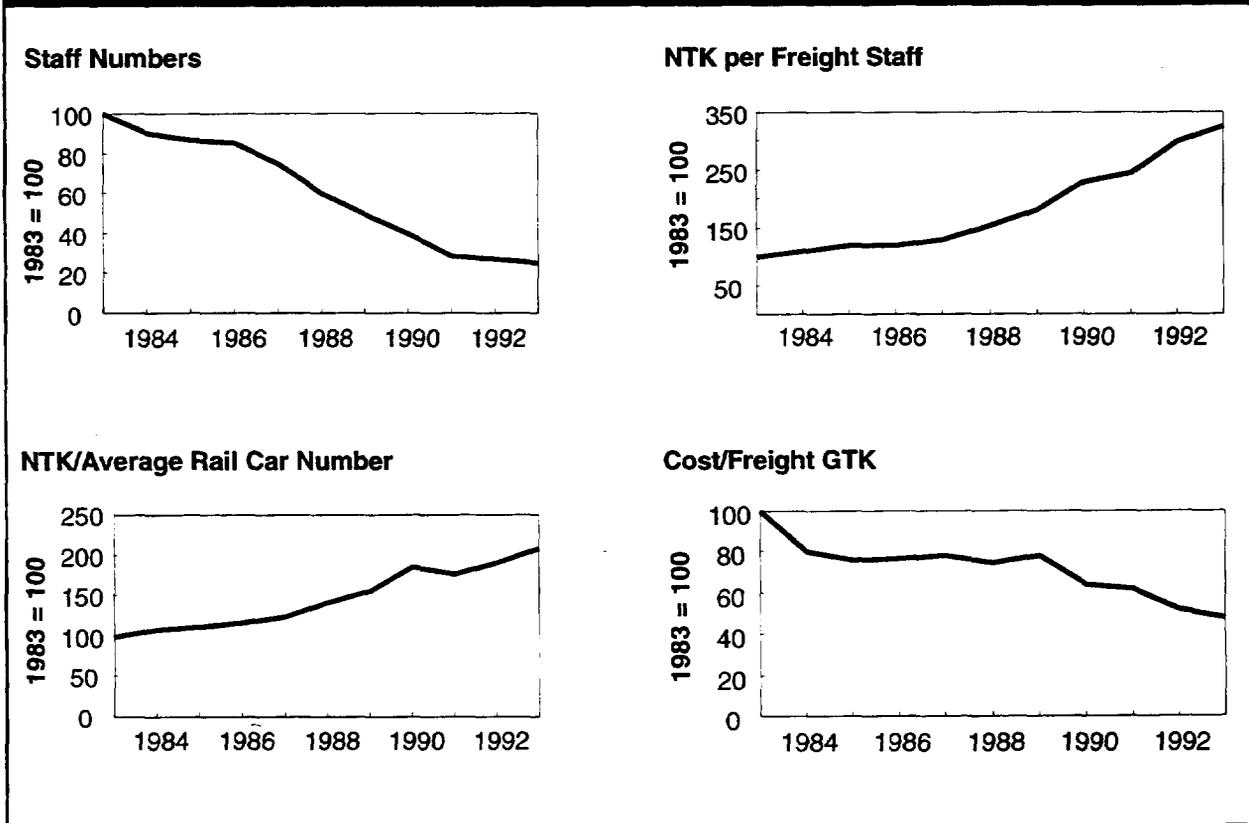
1. Overview

New Zealand Rail has achieved dramatic improvements in productivity, financial performance, and customer service. Figure 6.7 highlights the performance improvement since 1983.

Staff levels have fallen by over 75 percent since 1983, which has contributed to an improvement in staff productivity of over 200 percent. The number of rail cars used has been reduced by over 60 percent, which has led to a doubling of the ntk per average rail car. Staff and asset productivity improvements have been reflected in the halving of the real cost per gross ton kilometer (GTK).

As a result of these improvements, the current business is one of the few railways in the world (outside of the United

Figure 6.7 - New Zealand Rail: Performance, 1983-93



States) to be making a profit in a deregulated environment. Rate reductions in comparison with those of New Zealand's other SOEs over the same period are also significant.

2. Employment Levels

The most notable impact that the private sector reform process has had on railways in New Zealand has been the considerable reduction in staffing that has been achieved while overall activity levels have dropped to a much lesser degree. While it was understood that the railways often absorbed excess labor for political/macro-economic reasons, it could not have been foreseen in 1983 how comprehensively the organization would be restructured and streamlined. Booz Allen recommended a steady state level of approximately 15,000 staff. At the time of privatization in 1993, total staff had been reduced from the 1983 figure of 20,865 to 5,239 — a drop of 75 percent — the greatest reduction for any similar state organization in New Zealand at the time.

If ntk per freight employee is used as the principal measure of labor productivity, it can be seen that output fell at a much slower rate than staff, ultimately representing a 215 percent improvement in labor productivity (see Figure 6.8). Such an outcome underpins the rail's considerable reversal of financial position over the same period.

The work force was unionized at a level of about 95 percent during this period, as membership for most classes of employees had been compulsory until the Employment Contracts Act 1991 was passed. Even the advent of this act has not significantly eroded union coverage. From the early stages of the reform process the railway unions played a relatively constructive role in bringing about the efficiency gains required by the government/shareholder although they would be made at the expense of union size. This factor is discussed elsewhere in this report.

3. Assets

Asset use has improved markedly over the period of reform. In 1983 there were 25,754 rail cars in the fleet, 76 percent of which were the less productive four-wheel type.

By 1993 the fleet had been reduced by over 60 percent to 9,491, of which 43 percent were four-wheel. This reduction in rail car numbers has led to the increase of use by between one-third (based on ntk per rail car capacity) to over one-half (using rail car loadings per available rail car) of the 1983 level depending on which measure is used. (Ntk per average rail car doubled over this period.) Figure 6.9 shows rail car fleet productivity over the 10-year period.

The locomotive fleet used by the company was also reduced significantly, from 324 mainline locomotives in 1983 to 200 in 1993 (see Table 6.3) and from a total (of all types) of 617 to a total of 338. The current fleet comprises a relatively larger number of more powerful locomotives (including 22 electric locomotives purchased in the mid-1980s with a net kilowatt rating of 3,000 kW). This has permitted larger trains to be used (average train size has increased during the period from 263 to 360 net tons) and has resulted in more rapid transit times. This upgraded fleet has made a more competitive provision of service to customers possible.

4. Traffic Levels

Prior to the removal of distance limits for truck operators in 1983, the railways carried about 3.2 billion ntk and about 11 million tons. The advent of deregulation led to a gradual erosion of the railways' traffic base, especially when trucking fleets expanded. By 1993 the traffic carried by rail had been reduced to 2.5 billion ntk and 8.5 million tons (see Table 6.3). The unprecedented level of competition faced by rail was thus a prime driver in the commercialization

Figure 6.8 - New Zealand Rail: Employment and Productivity

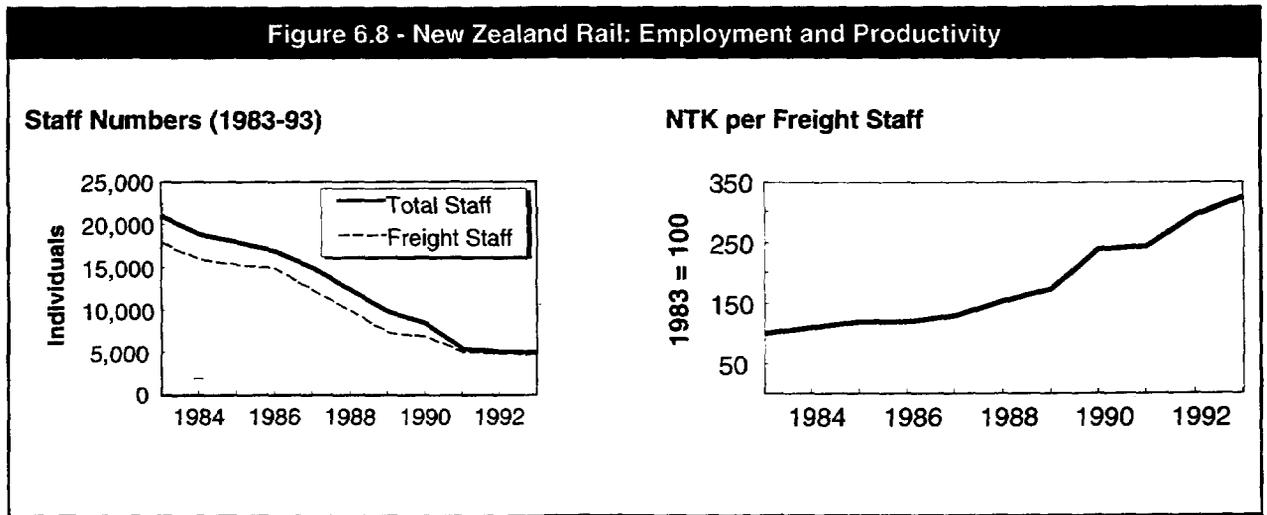
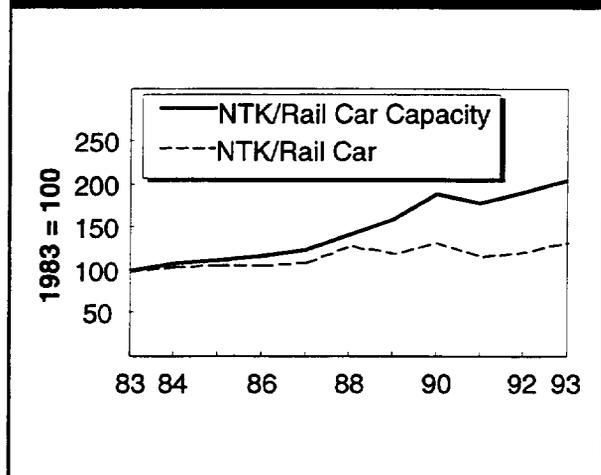


Figure 6.9 - New Zealand: Rail Car Fleet Productivity



process. The railways' continued existence as a national transport operator now depended on a service that was competitive in both price and non-price terms. The economic environment over this period of competitive adjustment was not advantageous to rail transport, as the country experienced serious economic reforms from 1984 onward which led to an extended period of zero or very low growth.

5. Financial Performance

In 1983 New Zealand Railways recorded an operating profit of NZ\$42 million off of a total revenue of NZ\$659 million. The onset of deregulation had an adverse impact on the financial position of the newly formed Railways Corporation. By 1986 operating losses began to be recorded, and the next three years saw substantial operating losses

as the revenue base was reduced by loss of market share without the consonant reductions in operating costs.

In 1990-91 the government assumed NZ\$1.1 billion of railways' debt and injected NZ\$360 million of equity capital, which placed the railways in a more viable commercial position. Simultaneously, the company's assets were written down to more appropriately reflect their true economic value. As a result of this financial restructuring and the ongoing reduction in personnel and in other costs, the company turned a small operating profit. Operating profit increased over each of the next three years (reaching NZ\$45.5 million by 1992-93) despite a still reduced level of traffic (see Figure 6.10). The turnaround in profitability was underscored by the eventual sale of the company to private interests for a price that indicated ongoing profitability.

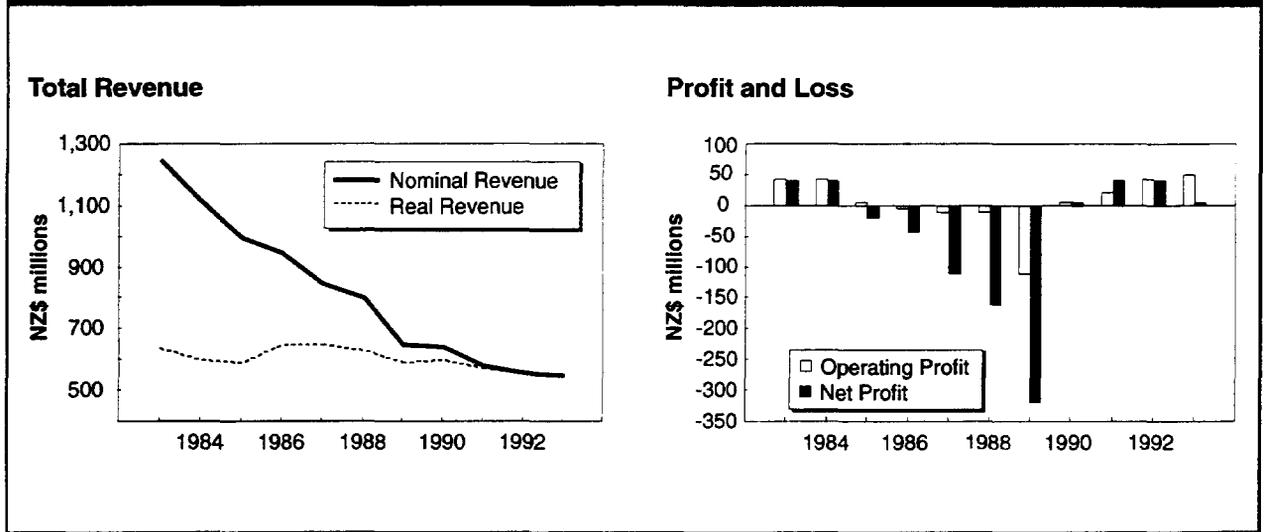
6. Service Quality

At the time of corporatization the railways were widely perceived as a poor quality operator in the transport industry — in particular as having high damage and loss rates and also poor reliability in terms of time keeping. With deregulation, it became imperative for rail to be much more responsive to customer requirements. Management attitude and organizational structure changed to meet this imperative. Total Quality Management was implemented throughout the organization. The company's two workshops were accredited with ISO 9002 certification, and the Baldrige system for evaluating company performance came into use to evaluate and guide the company's quality direction. The results of these improvements have been encouraging, with a wide-ranging turnaround in customer perception: an independent survey reported 80 percent of customers agreeing that service quality had improved (see Figure 6.11).

Table 6.3 - New Zealand: Rail Traffic Levels, 1983-93

	NTK	Tons	Average Train Size	
	(millions)	(thousands)	Locomotives	(net tons)
1983	3,164	11,089	324	263
1984	3,165	10,629	288	266
1985	3,192	10,389	279	268
1986	3,051	9,632	276	202
1987	2,912	9,004	269	206
1988	2,924	8,928	264	308
1989	2,641	8,570	230	330
1990	2,744	8,295	213	314
1991	2,364	8,029	205	304
1992	2,475	8,695	200	319
1993	2,455	8,451	200	360

Figure 6.10 - New Zealand Rail: Total Revenue, and Profit and Loss, 1983-93



7. Beneficiaries of Reform

The main beneficiaries of the reform process have been the users of railway transportation services. Competition in the industry today is intense compared with that in 1983. Every year since 1983 the railways have had to reduce rates in real terms to remain competitive with competitors that continue to innovate and survive. Between 1983 and 1993 the real rate charged by the company dropped by over 50 percent (see Figure 6.12). The net impact has been that exporters and domestic businesses requiring transport services have become more competitive as the transport component of their total costs has been reduced substantially.

Consumers of goods requiring transport services will also have benefited from the lower prices that followed lower producer costs.

As an over-staffed and inefficient enterprise, the railways were a drain on the taxpayer, who bore the costs through implicit or explicit subsidies. This was illustrated when in 1990-91, as was mentioned earlier, the government assumed NZ\$1.1 billion in accumulated debt and also injected \$360 million in equity into the company (in addition to making many years of social service payments to keep uneconomic services in operation). Thus, the New Zealand taxpayers have been the other beneficiaries of the reform process.

Figure 6.11 - New Zealand Rail: Service Quality Improvement, 1990

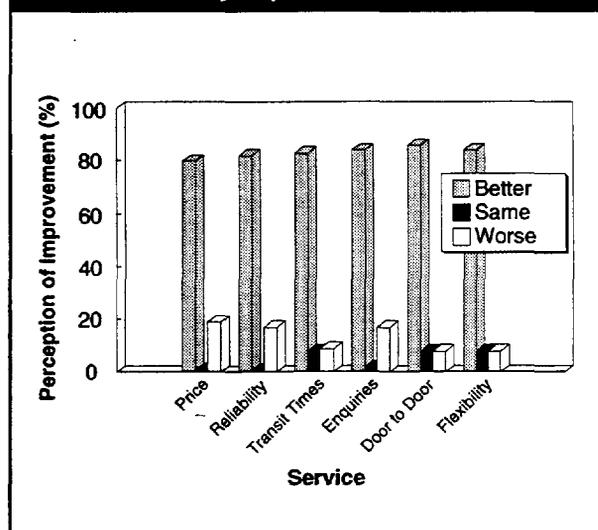
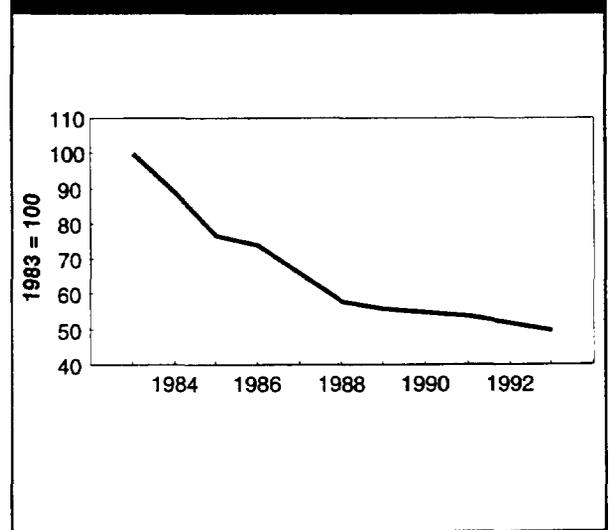


Figure 6.12 - New Zealand: Real Rate per ntk, 1983-93



PART IV: LESSONS LEARNED

The process that ultimately led to the sale of New Zealand Rail took just over 10 years, commencing with the transformation of the former Railways Department into a statutory corporation in 1982. In 1990 the corporation was further restructured and New Zealand Rail Limited was established; this limited liability company was privatized in 1993.

Since it began before that of most of the other government trading departments, the reform of New Zealand's railway system provided considerable experience to guide subsequent reforms.

The lessons learned from the New Zealand experience with railway privatization contain valuable guidelines for the railway privatization process. The main lessons are summarized below.

- *A clear set of objectives supported by the board and management is essential.* The most important elements of a successful privatization program are the establishment of a clear set of objectives to which the board and management are fully committed, and the development of a comprehensive plan for achieving the objectives. In the New Zealand experience, private sector involvement, on the part of both consultants and board members with private sector backgrounds, played a key role in determining the best course for the company and in freeing the privatization process from the departmental and political constraints of the past. The objectives should spell out the following:

- The degree of commercialization to be undertaken (e.g., corporatization, open access, privatization)
- The core lines of business that the company would pursue, and commercial targets for those lines
- The desired scope of the network and operations
- The capital and human resources required (and those surplus to requirements)
- The desired organizational structure
- A timetable for making the necessary changes, with target "milestones"
- An estimate of the costs of restructuring.

- *The pace of change is an important consideration.* Once the objectives and strategies have been agreed upon, it is best to pursue the restructuring program expeditiously and continuously. The restructuring process itself is disruptive. Hence, the major components should be accomplished in as short a time frame as possible. However, it should be borne in mind that the change process never ceases. Objectives should be reviewed on an ongoing basis with an eye to extending them and thereby maintaining momen-

um. Once a stated objective is achieved, there is a tendency to reduce effort if a new target has not been determined. For example, at the start of the New Zealand restructuring process, external consultants identified the "steady state" size of New Zealand Rail as being 14,000 employees (down from 22,000). Today the company is operating with about 4,500 employees. If the goal had not continuously been moved back, it is unlikely that this level of staff reduction (or viability) would have been achieved.

- *Government commitment to the process is essential.* It is essential to have a commitment from the government to the commercialization of the railways. This commitment should be manifested in the provision of appropriate legislation, in willingness to accept the costs of restructuring, and in support for the process of reform.

- *Legacies from the past should be removed.* In the case of New Zealand Rail, these legacies were:

- *High debt levels.* This problem arose out of the government requirement that the company undertake certain activities including the electrification of the main North Island line, and the requirement that the former Railway Department absorb unemployment by employing more staff than was required.
- *Excess staff numbers.* Elimination of excess staff required redundancy payments to be made, which imposed a major financial burden on the company in the form of a significant further increase in debt.

In the case of New Zealand Rail, because these legacies were not fully addressed in the initial stages of the reform they imposed a significant constraint on the financial viability of the company. It was only in 1990, when the company was restructured a second time, that the debt burden was removed from the company by the government.

- *There should be a focus on commercial goals.* To ensure the financial viability of the company and to promote maximum efficiency, the company must be able to focus exclusively on commercial objectives. Any social objectives the company may have had must be removed and placed with another agency, or else the railway company must be financially compensated, by central or local government, for performing the social function. In the case of New Zealand Rail the company continues to provide public suburban transport. This is funded by regional governments on a contestable basis. New Zealand Rail must compete with other transport providers for the available funds.

- *The private sector should be involved in the process.* One of the most critical elements in the successful reform of New Zealand Rail was the contribution made by the private sector. From the beginning of the reform in 1982, the

company's board comprised members from the private sector. Immediately following corporatization, the new board commissioned private sector consultants to undertake a business valuation. This evaluation provided the basis for the company's strategic direction in the initial years of the corporation's existence. New Zealand Rail also hired more staff with private sector and commercial skills, especially in the areas of finance and marketing.

- *A supportive corporate culture is essential.* Management needs to operate as a team if the company is to be reformed successfully. Internal conflicts should be avoided.

- *A successful severance program should be part of the process.* Initially, New Zealand Rail offered voluntary redundancy. That is, the company reduced its staff by inviting people to offer themselves for redundancy in exchange for cash payments. There was a danger that this process would result in the loss of staff members whom the company preferred to keep. In the earlier stages, this was not an issue as the excess staff numbers were large. In any event, management reserved the right to refuse severance in any particular case. Voluntary severance eventually became less

effective as increasingly fewer employees wished to leave; this situation was compounded by a worsening job market. The introduction of compulsory redundancies was used to address this problem.

- *Goals should be communicated to staff and unions.* In this context, it is essential that all staff be seen to be treated equally. Some conflicts arose at New Zealand Rail because the sea-based work force was not restructured as quickly as the land-based work force. It was also found that direct approaches to the work force (e.g., by mail) could avert the filtering effect of unions.

- *Core elements of business should be identified and non-core activities and assets should be disposed of.* The elimination of non-core activities removes potentially burdensome assets and provides management with a clearer focus on the key factors contributing to the success of the company. In the case of New Zealand Rail, a large number of properties were considered to be outside of the core of the business. These were separated out from the main railway business. The intercity coach service was also considered a non-core activity and was sold off. ■

APPENDIX 1

RESTRUCTURING DEREGULATION AND REREGULATION OF THE TRANSPORT INDUSTRY

Public Sector Reform

In addition to the corporatization of commercial government entities, core public services were reshaped. New private sector management practices were introduced under the State Sector Act 1988 and are discussed in detail under Section (4).

The cornerstone of public sector reforms in New Zealand has been the splitting of Crown activities into three separate categories: policy advice and regulation; provision of services; and funding. One of the criticisms of government agencies had been their dual mandate. Government agencies, such as the Railways Corporation, combined a development role with safety responsibilities. New Zealand Railways Corporation (NZRC), for example, was responsible for establishing and operating both a safe and an efficient transport system. On the one hand, safety was of "prime importance" to the corporation with the standards for operations set and maintained by the General Manager; on the other hand, the corporation had to function so that "revenue exceeded costs ... and to provide for a return on capital." Since 1984, government reform has focused on creating frameworks and setting rules within which others decide on what they want to achieve. For example, the Ministry of Transport's role is now primarily that of a policy agency, leaving regulatory functions and funding to other agencies.

Another feature of the public sector reforms was their consistency. In general each new policy initiative built on and supported the previous policy shift. All major reforms were guided by a similar body of theory and a common analytical framework, including the objectives of better policy coordination, greater accountability of bureaucracy and politicians, protection against government power, and improvements to the political process. For example, a single ad hoc committee was responsible for both local government and resource management reforms, and members of the committee were in a position to link problem recognition, policy ideas, and political events.

Public Sector Management Reform

The corollary to the State Sector Act and State Owned Enterprises Act is the Public Finance Act 1989, which reformed the financial management of government by introducing accrual accounting and by perpetuating manage-

ment autonomy. The Public Finance Act distinguishes two separate roles for ministers: they are owners of departments' or corporations' "businesses" as well as purchasers of goods and services. In the first role ministers are interested in a return on investment, and in the second they are interested in the quality of the performance of the department. Management flexibility under the Public Finance Act is balanced by extensive monitoring provisions, including the presentation of annual business plans and Statements of Corporate Intent before Parliament.

Transport Reform

The Ministry of Transport was the first government department to have virtually completed the process of devolving its operating divisions. The core Ministry's functions are largely policy-oriented, promoting safe, sustainable transport at a reasonable cost. The Ministry provides the Minister with advice and policy support, develops legislation, and negotiates and monitors contracts with the stand alone transport safety authorities, Civil Aviation, Maritime Safety, and Land Transport Safety. The Ministry also manages the Land Transport Fund.

The Land Transport Safety Authority was established under the Land Transport Act 1993 and is the principal safety regulator of the land transport sector, both road and rail. Similar safety authorities exist for the maritime and air transport sectors. A new safety regulatory regime for rail operations is set out in the Railway Safety and Corridor Management Act 1992, the Transport Services Licensing Amdt (No 3) 1992, and the Transport Amendment Act (No. 3) 1992. This system was developed in close cooperation with New Zealand Rail Limited (NZRL). Essentially, railway safety is defined in terms of audited safety management systems set out in a Safety Agreement between the railway operator and the Land Transport Safety Authority. A railway operator complying with the terms of this Safety Agreement will require periodic audits in terms of that agreement. If the audits are satisfactory, then no further action will be necessary. If the audits are not satisfactory, then corrective action will be required, followed by confirmatory audits. All audits are at the expense of the operator and are conducted by independent third parties. In this way the most cost-effective outcome for the operator will be to comply with the agreement and to avoid

the additional costs of corrective action and audits. Major rail accidents are investigated by the Transport Accident Investigation Commission.

Transit New Zealand was established under the Transit New Zealand Act 1989. Transit administers land transport funding for roading, transport safety, and public passenger transport, controls the state highway network, and works closely with local authorities on land transport matters. Under the Transit New Zealand Amendment Act 1992, five-year transport planning and implementation has become the responsibility of local authorities, while Transit New Zealand administers funding to local authorities for the transport plans. The issue of central government funding to local government, particularly for passenger transport, remains unresolved.

Environmental and Resource Management Reform

In 1988 the Labour Government undertook a comprehensive reform of environmental statutes, encapsulating the Town and Country Planning Act, water and soil legislation, minerals legislation, and environmental assessment procedures.

The reform process entailed extensive public information and consultation, and from the beginning it was closely coordinated with concurrent local government reform, which in turn was linked to transport planning and licensing reform. Front line responsibility for environmental policy was largely decentralized and delegated to Regional Councils, although power was not ultimately devolved (but was reserved for central government).

The Resource Management Act was enacted in 1991. The structure of the act is complex and tightly integrated, with a series of hierarchical relationships among and between several policy and implementation documents, including Regional and District Transport Plans prepared under the Resource Management Act, and Regional Land Transport Strategies prepared under the Transit New Zealand Amendment Act 1992. Achievement of the Resource Management Act's purpose is fundamental to all hierarchical and related documents, and that purpose is to promote the sustainable management of natural and physical resources (including the land transport network).

Rights of Eminent Domain

Government departments (and NZRC) had rights to compulsory acquisition of land required for "public works." Under the Resource Management Act this right was made accessible to private operators who met the definition of a "network" operator; railway operators fall within this definition. This relevant factor in entitlement is the nature of the industry not its ownership. Thus railways, which have

relatively precise alignment requirements, cannot be frustrated by landowners holding out for unfair prices.

Road Transport Reform

In 1977 the *40 mile limit* that road operators could operate in competition with rail was extended to 150 kilometers (93.5 miles), and a new transport taxation scheme was announced. In the past, the road tax comprised a petrol tax, a mileage tax for diesel vehicles, heavy traffic fees, and a 40 percent sales tax on vehicles. The new tax regime comprised "*Road User Charges*," that is distance charges according to vehicle weight, axle configuration, and vehicle size, an annual license fee to cover administration costs, and a sales tax of 10 percent (removed in 1986). Road User Charges, introduced in 1978, were initially set at a low level. Since 1988, they have increased once and are currently under review as part of a transport pricing study by the Ministry of Transport.

In 1982 the Ministry of Transport released a discussion document on Land Transport Licensing and Regulation, pointing toward the removal of quantity controls and other restrictions on the road transport industry, including the 150 kilometer limit. Area licenses and permits had been used from the early 1940s and had restricted operators to clearly defined areas. This phase of deregulation commenced in 1983. *All distance restrictions* on road operators were removed. To ease the transition, a long distance trucking fee on road freight competition was introduced beyond 150 kilometers, commencing at an estimated 25 percent loading on the cost of operating a truck (NZ\$6.00/ton), and reducing in three steps over three years.

In 1984, the *criteria for entry* to the road industry changed from a quantitative to a qualitative test, which led to a large number of new entrants. Until 1984, entry to the roading industry was closely controlled via a transport licensing system. Entry was based on the applicant's ability to prove demand existed for the proposed services, and it could be easily opposed by other road operators or industry representatives. Demand is no longer part of the entry criteria. Between 1984 and 1991 new entrants could apply "over the counter" for a license on the basis of being a fit and proper person, but without effective qualitative control. From 1991 applicants have had to pass a written examination based on a working knowledge of the industry and regulations.

In 1984 the Ministry of Transport's *rating system*, which controlled the maximum cartage rate that a road operator could charge in terms of time, distance, and unit, was removed. In 1986 the long distance levy on road operators was fully phased out.

Reductions on *tariffs* on vehicles and tires are continuing. In 1983 assembled road tractors and trucks attracted

a 55 percent base tariff and a 20 percent sales tax, while unassembled road tractors and trucks attracted a 35 percent tariff and a 20 percent sales tax. In 1993 assembled road tractors of less than 10.5 tons and trucks of between 3.5 and 10.5 tons attracted a 17.5 percent tariff (excluding imports from Australia and Canada) and no sales tax. Unassembled vehicles, and other road tractors and trucks, have no tariffs and no sales tax. Tariffs on tires have also been reduced. In 1983 all tires attracted a 40 percent tariff plus sales tax; in 1993 only tires with a rim diameter of less than 495 mm have a 20 percent tariff and have no sales tax.

Port Reforms

From 1987 to 1991 the government reformed the operations of major ports and airports. The Port Companies Act 1988 separated off the commercial port operations from the old Harbor Boards and placed them in the hands of new Port Companies. These companies operate commercially subject to normal company legislation and the Commerce Act. Company assets were revalued, and dividends and taxes were to be paid. *Waterfront reform* involved a number of radical reforms, including the abolition of the Waterfront Industries Commission (which employed all the labor) and the removal of operating restrictions on the waterfront. Both reforms permitted faster turnaround times at ports and improved the capacity utilization of assets by land and sea freight operators.

In 1990 the *Shipping Reform Task Force* convened to implement reforms to the maritime industry; these reforms included the removal of demarcation lines and relativities, and the introduction of integrated ships. Before these reforms, ships had been allowed to carry only designated cargo. After the reform, by way of example, a cement ves-

sel was able to use excess capacity to carry containers. The removal of demarcation lines made multiskilling possible. Relativities had formerly required "relative" changes to circumstances; for example, if a captain's salary increased then the bosun's salary would also increase by the same percentage.

In 1991 the *Employment Contracts Act* came into force, which affected wage setting, made the employment of non-union labor possible, and removed the maritime Corner System. The Corner System had prevented the establishment of a direct relationship between employer and employee by requiring companies to hire crew from union-controlled lists. Seafarers would be taken from the top of the list, and when they had finished the job they would return to the bottom of the list.

In 1991 the *Ships Registration Act* came into force, which allowed foreign flagged ships to operate on the coast and, in conjunction with the Employment Contracts Act, permitted the employment of nonunion, short-term foreign maritime labor. Between 1989 and 1992, staff manning numbers on ships dropped between 20 and 40 percent, and between 1988 and 1992 real freight rates for coastal shipping between Auckland and Lyttelton dropped 27 percent.

Competition in the transport industry remains intense. There are few barriers to entry to road transport and all freight carried by rail and coastal shipping is contestable. In 1992, the Ministry of Transport, the Treasury, the Ministry for the Environment, and Transit New Zealand began work on a *Land Transport Pricing Study* designed to establish the true costs of the roading system in comparison with other modes. Road User Charges will be reviewed, along with the question of whether any consequential changes to existing road user pricing and funding systems are necessary. ■

APPENDIX 2

LAND ISSUES: THE TREATY OF WAITANGI

In New Zealand, the state has played a key role in acquiring and developing land for European settlement. This situation arose out of the requirements of the Treaty of Waitangi, which is often considered the founding document of modern New Zealand. The Treaty is an agreement, entered into in 1840, between the indigenous Maori people and the British Crown. The Treaty established Crown sovereignty over New Zealand and gives the Crown sole rights of preemption over land.

The meaning and legal status of the Treaty are subject

to continual development. It is now accepted that the Maori people were guaranteed possession of lands, forests, and fisheries. In 1975 the Treaty of Waitangi Act gave, for the first time, legislative content to the Treaty. The act gave the Maori people the right to reclaim lands held by the state that had been acquired by the state in a manner deemed inconsistent with the Treaty. This had important implications for the establishment of state trading departments as limited liability state-owned enterprises and for the subsequent privatization of these enterprises. ■

APPENDIX 3

LEGISLATIVE PROCESSES

Reform of the Commercial Operations of the State: Restructuring Legislation

Ombudsman Act 1975
 Official Information Act 1982
 Commerce Act 1986
 Fair Trading Act 1986
 State Owned Enterprises Act 1986
 State Sector Act 1988
 Treaty of Waitangi (State Enterprises) Act 1988
 Public Finance Act 1989

Reform of the Ministry of Transport, Environmental and Resource Management, and Local Government: Restructuring Legislation

Public Works Act 1981
 Environment Act 1986
 Conservation Act 1987
 Telecommunications Act 1987
 Local Government Official Information and Meetings Act 1987
 Rating Powers Act 1988
 Transit New Zealand Act 1989
 Transport Services Licensing Act 1989
 Local Government Act Amdt Acts 1988 & 1889
 Building Act 1991
 Resource Management Act 1991
 Transit New Zealand Amdt Act 1992
 Railway Safety and Corridor Management Act 1992
 Transport Services Licensing Amdt (No 3) 1992
 Transport Amendment Act (No. 3) 1992
 Transport Accident and Investigation Commission Amendment Act 1992
 Land Transport Act 1993
 Maritime Transport Act 1993

Restructuring Deregulation and Reregulation of the Transport Industry: Restructuring Events

Date of Effect Event

1969 National Development Conference
 1974 Green Paper "A New Direction for NZ Transport"

1977 Government undertakes review of all transport licensing
 1977 Transport Amendment Act 1977 — Extension of road operator distance limit
 1978 Road User Charges introduced for road freight operators
 1980 Commission of Inquiry into freight forwarding industry
 1980 Carriage of Goods Act 1979
 1982 New Zealand Railways Corporation Act 1981
 1982 Ministry of Transport circulates discussion document on Land Transport Licensing and Regulations
 1983 Transport Amdt Act (No 2) 1983 Part I — Removal of 150 km limit on road operators
 1983 Transport Amdt Act (No 2) 1983 Part II — Quantity restrictions on number of road transport operators removed
 1984 Road User Charges Amdt Act 1984 — Removal of maximum freight charge regulation
 1984 Removal of compulsory unionism and transport association memberships
 1986 Transport Amdt Act (No 2) 1983 Part III — Long distance levy on road operators fully phased out
 1986 Removal of 10 percent sales tax on vehicles and excise taxes on fuel, and reduction in import tariffs on tires and trucks — annual reductions continue
 1988 Increase in Road User Charges
 1986-91 Corporatization of airports
 1987 Opening up domestic aviation industry
 1989 Granting of a number of land and on flying rights to foreign airlines in New Zealand
 1989 Shipping Act 1987, Port Companies Act 1988, Shipping Corporation of New Zealand Act Repeal Act 1988 — Corporatization of Ports complete
 1990 Waterfront Industry Commission Amdt Acts 1988, Waterfront Industry Reform

Date of Effect	Event
	Act 1989, Waterfront Industry Restructuring Act 1989 — Deregulation of stevedoring industry complete
1990	Shipping Reform Task Force convened to implement reforms to the maritime industry
	Shipping and Seamen Amdt Act 1987 and Amdts 1988, Harbors Amdt Acts 1988, Carriage of Goods Amdt Act 1989, Harbors Amdt Act 1990, Port Companies Amdt Act 1990, Shipping and Seamen Amdt Act 1990, Shipping and Seamen Amdt Act 1991
1992	Ships Registration Act 1992, Transport Law Reform Bill 1993 — Removal of cabotage under way
1989	Transport Services Licensing Act 1989: Criteria for operating passenger services goes from quantitative to qualitative test
1989	Road User Charges Amendment Act 1989 — Road User Charges introduced for commercial passenger operators
1990	Deregulation of taxi industry
1990-91	Tendering of local authority bus services
1989	Increase in maximum road vehicle gross weight limit from 39 to 44 tons
1989	Diesel tax reduced: 23 cents to 11.5 cents
1990	New Zealand Railways Corporation Restructuring Act 1990
1991	Employment Contracts Act 1991
1991	Diesel tax abolished
1992	Truck driver operating hours made more flexible
1992	Land Transport Pricing Study commenced
1993	Privatization of NZRL
1993	Transport Law Reform Bill introduced to remove practice of cabotage

1993 Maritime Transport Act 1993 — Employment flexibility

Labor Market Reform: Restructuring Legislation

Industrial Relations Act 1984
 Labour Relations Act 1987 (repealed)
 Amdt Act 1988 (repealed)
 State Sector Act 1988
 SOE Amdt 1988 — Application of Labour Relations Act to all state enterprises including NZRC
 Employment Contracts Act 1991 (repealed Labour Relations Act)
 Health and Safety in Employment Act 1992

Organizational Restructuring of New Zealand Rail: Restructuring Events

Date of Effect	Event
1982	New Zealand Railways Corporation Act 1981
1984	Internal organizational restructure
1987	State Owned Enterprises Act 1986
1988	Internal organizational restructure II
1989	Public Finance Act 1989
1990	NZRC Restructuring Act 1990, Land License/Land Lease/Vesting Order
1990	Companies Act 1955, Companies Act 1993
1990	Internal organizational restructure III
1993	Railway Safety and Corridor Management Act 1992, Transport Services Licensing Amdt (No 3) 1992, Transport Amendment Act (No. 3) 1992, Transport Accident and Investigation Commission Act Amdt Act 1992
1993	NZRL fully privatized
1994	Further internal restructuring ■

APPENDIX 4

RAILWAY PRODUCTIVITY: CASE STUDY

Infrastructure Management and Maintenance

The specialist nature of railway infrastructure (tracks, signals, tunnels, etc.) has traditionally called for a large and often tightly structured organization for its construction and maintenance. The geographic spread of a railway system usually means that there is a series of district headquarters to manage that resource.

New Zealand's long, narrow shape and the country's subdivision into two islands accentuated the perceived need for this structure which developed when economic and administrative activity in New Zealand was provincially oriented to a great degree.

As a state department, the railways were required to build into their administrative systems the usual controls and checks, which resulted in an attenuated and hierarchical decision-making structure: for example, in the 1970s up to six steps were required for relatively minor management expenditures.

During the 1960s some of the smaller district offices were closed (at Greymouth and Invercargill), and the functions were absorbed into the five remaining district offices. At the same time, however, recognition of the need to develop customer contact introduced additional layers into traffic operations. Thus for a mixture of reasons, a complex management structure was maintained, which reflected the residual "local" role of railways in rural areas.

The major changes in productivity within the administrative structure of the railways began from the 1970s, for a variety of reasons:

- The steady reduction in the local/rural role of railways, with the consequent reduction in staff and activity.
- The reduction and eventual elimination of certain activities, such as railway housing.
- A conscious policy to streamline administrative systems, which included the increased use of computers.
- More particularly from the mid-1980s, a greater clarity in the assignment of decision-making responsibilities, with associated budget management responsibilities. The decision tree was reduced, and hence fewer management staff were needed.
- The momentum established by this process, which

encouraged further reviews and improvements (which are continuing). A constant search for better methods and clear accountabilities has introduced a management style that encourages greater productivity and efficiency in infrastructure. This has included a further reduction in regional staff at the middle management level and in operations (for example, the number of train control offices has been reduced).

The final steps have been the refocusing induced by privatization and the clear definition of profit as the key element. The blurring of objectives, significant in government departmental days, began to disappear after the corporation was established in 1982, but there was still a legacy, at least in cultural terms, of the attitudes induced by state ownership. Privatization has been the culmination of a process of cultural/management/ system/accountability change that has been progressing for over a decade, but with increasing momentum and effectiveness in more recent years.

Elimination of Guards Vans ("Cabooses" in North America)

In traditional railway practice a train crew comprised a minimum of two persons in the locomotive and one (a guard or conductor) on the train. The van in which the guard traveled was almost always the last vehicle on the train. The guard's duties included the following:

- Observing the train
- Completing paperwork associated with train operation
- "Guarding" the rear portion of the train should it part, or protecting it from following trains by warning such trains
- Handling parcels and small lots of freight ("roadside traffic") at small and/or unstaffed stations
- Looking after ticketing, etc., on freight services where passengers were carried in an attached carriage
- Supervising shunting at wayside stations
- Re-setting turnouts behind the train at unattended crossing stations
- Distributing train advice and information to track gangs at small stations

- Picking up and distributing tarpaulins, stanchions, etc., at small stations
- Generally serving as the eyes and ears for the organization in train operations terms.

Except on express freight services — which were relatively rare until recent decades — the guard's presence was justified. On some routes with frequent shunting and/or roadside traffic (which often was sufficient to justify additional rail cars as well as the guards van), a second employee would assist the guard.

Almost all these functions progressively disappeared or were transferred to parts of railways operations, which eliminated the need for guards and guards vans; for example:

- Observation is carried out from the locomotive.
- The rear of the train has a radio responder plus tail lamp on the rear buffer which warns the driver if a train parts (in addition, the brakes would automatically be applied).
- All trains are in radio contact with train control or with one another so that immediate notification of an unscheduled stop can be made.
- Small lots are handled only at nodal stations and are distributed by road to small centers. The "local" role of railways in New Zealand has disappeared.
- Passengers are no longer carried on freight services.
- Wayside shunting has been largely eliminated, or else it usually takes place at busy sidings where local staff can assist.
- Larger trains and fewer train crossings, together with the use of CRC, have reduced the need for point setting duties.
- Advice to gangs now comes from their headquarters or is given by radio.
- The train advice and information formerly handed out at smaller stations is no longer needed, as smaller stations (of which there are very few) are unstaffed.
- The locomotive engineers observe and report on other events (as they have always done).

The trend toward eliminating guards and guards vans began in the 1960s, and was virtually completed in the mid-1980s. Of course, operational changes were necessary, such as the introduction of reliable radios for train-to-train and train-to-base control, the development of a reliable radio and responder for the rear-of-train to locomotive contact. The market changed as well: wayside stations disappeared (as a result of general economic and geographic change),

and road transport became common for freight distribution.

Thus guards (over 500 positions) became redundant, along with the need to provide railway housing in some centers. Guards vans (up to 300 in service) also became largely redundant and were sold, scrapped, or converted (a few were kept for passenger train use). The repair and maintenance facilities associated with vans were no longer needed, thus there was a reduction in depot/workshop demands. Additional train capacity (vans weighed up to 20 and 30 tons) was available, and there were also such minor benefits as reduced amenities for guards, reduced shunting, and reduced track occupancy.

Sale of Railway Staff Houses and Hostels

At the peak, New Zealand Railways owned some 6,000 houses, and also operated single men's hostels and camps. Up to about a third of staff were in accommodation provided by the railways. About a third of the total housing stock was pre-cut in a railway-owned factory in the late 1920s, which was apparently an efficient precursor of the modern private sector pre-cut houses factories.

The houses were provided in remote locations, where no other accommodation was available, or in larger towns where shift work requirements, and the need to transfer staff regularly, called for such provision of houses, hostels, or huts.

The costs were high. Rentals were rarely at market rates in the sense that they covered all costs: a rental was a "service occupancy" agreement. Nearly all maintenance was carried out by New Zealand Railway staff, who often traveled long distances from maintenance depots for particular tasks. The administration of occupancy, transfers between centers and houses, and house maintenance required a large staff. In more recent years, single men's camps and some railway settlements assumed particular social characteristics that reflected poorly on the railways.

From the 1950s onward, there was a progressive reduction in the housing fleet as a result of diminishing demand (closed branch lines, automatic signaling, centralized bases for track staff) and the progressive elimination of older houses.

Hostels and single men's camps (hut compounds) were phased out by about 1980. In the mid-1980s there were some 1,800 houses; these were sold, complete with current tenancy agreements, to a private company. A few in particular localities were leased back by the railways to provide housing in remote locations. The costs of below market rentals, maintenance, management, and the administration of an aging asset were thus eliminated. ■

CHAPTER SEVEN

ARGENTINA RAILWAYS CASE STUDY¹

SUMMARY

1. Introduction

The restructuring and concessioning of state-owned railways in Argentina took place over a remarkably short period of time. This rapid privatization was motivated by the need to curb deficit spending and hyperinflation. The process began in July 1989 with the election of President Carlos Menem, who used his electoral mandate to enact two key laws: a State Reform Law and an Economic Emergency Law. This legislation gave the executive branch of government broad discretionary power over case-by-case privatization. A dedicated and politically resourceful staff of rail privatization experts and two ministers committed to reform used this authority effectively to restructure Ferrocarriles Argentinos (FA), the state-owned railway, into 14 marketable concessions and to offer these concessions to the private sector.

When President Menem took office in July 1989, FA operated roughly 35,000 route kilometers and employed 92,000 workers. It was losing US\$1.3 billion annually² and was suffering from a long-term systemic decline. Symptoms of this decline included deterioration in the carrier's rolling stock (half of the locomotive fleet was out of service), poor track conditions and pervasive slow orders (55 percent of the track was in less than acceptable condition), and a high rate of fare evasion (30 to 50 percent), particularly in the Buenos Aires commuter services.

The state-owned railways' decline and growing dependence on the Treasury was not unique to Argentina. By 1989, FA had become primarily a provider of employment benefits to its excess work force, and of low quality, unreliable services to shippers and passengers that had no transport alternatives. The carrier was increasingly subject to political pressures and was strongly influenced by unions, suppliers, and local government authorities that perceived it to be a "free good." In addition, FA service had become increasingly unreliable and unsafe. The working deficit by 1989 was US\$2 million per day, which represented the single largest drain on the nation's Treasury.

Contributing factors to FA's decline included: (1) a production-oriented culture that paid little attention to satisfying customer needs; (2) increasing competition from other modes, particularly from a privately owned and effectively operated road transport sector; and (3) weak railway management and poorly targeted investments. A manifestation of FA's systemic deficiencies was a progressive decline in traffic in all three "businesses" in which FA participated: freight, intercity passenger, and the Buenos Aires City commuter passenger services.

2. Lessons Learned from the Experience

This case study deals with railway reform in Argentina between mid-1989 and mid-1994. The problems confronting FA before this period were in general typical of state-owned railways in developing countries. What was unique to Argentina, however, was the response of the government and, in particular, of a small group of politically astute decisionmakers who solved complex problems in an unprecedentedly short time. The results of their efforts were profound. The structural organizational changes, the ownership changes, and the cultural changes realized in Argentina over a four-year period were more far-reaching and complete in their implementation than those in any other emerging market economy in recent years. Although transformation was not complete at the time of this writing, and although uncertainties remain about the success that new private operators (particularly the freight concessionaires) may have over the long term, the country has made a remarkable start in the effective private sector operation of its railway system.

The lessons learned from the precedents set in Argentina, in concessioning its railways to private and public/private operators, are those of expedient, creative, and forceful action in the face of entrenched political and economic opposition. First, it is clear from the Argentina experience that a "concessionary" approach to railway privatization can work. Other lessons have to do with the pre-selling and bid preparation necessary for concessioning. Valuable lessons can also be learned about the design of the concessions and also regarding the contestable and open processes needed to solicit best offers from potential concessionaires. There are lessons as well that concern the privatization management process through which a state-owned railway that generates huge annual losses and

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²Dollar amounts are in April 1992 US\$.

supports a large excess work force can be rapidly dismantled and “sold” (that is, concessioned). Finally, lessons can be drawn from Argentina’s post-privatization experience — with the enforcement of concessionary conditions and the design of a “minimalist” regulatory framework.

3. The Case Study

This chapter describes the conditions that made the reform of Argentina’s rail industry possible, the main characteristics of that reform, the political developments that permitted its implementation, and the labor and personnel reduction issues with which reformers were forced to deal. This case study attempts to explain why the reform took place when it did and why it took its specific form. The case study also discusses what can be learned from this experience and, in particular, what difficult situations may be avoided by railway reformers who may choose a similar path.

Following this Summary, Part I presents the background, public policies, and management approaches that led to the failure of Argentina’s state-owned railway. Part II covers the technical and political circumstances that effectively re-energized the reform process after several unsuccessful, earlier attempts to introduce private sector participation; Part II also discusses the introduction of reform into the three distinct railway activities that were separately concessioned: (1) freight, (2) commuter services, and (3) intercity passenger services. Part III describes the final steps in the privatization process (how the operating concessions were finally awarded) and post-privatization (the regulatory framework in which the concessionaires operate). Part III also reviews the preliminary results of the concessionaires’ operations. Part IV identifies the lessons from this experience and characterizes the difficulties that still confront the ongoing reform process.

PART I: BASELINE CONDITIONS

1. Historical Background

Railway concessioning in Argentina has precedents that date back 140 years. In 1854 a group of Buenos Aires merchants obtained government approval to construct the first railway line. Three years later, passenger services were being offered over a 10-kilometer long broad-gauge railway that connected downtown Buenos Aires to its suburbs.

From that time on, a number of concessions were granted and Argentina’s rail network began to grow in a “spoke” of lines that radiated from Buenos Aires. The concessions included investment incentives, namely, tax exemptions and land grants in perpetuity. In general, early concessions were guaranteed a rate of return of 7 percent over 40 years. Concessionaires set their own tariffs. Gov-

ernment became involved only when the profitability of a concession exceeded 12 percent. The government was empowered to expropriate any railway line if it paid its accounting cost plus 20 percent.

Government guarantees of a specific rate of return were the primary focus of public policy discussion during the remainder of the nineteenth century. For example, politicians concerned themselves over the question of whether Government should check to determine whether actual investments coincided with those which concessionaires reported. In 1869, 12 years after the first railway line had begun operations, the first railway regulatory body (the Office of Engineers) was created, “with the objective of inspecting national railways and especially to assist in the examination of the accounts of those railways guaranteed by the Nation.”

Between 1870 and 1914 many new lines were constructed and existing lines extended. Argentina’s productive agricultural territories expanded and the country considered itself the granary of the world. The agro-export economy stimulated rapid rail growth. Guaranteed rates of return on investments were eliminated in 1898.

By 1914 the railway system had expanded to 33,710 kilometers, but by this time it was overbuilt. Some lines had been constructed not to satisfy underlying transport needs but rather to claim valuable land that had been granted to railway concessionaires, in many cases in perpetuity. As retrenchment progressed, relationships between the government and the concessionaires became increasingly fractious, and negotiations continued over “incentives” (namely, import duties exemptions, income taxes, and tariff controls).

During the 1930s the continuous growth in railway traffic was interrupted permanently. Table 7.1 shows the growth of railway lines in Argentina, together with the growth of the highway system, for the period 1910-90. In the period before the end of World War II network growth leveled out and then declined markedly as other modal competitors challenged the industry’s premier market position. From 1917, Ford, General Motors, and Dodge Chrysler began exporting trucks to Argentina. By 1932 the National Highway Administration had been created. Over the next 10 years the Administration built 51,000 kilometers of roads, 10,000 kilometers of which were paved or improved. By 1945, some 600,000 private automobiles, 120,000 trucks, and 1,000 buses had been imported. As early as 1936, private railway companies had submitted complaints to the government that road transport competition was undercutting rail tariffs and that road transport tariffs were 30 to 50 percent lower than railway transport tariffs.

By 1945, the rail system had begun to lose market share. The railway network itself did not begin to shrink until

Table 7.1 - Argentina: Growth of Railway Lines and National Highways, 1910-90

Year	National Highway System						Railway Lines
	Paved		Gravel		Earth		Total Length
	km	%	km	%	km	%	km
1910	--	--	--	--	--	--	27,993
1920	--	--	--	--	--	--	33,884
1930	--	--	--	--	--	--	38,122
1935	2,936	9	11,025	34	18,908	58	40,000
1940	4,566	11	8,321	21	27,627	68	41,283
1945	6,231	10	6,127	10	49,025	80	41,000
1950	7,322	12	7,400	12	45,921	76	42,865
1955	8,813	15	7,970	13	43,402	72	42,500
1960	9,699	17	14,264	25	33,093	58	43,923
1965	15,212	33	8,735	19	21,980	48	42,000
1970	20,778	45	8,773	19	16,622	36	41,686
1975	24,694	52	7,773	16	15,152	32	38,000
1980	26,475	70	6,808	18	4,538	12	35,752
1985	27,819	74	7,515	20	2,298	6	35,745
1990	28,309	75	6,196	16	3,238	9	35,745

Source: National Highway Administration and Ferrocarriles Argentinos.

1960. A declining market and a declining need for new capital produced mounting conflict between concessionaires and the government. In 1917 a new government invalidated some agreed upon concessions. Four years later this same government nullified tariff increases that had been taken unilaterally by concessionaires and ordered the concessionaires to return excessive charges to their customers. In 1931 the government imposed restrictions on concessionaires that limited the expatriation of profits. The Congress became involved and debates ensued. Those opposed to concessions argued that the concessioning process was not sufficiently transparent, that information had been falsified, and that the concessionaires' commitments and obligations had not been honored. In 1937 British companies, which controlled most of the railway concessions, offered to sell their ownership rights back to the government.

At the end of World War II, Argentina was a prosperous country because of its grain exports. The end of the war also marked the beginning of a 10-year economic period dominated by Peronism, which was characterized by the policies of nationalization, import substitution, and internal market development based on income redistribution. During this period the government re-acquired control over most public service concessions.

In 1946 the government contracted to purchase three medium-size French railway concessions, and a year later

the government purchased the remaining British concessions. Thirty percent of the purchase price of these concessions came from Argentinean export earnings held in London financial institutions. The remaining 70 percent was paid in installments from export earnings through 1949. The re-acquisition of control of the railways was considered a major political success by the government.

The newly acquired railways included 16 state-owned companies with a collective employment of 150,000. In 1950 the government organized each of these rail lines as an independent state-owned company. At the same time, the government founded a state-owned railway equipment manufacturing industry dedicated to the construction of passenger cars. However, Peronism failed to realize its aim of an industrially self-sufficient Argentina. In fact, an interventionist industrial policy and a closed economy, with increased state participation, accelerated inflation and gave rise to increasingly severe economic expansions and recessions, such as a chronic balance of payments problem. Initially, foreign loans alleviated the deterioration in the terms of trade, but in time macro-adjustment policies became inevitable.

By 1957 the state-owned railways had begun a steep slide in financial performance. Service quality and reliability were decreasing; revenues were insufficient even to recover working capital; needed long-term investment was deferred; low density branch lines were kept in operation;

and the system was overstaffed. With 44,000 kilometers of lines, the Argentinean railways supported 220,000 employees, 70,000 more than when the railways were nationalized.

In 1958 the government asked the United Nations Special Fund and the World Bank to study the country's transport systems in order to coordinate transport programs and set investment priorities. General T. B. Larkin of the United States was Project Director of the "Long Range Plan" (also known as the "Larkin Study") that emerged from this effort. In 1960, while the Larkin Study was still under way, the pre-existing railway lines were reorganized into a single company, later named *Ferrocarriles Argentinos* (Argentine Railways) (FA).

In 1961, the Larkin Study recommended that: (1) 14,000 kilometers of lines (about one-third of the total) should be abandoned because of inadequate demand and the existence of more efficient alternative modes; (2) tariffs on bulk commodities should be increased to improve the financial position of the railways; (3) suburban lines should be electrified; (4) FA should be dieselized and should gradually abandon steam traction; and (5) various management actions should be taken to improve efficiency.

The most bitter strike in the history of Argentina Railways took place when the government attempted to implement the Larkin Plan. In response to a strike challenge, the government attempted to run the trains with military personnel and also jailed railway union leaders. This strong reaction only polarized the two sides. After 40 days of strike, and only through the mediation of the Catholic Church, the government capitulated and abandoned the plan. Clearly the "railway problem" had become something more than a transport issue.

Although the number of employees had been reduced by 50,000 (to 152,000) by 1961, the Larkin Plan had "stalled" as far as network rationalization was concerned. Subsequently, all copies of the Plan were either hidden or destroyed. Railway managers who retained copies of the Plan were characterized in subsequent years as "traitors to the railway cause."

2. The Decline of FA

For the next 30 years FA continued its gradual operational and market decline (see Table 7.2). Among the historic factors compounding the decline of the railways were the following:

- Originally, the railway system was not conceived as an integrated transport system. The network suffered the problems of three different gauges, of duplicate lines, and of sinuosities that were the result of uncoordinated and unregulated individual projects (concessions).

- FA had a strong production orientation. Its managers had little incentive to concern themselves with profitability or service quality.
- The railway system was part of a deliberately designed economic model based on agricultural export. It developed in an era when no alternative public transport was available. When that model was replaced by another based on industrialization, import substitution, and intermodal competition, the state-owned railway could not respond effectively to the shifting demands.
- Road transport, on the other hand, was favored by a minimum of regulations, a developed highway network, and resourceful private sector owners and managers. It was better able to respond effectively to changing market conditions.
- FA was required to provide social and uneconomic services to absorb unemployment. During this period, government railway policies were sometimes ambiguous, sometimes nonexistent, and sometimes ill-timed, and were frequently incompatible with other government policies. For example, provincial governors who had railway manufacturing factories within their jurisdictions lobbied actively to obtain contracts for those factories and to sustain uneconomic rail activity.
- During this period, the management of FA became alienated from the executive branch of government and developed an adversarial relationship with key decisionmakers in the Ministry to which it reported. FA was able to become more independent, because it had developed its own powerful political constituency. The executive branch of government was able to enforce a railway transport policy only by reducing the amount of money annually granted to FA to cover operating cost deficits and capital expenditure.

3. Transport Markets and FA Marketing

Argentina offers limited market potential in terms of rail-compatible commodities and movements. Grains, the largest single rail-hauled commodity in Argentina, are grown mostly in the areas surrounding major export ports and consequently offer only a limited rail-haul opportunity, since in the best of cases grain hauls are less than 500 kilometers. Other bulk commodities — soya by-products and vegetable oils, cement, and aggregates — also offer a short length of haul, of only 350 kilometers. Hence, the movement of these commodities is competitive with truck transport. Mineral development is a marginal economic activity in Argentina. Petroleum and fuel oil, which were previously transported by rail, are currently carried in pipelines which cover most of the country. Long distance hauling of

Table 7.2 - Argentina: FA, Service Demand, 1965-90

ACTIVITY	YEARS					
	1965	1970	1975	1980	1985	1990
Freight						
Tons (thousands)	23,407	22,123	16,271	16,178	17,234	14,056
Ton km (millions)	14,186	13,640	10,659	9,459	9,501	7,523
Average distance (km)	606	617	622	585	551	535
% of total T. U. ¹	47.9	51.8	41.7	42.9	46.9	41.4
Intercity Passengers						
Passengers (thousands)	53,758	26,692	34,757	10,555	11,877	11,174
Passenger km (millions)	6,373	4,737	6,890	4,141	4,943	4,716
Average distance (km)	119	178	198	392	416	422
% of total T. U. ¹	21.5	18.0	27.0	18.8	24.4	26.0
Commuters, Buenos Aires						
Passengers (thousands)	444,110	413,113	412,022	381,947	288,128	273,591
Passenger km (millions)	9,065	7,947	7,973	8,458	5,801	5,926
Average distance (km)	20	19	19	22	20	22
% of total T.U. ¹	30.6	30.2	31.2	38.3	28.7	32.6
Total T.U. ¹ (millions)	29,623	26,325	25,522	22,058	20,245	18,165

¹Traffic Units = Passenger km + ton km.
Source: Ferrocarriles Argentinos.

fruits, vegetables, containers, and general cargo generally requires higher quality and more reliable service than the railways can provide. It is significant that competitive balances between the modes have tilted over time in favor of truck transport and against rail.

Increasingly, these political forces affected resource allocation decisions and thus reinforced a shift in service mix in favor of passenger service. By the 1980s FA had become predominantly a passenger railway, and increasingly stronger political forces supported the priority development of passenger services. Among those promoting passenger services were the mayors of Argentina's largest cities, the rail unions (each locomotive km allocated to passenger services generated more jobs than if it had been allocated to freight services), and, as has been mentioned, passenger car manufacturers. The most reliable locomotives, for example, were reallocated from freight to passenger service. The result was an accelerating downward spiral in freight market share.

During this period FA enforced no formal pricing or tariff policy. As a rule of thumb, however, rail freight charges were set at 65 to 70 percent of road transport tariffs. At

these levels, the railway usually discovered a segment of price-sensitive shippers that was willing to tolerate low quality services. For example, rail rates for export grain during the peak export season would translate into a US\$3 to US\$5 saving per ton versus truck rates.

The FA also became increasingly insulated from commercial considerations. Its de facto "low end" freight market segmentation strategy and its increasing emphasis on passenger traffic allowed it to justify increased needs for government subsidies based on "social benefits." The low end strategy assured full utilization of equipment and increased capital budget requests to the government on the basis of the need for expanded capacity. The continuing growth of the "gap" between revenues and costs apparently escaped critical scrutiny. Table 7.3 shows FA's financial performance during this period.

4. Early Dialogue on Downsizing

Early on, it became clear that the asset base of FA needed to be downsized. At least three "models" of a defensible "core business" were developed and analyzed by the FA staff:

Table 7.3 - Argentina: FA Financial Performance before Reform, 1980-88

(in April 1992 US\$)							
Year	Revenue	Operating Expenses	Operating Deficit	Capital Expenditure	Financial Needs	Other Expenditures ¹	Total Financial Needs ²
1980	894.3	1,960.0	1,065.6	508.5	1,574.1	461.1	2,035.2
1981	784.7	1,602.0	817.3	382.1	1,199.4	630.0	1,829.4
1982	494.9	1,048.7	553.8	406.8	960.6	557.2	1,517.8
1983	743.3	1,330.9	587.6	553.8	1,141.4	221.1	1,362.5
1984	686.6	1,502.5	816.9	907.8	1,724.7	516.4	2,241.1
1985	599.6	1,468.4	868.8	365.4	1,234.2	218.9	1,453.1
1986	668.6	1,583.2	914.6	382.5	1,297.1	231.4	1,528.5
1987	590.6	1,681.2	1,090.5	378.9	1,469.4	190.6	1,660.0
1988	621.7	1,368.3	746.6	329.1	1,075.7	170.7	1,246.4
Avg. 1980-88	676.0	1,505.0	829.1	468.3	1,297.4	355.3	1,652.7

¹ Mainly interest but also taxes.
² Deficit financed by Government of Argentina.

- The “Level 1 Model” concentrated freight and passenger services on half of the existing network. This model required the lowest level of financial support from the federal government. The Level 1 Model primarily supported the freight transport market and concentrated investment on a 16,000-kilometer trunk railway network. Under this scenario long distance passenger services would be run along a limited number of corridors centered on Buenos Aires. Maximum running speeds would be 100 to 120 km/hr. The commuter services to the Buenos Aires Metropolitan Region would be supported with existing rolling stock.
- The “Level 2 Model” added long distance passenger services to core freight services and also included the renovation of rolling stock and the electrification of the two main corridors between Buenos Aires and Rosario and Mar del Plata. In addition, commuter passenger lines in Buenos Aires would be electrified. Signaling would be modernized and new workshops would be constructed for rolling stock maintenance.
- The “Level 3 Model” added to the two previous programs track rehabilitation over the entire secondary network, as well as diesel units to provide passenger services, including commuter services in the main cities. This scenario also entailed improved signaling (mainly CTC) along FA’s main corridors.
- Level 1 Model: US\$250 to US\$300 million per year. Basic investment components would include 25 new locomotives, 700 rail cars, and 500 kilometers of track rehabilitation. The last would require about US\$190 million per year.
- Level 2 Model: US\$650 to US\$800 million per year.
- Level 3 Model: US\$900 to US\$1,350 million per year.

Between 1970 and 1990, FA’s investment averaged US\$298 million annually, enough to maintain the railway within the Level 1 Model. However, FA’s corporate objectives were continually redefined during this period and, as a result, resources sufficient to support the Level 1 Model were not allocated. Rather, resources were dispersed among a number of crisis projects and politically expedient needs, and were not used to support the effective maintenance of coherent “core” business strategy. The problem during this period was not insufficient investments but rather their unsystematic allocation. Two statistics underscore the situation: by 1990, 54 percent of the 35,745 kilometer network was in “poor” or “fair” condition; and, within the locomotive fleet of 992 units, only 49 percent was serviceable at any given time.

5. Increasing Competition and the Final Crisis

Traffic decline precipitated the final railway crisis. Between 1965 and 1990, total traffic units (passenger km plus ton km) declined by 39 percent, from 29.6 billion to 18.2 billion (see Tables 7.4 and 7.5). Traffic reductions occurred

These “models” had the following respective capital requirements:

in all three business activities — freight, intercity passenger services, and commuter services in the Buenos Aires Metropolitan Region. However, the decline in freight services was the steepest. In two and one-half decades, freight traffic declined from 14.2 billion ton km to 7.5 billion. The Buenos Aires Metropolitan Region commuter passenger services also declined markedly by 35 percent, from 9.1 billion passenger km to 5.9 billion. At the same time, passenger services declined by only 26 percent (6.4 billion passenger km in 1965; 4.7 billion in 1990), and actually increased their share of total served rail market from 22 to 26 percent. This shift in market mix reflected locomotive allocations and service development practices. Freight traffic, which was the only business activity with the potential to be profitable, was sacrificed as a result of politically determined strategic priorities. Excluding passenger services in Buenos Aires, average traffic density dipped to an extremely low and unsustainable level of 350,000 traffic units per track kilometer.

Over the period 1970-86, railway freight market share declined from 14 percent to 8 percent (see Table 7.5). The ratio of road to rail ton km increased from 3.4 to 1 in 1970 to a ratio of 6.9 to 1 in 1986. The market shift in intercity passenger services was lower (see Table 7.4): rail market share decreased from 11 percent (1970) to 8 percent (1986) during this time. During this period air transport and transport by private automobiles increased markedly by more than 300 percent and 50 percent, respectively.

The traffic decline was accompanied by the increasing

need for government subsidies (see Table 7.2). During the 1980s the federal government contributed an average of US\$1,407 million per year for FA. Most of these funds were used to cover operating expenses which exceeded revenues by the end. Additional capital funds were provided less consistently and major allocations were targeted at a series of “high visibility” projects. Capital funding was insufficient to replace rolling stock and infrastructure.

The federal government paid operating subsidies in tranches which were earmarked for no specific use. Since FA had no costing system and no effective financial controls, it was not possible to know the actual application of funds (that is, to freight, intercity, or commuter passenger services). The Treasury took a pragmatic approach in managing railway operating deficits. Accountability and controls remained weak during this period. For example, at one point the Treasury applied the rule of thumb that contributions made to the railway should not exceed labor expenses. During the 1980s, as its operating deficit swelled, FA became a macroeconomic problem as well as a fiscal problem: its requirements eventually exceeded 1 percent of GDP.

The status quo was not sustainable, and, a new word appeared on the horizon: “private participation.” This is how the idea of “privatization” of the Argentine railway system began.

6. Preamble to Radical Reform

The participation of the private sector in railway activities

Table 7.4 - Argentina: Intercity Passenger Service Demand, 1970-86

Mode	(in millions of passenger km)				
	1970 Pass km %	1975 Pass km %	1980 Pass km %	1985 Pass km %	1986 Pass km %
Air Transport	988 2%	2,404 4%	3,649 6%	3,670 6%	4,034 6%
Land Transport					
<i>Cars</i>	22,877 51%	26,622 49%	34,081 56%	35,069 56%	35,385 55%
<i>Buses</i>	16,233 36%	18,636 34%	19,500 32%	18,807 30%	20,115 31%
<i>Rail</i>	4,737 11%	6,890 13%	4,141 7%	4,943 8%	5,345 8%
TOTAL	44,835 100%	54,550 100%	61,371 100%	62,489 100%	64,879 100%

Note: Percentages may not total to 100 percent because of rounding.
Source: Unión Argentina de la Construcción, Infraestructura Argentina 1970-87, November 1988.

Table 7.5 - Argentina: Freight Transport Demand, 1970-86

(in millions of ton km)					
Mode	1970 Ton km %	1975 Ton km %	1980 Ton km %	1985 Ton km %	1986 Ton km %
Air Transport	17 —	25 —	29 —	40 —	47 —
Water Transport	29,858 30%	20,396 21%	24,580 21%	16,145 14%	19,288 16%
Land Transport					
Trucks	46,296 46%	49,915 51%	60,290 52%	60,404 54%	62,409 53%
Pipelines	9,844 10%	16,812 17%	22,636 19%	26,662 24%	27,808 23%
Rail	13,640 14%	10,659 11%	9,459 8%	9,501 8%	9,090 8%
TOTAL	99,655 100%	97,807 100%	116,964 100%	112,712 100%	118,636 100%

Note: Percentages may not total to 100 percent because of rounding.
Source: Unión Argentina de la Construcción, *Infraestructura Argentina 1970-87*, November 1988.

took neither an orderly nor a coherent form. Halfway reforms included the concession of marginal passenger services. One of these services involved the Embarcación-to-Formosa corridor, located in the north-eastern part of the country close to the Paraguay frontier. FA concessioned the passenger services on this line beginning in 1980, with the requirement that the concessionaire not only operate freight and passenger train services but that it also attempt to commercialize local freight services. After five years of operations, both parties characterized the experience as "disastrous" and walked away. FA accused the concessionaire of failing to honor its commitments for the payment of track and facility use fees. The concessionaire responded that the requirement to comply with FA practices and operating rules made operations uneconomic.

Perhaps the most ambitious private sector experiment was the creation of the "Régimen para la Incorporación de Vagones de Propiedad Particular" (Rules for the Incorporation of Privately Owned Rail Cars). These rules were designed to encourage suppliers to invest in private rail cars and to use them to haul their own traffic or alternatively to encourage third parties to provide rail service. However, a chronic lack of motive power and the consequent slow turn-around of private cars, coupled with inadequate tariff levels, discouraged private investors.

By 1987 — two-thirds of the way through the Alfonsín Administration (1983-89) — the mounting foreign debt, an unstable domestic economy, and a soaring fiscal deficit clearly underscored the need for radical restructuring of the entire economy. State-owned companies could not cope with the more open economic policies of the government: deregulation, increased competitiveness, and cost reduction. Their rigid bureaucracies were ill-adapted to the new environment.

Alarmed by its election loss in 1987, the Alfonsín Administration attempted to selectively restructure state-owned companies. The Administration failed in its initial attempts before creating the Directorio de Empresas Públicas (DEP), or Board of State-Owned Companies. The DEP fell under the jurisdiction of the Ministry of Public Works and Services. Its objectives were to strengthen the management of state-owned companies and to open opportunities for the private sector to invest in them. A task force led by members of the DEP and including representatives of FA was created to restructure the railway. A strategy informed by concurrent developments in Sweden emerged from task force meetings. This strategy involved the creation of four corporate units:

1. FERROCARRILES ARGENTINOS (FA) would retain control of rail infrastructure and workshops.

FA would remain a state-owned company. It would charge international prices for rolling stock maintenance. User operators would pay for use on the basis of their creditworthiness.

2. FERROCARGO (FC) would focus on freight operations. It would be a mixed ownership company with the following capitalization: 51 percent private, 29 percent state-owned, and 20 percent employee owned. The state would contribute locomotives and rail cars to the company as equity. The private sector would pay in US\$150 million to be used for rehabilitation. Initially, 100 percent of FC's repair work would be done at FA workshops.
3. FERROTUR would render intercity passenger services. It would have the same ownership structure as FERROCARGO.
4. METROPOL would run commuter services in Buenos Aires and manage FA's railway real estate.

Financial projections generated for the new companies indicated that the project would substantially reduce the overall operating deficit. They also indicated that FERROCARGO was a financially viable company that could increase its market share significantly. On the basis of this, the DEP invited a group of six Argentine companies to propose an implementation plan.

The Ministry of Public Works and Services asked the World Bank to send experts to advise the task force. A team of experts subsequently made five visits to Buenos Aires. This invitation represented a distinct break from the previous political epoch. The Alfonsín Administration had traditionally been associated with "statism" and was ideologically opposed to private sector participation in public enterprises.

From this point, however, events rapidly slid backward. The six companies were soon reduced to two. Each had an irreconcilable conception of possible participation. At the same time, the opposition party publicly declared its strong opposition. The unions also reacted negatively. Then, when a draft contract between the private investor and the government was finally being considered, the cooperative rapport between the DEP and FA eroded. The FA Board of Directors gave reluctant support to the project but, behind the scenes, they maneuvered against its implementation.

In a parallel set of developments, the railway establishment responded with a reform agenda of its own. In a public ceremony the President of FA received the Plan de Rehabilitación de Ferrocarriles Argentinos (Argentine Railways Rehabilitation Plan) which had been prepared by interest groups that supported the status quo, including the Cámara de Fabricantes Ferroviarios (Chamber of Railway Manufacturers), the Cámara de Vía y Obras (Chamber of

Way and Works), the three main railway unions, and the most prominent freight car manufacturers. Although their plan considered the possibility of private participation, it did not put forward a specific proposal for private sector involvement. The scenarios presented in the plan were predictable: they included optimistic traffic projections, larger investments, and additional support from the federal government to finance increased investment and to restructure existing debt.

In spite of much initial rancor, the government publicly supported the FERROCARGO project and began to draft the decree that would implement the new railway strategy. However, weakened by growing inflation and with a presidential election approaching, the government could not sustain its support of the project in the face of opposition from the railway establishment, and abandoned it.

Those who worked through this experience learned from it. They learned what could and what could not be tolerated politically and they learned the virtue of simplicity in the restructuring of railways. The division of FA into interconnected business activities (track, operations, and rolling stock maintenance) proved an inexhaustible source of complications and internecine conflicts. Moreover, they learned that the search for consensus was a political mistake. It only helped those who opposed the project to coalesce their opposition in defense of the status quo.

In the summer of 1989, with elections three months ahead, inflation was accelerating. It would soon dominate all political discussion and provide the economic backdrop that would make radical changes politically possible.

7. Events Leading Up to Railway Restructuring

In April 1989 inflation was 45 percent; by May it 98 percent. In June it was 198%. Against a backdrop of total economic disorder, the Alfonsín Administration lost the presidential election in May 1989 and was forced to resign before its term ended. A new president from the populist Peronism party, Carlos Menem, took power for a six year term. Argentina's reform in general, and its railway reform in particular, cannot be explained without an understanding of the fear that hyperinflation aroused, and the way this fear conditioned people and institutions to accept radical change.

When President Menem took office on July 8, 1989, he immediately requested that the Argentine Congress pass two key pieces of legislation: the Economic Emergency Law and the State Reform Law. The State Reform Law gave the executive extensive powers to enforce privatization policy for which no Congressional pre-approval was needed. Each privatization case needed only to be reported to the Congressional Comisión de Seguimiento de Privatizaciones (Privatization Follow-Up Commission). The opinions of

this commission, however, were not binding on the executive. The State Reform Law mandated that railways could be privatized only through concession and could not be sold outright.

In the months that followed, the rail unions made strenuous claims for salary increases; relations between the Ministry of Public Works and Services and FA's top management broke down, and the government issued Decree Plan No. 666, the first strategic rail plan under the new government. Decree 666 offered several new ideas for restructuring and signaled the beginning of a serious debates over the future railway system in Argentina. Decree 666 included the following agenda:

- *Short term (180 days) actions.* These should include lower operating expenses, reduced intercity passenger services, and fewer commuter trains in the Buenos Aires Metropolitan Region during night hours. In addition the decree recommended organizational changes designed to reduce the number of management positions and to decentralize functions. It also recommended a restructuring of rolling stock maintenance workshops through increased participation by employees.
- *Strategic guidelines for a privatization process, some of which were based on previous FERROCARGO experience.* Concessions should be vertically integrated. And a single concessionaire would maintain infrastructure as well as rolling stock, and would control traffic, market services, and operate trains. Concessionaires could renegotiate existing labor contracts and introduce new working rules and practices.
- *Partially offsetting policies and directives seemingly designed to neutralize a rapid implementation process.* The decree included additional ad hoc requirements: preparatory studies and document development, a mandate to put out bids within 120 days for the two principal intercity passenger services corridors (Buenos Aires-Mar del Plata and Buenos Aires-Rosario), a similar mandate for selected freight lines (the Rosario-Bahía Blanca corridor, and two grain branch lines that did not constitute a corridor and did not have a direct access to export ports), a new ticket sale and control system for Buenos Aires commuter services, and the lease of rolling stock. The decree also mandated that the Ministry of Public Works and Services (and not FA) would be responsible for carrying out the concessionary bidding process.

Contradictory policies within Decree 666 reflected the conflict that persisted between the Ministry and FA. *If initiatives included in the decree had been pushed forward at the*

same time, the level of conflict would have derailed reform completely.

The next task was to "reopen" the decree and to advance coherent and viable ideas and abandon those that were not feasible. The Ministry requested that the World Bank provide technical support, and the Booz-Allen & Hamilton consulting group was retained.

The main strategic questions addressed to Booz-Allen and answered in their final report included the following:

- *Should the railway system (35,700 kilometers of track) be privatized as a single unit or could that process be carried out in stages? Would a staged privatization starting with the Rosario-Bahía Blanca corridor jeopardize the potential of the system?* Booz-Allen responded that although keeping the network unified could improve its potential to capture traffic, it would be difficult, from both a financial and a political standpoint, to privatize such a huge system in one shot. *If, on the other hand, the system were privatized in stages, the resources needed by individual business groups to rehabilitate the system would be lower and, at the same time, a larger number of proposals might be attracted. It could also be easier to change work rules on a regional scale and case-by-case than on a system-wide basis.* Moreover, competition among different operators would encourage efficiency. The first parts of the system to be privatized could serve as examples for future privatizations. The Rosario-Bahía Blanca line was a good candidate for a pilot concession. About two years earlier, and when the FERROCARGO (FC) project was under study, the private sector had shown interest in the concession of the Rosario-Bahía Blanca line, which linked Argentina's two main export terminals (the ports of Bahía Blanca and Rosario) to grain areas.
- *How should freight concessions be organized? Should freight concessionaires provide intercity passenger services? As well as freight service?* Booz-Allen replied that, since freight concessions are only marginally profitable, concessions should be vertically integrated, with a single freight concessionaire for each part of the system. Locomotive parts and track rehabilitation were the most urgent investment needs, as they directly affect service quality; concessionaires should focus their initial commitments on these essential capital requirements. In addition, concessionaires should not be required to run intercity passenger services. However, if this requirement is established and concessionaires do not want to run these passenger services, concessionaires should be compensated by the state.

- *What should be done with intercity passenger services?* Booz-Allen responded that two types of services should continue: those that cover their variable costs (most did not) and those considered to be “critical,” that is: (1) they serve communities with no alternative form of public transport, or (2) they produce economic benefits larger than the financial cost of the subsidy.
- *What should be done with commuter services in Buenos Aires?* Commuter services should be run as a special unit on a regional level with improved profit incentives.
- *How should the personnel redundancy problem be approached?* By December 1989, FA had 94,000 employees on its payroll. Booz-Allen suggested that the number might be reduced to 35,200 (14,500 for commuter services; 3,000 for intercity services; 14,700 for freight services; and 3,000 for other concessions), which would total about 59,000 redundant employees. *Those employees not required by freight concessions or commuter operations should not continue working at FA. They might jeopardize the reform process. Rather, they should receive a severance package.*

The Booz-Allen report helped sustain reform momentum. It reinforced strategies favored by the Ministry and provided credibility through its economic analysis. It also provided a general framework for labor force restructuring and quantified the social costs associated with various reform scenarios. One of the conclusions emerging from the report — that freight services were only marginally profitable — dispelled a long-standing myth. Another key conclusion was that the ongoing economic crisis made it imperative to privatize without delay and that privatization should not wait on restructuring. This was what the Ministry needed to bolster its own position.

While the study was being completed, relationships between FA and the Ministry further deteriorated. A battlefront had been drawn over unprofitable intercity passenger services and the bidding documents for the concession of the Rosario-Bahía Blanca corridor. Both parties had agreed that some intercity passenger services should be discontinued. However, when the Ministry approved a final list of those services to be curtailed (including nearly 35 percent of a total of 70 to 80 daily passenger trains), FA retreated in the face of opposition from unions and province governors. Subsequently, FA’s management discontinued only a portion of the services originally targeted for termination. The Ministry made a second attempt to enforce its mandate. Initially the deadline for implementation was postponed, then suspended.

FA and the Ministry also disagreed regarding the prepa-

ration of bidding documents for the concession of the Rosario-Bahía Blanca corridor. This is an 800 kilometer corridor that connects the two main grain export ports in Argentina. The port of Bahía Blanca in particular plays a critical role in the nation’s transport system. Since it had been dredged to 45 feet it allowed the entrance of large ships. By the late 1980s, the railway line that serviced the port was partially flooded and without major repairs could not support reliable services. Only the port terminal ends of the line, moved any traffic. Private sector interest was based on the deep channel advantages of Bahía Blanca and on the future prospect of large grain volumes transported by rail from the Rosario area to Bahía Blanca.

The specific points of disagreement between the Ministry and the FA management included the following. First, the Ministry wanted to concession a larger network, of about 5,000 kilometers. This network would include not only the Rosario-Bahía Blanca line but also the Huinca Renanco-Bahía Blanca trunk line and its branch lines, which led to the Bahía Blanca port. FA did not want to include Huinca Renanco-Bahía Blanca in the concession. Second, the Ministry wanted a vertically integrated concession with a single operator. FA wanted access to the line, as well. Finally, the Ministry did not want intercity passenger services to be part of the concession on the grounds that all of these services were unprofitable. FA insisted that a passenger service requirement be included in the concession.

Previously, in the second half of the 1980s, when the Alfonsín Administration was still in power, the World Bank had attempted a reform of Argentina’s public enterprises. The FERROCARGO project had been part of this effort. The reform effort ended, however, when Argentina failed to comply with the conditions agreed upon with the International Monetary Fund. In early 1990, conversations between the Bank and the government resumed. Given the importance of FA in stemming the government’s overall fiscal deficit (FA’s net cash requirements were approximately US\$1,300 million per year), any fiscal reform effort of necessity must encompass the railway. The Bank had not previously succeeded in developing a working relationship with FA. In the early 1970s and 1980s two railroad reform loans had been canceled when conditionalities included as part of these loans had been disregarded.

Ten months into the Menem Administration it became clear that this government had chosen a new policy, one of economic liberalization and enterprise privatization. At this point, Mr. Jorge Kogan, former Director of Transport Planning at the Ministry of Public Works and Services, entered the scene and helped to mobilize the resources that the World Bank had furnished. The result of Mr. Kogan’s “shuttle diplomacy” among the FA, the World Bank, and the Ministry was an unprecedented Memorandum of Un-

derstanding. Mr. Julio Savón, who signed the Memorandum of Understanding on behalf of FA, was the FA's most recently appointed trustee. The Memorandum established a general framework within which subsequent detailed restructuring efforts would proceed; this framework included the following principles:

- Services provided by FA did not currently meet the needs of the country.
- The restructuring process of FA was critically important to the economic recovery of the entire country.
- Most of FA's operating functions would be transferred to private companies, while FA would continue to provide only those uneconomic services required by the government and to control a corresponding part of the network.

This Memorandum of Understanding clarified objectives and means that the subsequent restructuring was to follow. Assets that were financially viable would be privatized; FA would operate only such unprofitable services as could be justified on social grounds and that were required by the government.

The Booz-Allen report provided the initial technical support for the 1990-93 Railway Transition Plan. This Plan, together with the Memorandum of Understanding with the World Bank, became the policy blueprint and the philosophical basis on which FA qualified as the beneficiary of a World Bank railroad reform loan. This loan helped to finance much of the subsequent transition. In summary, the basic points of the Transition Plan included the following:

- By December 1991, two-thirds of total freight traffic would be moved by private operators. "Essential" freight services for communities with no alternative form of public transport would be operated either by FA or by a private operator under contract with the government.
- A new independent transportation authority in the Buenos Aires Metropolitan Region would be established to provide commuter services. This authority would be funded jointly by the central government, the Province of Buenos Aires, and the City of Buenos Aires.
- Financially viable intercity passenger services would be concessioned, and nonviable and nonessential services would be discontinued. Essential passenger services would be operated either by FA or by a private concessionaire under contract with the government.
- The railway work force would be reduced on the basis of a policy of "social sensitivity" and "nontraumatic"

transition. Inefficient work rules and conditions would be renegotiated.

- The overall restructuring program would reduce subsidies from US\$500 million in 1989 to US\$160 million by 1994.³

Both the Memorandum of Understanding and the Transition Plan were approved in a presidential decree. Mr. Kogan was appointed Director of the Railway Restructuring Unit and charged with implementing the plan.

Just 11 months into the Menem Administration, the Memorandum of Understanding set out in black and white the key points on which railroad actually restructuring was to be based. It was the first official document that considered that FA might actually stop running trains and that a major reduction in personnel (an extremely controversial and previously ignored issue) could take place.

PART II: RESTRUCTURING OF ARGENTINE RAILWAYS

1. The Railway Restructuring Unit

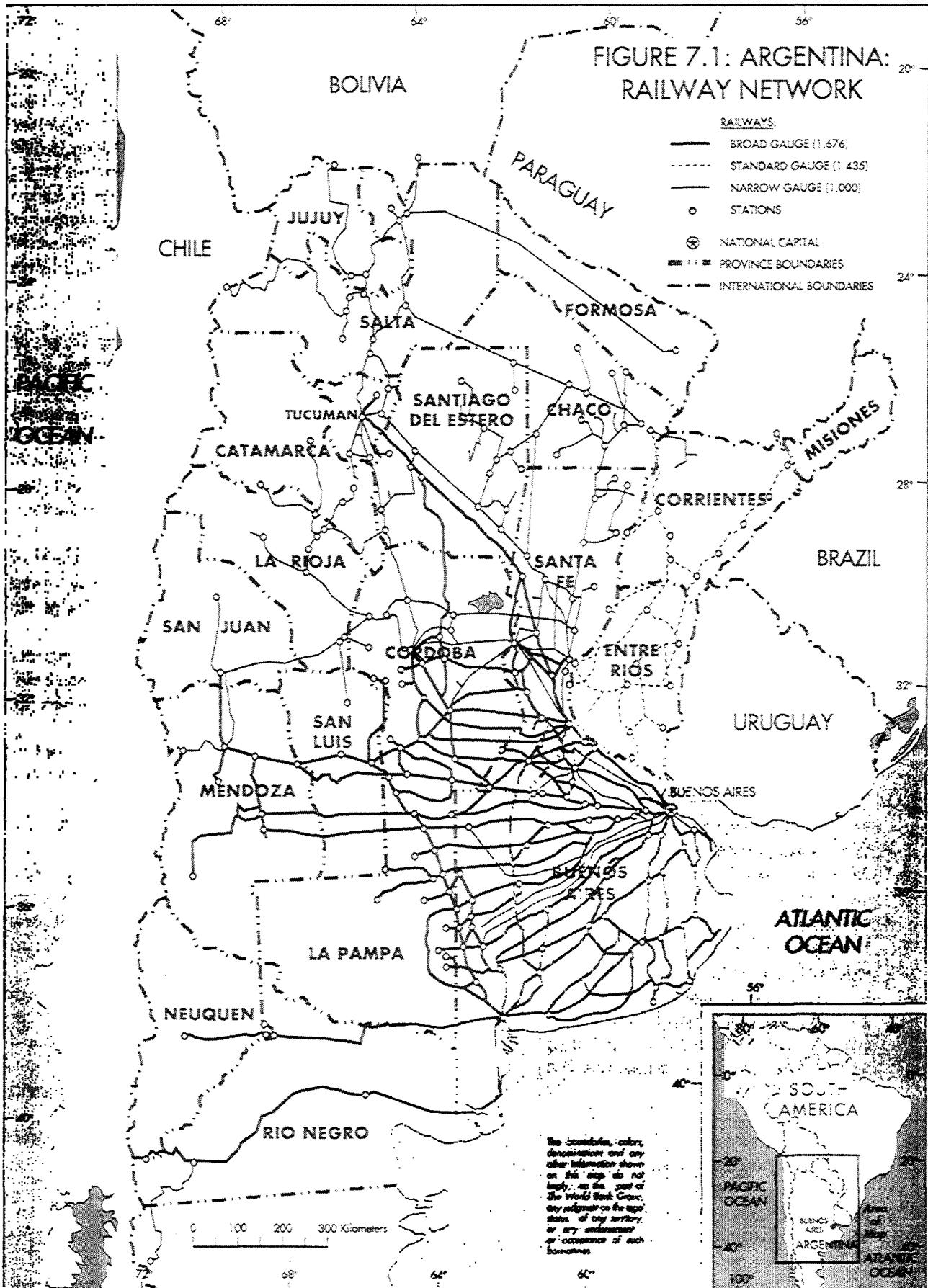
Between mid-1990 and the beginning of 1994 the Argentine railways were restructured and reorganized. Figure 7.1 shows a map of Argentina's railway network as it existed. In July 1990, one month after the Memorandum of Understanding was signed, a special unit, the Railway Restructuring Unit, was created within the jurisdiction of FA to manage the transition. Mr. Jorge Kogan was appointed Director of this unit. Initially, the unit had no budget and its initial complement of personnel included one railway expert and a secretary. Nevertheless, a great deal was accomplished during the ensuing 12 months.

In a parallel but more circumscribed development, a task force of 20 specialists was created within the Ministry of Public Works and Services. Later this group was named Grupo de Apoyo Ferroviario (GAF) (Group for Railway Support). It included former railway employees with technical backgrounds and experts in transportation planning. The GAF was charged with developing the bidding documents for the Rosario-Bahía Blanca concession. This difficult and precedent-setting task represented the first instance anywhere in the world in which a freight railway system had been concessioned through a public bidding process.

After the Booz-Allen work and with the backing of the

³The government contributed about US\$600 million in 1989 (in April 1992 US\$), but more strictly, FA's financial needs amounted to US\$1.316 billion. The difference was covered by a fuel tax, most of which was transferred to the railway, and by loans taken in the financial market.

FIGURE 7.1: ARGENTINA: RAILWAY NETWORK



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World Bank, the Ministry of Public Works and Services enjoyed strong political support and directed both efforts. By this time the Ministry had resolved most of the issues that had separated it from FA, including the following: (1) the concession would be vertically integrated and would have a single operator (FA would not compete with the private operator); (2) the concession would include the main active line to Bahía-Blanca (the Huinca Renancó - Bahía Blanca line); and (3) the freight operator would not be required to run intercity passenger services.

2. Preparation in Freight Concessions

In the fall of 1990 the Railway Restructuring Unit and GAF agreed on general principles and proceeded to implement a privatization strategy based on the following:

- Freight operations could be concessioned first. All cargo operations would be performed by private companies, which would submit a bid to purchase concessions for specific lines. Lines would correspond to self-sustaining transport markets which were economically viable.
- The concessions would be 30 years, with an optional 10-year extension. They would be vertically integrated and include freight marketing, train operations, equipment and track maintenance, and rehabilitation responsibilities. The concessions would convey the exclusive right to use infrastructure to single concessionaires. No other party could operate cargo services over the concessioned territory without the concessionaire's consent.
- The private freight operator would be entitled to, but not required to, provide intercity passenger services. However, the operator would have the obligation to permit intercity passenger operations either by FA or by a third party concessionaire. In return, adequate compensation would be paid for track use and traffic control services.
- At the outset concessionaires would be obliged to hire former FA employees, but only in numbers required to efficiently satisfy operational needs. Work rules would be renegotiated with the unions. The government would not be involved, except for safety concerns. Personnel not required by concessionaires would receive a severance payment financed through the World Bank.
- Although in practice rail freight traffic rates were deregulated, every railway operator would be required to file maximum rates by commodity with the Secretary of Transportation and to gain his approval for the maximums. If the government did not issue an opposite decision within 30 days, filed rates would

become automatically effective. Since competition from road transport was intense, the Transportation Secretariat would normally file no objection and the proposed maximum rates would become effective.

- Each concessionaire would receive from FA a specific number of locomotives and rail cars adequate to serve the concessioned area. Concessionaires would pay fees for the use of the "line" as well as for the use of equipment. In addition, concessionaires would be expected to provide new or rehabilitated locomotives and cars in order to offer an improved level of service. Concessionaires would also be expected to invest in track rehabilitation.

The bidding documents, drafted by the Grupo de Apoyo Ferroviario (GAF), proposed the following methodology for the evaluation of proposals. Bidding would include a two step process. Bidders could submit an initial qualifying proposal (Envelope N-1) which, if found acceptable, would require them to submit a technical and economic proposal (Envelope N-2) in a second round. Proposals would be evaluated on the basis of the following:

- The bidder's experience as a railway operator of similar railway systems, as well as the key personnel and the viability of the business plan and its projected profitability
- The amount of money committed to the investment plan on a year-by-year and project-by-project basis, and the reasonableness of investment lines over the entire concession term
- "Additional investment," including investment in incremented freight-generating capacity (construction of grain silos and freight terminals, etc.)
- The fee that would be paid to the government for the right to operate the line
- The rent that would be paid to the government for the use of equipment
- The toll to be charged back to FA or a third party operator for intercity passenger services operations along the concessionaire's track
- The number of FA employees hired by the new concessionaire
- The interest held by employees (not less than 4 percent) in the new concession
- The interest held by FA (not lower than 15 percent) in the new concession
- Association with manufacturers, grain cooperatives, and other freight generators.

Table 7.6 represents the weights associated with each of these selection criteria. Each of the 10 selection criteria

was evaluated from 1 to 10. The winning bidder was the one who obtained the highest composite score.

3. The Effects of the 1991 Strike

Early in 1991 President Menem's entire Cabinet resigned. The reorganization which followed signaled a renewed commitment to radical reform. Domingo Cavallo was appointed Minister of Economy, Edmundo del Valle Soria was named Secretary of Transportation, and Jorge Kogan was reconfirmed as Director of the Railway Restructuring Unit. Initially under this new structure the railway restructuring unit reported directly to the Secretary of Transportation, and not to the President of FA.

In March 1991, while the government was evaluating the proposals for the first concession, the railway workers went on strike. This strike affected all rail services, but mainly on commuter passenger services in Buenos Aires. These services were particularly sensitive politically. In spite of declining service quality, the Buenos Aires commuter lines still carried about 1 million people per working day.

The strike was long and angry. People stood for hours at railway terminals waiting for alternative, overcrowded bus services and substitute buses could barely meet the demand. Political pressure mounted for a compromise solution, but the government held out. The entire episode lasted 75 days. Services were eventually restored without compromises with the unions. In retrospect, the strike provided a kind of catharsis for the difficult process of restructuring. In the end it was clear to all parties that only one railway policy would be implemented: the one established by the government.

In the meantime a significant shift took place in public and institutional perception. Before operations had been fully restored, everyone recognized that commuter services were a unique business, with its own distinct characteris-

tics and problems, and that it needed to be separated from FA authority. As a result, on March 25, 1991, Ferrocarriles Metropolitanos Sociedad Anónima (FEMESA) was created to manage the metropolitan railways.

In the months that followed, other freight railway lines were offered to private operators using contestable procedures similar to the prototype methods developed for the Rosario-Bahía Blanca line. The structure of subsequent concessions was based neither on a profound analysis of demand, operations, and investment, or on detailed financial analyses. Rather, the template for the new concessions was the precedent network organization into distinct operating divisions or railways that had existed following nationalization. GAF, with the advice of the Railway Restructuring Unit, made minor adjustments to these pre-existing "railways" to ensure the single line integrity of grain movements and to exclude low density branches, many of which had been abandoned de facto. Neither time nor resources were committed to studying the viability of the proposed concessions or in reviewing the recommendations of the Railway Restructuring Unit above the ministry level. Expediency was a primary objective at this point and the process proceeded without intense public or private scrutiny.

In fact both common sense and historical precedent recommended the concessions that were ultimately offered to bidders. These included five additional segments: (1) the Urquiza standard gauge line (2,739 km); (2) the Mitre line (4,512 km); (3) the San Martín line (5,252 km); (4) the "remaining portion" of the Roca line (3,343 km; other sections had been included in the Rosario-Bahía Blanca concession); and (5) the Belgrano narrow gauge line (10,662 km). With the exception of the Urquiza line (the weakest of the system) and the remaining Roca line, all of the other segments had in the 1970s hauled more than 3 million tons annually (see Table 7.7).

Table 7.6 - Argentina: Rosario-Bahía Blanca Freight Concession. Evaluation of Selection Criteria

Item	Evaluation Points	Weight
1) Bidder's experience as railway operator: Key personnel; Business plan and profitability	1 to 10	10
2) Amount of money and quality of investment plan	1 to 10	24
3) "Additional" investments	1 to 10	10
4) Fee to government	1 to 10	15
5) Rent to be paid for use of rolling stock	1 to 10	15
6) Toll to be charged in return for intercity passenger services operations	1 to 10	15
7) Number of FA employees to be hired	1 to 10	14
8) Interest held by personnel in the new concession	1 to 10	9
9) Interest held by FA in the new concession	1 to 10	14
10) Association with producers, cooperatives, etc.	1 to 10	4

Table 7.7 - Argentina: Freight Railway Traffic Density, 1959-90

Year	LINES						Total
	Sarmiento	Mitre	Roca	San Martín	Urquiza	Belgrano	
1959/60	1,978	4,679	6,847	4,322	1,336	7,006	26,168
1960/61	1,654	3,598	5,436	3,938	1,223	6,116	21,965
1965	2,344	4,694	5,441	4,808	1,356	4,763	23,406
1970	1,728	3,985	4,840	5,496	1,380	4,694	22,123
1975	1,387	3,939	3,612	3,104	1,077	4,013	17,132
1980	1,038	3,169	3,246	4,151	813	3,857	16,274
1985	2,046	3,224	2,875	4,180	677	4,232	17,234
1990	1,069	3,310	3,220	2,419	987	3,229	14,234

Note: The Rosario-Bahía Blanca concession is made up of about half of the Roca Line traffic and most of the Sarmiento Line.
Source: Ferrocarriles Argentinos.

4. The Bidding Process for Freight Concessions

Between January 1991 and February 1992 the Railway Restructuring Unit issued three calls for proposals. Between concessioning rounds, methods for both competitive solicitation and proposal evaluation improved marginally. The initial response of potential strategic investors/operators was unenthusiastic. In fact, this cautious private sector response proved an antidote to the myth that the freight business offered enormous profit potential. However, it also caused significant apprehension about the viability of the undertaking. In response to the initial concessions (which included Rosario-Bahía Blanca Line), only two proposals were received for three segments; in the second concession round, two lines received only a single proposal; in the third round (which involved the Belgrano Line) no proposals were received.⁴

Eventually 10 bidders participated in the process. A second call for bids was issued for the Urquiza Line on November 25, 1991. All of the bidders who came forward were consortia. Nine of them included North American regional railways (mostly from the United States).⁵ The American regional railroads that joined the bidding pro-

cess brought experience with management and technology that was previously unknown in Argentina, as well as labor practices that had the potential to dramatically change railway operations. Innovative practices included computer-assisted train control and dispatching systems, radio communications system, participation of the train crews in train formation, replacement of cabooses by telemetric devices, introduction of double and triple locomotive power to haul heavier trains, and various changes in equipment and track maintenance techniques.

All other companies participating in the process, with the exception of two, were Argentinian. Foreign participation in the consortia (apart from the rail operators), was marginal. Two of the winning consortia were headed by railway customers — a producer of soya by-products and oil, and a cement producer. The remaining consortia were headed by diversified holding companies. All five winning consortia were comprised of “large” corporations, in Argentine terms.

The final steps of the process — the evaluation of proposals, the final negotiations with winning proposers, and contract closing — were straightforward. Evaluating proposals, particularly the qualifying experience of bidders, the soundness of their business plans, and projected level of profitability, entailed subjective judgment. Several losing bidders accused the evaluators of discrimination. Critics also pointed out that some evaluation criteria provided the wrong incentives for concessionaires. For example, criteria which rewarded bidders for hiring larger numbers of FA personnel and for making greater investments only diminished profitability and reduced survivability of concessionaires over the long run. In fact, the evaluation meth-

⁴Strictly speaking, there were two calls for the Urquiza Line. For the first call, which finally failed, there were two bidders. The original winner, headed by RENFE of Spain, abandoned the bidding process after award because it had discovered serious mistakes in its proposal. The other bidder, led by PESCARMONA, finally won the concession as it had been the only bidder for the second call.

⁵The U.S. regional railways were members of the consortia only in some cases. In other cases they were only technical advisers.

odology reflected a political compromise among the key members of the Congress, the unions, and FA's management. This compromise was struck at a time when freight services were still considered highly profitable. Principals in the political discussion felt that concessionaires could bear additional costs, such as passenger services, surplus personnel, and incremental investments, without jeopardizing their economic viability.

Contract negotiations were lengthy and tedious. Bidders argued that FA's assets, including both rolling stock and infrastructure, had deteriorated badly since they had submitted their proposals. Almost no maintenance had been carried out since the beginning of the reform process. The government consented that the past performance and financial condition of FA were well known and that bidders should have anticipated an incremental deterioration of FA's assets in their proposals.

Incremental investment was the single most important criterion for evaluating bid proposals and hence the process encouraged an overestimation of future investment. During the effort to clarify and to "lock in" investment commitments during final negotiations, a number of problems surfaced. For example, bidders insisted that tasks that should be considered as normal maintenance, or activities on the "frontier" between routine maintenance and capital expenditure, be counted as part of their obligation to invest in plant and equipment. At the same time, some concessionaires inflated unit costs for the investments they proposed to make.

The selection criteria also provided an incentive for concessionaires to overstate their plans to retain employees of FA. Subsequently, during contract negotiations, bidders tried to revise their employment figures downward, citing the following: (1) traffic had declined during the bidding process, recovery would take time, and in the interim fewer personnel would be required; (2) the qualifying professional, medical, and educational standards that the new concessionaires insisted on disqualifying a significant portion of the original FA work force; and (3) many of the employees who did qualify were not full time railway workers, but rather were engaged in other gainful activities. When a full time job was offered to these employees they declined in preference to their other activities. Finally, after intense negotiations, it was agreed that concessionaires would be required to hire only the minimum number of former FA personnel needed to ensure efficient performance. FA would dismiss excess employees. However, severance for these employees would be funded by the concessionaires.

The cycle time required to successfully conclude concession awards ranged from 13 months for the Roca Line, for which only one bidder came forward, to nearly 24

months for the San Martín Line. On the latter line two bidders competed aggressively. This competition took the form of an award challenge that delayed final contract closing. Figure 7.2 shows the time cycle for each award from the call for bids until the actual takeover by the various concessionaires.

Of the six concessions, five were in private hands by the end of October 1993, just 50 months after the Reform State Law had been passed. The sixth concession, the Belgrano narrow gauge line, could not be offered. The call for bids was voided when willing bidders failed to emerge. The poor condition of this line made an unsubsidized private sector operation unviable, even with a "zero" fee. After further debate, the government decided to create a new state-owned corporation, *Línea Belgrano Sociedad Anónima*, to operate the line. This company was separate from FA. Its work force was reduced from nearly 5,000 to 1,300 employees and limited operations were continued for two years while the government spent US\$100 million to rehabilitate the line. The government planned to issue a new call for concession bids when rehabilitation was complete.

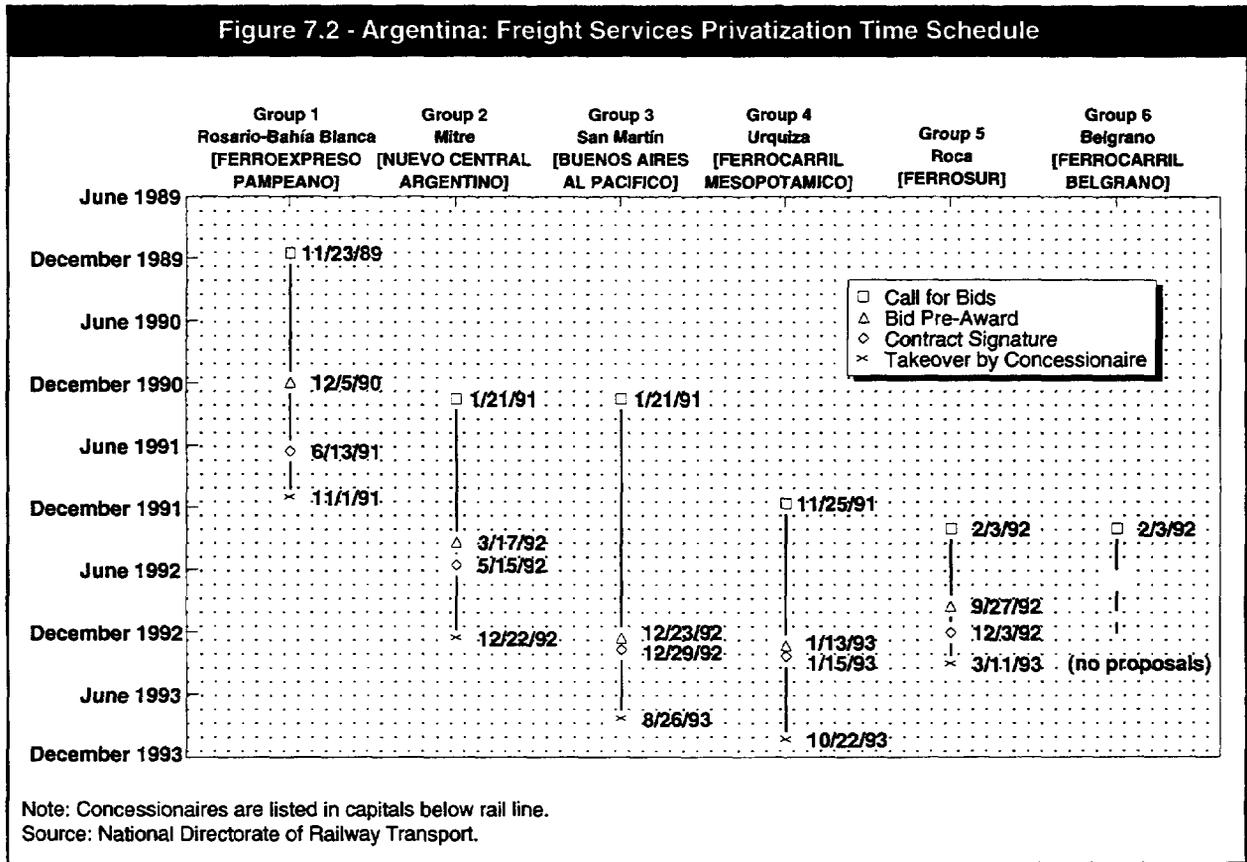
5. Concessions Commuter Services in Buenos Aires

The Buenos Aires Metropolitan Region is among the world's largest metropolitan areas. It includes more than 12 million people, almost 38 percent of the total population of the country. The region around Buenos Aires generates more than 40 percent of the country's GDP. The entire metropolitan area, including its most remote and least populated parts, is served by a bus network comprised of 250 private companies that cover 25,000 kilometers of routes. The total estimated annual trips generated in the region in 1991 was nearly 5 billion, of which approximately 3,400 million were trips generated by public transport (see Table 7.8).

Commuter railway services, which consisted of 2,000 daily trains over a network of 825 kilometers (see Figure 7.3), satisfied the commuter demand of 209 million passengers. The 44 kilometer Metro alone provided 144 million annual trips. Buses handled the remaining trips, accounting for 90 percent of all public transport trips and 69 percent of all trips. Significantly, the average rail trip distance of 20 kilometers is five times longer than Metro and four times longer than bus. Between 1970 and 1991 all modes of public transport lost traffic. At the same time, private automobiles increased their trip activity by two-thirds.

Since the 1960s, commuter services had been organized under FA. Under this arrangement each of the six operat-

Figure 7.2 - Argentina: Freight Services Privatization Time Schedule



ing divisions that converged on Buenos Aires was responsible for freight and intercity passenger, as well as commuter passenger, services. This latter category of service had grown to nearly 500 million paying passengers per year by the time of FA's creation. At the time of FA's original organization the bus system was relatively underdeveloped and the railway was the predominant mode of transportation.

Under FA commuter services never evolved as a distinct line of business with its own separate commercial, operational, and management functions. However, in 1980, FA did make an attempt to create the Gerencia de Línea Metropolitana (Metropolitan Lines Management Office), to organize commuter railway services as a distinct set of commercial activities. This initiative lasted six years. It succeeded in coordinating less than half of all commuter services and was finally dismantled as a result of strong union pressure.

By the end of the 1980s, FA commuter services had become unreliable, stations had deteriorated badly, fare evasion was extremely high, and grade crossing accidents were increasing in frequency. In spite of the fact that the metropolitan area and population had increased by 120 percent over 30 years, over the same period railway traffic

had decreased to less than half of its original level. Still, commuter activity in the nation's capital accounted for more than 30 percent of FA's total transport activity, if passenger km and ton km are equally counted.

In December 1989, FA made a second attempt to create a special management unit, and the Administración de Ferrocarriles Suburbanos (Administration of Suburban Railways) was set up within FA. At this time, the 75 day railway strike was at its apogee and the few commuter trains that were running carried only one-third of their normal ridership. In mid-March, at the initiative of Director Kogan and Secretary Soria and with the backing of Minister Cavallo, a Presidential decree was drafted and signed creating FEMESA, Metropolitan Railways, as a state-owned corporation, separate from FA. FEMESA's objective was to provide commuter services within the Buenos Aires region. One important consequence of this reorganization was that all railway real estate in the region was transferred to FEMESA. Shortly afterward, Minister Cavallo made another crucial decision: FEMESA would be an intermediate step toward more efficient, profit-oriented railway passenger services. FEMESA would be privatized.

The objective of privatizing commuter operations raised a number of issues, including: (1) how services could be

Table 7.8 - Argentina: Passenger Demand in the Buenos Aires Metropolitan Region, 1960-91

(in millions of passengers)					
Year	1960	1970	1981	1991	Variation 1970-91
Commuters	536.7	413.1	334.7	208.9	-49
Metro	300.6	278.8	191.7	144.3	-48
Buses	2,581.0	3,343.0	3,114.0	3,059.0	-8
Total Public Modes	3,418.3	4,034.9	3,640.4	3,412.2	-15
Private Automobiles	n.a.	845.1	n.a.	1,408.5	67
TOTAL	n.a.	8,914.9	n.a.	8,232.9	1

Source: "Technical Support to the Creation of ATAM Project," Transportation Secretariat.

privatized if they were clearly uneconomic, even after significant efficiency improvements had been made; and (2) whether anyone would be interested in assuming responsibility for politically controversial, badly deteriorated, and publicly exposed commuter services. The FEMESA privatization initiative went beyond the freight services initiative in testing the viability and flexibility of the concessioning mechanism. Moreover, although precedents existed for privately operated freight services in North America, no such precedents existed for privately managed commuter railways. Minister Cavallo had an additional concern with public perception. In view of the controversy that the freight concession evaluation method had provoked, he asked that a simple and more objective evaluation process be developed. More specifically, he requested that a single quantifiable parameter serve as the basis for choosing FEMESA's concessionaires.

By mid-1991 Mr. Kogan had organized and fully staffed the Railway Restructuring Unit. This unit drafted the bidding documents and defined the terms of the solicitation. The government would own rolling stock, infrastructure, and facilities, all of which would be assigned to the concessionaire. The concessionaire would have full responsibility for all rail activities, ranging from commercialization to maintenance of rolling stock and infrastructure. The concession, as in the freight case, would be vertically integrated. Concessions were to be granted for 10 year terms with additional 10 year extensions as agreed by the parties.

Commuter services concessions would be divided into seven packages or groups: (1) Group 1: Mitre Line; (2) Group 2: Sarmiento Line; (3) Group 3: the Buenos Aires Metro and the Urquiza Line; (4) Group 4: Roca Line; (5) Group 5: San Martín Line; (6) Group 6: Belgrano North Line; and (7) Group 7: Belgrano South Line. Individual bidders could propose for any or all service groups but only

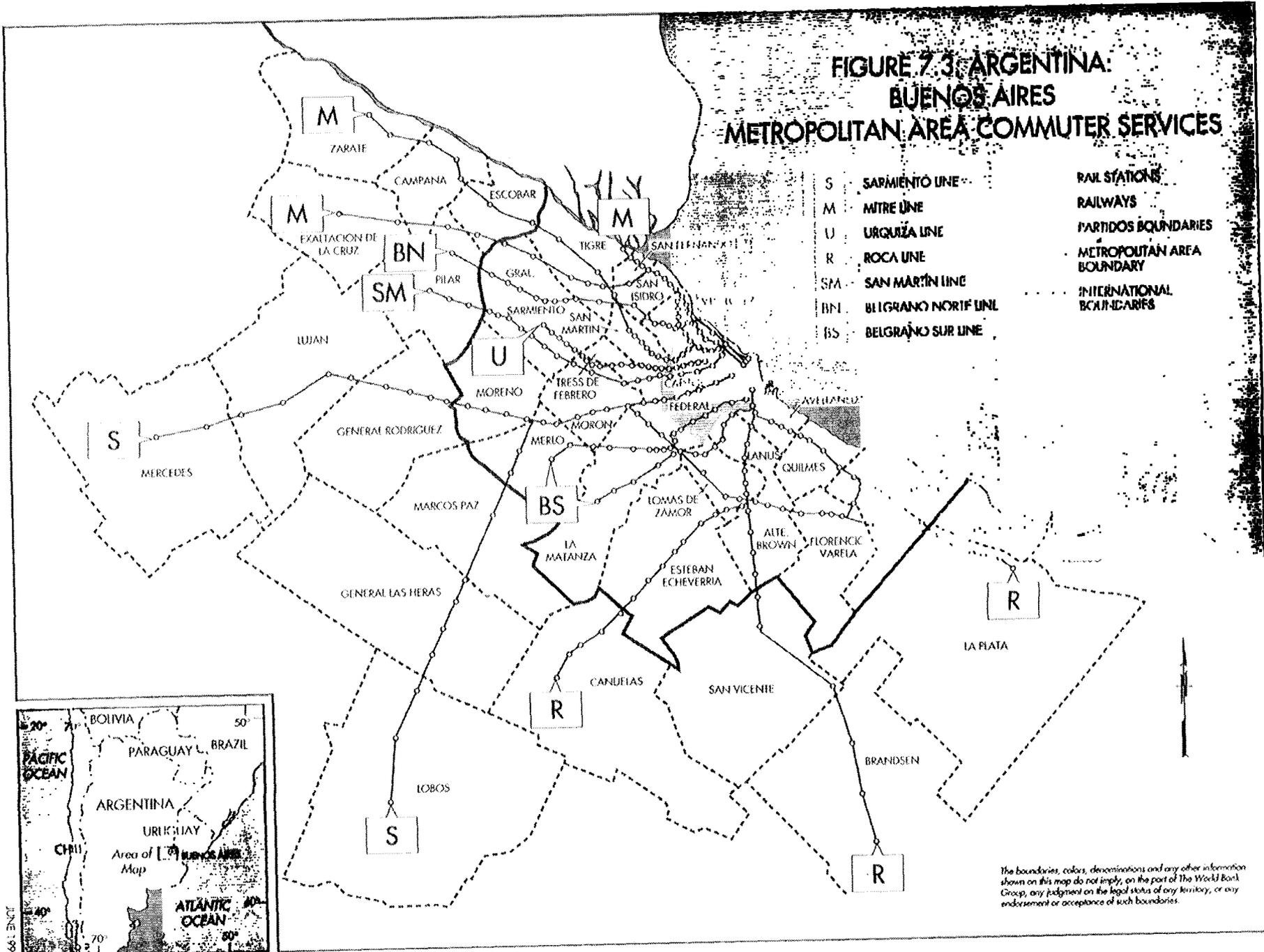
six or fewer service groups would be awarded to any single firm or consortium.

For each corridor the government defined both maximum fares and minimum service frequencies. The latter would be defined in terms of commuter cars per hour for each 24-hour service cycle and for each day of the week. In addition, service quality standards would be defined for each corridor and specified in terms of percent of on time trains and percent of canceled trains. If concessionaires reached or surpassed these service standards, they would be entitled to increase tariffs beyond authorized maximum levels, as a performance incentive. Chronic failure to comply with service standards could result in specific penalties.

Concessionaires were free to negotiate new work rules and labor practices in order to increase productivity. Bidders developed their own estimate of staffing requirements for each group of services. Surplus personnel were to be offered voluntary early retirement that the government would finance with resources partially provided by international financing agencies. The government also defined a multi-year investment plan for each concessioned line. The plan was designed to rehabilitate infrastructure, rolling stock, and facilities. Each concessionaire could make additional investments, at its own expense. These latter investments would be financed independently through the savings that they generated. The government would finance the former investments.

As a prerequisite each bidding consortium was required to include an experienced foreign railway operator that would be responsible for commercialization, operations, and maintenance. Each bidder was also required to submit a business plan with detailed plans of all critical functions, including: marketing, operations, mechanical, maintenance of way and works, signaling and communications,

**FIGURE 7.3 ARGENTINA
BUENOS AIRES
METROPOLITAN AREA COMMUTER SERVICES**



- S SARMIENTO LINE
- M MITRE LINE
- U URQUIZA LINE
- R ROCA LINE
- SM SAN MARTÍN LINE
- BN BELGRANO NORTE LINE
- BS BELGRANO SUR LINE

- RAIL STATIONS
- RAILWAYS
- PARTIDOS BOUNDARIES
- METROPOLITAN AREA BOUNDARY
- INTERNATIONAL BOUNDARIES

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human resources, etc. The business plans contained in each proposal projected the financial results of the operation on a year-by-year basis over the term of the entire concession. If a plan projected profitable performance, including a reasonable fee for the company, the concessionaires were expected to pay a fee to the government for the use of public assets. If, on the other hand, it resulted in negative or inadequate cash flow, the government would pay a subsidy to the concessionaires.

In addition, each bidder was required to quote the amount needed to execute the investment plan, that the government defined, and was further required to include technical specifications for capital improvements in the bid package. The seven service groups entailed 150 separate investment projects. Most important, each bidder was to calculate the amount of its required subsidy (or offering fee) on an annual basis. This represented the net cash flow from operations and the sum required for investment execution. The successful bid for each of the seven groups of services was awarded to the bidder requiring the lowest subsidy, as measured by the net present value of the payments required from the government.

A key design feature in concessioning FEMESA was that a net monthly subsidy payment was to be made to the successful bidder, for each service corridor over the entire term of the concession contract. This fee, adjusted for inflation, was negotiated "up front," before the concession was finally awarded. If everything proceeded as planned, the monthly payment schedule was to be defined once for the entire concession term.

Concessionaires assumed the risks inherent in most business activities. For example if actual ridership (and revenues) exceeded estimates, incremental net income accrued to the concessionaires. If, on the contrary, actual demand

proved lower than estimates made at the time that the contract was finalized, concessionaires absorbed the resulting loss and were not entitled to additional subsidy.

The same principle applied to operating expenses. Cost savings would accrue to the benefit of concessionaires and cost overruns to their detriment. However, concessionaires could not attain lower costs by compromising the levels of service to which they were contractually committed. Concessionary contracts included several mandatory service standards, such as number of cars to be dispatched per hour, maximum allowable canceled and delayed trains, equipment maintenance and availability standards, etc. In fact, concessionaires had a strong incentive to exceed these service standards. Only then could they make upward adjustments in maximum fares.

To promote the concession, Secretary Soria and Mr. Kogan briefed potential bidders in the United States, Canada, Spain, Italy, France, Germany, the United Kingdom, and Japan and undertook similar missionary "selling" with potential Argentine investors. As a result, the response to the FEMESA solicitation was much greater than had originally been expected. On January 31, 1992, seven consortia comprised of local and foreign companies submitted qualifying bids.

All seven groups proposed to operate the most attractive of the seven services, which was the Sarmiento Line, serving 70 million passengers in 1990. Even for other lines (the Belgrano South Line, for example, which served only 7 million passengers), three consortia submitted offers.

The seven consortia included 114 companies. Of these, 15 were foreign and included firms from the United States, France, Italy, and Portugal. Table 7.9 profiles the participant companies. Construction firms with no previous railway operating experience were most interested bidders.

Table 7.9 - Argentina: Commuter Passenger Services in the Buenos Aires Metropolitan Region - Bidding Groups

Type of Company	Number of Companies	Interest of Each Type of Company (%)
1. Railway/metro companies	4	4
2. Technical assistance companies institutionally linked to a railroad or metro	5	3
3. Private bus companies	64	10
4. Construction companies with previous railway experience	6	10
5. Construction companies without previous railway experience	16	33
6. Manufacturers of rolling stock	6	9
7. Holdings	3	16
8. Financial institutions	2	4
9. Other	8	11
TOTAL	114	100

Diversified holdings companies ranked second. Companies with rail operating experience accounted for 26 percent interest among groups which bid.

Qualified consortia devoted most of 1992 the preparation of the technical and financial proposals (Envelope N-2). In the qualifying round each consortium had demonstrated its operational capacity, its secure legal standing, and its financial capacity. Special importance was attached to the qualifications of foreign railway operating partners. One consortium, for example, was refused the opportunity to prepare a technical bid because it could not satisfactorily demonstrate a commitment from a qualified railroad operating company. The pre-qualifying evaluation of technical proposals was equally exacting. Five of the seven consortia had at least one business plan disqualified and, in all, eight business plans were disqualified.

By the end of 1992, however, all seven service groups had been pre-awarded to three consortia. The Annexes contain descriptions of each consortium and the line segments pre-awarded to each.

Shortly before the seven services were pre-awarded, the government conducted a poll to assess public support for the commuter rail privatization process. More than 2,700 users were surveyed on the quality and reliability of then-existing service. This information served as a benchmark against which subsequent service improvements (or degradation) could be measured. The main findings of the poll included the following:

- Forty-five percent of users found existing commuter services to be bad, and 39 percent found them to be only fair. Only 16 percent characterized the services as good.
- In general, users favored privatization (50 percent for and 22 percent against). However, a proportion of surveyed users (19 percent) conditioned their approval on the way in which privatization was to be carried out.
- Support for privatization was approximately equal among different socioeconomic groups: middle income gave 57 percent approval; high income gave 56 percent approval; and low income gave 45 percent approval.
- When asked about the future quality of service, 56 percent responded that they expected improvement and only 10 percent expected service deterioration.

Most of 1993 was devoted to contract negotiations. Bringing individual concessions to closure proved difficult and time-consuming. Negotiations covered a number of different items, such as the following:

- Delimitation of operational areas given to concessionaires. Although real estate in the region and in the main terminals was separated from concessions, stations still included commercial space which could generate a significant additional rental income.
- The definition of respective security responsibilities by the concessionaires and of the government.
- The division of insurance liability between concessionaires and the public sector. It was finally agreed that the former would provide civil liability up to US\$2 million. The latter would provide civil liability above that figure and up to US\$200 million. A new private sector insurance protocol had to be created. Formerly, the state-owned railways had been self-insured.
- Price adjustments to reconcile original proposal submissions and final contract prices one-and-a-half years later. The consumer price index had registered a 15.9 percent increase during this period.
- The provision of performance bonds by the concessionaires. It was finally agreed that bonds should equal 15 percent of the net present value of investments to be made during the concession period.

Negotiations were particularly difficult in the area of personnel, where people who had worked for the railways for most of their lives were faced with uncertain futures. Concessionaires were required to hire from existing railway personnel only those who according to their standards were necessary for the new operation. The bidding documents stated that FEMESA employees should be preferred when a concessionaire was faced with two people with the "same level of qualification."

The re-staffing of the former FEMESA lines required time to complete. For this purpose concessionaires were allowed access to the personnel files of workers. In addition, concessionaires conducted interviews and conducted medical and psychological tests for prospective employees. In the end concessionaires retained most dispatch, train operations, and mechanical personnel. Most managers, however, were not selected. Concessionaires hired no ticket-sellers, many of whom had been implicated in "skimming."

The initial post-pre-award assessment suggested that concessionaires would retain fewer than 50 percent of the original employees. The government applied "unofficial" pressure to increase this number. A larger number of redundant railway personnel meant greater severance payments and increased social tension. Finally, the concessionaires accepted a marginal increase in forces and FEMESA offered a "voluntary retirement program" (one salary per

each year worked) to redundant workers. To ease the transition, FEMESA offered to absorb into its remaining lines redundant workers who did not join the retirement program.

On November 22, 1993, the Ministry of Economy and the first concessionaire signed final contract documents. Work rule and salary negotiations between the unions and the concessionaire were completed between that date and January 1, 1994. FEMESA ran its last Urquiza Line train on December 31, 1993, as did the Buenos Aires Metro. The transfer of both the Urquiza Line and the Metro was completed on January 1, 1994. The whole process had taken 26 months. Figure 7.4 shows the time cycle for the transfer of all of the other service groups.

6. Privatization of Intercity Passenger Services

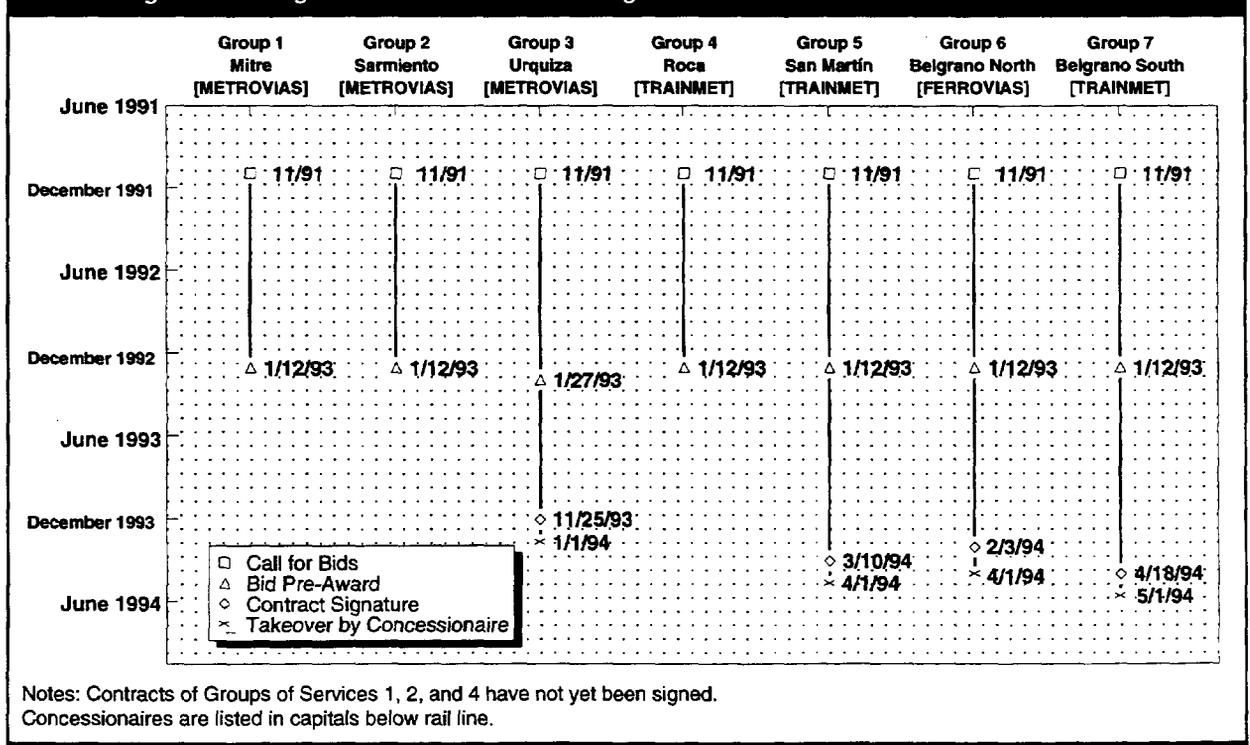
The support of intercity passenger services under FA had been a topic of policy discussion for a long time before the issue was finally resolved. Passenger services had enjoyed the strong support of the railway establishment, including equipment suppliers and the railway unions. In addition, provincial governors and mayors had strenuously defended intercity passenger service against budget cuts.

Owing to its marginal status among the portfolio of services FA provided, intercity passenger services had experienced alternating cycles of expansion and contraction.

In 1965, FA moved 54 million passengers (fully 22 percent of the railways total traffic units). By 1970, when FA adopted a policy of cost reduction and freight service priority, the long haul passenger business had been reduced by one quarter. By 1975, however, the passenger train services that had been canceled were re-established and some even expanded. The result was a reallocation of valuable freight to passenger use. FA found itself running many two-car passenger trains. It was during this period that long distance passenger traffic peaked at 34.8 million passengers and 6,890 million passenger km. The uneconomic expansion of passenger service caused a chronic shortage of locomotive power for freight service, with the result that freight traffic losses more than doubled the increase in passenger traffic.

In the late 1970s passenger services again faced retrenchment. FA's management decided to concentrate passenger services on primary corridors in an effort to "densify" the network. By 1980, traffic levels had declined to 10.6 million passengers. As a consequence of this network rationalization the average passenger distance increased from 198 kilometers in 1975 to 392 in 1980. However, passenger services were expanded again in the 1980s and again deprived freight services of reliable locomotives. By 1989, when reform began in earnest, FA's long haul passenger traffic base was 11.7 million people. This represented

Figure 7.4 - Argentina: Commuter Passenger Services - Privatization Time Schedule



a 6 to 8 percent share of the entire intercity passenger market, which was dominated by this time by long distance buses.

When the reformers arrived in the second half of 1989, certain strategic aspects of FA's business had become clear. Freight was FA's most potentially profitable line of business and represented the cornerstone of the privatization process. On a stand-alone basis commuter services were probably not financially viable. However they were also essential to the Buenos Aires Metropolitan Region and thus needed to be retained. Evidence available to the Railroad Restructuring Unit showed that intercity passenger services were a loss producer and a major contributor to FA's overall financial difficulties. Most long haul train services did not cover their direct costs.

However, financial viability differed among intercity railway corridors. The Buenos Aires-Mar del Plata corridor, for example, had a unique passenger profile. This 400 kilometer corridor links the capital city with the city of Mar del Plata. Mar del Plata is an important resort whose normal population of 500,000 triples during the summer. The railway moves 2 million passengers each year over this corridor during the peak season in up to 12 trains per direction. The line generates little freight traffic, and passenger traffic to and from intermediate stations is also negligible. However, Buenos Aires-Mar del Plata itself accounted for fully 15 percent of the total intercity passenger traffic handled by FA.

In mid-1991 shortly after he became Secretary of Transportation, Mr. Soria made two key decisions. The more important one was the decision to issue an international call for bids to concession the Buenos Aires-Mar del Plata corridor. The concession would take the form of a vertically integrated franchise, similar to the freight concessions, with a 30-year term and with a 10-year option to extend. The concessionaire would operate the corridor exclusively for both intercity passenger and freight services. The main characteristics of this call for bids included the following:

- The concessionaire should provide the minimum levels of services defined in the 1991-92 schedule.
- Service improvements from then existing levels should be made immediately. Before the third year of the concession, transit time should be four hours for "express" trains and four-and-a-half hours for "semi-express" trains (a half hour reduction in each one).
- In their proposals bidders would define their maximum tariff requirements. Under these tariffs at least 20 percent of the available seats should be provided at "tourist class" levels. Tariffs should be specified in U.S. dollars, and subsequent adjustments beyond

those needed to compensate for inflation would be approved by the government.

- In its initial hiring, the concessionaire would give first preference to FA employees but would only hire employees sufficient to operate efficiently under newly negotiated labor contracts.
- The concessionaire would receive from FA enough locomotives and cars to support baseline service levels. However the concessionaire could, at its own expense, introduce new rolling stock and improve infrastructure.

In 1992 four groups responded to the call for bids. Bus operators participated in two of these bidding consortia. In the meantime, the government hired consultants to assess costs and revenues for each of the other intercity passenger services, to analyze the viability of alternative services arrangements should current rail services be discontinued, and to define options for the disposition of rail assets. The main findings and recommendations that emerged from the study included the following:

- In 1990 intercity passenger trains operated over half of the entire railway system (17,500 km over a network of 35,700). Long haul passenger trains accounted for fully 28 percent of total train km run in the Argentine railway system.
- Services could usefully be classified under three groups: (1) high utilization/high cost recovery services (more than 300 passenger km per train km with a cost recovery higher than 50 percent): 23 trains fell under this category; (2) low utilization/low cost recovery services (less than 150 passenger km per train km with less than a 50 percent cost recovery): 25 trains fell under this category; and (3) "intermediate" services (between 150 and 300 passenger km per train km and/or less than a 50 percent recovery): 30 trains fell under this category.
- Only one train, the Embarcación-to-Formosa service, which served the frontier with Paraguay, was deemed essential and was not to be discontinued. No alternative transport modes existed.
- The study identified two strategic alternatives. The first was to retain the 23 highest utilization trains. This option required annual subsidies of between US\$45 and US\$55 million.⁶ It also required 100

⁶At 1992 prices, because of modifications in the exchange rate, the options required a level of subsidy of US\$62 and US\$75 million, respectively.

locomotives and released another 70 to be reassigned to freight or commuter services. The second option consolidated passenger services into seven "core" corridors. This option required US\$ 30 million and 70 locomotives. It allowed another 100 locomotives to be reassigned to freight or commuter service.

- The recommended paradigm for private sector concessions on viable corridors was the suburban services concession. This paradigm required: (1) a predefined minimum service frequency and quality standards; (2) granting of rolling stock to concessionaires; (3) maximum tariff levels, also prenegotiated; and (4) predefined tolls paid to freight operators.

The consultants recommended that passenger services be run over the tracks of private operators who would be responsible for both track maintenance and train control. Concessions would be granted to the bidders that required the lowest subsidy.

However, Minister Cavallo rejected these recommendations. He felt that federal support to intercity passenger services should be completely discontinued since the country had a developed highway and a viable private bus industry that served even the most remote areas. If provincial or local governments wanted railway service, they could finance and run it without federal assistance. Locomotives and cars would be transferred to those provinces willing to provide the services for a nominal fee.

In August 1992, the federal government announced its intention to abandon railway intercity passenger services. Minister Cavallo offered a transition period during which services would be continued if provincial governments funded 50 percent of each train's operating loss. Of the 16 provinces with passenger service, only four analyzed their ability to fund continued service.

In the meantime, the task force reporting to the Ministry of Public Works and Services continued to evaluate the Buenos Aires-Mar del Plata concession which was not included in the provincialization package. In a political move to strengthen its provincial railway program, the Province of Buenos Aires volunteered to take over operations over the corridor. The Ministry invalidated the bidding process and transferred assets needed to support the service to the province, whose authorities immediately announced that they would issue another request for proposals to concession the service sometime in the future. One and a half year's later, the province was still running the Buenos Aires-Mar del Plata services and no call for privatization has as yet been issued.

PART III: PERFORMANCE SINCE RESTRUCTURING

It is too early to assess the operating and financial performance of the concessionaires that successfully competed for operating franchises, or, for that matter, the effectiveness of the regulatory system that the government organized to manage these concessions. This section attempts to represent preliminary assessments of transition effectiveness as of the mid-1994.

1. Freight Concessions

Table 7.10 reviews the traffic growth projections that the winning concessionaires provided with their final offers. In its best year FA had moved 18.9 million tons over the five concessioned lines. However, in 1990, the last year in which it acted as a state-owned corporation, FA moved only 11.0 million tons. In 1991, as the bidding process was taking place, traffic declined still further to 7.4 million tons. Historic performance provided benchmarks against which the plans and forecasts of successful concessionaires were

Table 7.10 - Argentina: Freight Concessions, Winning Proposals - Demand Projections

(in thousand tons)						
Concession	Length (km)	Best Year since 1970	1990	1991	Year 1 of Concession	Year 15 of Concession
Rosario-Bahía						
Blanca	5,064	2,500	2,143	1,263	3,410	6,180
Mitre	4,522	4,000	3,310	2,533	4,214	7,907
San Martín	5,479	6,200	2,419	1,484	2,959	4,739
Urquiza	2,751	1,400	987	814	903	1,997
Roca	3,343	3,600	2,143	1,263	2,711	6,420
TOTAL		17,700	11,002	7,357	14,197	27,243

judged to be feasible. In their first projected year of operations concessionaires predicted a traffic level of 14.2 million tons, an ambitious but reachable goal when compared with 1990 traffic levels, but clearly a "stretch" goal in the context of the badly degenerated market which they were obliged to take over in 1991. By the fifteenth year of operations concessionaires projected a doubling of traffic to 27.2 million tons.

From a technical perspective government officials evaluated winning freight operating proposals as only "fair." Although it cannot be proved, most bidders appeared to have generated two sets of demand and financial projections: one set submitted to the government, which represented high demand projections and a profitable business, and another set used for internal purposes which reflected the potential of each concession more realistically.

Moreover the concession fees which operators proposed appeared to be relatively few. If only the value of the rolling stock (and not facility or other equipment) is considered, the book value of locomotives and rail cars given to concessionaires was about US\$366 million.⁷ If it is assumed that the remaining life of all these assets is 20 years, the fee to be paid by the concessionaires represents three-quarters of their annual depreciation (US\$18.3 million), without considering any interest on or capital charges.

2. Commuter Rail Concessions

Table 7.11 represents the traffic moved by each commuter line in 1990 (a total of 274 million passengers), and the traffic projected by the winning consortia for year 1 (393 million), year 5 (462 million), and year 10 (527 million) of the concessions. Traffic projected for the first year of the concession surpasses 1990 levels by 44 percent. This rapid recovery is based more on fare evasion control (which varied from line to line but can be estimated conservatively to be 30 to 50 percent overall) than on the immediate improvement in ridership. Traffic increases of 18 percent were estimated for years 1 to 5 of the concessions, and additional growth of 14 percent was projected for years 5 to 10, when the effects of better management and investments should become manifest. Between 1990 and year 10 of the concessions, total traffic was predicted to nearly double. Half of this growth comes from fare evasion recovery, and the other half from increased ridership — that is, from population growth and income improvement as well as from bus diversion. If 1993 instead of 1990 is taken as the baseline (62 million passengers less) the ability of conces-

sionaires to recover traffic (nearly 150 percent more so) becomes more doubtful.

Personnel reduction was a major source of cost and subsidy reduction. By 1986, best estimates indicated that commuter services employed about 27,400 persons, 27.4 percent of total FA employees (99,897 by the end of that year). When FEMESA was created, it took with it 16,000 employees. Collectively, the seven concessionaires employed, in the first years of their concessions, 8,404 employees. This robust productivity should dramatically increase by nearly four times.

3. The Railway System, July 1994

By the end of July 1994, Ferrocarriles Argentinos was no longer running trains. The Argentine railway system was managed by 13 operators. There are 6 freight operators (5 private, 1 state-owned for the Belgrano Line) and 4 commuter operators (3 private, operating 4 railway lines [Urquiza, San Martín, Belgrano North, and Belgrano South], and FEMESA, the state-owned operator, which is still running three railway lines [Mitre, Sarmiento, and Roca] which have already been pre-awarded to the private sector; FEMESA will stop running trains when the concessioning of commuter services is complete). There are also 3 state-owned intercity operators (for the Provinces of Buenos Aires, Río Negro, and Chubut).⁸

Intercity passenger services are provided by five provinces (Buenos Aires, Río Negro, La Pampa, Tucumán, and Chubut) and two formally organized provincial railway companies. The federal government has transferred a total of 76 locomotives and 504 cars to the provincial governments. Different arrangements were made with each province. Buenos Aires and Río Negro have organized their own railway companies and run their trains partly over freight concessionaires' track and partly over their own. Chubut, the third and smallest operator, only runs a tourist excursion train. Chubut runs its train as part of the functions of its Ministry of Public Works. Trains in La Pampa are run by the Province of Buenos Aires, under agreement. Tucumán has signed a contract with the Nuevo Central Argentino (NCA) freight operator through which the province has transferred locomotives to NCA, which maintains them and provides locomotive crew for the trains that it operates on a fee for service basis. All other tasks are performed by provincial personnel.

As of this writing the oldest of the freight concession-

⁷Conservatively based on US\$0.5 million per locomotive and US\$10,000 per rail car.

⁸The services of the Province of Tucumán are run by the Nuevo Central Argentino private freight operator. The services of the Province of La Pampa are run by the Province of Buenos Aires.

Table 7.11 - Argentina: Demand Projections - Commuter Passenger Services, Pre-awarded Bidders

(in millions of passengers)					
Line	FA 1990	FEMESA 1993	Concessionaires		
			Year 1	Year 5	Year 10
Mitre	46.9	34.4	57.8	63.7	77.1
Sarmiento	75.5	60.5	93.7	106.3	128.6
Urquiza	16.4	16.8	24.8	26.0	28.5
Roca	80.4	64.9	120.2	150.5	167.4
San Martín	33.6	21.7	54.9	63.7	70.0
Belgrano North	15.4	11.8	18.1	28.2	30.3
Belgrano South	5.3	2.0	23.2	23.5	25.2
TOTAL	273.5	212.1	392.7	461.9	527.1

Sources: FA, FEMESA, and Railway Restructuring Unit.

aires (FerroExpreso Pampeano, Rosario-Bahía Blanca Line) had been in operation for 32 months; the newest (Ferrocarril Mesopotámico, Urquiza Line) for only 9. In general, concessionaires have experienced more difficulties than they had expected. Traffic recovery was slow because of intense truck competition and the deteriorated condition of diesel locomotives. Intense competition has caused operators to charge about 20 percent less than what they expected. Sugar from Tucumán to Buenos Aires (1,150 km) is one example of rail/truck competition. When NCA decided to participate in this market, truckers charged US\$38 per ton. Now, both share the market and truckers charge US\$22 per ton; NCA charges between US\$20 and \$21. Similar grain transport tariffs silos, to export ports, have been reduced by US\$3 or more per ton.

Between June 1993 and July 1994 the five private freight operators moved 10.7 million tons. This is comparable to which a similar level FA transported in 1990, but 46 percent above what FA moved in 1991. For selective cases in which information is available, traffic is reported up to be 30 percent below concessionaires' projections.

The four private commuter services concessionaires which have been in operation from three to seven months as of this writing are, on average, 33 percent above FEMESA's traffic for the same period last year. Lack of locomotive power explains most of the difference between actual and projected traffic for three of the four concessions. As with the freight concessionaires, actual traffic is below first year projections (on average, 30 percent below projected levels).

Even less information is available about intercity passenger services traffic. All five provinces counted sold 4.1 million train km, as against 15.5 million train km under FA

in 1990. These services appear to be operated with subsidies several times lower than those that FA received. Most passenger service is offered in the province of Buenos Aires (84 percent of the total) where the Buenos Aires-Mar del Plata corridor actually cross-subsidizes other provincial corridors.

4. Real Estate

Most railway real estate is located in the Buenos Aires Metropolitan Region. When privatization of the commuter passenger services in the region took place, real estate assets were not included. The reason was that inclusion of real estate might have attracted real estate opportunists with little interest in "core" rent operations. Real estate development is now the main task of FA. However disposition, sale, and development have proved slow. FA's most highly visible project, the development of the Retiro Area, which included 100 hectares in downtown Buenos Aires, has drawn criticism from such groups as the Central Society of Architects. The project is being reorganized and refocused. FA is carrying out similar downtown development projects, albeit on a smaller scale, in the cities of Rosario and Córdoba.

5. Financial Needs

As a whole, the system's needs for federal subsidies have decreased dramatically. Over the 1980-88 period Annual federal support for the railway systems averaged US\$1.41 million. For the period from 1989 to 1994, the reduction is represented in Table 7.12.

Federal support is still required for: (1) all private commuter operators; (2) the Belgrano freight line (where US\$50 million will be invested in 1994 and another US\$50

Table 7.12 - Argentina: Declining Federal Subsidies to Rail Operators, 1989-94

(values in millions of April 1992 US\$)	
1989.....	1.316
1990.....	0.925
1991.....	0.612
1992.....	0.558
1993.....	0.352
1994 (est.).....	0.332

million in 1995, before privatization); and (3) the working deficit of FA, which is still providing labor severance benefits and is commercializing railway assets throughout the country.

6. Labor Unions and Work Force Restructuring

Formally, unions were never against the privatization process. Initially, they may have thought that the railway part of the government reform program would never take place. Politically, the unions belonged and have always belonged to the Peronist party, and it was probably felt that the Menem Administration would not pursue an action that would affect one of its traditional and stronger sources of power. The ensuing action, however, created a new government relationship with the unions: there were those who were “with” the new economic model of deregulation and privatization and those who were against it. Finally, the two main railway unions decided to keep their “foot inside the plate.” The most important union of all (the *Union Ferroviaria* — the Railway Union) tried and is still trying to become part of one of the consortia that is pushing for the Belgrano freight line.

If union power is measured by the number of its members, the reform undoubtedly weakened unions. *Between mid-1989 and mid-1994 railway employment declined by nearly 80 percent, from 92,500 to 19,700 employees.* Of the total labor reduction, about 32,900 employees from FA and then about 2,950 from FEMESA left the railways through the voluntary retirement program. The program paid one salary per each year worked. On the average, this program spent US\$10,000 per retired employee, a total of US\$360 million. Of the total, US\$200 million was financed by the World Bank through the Public Enterprises Reform Adjustment Loan (PERAL). The rest of the money came from the federal Treasury which also financed 16,300 dismissed employees (US\$160 million). The program was administered first by the Human Resources Management of FA and then also by the Human Resources Management of FEMESA.

The main problem faced by the labor reduction program was credibility. Would the government really pay the amounts it had promised to pay? The World Bank participation in financing retirements brought reliability to the process. All commitments were honored for the first retirement group and for the others.

The voluntary retirement program was favored by a phase of expansion of the new economic model. International interest rates were low, and, as part of the emerging markets, Argentina received mass capital flows. The GDP grew by 8.9 percent in 1991, 8.7 percent in 1992, and 6 percent in 1993. Undoubtedly, confidence in the recently achieved economic stability and economic growth made the exodus easier. Additionally, regardless of “macroeconomic” factors, the future of railways, seen from the point of view of workers, was obscure. Would there be another chance, apart from this one, to “disembark” from the railway activity with an acceptable amount of money?

Retirements, at tranches of about 15,000 employees per year, were not without cost for the railway system. Voluntary retirements were neither systematic nor organic: anyone who volunteered for retirement was eligible, with very limited exceptions. The effect on some key areas, such as rolling stock maintenance, in an already beaten corporation, was harmful: FA was partially out of function when freight concessionaires gradually took over, in 1992 and 1993.

In addition, voluntary retirements were carried out in a fairly brutal way: there was no program to retrain workers nor was there a system to help them find new jobs, with the exception of those hired by the Federal Tax Department, at the beginning of the process. Unions succeeded in having some workshops that were engaged in rolling stock repairs rented to workers, organized as cooperatives at a nominal fee. Cooperatives are currently competing with other private suppliers for rolling stock repairs. The latter claim that this competition is unfair, as cooperatives do not depreciate buildings and repair equipment.

7. Labor Contract Negotiations

Freight labor contract negotiations with the unions were tumultuous but they in fact ended with reasonable satisfaction on the part of both parties.

The foundation legislation that deals with labor contracts in Argentina is Law 20,744 — the Law on Employment Contracts. This law defines a common basis for labor contracts in all sectors and sets out the general parameters within which labor and management can negotiate mutually acceptable contract terms. It also defines due process for contract dispute resolution, including due process for firing and/or management sanctions. A second law (Law 11,544) defines the statutory conditions that ap-

ply to railway work (for example, working hours per week, vacation and sick leave, basis for dismissal). The conditions for union representation are defined in the Law for Professional Associations, which defines the rights of unions to organize and to negotiate on behalf of their members. The legal framework that applies to the rail industry is the same as that which applies to other industries. No changes in this framework were made to accommodate rail restructuring.

Traditionally in Argentina, *convenios colectivos de trabajo* (collective bargaining agreements) have been negotiated between labor and management for each sector of the economy and have been approved, in each case, by the Federal Labor and Social Security Ministry. In cases of disagreement between the parties, the Ministries act as mediators. In the new deregulated environment the government has preferred to have labor management negotiations concluded at the individual firm level with the collective agreement serving as a basic framework for individual contracts.

When the reform process began in 1989, FA was the only railway operator. Its work force of 90,000 was represented by four unions: (1) engineers; (2) signalmen; (3) management personnel; and (4) *La Union Ferroviaria* (the railway union). This last was the largest and its members included all of the railway crafts — way and works, mechanics, train operations, and administration. FA negotiated labor contracts with all four unions.

The private concessioning of operations had a significant impact on the union organization of rail labor. The government, through a presidential decree declaring pre-existing collective bargaining agreements between FA and the unions null, opened the door for private operators. The freight concessionaires effectively replaced four FA contracts with two new agreements negotiated with the engineers' union and the railway union. Since the need for signalmen was sharply reduced with the general adoption of radio communications for train and traffic control, members of the signalmen's union were absorbed into the railway union. The concessionaires refused to deal with the management union. As a result, middle management remained unrepresented.

The new contracts replaced all previous agreements, including all uses and practices not mentioned explicitly, and thus allowed work responsibilities to be redefined from a zero base. In addition, the new contracts gave management significantly greater flexibility in the use and deployment of work forces. For example, for the first time, management was given discretion over the following:

- Acceptance of multiple utility job classifications, which allowed management to assign work to crafts that

extended beyond their normal functional scope of responsibilities but that enabled greater operating efficiencies to be realized.

- Recognition that the modification of technical operating and safety rules is the exclusive domain of the railway company.
- Reduction in distinct job classifications. In the case of the railway union contract, job categories were reduced to five for mechanics, five for way and works, four for train operations, and two for administration.
- Elimination of "extra" payments that exceed the normal basis of pay for specifically assigned tasks beyond "normal" duties.

The new contracts accepted the principle of an hourly rate as the basis of pay. A 48-hour work week and a 12-hour work day became the standard in most contracts. In addition, the contracts allowed for significant productivity gains. The contract negotiated with the engineers, for example, accepted two-man operating crews as a standard — down from three. Engineers also agreed to perform "pickups" and "set outs" of rail cars on line of road and to consolidate local switching districts. With the radical reduction of clerks, station personnel, and signalmen, the engineers have become the dominant union in the industry. In their new contracts engineers negotiated a 50 percent increase in compensation for trainmen, which appropriately affected their increased productivity. Members of the railway union also received real salary increases, albeit somewhat lower (on the order of 30 percent).

The new operators recognized the seniority of former employees but received these employees "free" of any accrued salary, vacation, or sick pay benefits. FA had made contributions to a state-managed pension fund. Accrued retirement benefits under that fund remained the obligation of the state Social Security Agency and not the railway.

Freight concessions required that the basic labor force of the concessionaire belong to FA. Commuter privatizations gave the concessionaire the possibility of choosing between FEMESA personnel and outsiders. On average, former railway personnel from FEMESA hired by concessionaires represented, for the four parties already awarded concessions, 38 percent of their stated total number of employees.

8. The Future

Several difficult problems still remain to be worked out, particularly with the freight concessions. Most of the freight concessionaires have not made the investments offered in their proposals and subsequently committed in contracts with the government. Unofficially, concessionaires have

admitted that only half of the projects which they are obliged to undertake have been implemented. FerroExpreso Pampeano, the first freight concessionaire, is undergoing particularly difficult financial problems. Its three consecutive years of operation failed to generate a profit.

FerroExpreso Pampeano, for different reasons (delays in the privatization of Bahía Blanca port and declines in international grain prices), has asked the government for a reduction in its obligated investment and a deferment in its execution. The government, in principle, has said no. All other concessionaires consider this a precedent setting case. Whatever decision is made on FerroExpreso will be applied to other concessionaires as well.

Although unparalleled reform has been achieved, it is too early to declare victory. The system as a whole has not yet demonstrated its economic viability.

PART IV: LESSONS LEARNED

Several lessons learned in Argentina may have relevance and value to railway restructuring and reform in other countries.

- *Concessioning works.* The positive response of domestic and foreign companies in Argentina demonstrates that private capital and management expertise can be mobilized to provide both freight and passenger services under long-term concessioning contracts. Risks associated with concessioning can be managed through prudent diversification of concessionaires, bonded performance, and well-engineered contracts.

- *Underlying economics must be workable.* However, the long-term viability on concessioning or any other privatization approach depends on competitive factors and the quality of management which cannot be predicted in advance with certainty.

- *Political commitment should come first.* By far the most important success factor in the process of concessioning is a resolute political commitment and clearly articulated objectives at the highest level of government. While the political and economic stakes are high throughout the privatization process the greatest risks are at the front end when the program is conceived and articulated. Subsequently, it is essential that the government retain its commitment through unpopular (but essential) as well as through popular steps in the process. A country wishing to undertake a similar process must have the similar continuity in leadership and clarity in vision.

- *Broad authority in designing concessions should be left to core staff that is charged with implementation.* Designing a

marketable and financially viable concession is 70 percent “art” and 30 percent “science.” Early and detailed dialogue with potential bidders is important to designing a workable and salable concession package. The staff responsible for carrying this out must have strong technical and financial skills as well as strong business acumen. It must also have sufficient authority “to deal” with concessioning interests.

- *Selection of concessionaires is best accomplished when the process is open, contestable, simple, and easily understood.* Unless it is effectively managed, the selection of concessions can become a contentious and politicized aspect of the privatization process and can slow it down or even derail it. Procedures for the evaluation of proposals should be well defined and clearly explained to all offers in advance of proposal preparation. A two step process of technical prequalification followed by “best and final” financial and technical proposals can be implemented more rapidly than a single round competition which is less defined in terms of expectations and offering terms. In any case, final evaluation criteria should be clearly defined, few in number, and quantifiable.

- *Advance preparation goes a long way toward determining a positive outcome.* Bids are never better than the quality of the request for proposals to which they respond. RFP’s should evoke realistic and workable proposals which can be translated into viable long term contracts. Planning and evaluation criteria which reward optimism on the part of bidders may create a need to recompute the concession in a second round, or worse may cause optimistic assumptions be locked into non-viable contracts. Railway concessions are always difficult to value. Unclear or conflicting criteria may engender miscalculations on the part of bidders.

- *Getting it right is more important than getting it done.* If a first round bid is unrealistic, a second round may be needed or the government may need to sweeten the concession by assuming additional liability or be investing in concession prior to privatization. Concessioning is not necessarily a one-shot process. And not all private sector ventures succeed, even under the best of circumstances. Hence it is important to have a fall-back plan for re-concessioning should the first attempt fail.

- *In concessioning, an expeditious and on-schedule awards process is important.* Those managing concessioning must balance a desire to explore every aspect of the process and construct elaborate bidding mechanisms, with the need to maintain momentum and avoid discouraging bidders. Another cost of delay is the damage done by indifferent management and employees in the interim period after changes have been announced but before the transfer actually takes

place. Every effort should be made to avoid a situation in which winning bidders discovering properties and traffic are less than they had bid for because of excessive delay.

- *Communication and stakeholder outreach at each step in the process is essential to successful implementation.* Railway privatization requires patient education and consensus building among the various stakeholders (managers,

employees, users, political leaders) involved in the process. The process took several years in Argentina and, in fact, may actually have been rooted in planning and analysis that began years before the final reforms. Communicating plans and expectations through this process involves two way communication, of which user surveys and intense interaction with the mass media are essential elements. ■

CHAPTER EIGHT

SWEDISH RAILWAYS CASE STUDY¹

SUMMARY

1. Introduction

Throughout Europe, and in many other countries as well, railways have long had at least two features in common. First, railways are organized as state-owned monopolies with infrastructure and train operations vertically integrated, and second, they face harsh competition from other modes of transport. This was the case with Sweden until Sweden's railway industry was restructured in 1988.

Two central features of the Swedish railway industry's structural change were the separation of infrastructure from train operations and the commercialization of train operations. The 1988 Transport Policy Act divided the state's rail assets between two state-owned enterprises, Statens Järnvägar (SJ), the Swedish State Railways, and Banverket (BV), the National Rail Administration, and defined complementary operating and infrastructure maintenance roles for each.

SJ currently enjoys a monopoly for freight transport over the entire network and for passenger services over most of the main line network. Regional transport authorities, which are part of regional government, control passenger traffic on secondary or county lines. Although it is state owned and not yet corporatized, SJ enjoys most of the freedoms and economic incentives of a private firm. In recent years its management has succeeded in developing a commercial culture within the enterprise and in reclaiming market share previously lost to competing modes.

BV is responsible for the country's railway infrastructure. It maintains way and structures, signaling, telephone services, and electricity supply. BV is supported by state appropriations and allocates its funds on the basis of cost-benefit principles. Although SJ pays for using the tracks, track maintenance and investment costs by far exceed revenues from track user charges. As a result, the industry is heavily subsidized. Indeed, infrastructure investment subsidies to the rail sector have increased markedly since the reorganization.

Restructuring has meant that Swedish railways are now well equipped to act under the framework established in the European Community's 1991 directive on rail industry organization. That directive requires railways to separate accounting and charging for infrastructure use from accounting and charging for other aspects of rail operations as a prerequisite to reciprocal interline train operations throughout Europe.

The 1988 Swedish reform represented a pivotal stage in a longer-term renewal process which began in the late 1970s. The next formal step was taken in May 1994 when a bill deregulating operations on state-owned tracks was passed by the Parliament. From the time that this legislation is implemented, anyone "fit, willing, and able" would be allowed to enter the market and provide services in competition with the incumbent rail operator and other possible entrants. However, at the time of this writing (the end of 1994), because of the recent change in government, the implementation date for deregulation is uncertain, as is the ultimate form that deregulation may take.

Important issues that remain to be worked out in Sweden involve the mechanics of open entry — that is, the allocation of trackage rights among competing operators. Alternative mechanisms are being tested, in a research program, for allocating scarce track capacity, for assigning time slots, and for creating institutional arrangements that will assure that competing train operators perform safely and regularly within assigned service windows.

The restructuring process was originally intended to rectify several perceived problems, such as a managerial focus on production rather than on customer service, outdated rolling stock and station facilities, and insufficient track capacity. In addition to the above problems and to a mounting financial strain on the public budget, restructuring was intended to address three more fundamental concerns. The first concern was to put railways on an equal footing with road operators. After the reorganization, the state assumed primary responsibility for supplying and maintaining infrastructure. Since railways were considered a uniquely safe and environmentally friendly means of transportation, the second concern was to provide special support so that these social benefits could be fully realized. Because branch line abandonment was considered unwar-

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ranted for regional development reasons, the third concern was to offer the option of light density line subsidies to local transport authorities.

2. Lessons Learned from the Experience

The unique restructuring of Swedish railways in 1988 was implemented in a short time and with a minimum of difficulty. Although the restructuring of Swedish railways did not involve privatization, the designers of the restructuring experiment did contemplate that restructuring would open the door to limited on-track competition and private sector participation. Subsequent developments, including the EC mandate for rail network interchange and the 1994 Swedish Rail Deregulation Act, opened that door wider.

Sufficient time has passed since the initiation of the Swedish experiment to review the lessons learned in reshaping the railway. The Swedish experience demonstrates clearly that, when railways are relieved of full infrastructure maintenance cost responsibility, they can compete effectively in both passenger and freight markets. In addition, it suggests that at least a significant portion of the benefits derived from rail privatization can be gained by clarifying and simplifying the profit-making objectives of a state-owned railway and by de-politicizing its decisionmaking. In addition, the Swedish experience shows that competition and/or potential competition can be effective in improving both the service and the cost performance of a state-owned railway.

An important lesson that can be drawn from the Swedish experience is that the quality of railway management is a significant determinant of restructuring success. Experienced management with a clear vision of commercial operations can make an important difference. Another lesson is that management of a "turnaround situation" requires not only a clear vision of the future to sustain public commitment but also effective internal and external communications and a visible scorekeeping system. Finally, the Swedish experience shows that sustaining political and financial commitments to a restructured railway which remains under public sector control requires periodic re-examination of fundamental modal equity issues and periodic review of public sector funding. In other words, the door remains open on final restructuring issues in Sweden.

3. The Case Study

This case study details the process whereby the Swedish railway system has been transformed. Part I describes the evolution of the system prior to the beginning of the reform process. With these baseline conditions as a background, Part II describes the state of the rail sector, the markets it serves and the labor environment in which it operates. Part III details the reform process itself. This in-

cludes the changes actually implemented in 1988, as well as the events leading up to the 1994 Deregulation Act. Part IV analyzes post-reform performance, including both changes within SJ and BV and the consequences of restructuring from the perspective of the state budget. Part V draws out the lessons learned from the reform process. Two Appendices follow. Appendix 1 provides a summary of the "Swedish Transport Model." This model is important because railway restructuring in Sweden took place in an environment in which radical adjustments were simultaneously made to basic equities in infrastructure cost sharing among all transport modes. This policy adjustment in modal equities is the most novel feature of the Swedish experiment. Finally, Appendix 2 provides additional details on the Swedish labor market and its institutions.

PART I: BASELINE CONDITIONS

1. The Regulated Business Administration

Some background information about the legal standing of state-owned enterprises in Sweden is helpful in understanding SJ and BV and their development. The country's government is made up of a number of ministries. Public sector organizations outside the ministries fall under three categories. They can be (1) a state administration (*verk*), (2) a state business administration (*affärsverk*), or (3) a state-owned limited liability corporation. This last type is identical to a private corporation except for the ownership of its stock. The first two categories are formally part of the public sector. Neither type owns property but administers assets on behalf of the state. The difference between the two is that while a business administration generates its own revenue, a state administration is funded by appropriations.

The Telecommunications Administration and the Post Office have recently moved from business administration to corporate status. SJ is developing in the same direction, but is still formally a business administration. The partitioning of accrued pension liabilities is one obstacle to full corporatization. SJ's pension liabilities are unfunded and the difference between total pension expenses and SJ premiums accrues directly to the state budget.

Although SJ is still a business administration, it has over time been given an increasing degree of managerial control over its activities (this is further detailed in Part II, Section 4, of this chapter). As a business administration, SJ had a mandate to operate that differed from that of commercial enterprises. The rules under which SJ operated up to the mid-1980s are important for an understanding of SJ and its recent reform. The rest of this section outlines some aspects of how a business administration operates. Because of SJ's business administration status, SJ's budget process was part of the public sector budgeting pro-

cess. SJ made projections of costs and revenues as part of its annual submission for state allocations. Box 8.1 describes the financial operation of a business administration in further detail.

SJ continued until the 1960s to be subject to economic regulation. To curtail potential monopoly behavior, SJ was required to fulfill three public interest obligations. The first was to provide services over the network irrespective of the financial viability of providing these services. The second obligation was to provide all shippers with services based on equal commercial terms (that is, large and small volume customers would have access to the same rates). The third requirement was an obligation to offer uniform fares (that is, passenger fares and freight tariffs had to conform to a uniform time and distance scale). No differentiation in rates could be effected in different parts of the country and no time of day or seasonal pricing was allowed.

Over the years, SJ's pricing responsibility and commercial autonomy have increased. From the late 1960s, for example, confidential freight contracts could be negotiated and tariffs adjusted according to the specific competitive context of each movement. However, as late as the early 1980s, passenger fare hikes still required Ministry of Transportation and Communications approval.

Government control of SJ's labor relations has gradually attenuated. For example, until the mid-1960s SJ personnel enjoyed lifetime appointments. Presently, SJ personnel have no greater job assurance than employees in the private sector. The Ministry of Transportation and Communications continued until the 1960s to maintain control over SJ's payroll. Until then, approval had to be secured from the Ministry before a new position could be added to SJ's rolls.

A further class of regulations has involved branch line abandonment. Over the years, approval at the parliamen-

tary level has been required for line abandonment. Historically, local and regional opposition to branch line and station abandonment has been strong, and the debate over specific lines has often been intense. In Sweden the abandonment of railway lines in a region undergoing economic transition is alleged to be tantamount to a condemnation to irreversible economic blight. Hence, the debate over the fate of specific lines has revolved not so much around the effects on rail profitability as around the consequences for regional income distribution.

From the above discussion, it can be seen that, for a lengthy period, SJ's control over assets and liabilities and over its labor force was severely restricted, in particular with regard to its economic aspects. The railway management's only scope for active influence was in the areas of technical aspects and day-to-day operations.

BV still operates as a state administration subject to traditional civil service controls. It receives funds directly from the state budget and is not financially accountable for the effectiveness of its capital programs.

2. The Rail Industry before 1963

In 1853-54 the Swedish Parliament decided that the state should build and run trunk line railways. These were intended to traverse more than one region and to connect all parts of the country. In 1863 the Board for State Railways Operations was established and later became part of the government's railway construction organization, which in 1888 was reorganized into SJ, the Swedish State Railways. The motive given for state control was that it was intended "to avoid wavering and desultoriness," or — to summarize the debate using hindsight — to prevent private sector monopoly control over interregional transport.

From the mid-1850s until 1875, trunk line construction was concentrated in the relatively densely populated

Box 8.1 - Sweden: Financial Management of a Business Administration (up to the mid-1980s)

SJ submitted an annual budget proposal to the Ministry of Transportation and Communications. This proposal included projections of revenue and operating expenses, as well as a submission for investment capital. SJ could not borrow from commercial lenders on the basis of its own creditworthiness, nor could it decide independently on its investment program. Rather, it was allocated investment resources at the discretion of the government.

The difference between SJ's revenue and operating costs — its gross profit — was applied to two purposes. First, SJ maintained an account which represented its liability to the state (*statskapital*). This liability represented the sum of all investment resources previously allocated to SJ, net of capital repayments made during previous years. Gross profit was first applied to repay that portion of the *statskapital* account that was current and was due within the budget year. In calculating the current repayment portion of *statskapital*, two principles would apply: (1) different categories of investment would have specific economic depreciation terms over which initial capital allocations were to be repaid; (2) historical investment costs would be inflated to reflect the current cost of reinvestment.

Gross profit was also to be used to pay a "dividend" to the state. The size of the dividend was based on a simple formula using the weighted average cost of government borrowing and the size of the outstanding *statskapital* account.

southern part of the country. During the later years of the nineteenth century and the first years of the twentieth, however, trunk line construction continued in the thinly populated north. During this period the iron ore line between Luleå and Narvik, Norway, was built (see Figure 8.1).

Between 1907 and 1937 the construction of the trunk railway network was completed. During this period lines were built into sparsely populated areas with little commercial interest. This construction was motivated primarily by social and political considerations.

As a result of an economic boom in the later nineteenth century, private enterprises invested extensively in both regional and local railways which fed the trunk network. By the turn of the century, 65 percent of the network, which at this time consisted of about 11,000 km, was in private hands. By 1930 private railways had reached their maximum length of about 10,000 km, and by 1940 the entire network had reached its maximum length of 17,000 km (Figure 8.2).

The early 1920s saw the beginning of rapid growth in the competing roadway sector. Despite attempts to regulate trucking, competitive pressure on the railway industry increased steadily. Private railways — primarily serving local and regional markets — were particularly hard hit since trucks have their greatest competitive advantage vis-à-vis rail in shorter haul markets. Under this competitive assault, railway profitability, which had been poor from the outset, declined, and in many cases railway owners had difficulty in servicing their debt. In many cases the state had guaranteed loans for private railways and was at risk from widespread bankruptcy.

Against this backdrop, the Parliament decided in 1935 to nationalize private railways, a process that was completed in early 1950. However, some private industries continued to operate rail lines outside of SJ control.

By the end of the 1950s, the Swedish railway industry had three characteristics that are important from the present perspective. It was almost completely in state hands; the state's agency charged with rail operations (SJ) was subject to political control; and SJ had begun to lose money on low-density operations.

3. The 1963-79 Period

Since World War II the Swedish railway industry has been heavily influenced by the three Omnibus Transport Policy Acts of 1963, 1979, and 1988. In this legislation, the government set out general principles for the country's transport policy and infrastructure. Common to all three bills is the policy objective "to provide citizens in all parts of the country with access to a satisfactory transport supply at minimum social costs." Common to all three bills, as well,

is a gradual shift in emphasis from centralized government control and direct state intervention to decentralized government control and market autonomy. Significantly, the acts differ with respect to the means they use to meet these policy objectives.

The intent in the 1963 Act was to make all transport modes more open and competitive. The deregulation of truck operations was one step in this direction. Since 1963, trucking has been exempt from public sector control with respect to entry, pricing and service obligations. A second principle espoused in this first Transport Policy Act was full cost recovery. The 1963 legislation supported the position that the state should not subsidize transport activities. It emphasized the "stand alone" economic viability of each mode.

Still, the legislation included some apparent contradictions. For example, it established a subsidy regime for unprofitable railway services that were believed to generate social value in addition to their purely commercial value.

After World War II, SJ incurred growing financial problems on low-volume lines. In particular, the recently nationalized, often narrow gauge, side lines generated losses. Initially these lines were cross-subsidized from profits generated on heavy density lines. Under growing competitive pressure from private truckers, however, it became increasingly difficult to generate a surplus anywhere within the SJ network.

The commercial response to this problem would be to close down branch lines. However, because of political sensitivity, SJ continued to retain deficit services on branch lines. In 1958 the Parliament voted on the first subsidy for non-commercial train operations. The 1963 Act itself separated SJ's network into commercial and subsidized lines. Since then, the state has supported SJ's non-commercial operations.

While this arrangement allowed many unprofitable operations to be retained, railway lines were being closed during the 1960s (some after parliamentary consent was given). However, by the early 1970s, under mounting pressure from local interest groups as well as from the public at large, the government — awaiting recommendations from a parliamentary committee — put a temporary halt to line closures. In 1980 subsidized lines comprised fully 50 percent of the total network but carried only 10 percent of the transport volume. At that time, state grants for non-commercial operations accounted for 13 percent of SJ's total revenue.

Another consequence of the 1963 Transport Policy Bill (and, again, a contradiction of the overriding move toward decentralized control) was that the Board of SJ, which had previously been made up of senior executives from the railway industry, became politicized. Both the Board and the

FIGURE 8.1: SWEDEN: RAILWAY NETWORK, 1993

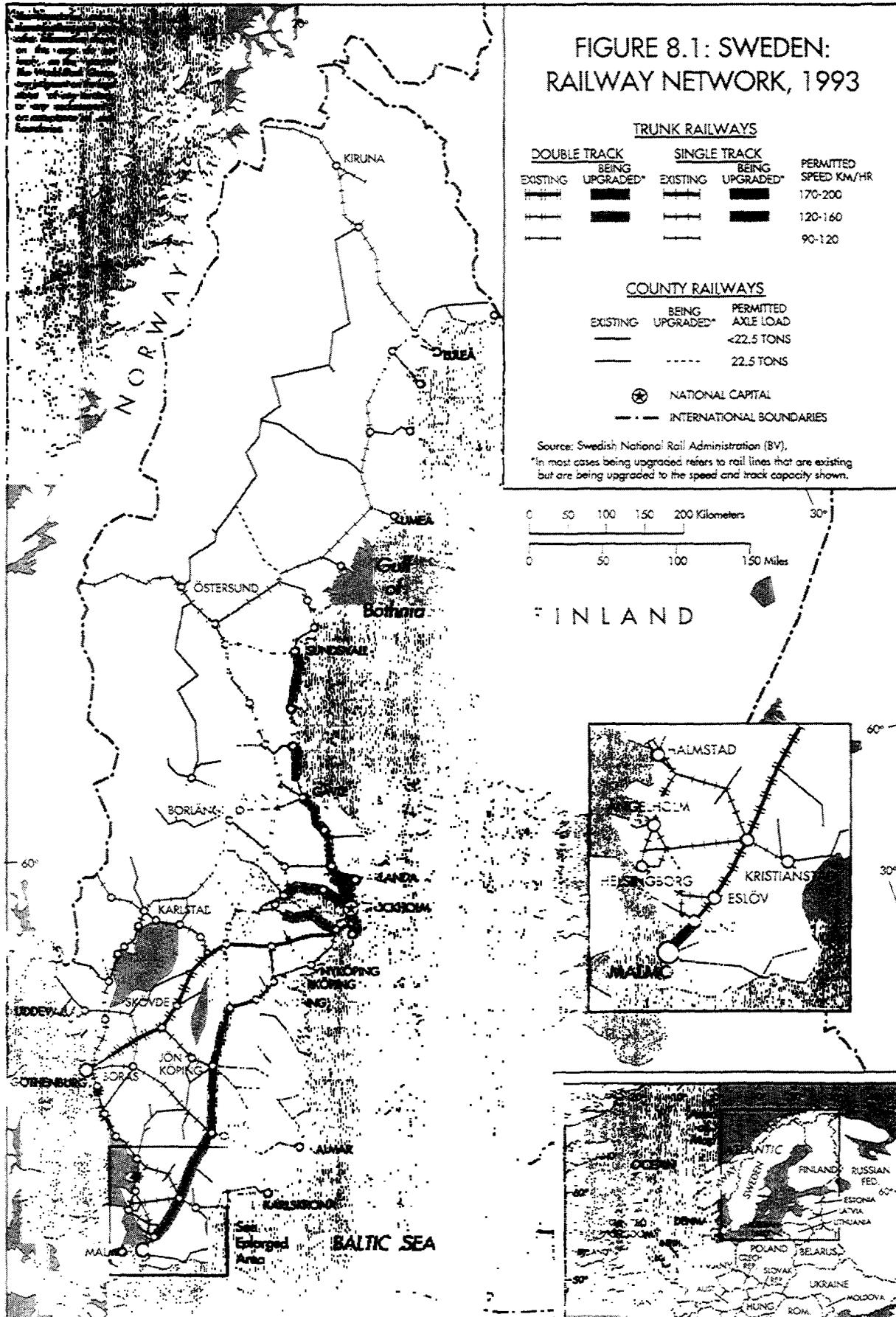
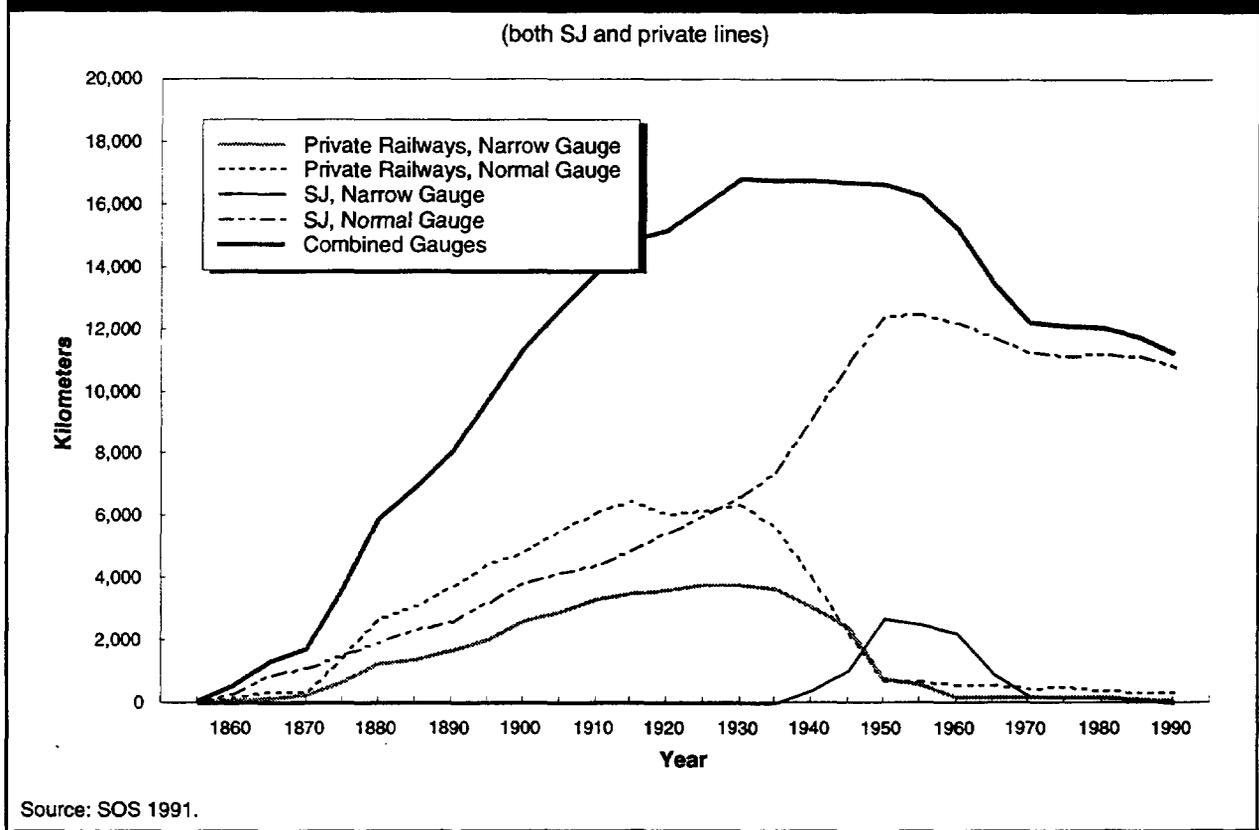


Figure 8.2 - Sweden: Length of Railway Line at Year End, 1865-1990



Director General² of SJ are appointed by the Ministry of Transportation and Communications for a specified time — the latter on term contracts that at present are either three years or six years. Since 1965, the Board representatives have come from trade and industry as well as from the Parliament or from regional political assemblies. The Director General of SJ appointed in 1969 had been the Ministry's previous Under Secretary. The Director General appointed in 1978 had the same background. Significantly, by 1988, when the need to de-politicize decisionmaking became clear, the new Director General of SJ came from one of the country's largest private enterprises.

Despite the partial relaxation of economic regulations, SJ's financial situation continued to deteriorate through the 1960s and 1970s. In only 3 of the 18 years between 1962 and 1980 did SJ meet its target profit levels. In fact, SJ's year-over-year performance declined and the carrier regularly underperformed its budget. SJ's few profitable years coincided with periods of business cycle peaks.

² The title Director General applies to all chief executive officers of public sector businesses that are not corporations.

Faltering financial results were due to a combination of circumstances. Operating costs increased sharply, fueled by the centrally negotiated wage increases. Because of external control, SJ could not respond to external changes with measures that private firms might be expected to use (for example, line closures, price raises and tariff structure changes, and layoffs). Declining revenue yield and a loss of market share in the passenger market contributed to the mounting economic losses. Through the 1960s and 1970s and into the early 1980s the carrier's revenue stream from passenger transport remained approximately constant, while its freight revenues declined sharply. This financial situation was exacerbated by sharply increasing debt amortization. Amortization expenses increased as the replacement values of capital equipment soared during a period of inflation. The financial problem reached a point at which it became clear that fundamental changes were needed — changes that required political intervention. This intervention is discussed in the next section.

4. The 1979 Transport Policy Act

Through the 1970s, SJ's underestimated deficits became a chronic feature of the government's annual budget review. At the same time, parliamentary committees began a "zero

based” review of the nation’s transport policies — including policies that affected railway competitiveness .

The 1979 Transport Policy Act was in part a response to SJ’s worsening economic problems and in part a shift in general transport policy. Whereas the 1963 Act stressed competitiveness and commercial viability for each transport mode, the Transport Act of 1979 shifted the policy emphasis to adjusting the cost burden of competing modes so that the financial costs associated with infrastructure use reflected marginal social costs. The philosophy behind this legislation was based on the following principles: (1) railway marginal costs are low in comparison with average costs, and (2) charges based on average costs tend to deter users while charges based on marginal cost encourage use of a socially beneficial mode. What emerged from the legislation is referred to as the “Swedish Transport Model” (see Appendix 1 to this chapter).

One immediate consequence of this changed policy was that SJ received an extraordinary grant of SKr 215 million for the budget year 1979-80. These incremental resources were allocated to SJ in exchange for a passenger tariff restructuring program which began the implementation of the Swedish Transport Model. By using a two-part tariff, with an annual fixed charge factor (a “user” card) and a marginally priced factor (tickets), SJ expected to attract new passengers. Total revenue, however, was expected to decrease. Increased public subsidies would be needed to fill the gap.

The 1979 Act also created a new institutional structure for local and regional public transport. Before the Act became effective, local communities were responsible for providing local public transport, which primarily included buses, and in major cities also trams and local commuter trains. The Act established a County Transport Authority (*Länshuvudman*) in each of Sweden’s 24 counties. Each transport authority was placed under the joint control of the county council and the county’s local community councils. Both types of councils are elected assemblies with the right to levy regional and local income taxes. Traditionally more than 50 percent of the costs for local and regional public transport have been paid for through these taxes. The 1979 Act gave these authorities a formal and all-encompassing responsibility not only for bus transportation but also for the rail transit operations on SJ’s network. In return, Transport Authorities received a “weaning” subsidy from the national government that terminated after five years.

This represented a first but important step in shifting the financial burden of non-commercial commuter rail services to the counties and away from the central government. It had the advantage of placing the financial responsibility for some money losing operations directly in the

hands of those interests that had been most resistant to branch line abandonment.

Under the 1979 legislation, remaining sections of SJ’s subsidized network were merged with its commercial lines. Unprofitable services continued to receive state support. However, the 1979 Act specified no explicit guidelines for qualifying services that were eligible for subsidy. Indeed, SJ remained the only party with insight into the profitability of specific line operations. When subsequently SJ requested financial support for certain trains that it alleged were operating with a deficit, no technical capability existed within government to second guess SJ’s analysis. Moreover, if, ex post, the operating deficit exceeded the projected amount, SJ simply requested supplementary support in subsequent budget bills. This mode of support clearly provided no incentives for cost-efficient performance.

By the end of the 1970s, the government’s financial support of railways included three sets of subsidies: (1) subsidies for County Transport Authorities for lines on which operations were expected to cease after a few years; (2) subsidies for SJ operations that would otherwise have been terminated; (3) subsidies for SJ’s capital costs. While precedents for the first two subsidies dated back to the 1960s, the third subsidy represented a new policy. In this third area, government support was motivated by the particular characteristics of railway infrastructure (namely, its declining marginal costs). Thus, the 1979 Act set the intellectual foundation for greater and more encompassing rail policy reform.

5. The 1979-85 Period

The Parliament passed the 1979 Transportation Policy Act in March. By October 1980, the Minister of Transportation and Communications expressed his concern over the persistent deterioration of SJ’s financial position. Despite an expanding economy and extraordinary state subsidies in the 1979-80 budget year, and, further, despite the fact that SJ had been promised SKr 200 million in extraordinary subsidies for 1980-81, the Minister foresaw an additional need for SKr 400 million in the following year. To restore fiscal balance, the Ministry laid out a “structure reform plan.” The plan included an annual 5 percent real increase in investment appropriations for SJ over five years.

In the 1982-83 budget bill, the then new government set up two ministerial working groups to probe further into issues that went to the heart of the policy debate then under way regarding the future of rail transport. The first group analyzed the marginal and averaged costs of, the price for, and the total revenue generated from infrastructure used by all surface transportation modes. It attempted to

address the question of whether discrepancies existed between current charges and social costs for infrastructure use in each transport subsector. Debate in the legislature repeatedly returned to the question of whether road traffic actually paid its full marginal cost. The railway lobby, primarily SJ and environmental groups, argued that, while roadway operators' revenues were more than sufficient to pay the financial costs of road use, they were not adequate to cover the full social costs if externalities were included. The working group's report subsequently recommended an increase in road user taxes.

The second ministerial group dealt with the issue of infrastructure investment. The railway lobby claimed that the primary economic problem faced by railways was the need to maintain their own infrastructure — a problem that their competitors in the road sector did not face. Moreover, the National Road Administration, which maintains the nation's roadways, prioritized its investments on the basis of economic rather than financial criteria using cost-benefit analysis. Since a cost-benefit analysis typically generates a higher rate of return than does a financial analysis, railways were said to be treated unfairly. The working group submitted its report which outlined principles for investment appraisals applicable to all modes of transport — principles based on cost-benefit analysis.

In February 1985 the Parliament passed a new Railway Act, again, in response to persisting SJ deficits. With this legislation, the state accepted expanded responsibility for railway sector infrastructure. SJ was directed to separate accounting for infrastructure from other parts of its business. In addition, the Passenger and Freight Divisions were directed to pay internal fees for infrastructure use. The purpose of this arrangement, referred to as the "internal road sector model," was to enable legislators and ministry officials to understand how subsidies were being used within the rail system.

In addition, this Railway Act established a new line item structure for the investment budget. All investments in commercially viable lines had before this date been added to the *statskapital* (the account registering accumulated investments). Historical investments in the account were inflated so that debt repayment was made on the basis of reinvestment costs. A first new feature was that only 80 percent of infrastructure investments in the commercial network would be entered into the *statskapital* account while the rest would be treated as a grant; the allocation in that year was SKr 950 million. An additional grant was earmarked for investment in workshops, freight and passenger terminals, telecommunications and electricity installations, etc. This allocation was SKr 450 million, and the full sum was added to the *statskapital*. The Act also established

that repayments were to be made on a historical, not an inflated, cost recovery basis. The state expected improved profit performance from SJ as a result of these changes. Another new feature was that shortfalls in one year would have to be funded through borrowing, thus becoming a deferred payback obligation.

From this time onward, rolling stock investment was to be funded directly by SJ, through borrowings on commercial terms. The maximum amount to be borrowed each year would be set by the government. For the first year it was set at SKr 600 million. This represented SJ's first direct interaction with the capital markets. In addition, SKr 1,877 million of the *statskapital* account was written off, which represented the then net book value of infrastructure. The immediate effect of this was to lower the firm's target profit — the gross profit needed to service its payback obligation to the state.

The 1985 Railway Act also instructed SJ to reorganize its subsidiaries, which included catering businesses, bus-ing operations, and truck transport and forwarding companies. To this end, SJ organized a holding company, Swedcarrier, and gradually transferred subsidiary ownership into this company. SJ was also instructed to sell subsidiaries that did not complement its core rail business — an instruction that SJ has been slow to act upon, because of differences over interpretation of instructions. Significantly, the Act also gave SJ the right to reorganize itself internally as its management saw fit. The Parliament was also no longer committed to intervene in the enterprise's staffing and organizing decisions.

In summary, the 1985 Railway Act meant: (1) that infrastructure and operations were separately accounted for; (2) that total investment allocations increased and the share of grants in these allocations grew; and (3) that centralized control of SJ's management was further relaxed.

6. The Market for Transport Services

Sweden has more railway lines per capita than do the other European countries. This has been the case over most of this century, although the reason for this is not clear. Sweden is large and has a low population density (20 inhabitants per km²) and much of the country's natural resources are in the north while consumer markets are in the south and on the Continent. While this could be one explanation for the extensive line length per capita, it is contradicted by the fact that most railway lines are in the densely populated southern third of the country. Another explanation might be that Sweden has always emphasized the importance of railways to regional development. In the early years of rail development, subsidies to private railways were used to promote construction. The state subsequently

funded branch lines to promote regional growth through its own budget. Over the last 40 years the mirror image of this concern has been a reluctance to close branch lines. All of these factors combine to explain Sweden's high rail line per capita ratio.

In the European context, Swedish per capita use of railways is low with respect to passenger services but high with respect to freight services. The Swedish rail market share is high for freight but low for passenger traffic. The average revenue yield is the mirror image: high for passengers, low for freight.

The Swedish railway network is made up of four categories of lines. Main lines, of which there are 6,300 km, represent the railways' commercial core. Only SJ operates on the main lines. On the secondary network or county lines, of which there are 3,300 km, County Transport Authorities have an exclusive right to operate passenger services (but, today, with SJ acting as the franchising operator). SJ also runs freight services over these lines. In 1993 control over (but not ownership of) the 1,000 km low use *Inlandsbanan*, formerly part of the county line network, was transferred to the local communities through which these rails pass. *Malmbanan*, the 450 km Iron Ore Line which serves Kiruna-Narvik and Kiruna-Boden/Luleå in the north, is organizationally separate from the rest of the network.

One important aspect of the Swedish railway network is the mix of passenger and freight services. During 1993, 92.7 million train km were operated over the network. Of this total, freight trains accounted for 37 percent and passenger trains for 63 percent. Only a few lines support predominantly single-purpose traffic. The 400 km Stockholm-Gothenburg trunk line, for example, is used by 15 different categories of freight and passenger services.

In 1993 passengers made 92.7 million rail trips in Sweden. Of these, 26 percent involved SJ's commercial operations,³ while the rest involved services that SJ operated on behalf of County Transport Authorities. Railways served 5 percent of the total market for passenger transport, or 112.7 billion passenger km in 1992. However, the railway share of long distance travel (more than 100 km) was about 12 percent.

The total market for domestic passenger transport in Sweden increased from 49.7 billion passenger km in 1960 to 112.7 billion in 1992, which meant that it more than doubled in size over 30 years. Railway passenger service has, however, lost share in the passenger market to both personal and public transport. In 1960 railways accounted

for fully 10 percent of the passenger market. By 1993 that share had diminished to 5 percent. In spite of lost market share, SJ actually experienced an increase of 15 percent in total market participation (from 5,040 to 5,830 million passenger km) between 1960 and 1993.

Significantly, a major market shift took place over this period for SJ to short-distance rail services. Increasingly, SJ has become a commuter services operator in the three major city areas.

In 1993 rail freight accounted for 51.5 million tons. Of this total, 27.2 million tons involved domestic movements, 22.5 million were international movements, and 1.8 million involved combi-trains (container, piggyback, etc.). Trucks account for the largest share of the freight market in Sweden. Total freight volumes added up to 72.3 billion ton km in 1992, of which trucks accounted for 37 percent, trains for 27 percent, coastal shipping for 10 percent, and international shipping for 27 percent. Transport for distances less than 100 km is dominated by trucks, while rails move 50 percent of the long-distance surface freight measured in ton km.

Among the most important rail freight commodities is iron ore, which is transported on *Malmbanan*. This single movement accounts for 17 percent of railway ton km and 40 percent of total rail tonnage. In order of significance, other commodities include steel (17 percent of railway ton km), pulp and paper (16 percent of total rail ton km), and timber and processed wood (14 percent each of total rail ton km). Freight transport is consequently highly dependent on natural resource based production and less on high value manufacturing. It is noteworthy that — with one exception — it is precisely these same bulk commodities that have dominated rail freight transport over the century. The exception is food and farm products — commodities that for the most part have been diverted to truck.

Over the 30-year plus period to 1992, the total freight market in Sweden has increased from 43 billion to 72 billion ton km — almost a twofold market increase. During this period railway market share for freight traffic increased, from 25 percent in 1960 to about 27 percent in 1990. In terms of net ton km, rail freight transport increased from some 10,000 million in 1960 to 19,000 million in 1992. Payload also increased, from 43 million tons in 1960 to almost 52 million in 1992.

Freight volume alternately rose and fell during this period with the movements of the business cycle. Freight markets in Sweden are highly cyclical. Still, despite the depression experienced in the early 1990s — the worst since the 1930s — tonnage declines were minimal in 1991 and 1992, and net ton km actually increased. In the freight segment the long-term trend is toward longer lengths of haul.

³ The revenue share for commercial operations is of course much larger.

In summary, the following features of SJ's market and production are important to bear in mind for the following discussion. First, the network is used for multiple purposes; only in rare circumstances do single lines carry a homogeneous type of traffic. Second, passenger market share has plummeted over the last 30 years. Third, in absolute numbers passenger transport has actually grown slightly, and payload has grown substantially.

7. Comparative Productivity

Table 8.1 summarizes some key performance indicators for selected European railways for the years 1977 and 1990. The Swedish statistics include both SJ and BV for the latter year. In terms of labor productivity (train km per member of staff), Sweden is a top performer, second only to the Netherlands.

Swedish railways employ relatively few personnel, and labor productivity is correspondingly high compared with that of other European railways. Passenger km per train km, on the other hand, is below average. Passenger km per wagon is relatively low. These figures reflect the relatively high proportion of long distance passenger transport in Sweden. Average occupancy per train is also low in Sweden. However, freight train tonnage is well above the European average. Freight ton km per wagon is slightly below average, a condition that reflects both empty backhaul distances and a high proportion of two-axle wagons.

8. Rail Labor Relations

In Sweden the labor contract negotiation system is strongly centralized and unions are quite strong. The degree of unionization across industries averages 85 percent. Rela-

tions between labor and management are based on a set of institutional arrangements that includes laws that regulate labor markets, institutions that facilitate labor-management negotiations, union organizing policy, and the nation's social security system. All of these institutions affect the way in which labor markets perform in Sweden.

One defining feature of the Swedish system is that the labor markets operate with minimal government intervention. Public sector involvement is limited to "framework laws" that protect workers' rights to unionize, the rights of unions to negotiate labor contracts, and procedures for wage and other contract issue resolution.

The labor-management relations of SJ and BV are covered by the same general legislation that applies to other sectors of the economy. In 1993, 99.6 percent of BV's employees were union members. These workers are represented by three unions: the academics' union, which represents 7 percent of BV's work force; the other white-collar employees' union, which represents 3 percent; and the rail workers' union, which represents the remaining 90 percent. In the same year, 94 percent of SJ's employees were union members. Of these, the academics' union represented 11 percent; another 13 percent were represented by the other white-collar union; and 76 percent were represented by the rail workers' union.

Since 1988 employment contracts have become less restrictive. Since the railway was restructured, line haul trainmen have begun to do shunting work and conductors have begun to provide catering services on passenger trains.

Increasingly, BV is organizing its maintenance personnel into teams, in which electricians, experts in signaling, and track workers undertake interchangeable tasks. While

Table 8.1 - Trends in Key Indicators for Selected European Railways, 1977 and 1990

	Train km per Member of Staff		Market Share Freight (%)		Market Share Passenger (%)	
	1977	1990	1977	1990	1977	1990
Netherlands	3,909	4,484	5	5	6	7
Sweden	2,830	3,501	45	42	5	6
Belgium	1,800	3,402	22	18	11	
United Kingdom	2,417	3,193	17	10	6	5
Denmark	2,242	2,709	15	16	7	7
W. Germany	1,750	2,559	26	21	6	6
Norway	2,267	2,504	23	14	6	5
France	2,096	2,413	34	27	11	9
Italy	1,411	1,568	18	10	12	7
MEAN	2,302	2,926	23	18	8	7

Source: J. Preston, "Cost Recovery Worsens as Europe's Major Railways Lose Market Share," *Railway Gazette International*, July 1994.

individual skills are a barrier to flexible assignments, the team concept lowers these barriers. In the same way, SJ's management has succeeded in negotiating more flexible contracts that allow employees to perform multiple tasks based on straight hourly compensation.

Labor contracts are signed for an indefinite term. Under these contracts employees can be terminated only for cause. Employees are hired and fired on the basis of seniority, which is defined and managed through the unions. General layoffs under Swedish labor contracts are made on the basis of "last in, first out" seniority.

A representative of each union sits on the Boards of both SJ and BV. Mandatory union representation on the boards of all enterprises is provided under the Act on Union Representation (1974). Union representatives are non-voting members on BV's Board and voting members on SJ's Board. The motivation behind this difference is that public organizations are instructed to take into account all of the possible consequences of a decision (including the interests of the employees), while private firms are concerned only with their own profits. Allowing unions to vote on public sector boards could bias an otherwise balanced social perspective in public interest decisions.

Board membership for union representatives provides workers with insight into the issues and strategic challenges that confront the companies. These insights may be particularly beneficial during periods of strategic adjustment. The Act on Co-determination in Working Life (1977) mandates that employees receive timely information on all company decisions that have a material effect on their well-being. The act also requires employers to defer the cost of third party analysis of proposals offered by unions. As a result of these institutional arrangements, employees have greater involvement in decisionmaking in the Swedish corporate world than in many other countries.

The psychological importance of having employees involved in the change process rather than becoming victims of change should not be understated. Union participation may also benefit employers in that it promotes local initiative and makes use of practical insights that could otherwise be lost.

While unions did not actively promote specific organizational solutions, neither did they actively resist these solutions. The rationale was as follows: First, unions felt that the railway sector needed new resources in order to become a modern industry and that the dual (SJ and BV) organizational structure that was chosen would make it easier for politicians to carry out this responsibility. Second, unions felt that it was beneficial to acknowledge the fact that railways work in an increasingly competitive environment, and to promote the transition to a viable (albeit untested) system.

Over the past 30-year period SJ has experienced only one major strike (in 1971), in keeping with the general labor market atmosphere in Sweden which is characterized by cooperation between management and employees. During the 1988 restructuring the unions were actively involved in the restructuring process through committees and working groups. As a result, they did not oppose the subsequent staff downsizing of SJ. Instead, employees considered themselves part of the process.

SJ's work force has gradually declined since 1988. Most of this reduction in force has been through voluntary separation. The demographics of SJ's work force recommended a downsizing strategy based on attrition and early retirement. SJ had hired a large number of new staff during and immediately following World War II. This large age cohort reached retirement age only during the 1980s. To encourage separation, SJ offered its senior employees generous early retirement options. Workers were also offered alternative employment in the noncore segments of SJ's business, which had been growing rapidly and which required additional personnel.

A strong social safety net exists in Sweden, which relieves individual firms from the responsibility for providing unemployment benefits to displaced workers. These separation benefits are quite generous. For example, displaced workers were given 90 percent — recently revised downward to 80 percent — of their base salary in the form of unemployment benefits. These are paid for through unemployment insurance systems, which the unions organize and manage. However, the recent severe economic downturn has forced the state to accept direct responsibility for most of these costs, since the funds available to unions were not sufficient to make up for the large increases in disbursements. In addition, by accepting retraining courses, unemployed workers can in principle receive benefits for an almost unlimited time.

An important consequence of this safety net is that unemployment is not, to the same extent, the threat to employees in Sweden that it is in other countries. This circumstance facilitates downsizing and restructuring activities. At the same time, the system creates disincentives for the redeployment of surplus labor into more productive trades or occupations.

Although SJ's unions have been supportive of the enterprise's downsizing efforts, they have insisted on elaborate economic analysis to support specific reductions. As long as work force reduction programs have proved beneficial to the firm, unions have not opposed their implementation. Box 8.2 provides an important example of how the process worked favorably in one instance of downsizing within BV.

Additional aspects of labor relations in Sweden are dis-

Box 8.2: Sweden: Merger of BV Districts

A management review of BV's district organization in the fall of 1991 indicated that administrative costs in specific districts (particularly in the southern region) were high and that efficiency could be improved. In March 1992 a working group of representatives of the region and its districts, and including representatives from the local unions, was set up. In June 1992 the group proposed dividing up one district between two others and abolishing the redundant district office. The group projected an annual cost reduction of SKr 4 million. The unions were officially notified of the proposal at the time that the document was sent to BV's Director-General. A second working group took responsibility in July for reassignment issues. All employees were subsequently offered employment within other districts of BV. Three employees turned down the offer.

Employees affected by the reorganization opposed the change and the matter was debated in local newspapers. At a formal negotiation meeting at BV's Main Office in October, union representatives opposed the proposal since they felt that the actual saving would be less than the predicted amount and that the proposed consolidation of district offices was not warranted. However, the unions expressed approval of the way in which the reassignment issue had been handled. In late October the Director General decided that the consolidation should be implemented.

An ex post review of the reorganization in April 1994 showed a first-year cost reduction of SKr 3.7 million and a second-year saving of SKr 4.8 million: most of the saving had come from reduced personnel costs.

cussed in Appendix 2 to this chapter, which describes the "Swedish Labor Market Model."

PART II: THE SWEDISH RAILWAYS REFORM EXPERIENCE

1. The Political Decisionmaking Process

From the early 1930s to 1976 the Social Democratic party controlled Parliament. During the 1950s the party built a ruling coalition with one of the nonsocialist parties. Its dominance was interrupted only in the period 1976-82, when several nonsocialist coalitions held power. The Social Democrats reclaimed the government between 1982 and 1991, only to be replaced from 1991 to 1994 by another nonsocialist coalition made up of four parties. The Minister of Transport and Communications during this later period was drawn from the smallest and most conservative coalition partner, a party that had come into Parliament for the first time in the 1991 election. The September 1994 election gave majority control to the Social Democrats.

The political parties in Sweden differ in their transport policies, principally because of their divergent regional interests. During the period 1963 to 1994 no major ideological differences surfaced over transport policy and transport issues never became a topic of heated political controversy. For example, the Parliament passed the three post-War Transport Policy Acts on a multipartisan basis and without extended debate. Even the restructuring of SJ in 1988 met with no significant parliamentary opposition.

A notable exception was the 1994 decision to deregulate rail operations. The Social Democrats initially opposed

this proposal in the Parliament, but it was passed over their objections. With their victory in the 1994 general election, deregulation has been postponed. The issue of opening rail markets to private competitors is discussed later in this chapter. It should be noted, however, that the Social Democrats did initiate a number of deregulation policies during the 1980s. For example, they deregulated both domestic airlines and the taxi industry as part of the 1988 Act. Hence, the party currently in power has at times demonstrated a preference for pro-competitive policy initiatives.

In Sweden, important policy decisions have often been preceded by lengthy reviews before parliamentary committees. For example, the 1963 Act was prepared by a committee that sat for nine years. The 1979 Act took six years to prepare. During the 1980s, however, lengthy legislative committee consideration and consultation was gradually abandoned. Policy decisions were increasingly made on the basis of preparatory work undertaken internally, within ministries, and without extensive additional parliamentary analysis. For lesser issues, small commissions, which used outside experts, became a common procedure for analyzing legislation.

This shift in deliberative method had its pros and cons. On the one hand, the government saved time. It enabled, for example, the restructuring of SJ to be carried out through small working groups, special commissions, etc. It also allowed legislative direction and the sense of Parliament to be translated quickly into specific action. Direct ministerial involvement in analyzing and formulating legislation left less time for opposing views to formulate and foment. It also reduced the influence of special interest

groups, and thus policy deliberation could focus on broader social interests. On the other hand, expediency carried the risk of insufficient deliberation and of fewer deliberations, and might reduce the possibilities for public involvement in the legislative process.

2. The Process Leading Up to the 1988 Transport Policy Act⁴

In June 1986, in its 1987-88 budget year submission, SJ projected a need for SKr 1 billion in additional state subsidy to set its business in order and to achieve competitive equity with other modes. The budget request that accompanied the submission explained the need for an increase in government financial commitment to the sector. The budget document was supplemented by a railway infrastructure needs assessment through the year 2000. This report had been requested in the Railway Policy Act of the preceding year. The budget supplement also re-estimated the difference between what road use cost and what users paid. The discrepancy between social costs and road use charges was found to be substantial — a finding that reinforced SJ's position that railways were subject to unfair competition.

Legislators had perceived the 1985 Railway Act as a turning point and as a sound and permanent basis for reviving SJ. The "internal road sector model" and supporting accounting systems were regarded as workable and practical means for making the internal economics of the rail business transparent. Thus, when in 1986 SJ projected an accelerating need for state support, drastic remedial action appeared to be required. Clearly, the previous policy had been mistaken in some significant ways. A Ministry of Transportation and Communications memorandum dated October 1986 therefore set out guidelines for a ministerial task force that would redraft and define provisions of the Transport Policy Act of 1979.

The document called for five working groups that would address problems related to different modes: group 1 on railways; group 2 on road user issues, road user charges, and the consequences of the EC 1992 transport policy; group 3 on road infrastructure; group 4 on air and maritime policy; and group 5 on environmental issues. This task force structure corresponded approximately to the organizational structure of the Ministry as it existed at the time. Each working group was chaired by a senior ministry official in charge of his/her respective area of policy responsibility. Working groups were coordinated through a steering group made up of working group leaders and chaired

by the Under Secretary. In addition, a legislative liaison group including representatives from the Ministry of Transport and Communications as well as the Ministry of Finance was formed. Members of the latter group were politically appointed.

The October initiating memorandum emphasized openness: it stipulated that problems should be publicly discussed. To this end, public hearings and seminars were used to receive comments from the public and to create a public policy dialogue. Public hearings eventually replaced the previous "outreach" vehicle of choice — white papers addressed to affected parties. Hearings served as sounding boards that task force members could use to test ideas before expressing official policy positions.

The initiating memorandum also declared the government's intent to seek political consensus. To this end, the task forces briefed members of Parliament's Standing Committee on Transport Issues, political representatives of local and regional communities, and affected union leaders. Key political decisionmakers were also invited to participate in public seminars and hearings, as well as in informal meetings. In this way a broad spectrum of interested parties were involved in the policy formulation process.

The railways working group included four key officials from the Ministry of Transport and Communications, two from the Finance Ministry, one from the Ministry of Industrial Affairs, and the Finance Director of SJ. The group assigned itself the following main tasks:

1. To undertake a "zero base" review of SJ finances
2. To explore the feasibility and applicability of the "road sector model" in the rail sector and to explore other organizational options as well
3. To review alternatives for SJ's future passenger operations
4. To define the railway network for which the state should take responsibility
5. To explore proposals for railway network restructuring not included in tasks 2, 3, and 4, above
6. To review proposals for infrastructure investment in the network
7. To assess models for the possible deregulation of interregional (long-distance) buses that directly compete with railways.

During the spring of 1987 the railways working group presented the following recommendations for a "Road Transport Model" that would apply to railways.

1. The state would take full responsibility for the infrastructure, as in the road sector

⁴This section is based in part on working documents of the Ministry and of SJ and on interviews.

2. SJ would be given special grants for infrastructure investment and maintenance
3. The full responsibility of the state would be limited to lines that were of national interest
4. SJ would pay a tariff with fixed and variable cost components for track use.
5. Investments in infrastructure would be evaluated according to the same socioeconomic principles that apply in the road sector
6. SJ's current Tracks Department would be maintained as part of SJ, but would be separated from SJ for financial and planning purposes under a special internal "track authority."

This represented the first time ever that the separation of infrastructure and operations was discussed within government, and it served as the intellectual basis for subsequent proposals that advocated a still more radical approach.

On the initiative of the Under Secretary, the SJ Board nominated a "crisis group" in November 1986. This group included SJ Board members, the Under Secretary, and SJ's Director General. A private consulting firm (Indevo) was engaged to advise the crisis group on ways to deal with SJ's financial crisis and to address SJ's acute commercial problems, while the ministerial group developed a long-term sector strategy.

In March 1987, SJ's crisis group presented its draft report on the proposed reorganization of SJ. The draft report found that SJ had been losing market share over the preceding 30 years to road transport. Initiatives that had previously been taken to meet competition had proved insufficient. The company had a negative market image and a defensive management style. The report also found that, in spite of these problems, day-to-day operations worked quite satisfactorily. From a European perspective, SJ distinguished itself in terms of its operating efficiency and its market retention. The report identified the following agenda for SJ management action: (1) develop a policy for subsidiaries that involved selling off subsidiaries that competed with the core business; (2) create a separate railway administration; and (3) enhance SJ's commercial performance. At the April 1987 Board meeting, SJ's Director General announced his intention to leave his position and become Director of SJ's Swedcarrier subsidiary group. The Board established "Project New SJ" to reorganize the company. One of the consultants from Indevo was made project team leader.

The essence of the crisis group's final report was that SJ should re-dedicate itself to improving its marketing and operating performance and the state should accept full re-

sponsibility for infrastructure. In May the proposal was formally submitted by SJ's board to the government. At the same time, extensive lobbying of the Parliament began in support of the crisis group's recommendations. Additional discussions within the rail work group and between the Ministry and SJ focused on the precise ways of implementing the recommended changes. In this context the following issues were addressed:

1. How much revenue should come from track use charges, and what should be the precise charge structure? It was agreed that the reorganized carrier would not make up 100 percent of track maintenance costs.
2. What would be defined as infrastructure?
3. What administrative structure would be responsible for maintaining infrastructure? SJ called for a "parallel" organization in which its Director General was also chairman of the Board of the Infrastructure Administration.
4. Which lines were to be included as main lines and which as county lines and how could local and regional authorities be induced to accept responsibility for deficit-making operations?

In June 1987 a multipartisan majority agreed in principle on a revised railway policy along the lines outlined above. In this policy it was established that infrastructure and operations should be separated organizationally. The left-wing party initially expressed reservations about SJ's operating on a commercial basis. Conservatives and Liberals, on the other hand, wanted the reforms to go further and wanted SJ to be corporatized. A compromise solution split the ideological spectrum. Throughout the process the Ministry maintained its strong support of radical restructuring as a way of avoiding future financial crises. The Ministry in fact stepped forward as the champion and intermediary for the railway organizational transformation. A working group was set up under the Ministry to divide assets between SJ and BV.

In October 1987 a new SJ Board was nominated by the government. Representatives from trade and industry were increased. The Indevo consultant was selected, on a temporary basis, as Deputy Director General. The Ministry reassigned SJ's previous Board as the organizational development committee for the new infrastructure administration, which was henceforth called Banverket, or BV. The committee subsequently became BV's first Board.

In December 1987 the Ministry selected BV's Director General. Also in December, the final political compromises were reached. The nonsocialist parties accepted the proposal to split SJ but did not want to approve funding.

The left-wing party did not approve the split per se but did accept the funding proposal. The compromise solution was to add SKr 0.25 per liter to the highway fuel tax proceeds, which would help fund railway restructuring. In addition, the government signed an agreement with representatives of local and regional public transport that defined the responsibilities of SJ, BV, and local authorities for passenger operations on county lines. In January 1988 the government presented the Transport Policy Bill to Parliament, and by the end of the month the new Director General of SJ was installed.

In the spring of 1988 the organizational committee of BV delivered a report in which one major change was proposed to the Bill before Parliament. The Bill had recommended that the electricity transmission system come under the responsibility of the “new SJ” while traffic control and timetable planning would be the cost responsibility (but not the operating responsibility) of BV. The organizational committee suggested, in effect, that the two new enterprises exchange responsibilities for these functions. Since costs for the two were approximately equal and since SJ was the only operator on the network, this modification appeared insignificant at the time. The Ministry accepted the recommendation. In May 1988 the Parliament passed the Transport Policy Act.

The 1988 railway reform was motivated by four concerns. First, railways were perceived as having environmental and safety advantages that are not appropriately accounted for in an unregulated market. Second, it was considered important to maintain balanced regional economic growth. Third, the road sector was thought to have benefited from the state assuming full responsibility for its infrastructure. And fourth — the driving factor behind the reform — SJ’s finances continued to deteriorate.

Missionary consensus building in advance was key to what appeared an easy approval when the issue finally came to vote. The government felt that quick action was necessary and, with this end in view, all interested parties — including opposition politicians, labor and regional authority representatives, and the senior SJ staff — were involved in the extensive debates and deliberations that preceded the vote.

3. The Financial Arrangements

As part of the restructuring, SJ’s finances were reconstructed, and from January 1, 1989, the accounts of SJ and BV were separated. Assets transferred from SJ to BV included structures related to infrastructure, and corresponding debt. BV was also given control over all rail infrastructure, including electrical supply and the signaling system.

All assets transferred to BV were valued at their book

value, as well as those assets retained by SJ. A separate balance sheet was constructed for both SJ and BV (see Table 8.2). Interest rates for all outstanding liabilities were based on the average rate applicable to previous “old SJ” debts. As part of the process, assets with a book value of SKr 800 million were written off and a corresponding reduction was made in the state capital account. No debt was forgiven.

As part of its financial restructuring, SJ made a commitment to cut costs and increase revenue so that net profit would improve by SKr 1 billion within four years of the separation. For its part, the Ministry agreed to continue to subsidize unprofitable services, both on the main line and also via indirect subsidies to county lines.

In addition, the state made two major financial commitments. First, BV was promised SKr 10 billion over a 10-year period for infrastructure renewal. Second, the government took over full economic responsibility for infrastructure maintenance while at the same time levying charges for infrastructure use. Since the charges were designed to recover less than the full infrastructure maintenance costs, and since the cost of infrastructure renewal was not to be recovered from the operator, these two commitments meant that the government took on expanded responsibility for the sector. This issue as it affects the financial consequences of the restructuring is discussed later in this chapter.

4. SJ and the Post-1988 Organization

While SJ formally remained a business administration, the 1988 Act instructed³ SJ to operate as a commercial firm. This represented an important break with previous policies. Since SJ’s creation, succeeding governments had deprived it of the right to manage its activities on the basis of commercial principles. The 1988 mandate meant that from this point onward SJ’s management was accountable for a single objective: the company’s improved profitability and its equity ratio. This simplification of enterprise objectives had far-reaching consequences.

Since 1985, the SJ Group (*SJ-koncernen*) has been reorganized into two components: SJ Rail and its subsidiary

³ “Instructed” is used here as a loose term. Formally, there are three ways in which the Parliament can “instruct” (public sector) authorities: first, via accepting a bill that sets out the policy principles under which sector organizations are to act; second, through “administration instructions” — the document that sets out the precise objectives of an administration; and third, in the annual budget allocation which is used increasingly as a means of getting parliamentary approval for instructions to the bureaucracy. The government can also issue administrative instructions using an “ordinance.”

Table 8.2 - Sweden: Separation of SJ and BV

(millions of SKr)				
ASSETS	Balance 12/31/88	BV	SJ	Balance 12/31/89
Current Assets	2,708.9	32.2	2,676.7	3,321.7
Cash in hand and in bank accounts	81.8	—	81.8	341.1
Short-term investments	186.3	—	186.3	0.1
Accounts receivable ¹	1,135.6	—	1,135.6	1,484.6
Prepaid expenses and accrued income	209.3	—	209.3	763.2
Other short-term receivables	6.3	—	6.3	10.5
Products under construction	37.4	25.7	11.7	22.8
Advances to suppliers	8.3	6.5	1.8	3.8
Stores	1,043.9	322.4	721.5	695.6
Stores clearing account ²	—	-322.4	322.4	—
Long-term Assets	11,753.4	4,460.9	7,292.5	6,904.1
Shares and participations	220.2	—	220.2	283.8
Long-term receivables	72.3	—	72.3	58.0
Machinery and equipment	443.9	209.5	234.4	205.3
Locomotives and rolling stock	4,310.6	87.7	4,222.9	3,440.1
Land, tracks and associated structures, buildings	3,731.9	2,409.2	1,322.7	1,404.9
Facilities under construction	2,507.0	1,682.0	825	1,119.5
Advance to suppliers	467.5	72.5	395.0	392.5
TOTAL ASSETS	14,462.3	4,493.1	9,969.2	10,225.8
LIABILITIES AND EQUITY, SJ	Balance 12/31/88	BV	SJ	Balance 12/31/89
Current Liabilities	3,065.9	7	3,058.9	3,281.9
Short-term loans	262.4	—	262.4	467.2
Accounts payable ¹	926.4	—	926.4	1,015.6
Accrued expenses and prepaid income	1,449.8	—	1,449.8	1,636.6
Other short-term liabilities	427.3	7	420.3	162.5
Long-term Liabilities	4,228.8	989.3	3,239.5	3,086.0
Provision for pensions and annuities	816.4	—	816.4	815.8
Long-term loans	2,898.3	989.3	1,909.0	1,881.9
Other long-term liabilities	514.1	—	514.1	388.3
Equity	7,167.6	3,496.8	3,670.8	3,857.9
State capital	5,707.5	3,496.8	2,210.7	2,210.7
Excess depreciation	1,160.1	—	1,160.1	1,160.1
Work environment reserve, refurbishing reserves	300.0	—	300.0	451.0
Profit for the year	—	—	—	36.1
TOTAL LIABILITIES AND EQUITY	14,462.3	4,493.1	9,969.2	10,225.8

¹Including subsidiaries and railway administrations.
²For adjustment of funds, SJ claims, and BV debt.

holding company, Swedcarrier. The Group chief executive held the title of Director General and was appointed by the Ministry, which also appoints SJ's Board. The first Director General came from the private sector, and, apart from one Ministry official, the Board was composed of trade and industry representatives. Since 1988 the profit

performances of SJ Group and SJ Rail have improved. Table 8.3 shows 1993 financial data for the SJ Group and SJ Rail.

SJ Rail was reorganized into four divisions: Passenger, Freight, Mechanical, and Real Estate (see Figure 8.3). Under this arrangement, the Mechanical Division procures

Table 8.3 - Sweden: Financial Data for the SJ Group and SJ Rail, 1993

(millions of SKr)		
	SJ Group	SJ Rail
Revenue	21,710	9,499
Costs	(20,091)	(8,704)
Result before depreciation	1,619	795
Depreciation	(806)	(383)
Result after depreciation	813	412
Financial revenue	388	563
Financial costs	(588)	(535)
Net income after financial costs	613	440
Extraordinary costs	(466)	(321)
Net income before tax	147	119
Tax, etc.	(123)	—
Profit	24	119

Source: SJ's Annual Report.

rolling stock and provides for its maintenance. The division sells its services to the two operating divisions — Passenger and Freight — as well as to outside parties, including the railway administrations of other Scandinavian countries. The Real Estate Division manages, maintains, and secures the buildings, land, and rented facilities of SJ. Its assets include offices, shops, stations, workshops, and warehouses. Until 1992, timetable planning and traffic control were part of the Passenger Division, but they are now staff functions reporting to SJ's Director General.

Swedcarrier AB is a wholly owned holding company of SJ. Major subsidiaries of the affiliated holding company include Swebus, the largest bus operator in the country. Swebus operates buses under contract to local and regional transport authorities. SweFerry provides ferry links that take railway cars, road vehicles, and passengers to and from Denmark and the Continent. ASG is one of Europe's leading truck transport forwarding agents. It is traded on the Stockholm stock exchange and SJ is its major stockholder. Rail Combi provides intermodal container and piggyback services. While it is part of the Swedcarrier Group, its business overlaps with the railway business. The same is true of Svelast, which cooperates closely with SJ's Freight Division and provides trucking operations that directly complement rail freight services. Fully 40 percent of Svelast's turnover is derived from the railway. SJ Rail is exempt from income tax; Swedcarrier is not.

Table 8.4 presents 1993 gross revenue and employment data for various parts of the SJ Group. SJ Rail accounts for

only SKr 9.5 billion of the company's SKr 21.7 billion total revenue. The combined revenue of the truck and bus operating subsidiaries exceeds the rail portion at SKr 10 billion. The SJ Group is thus not only a train operator but is also a department store for transport services. Although the relative size of SJ's subsidiaries in relation to the core rail business was boosted by the infrastructure separation, the relative economic importance of firms outside SJ Rail has been growing steadily.

5. BV and Its Post-1988 Organization

Since the reorganization, BV has been responsible for railway infrastructure. Its first Director General came from previous senior positions in the public road sector. BV's Board, like its Director General, is appointed by the government. This Board includes members of Parliament in addition to one representative from the Ministry of Finance. Its founding legislation instructs BV to allocate maintenance and investment funds on the basis of a rigorous quantitative assessment of the full social consequences of its activities. Both regional and national impacts are to be taken into account.

BV's activities at large comprise the following four technical sub-disciplines: (1) permanent ways, including sub-structure and superstructure (for example, sleepers and rails); (2) electricity supply, including both connections to and transformers at points of interchange with the energy supplier, as well as catenaries and their support; (3) the railway internal telephone network; and (4) the signaling system. As regards electricity, BV negotiates prices with the electric generating industry while SJ pays the electricity bill.

Although BV is responsible for railway line maintenance, SJ is the actual owner not only of most of the adjacent real estate, but also of the land under the tracks. BV pays no rent for using the land. Twenty-six major marshaling yards are also part of the infrastructure that BV maintains. However, SJ is responsible for shunting yard maintenance. SJ and/or specific industries and local communities also own industrial sidings and maintain them at their own expense.

In 1993 BV employed 6,800 workers. Of these, 400 worked in the Main Office in Borlänge, a town 200 km northwest of Stockholm. The decision to relocate the new administration's Main Office outside of Stockholm was made at the time of the split and was part of a long-term government strategy to promote regional development by relocating government offices outside of Stockholm.

BV's field forces are organized into five regions and 20 districts (Figure 8.4). The districts are responsible for day-to-day maintenance while the regions coordinate district activities and are responsible for investment planning

Figure 8.3 - Sweden: SJ Organization Chart

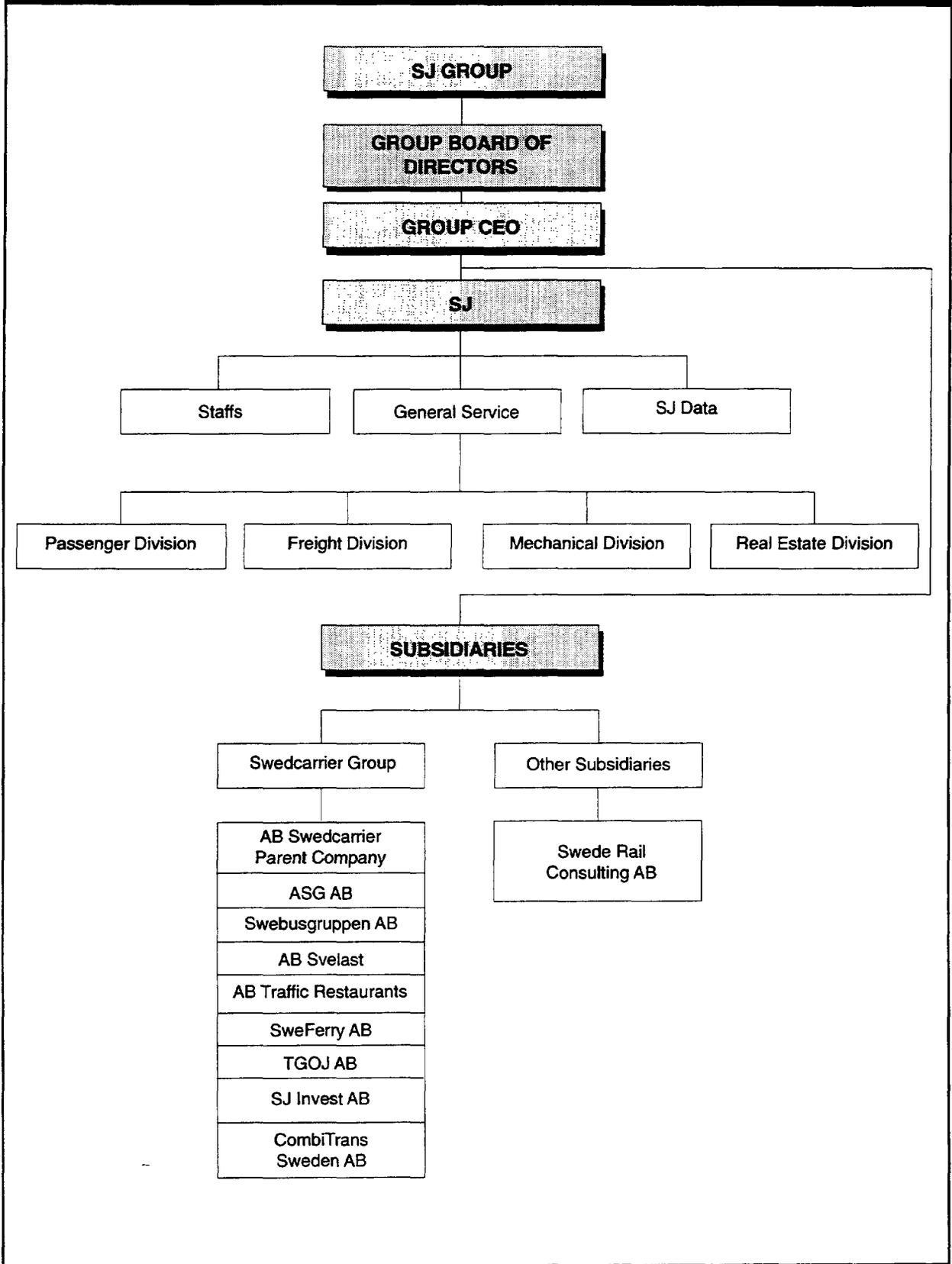


Table 8.4 - Sweden: SJ Group Revenue and Employment Data, 1993

(millions of SKr)			
	Rev. ¹	Net Inc. ²	Emp. ³
Passenger Division	5,776	256	5,747
Freight Division	3,599	(190)	4,317
Mechanical Division	1,543	41	2,511
Real Estate Division	839	294	293
Swebus Group	2,697	195	4,893
Traffic Restaurants	529	29	931
ASG	7,615	29	5,140
Svelast	243	1	450
Rail Combi	455	1	146
CombiTrans	663	16	81
SweFerry	1,221	251	1,331
TGOJ	914	42	1,218

¹Revenue.
²Net income after depreciation.
³Average number of employees.
Source: SJ's Annual Report.

and project administration. The Division for Supply and Manufacturing is responsible for system-wide procurement of equipment. It also rents, as needed, specialized equipment, such as large-scale tamping and track renewal machinery, to the districts.

Track maintenance had been organized as one of SJ's operating departments in 1963. When, in 1988, the maintenance of way function was separated and assigned to BV, the change meant little in practical terms at the division operating level. At the BV Main Office, the Engineering Department, which is responsible for the coordination of the four technical areas described above, was relocated to Borlänge.

The 1988 Act defined the conditions for operating concessions under the new system. SJ was commissioned to be the exclusive freight operator over the entire network. It also held exclusive rights to passenger operations on the main lines. In principle, at least, the state can commission other operators to provide non-commercial services that the government purchases on a least cost tender basis. The County Transport Authorities were given the exclusive right to run passenger trains over county lines. On lines on which either SJ or the County Transport Authority has discontinued service, BV is authorized to reassign rights to operate trains to third parties.

The 1988 Act also created a Railway Inspectorate or state safety controller, which employs 20 people in its main office and 6 field inspectors. The Inspectorate certifies the

safety condition of all track, rolling stock, and other railway equipment, as well as operating procedures, etc., throughout the country including that of subways, trams, museum trains, etc. Although it is co-located with BV's main office, the Inspectorate is an independent authority and the Minister appoints its chief.

6. The Federal Dimension of the Post-1988 Organization

Under the new organizational structure, public sector support for regional transit services is handled through three mechanisms: (1) direct support through regional transport authorities for county line operations; (2) support through SJ for non-commercial operations on main lines; and (3) support through BV for county line infrastructure.

DIRECT SUPPORT OF COUNTY LINE OPERATIONS Since the early 1980s, County Transport Authorities have had full financial and operational control over local and regional public bus transport. The 1979 Act transferred jurisdiction for selected rail transit operations to County Transport Authorities. The 1988 Act broadened the responsibility of County Transport Authorities to plan and coordinate subsidized public transport for all modes. This change ensured that the scheduling of local buses and trains would be coordinated.

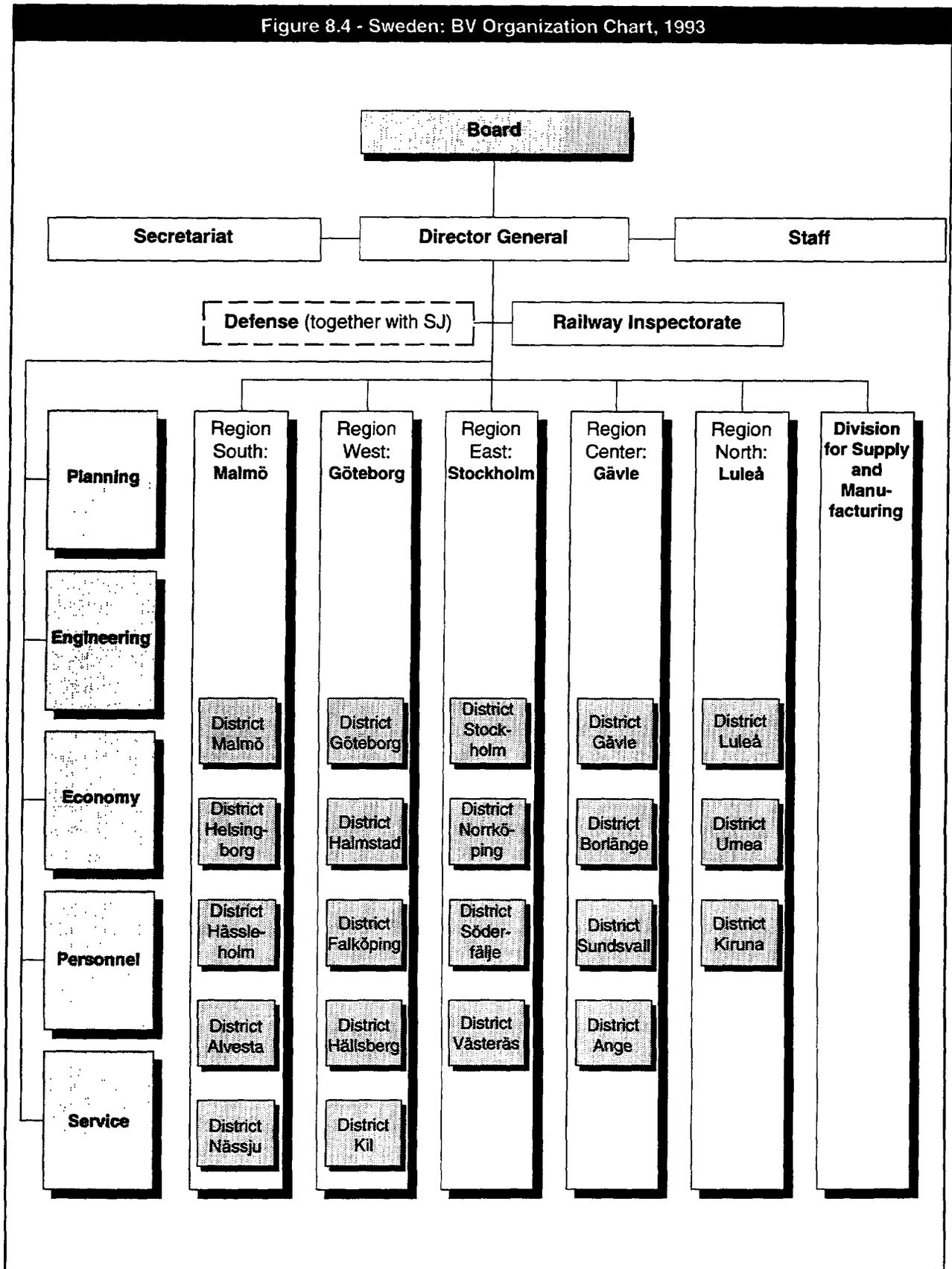
The 1988 Act also gave County Transport Authorities an exclusive franchise to operate passenger transport services on those county lines for which they accepted financial responsibility. In exchange for accepting responsibility for unprofitable operations, counties were promised a "weaning" subsidy.

The basis for mutual commitments was set out in a formal agreement among the federal government, the County Transport Authorities, and local communities. These agreements had a 10-year term. Under the agreement each county received a subsidy, the size of which related to SJ's operating deficit at the time that responsibility was transferred.

After the transfer of responsibility, it was up to the county to decide how best to provide public transport services. Counties had no obligation to use their entitlement from the federal government to operate trains. However, those counties that decided to continue railway operations were given adequate rolling stock. As compensation, SJ was allowed to make an extraordinary credit against its capital account of SKr 200 million.

In no case has a County Transport Authority chosen to operate trains with its own forces. Rather, SJ and sometimes third party operators have been asked to bid for contract operations. As a result of this bidding process at least one private entrepreneur entered the rail transit market.

Figure 8.4 - Sweden: BV Organization Chart, 1993



In one or two cases, counties that took over operations decided to expand pre-existing rail services. In cooperation with SJ, their trains operate beyond their own lines onto the main line system. While details are not public, contract services remain heavily subsidized.

SUPPORT OF NON-COMMERCIAL MAIN LINE OPERATIONS It is difficult to assign responsibility to a specific county for trains that pass through more than one region. Hence, SJ continues to receive a state subsidy for interregional services that would otherwise have been terminated; these interregional services were also subsidized before the reorganization.

The mechanism through which the above subsidies are provided has changed. From 1991 onward, a government representative has been responsible for procuring financially unviable interregional passenger services on a least-subsidy basis. This means that, although the services are operated on the main lines where SJ retains an exclusive operating right, the procurer can exercise this right on subsidized lines and is not obliged to use SJ as the exclusive train operator. The new intermediary organization is responsible for assuring both cost-effective procurement through a competitive process and service quality control.

Thus, both non-commercial county and Main Line passenger operations are currently procured on a least cost basis. The new arrangements present the same textbook problems that occur with any procurement involving extensive capital expenditure. How, for example, is the appropriate contract period to be chosen when rolling stock has a long economic life which may exceed contract terms? Effective competition, moreover, requires more than one credible service provider. Currently, in addition to SJ, only a few very small private operators bid for contract concessions.

The competitive procurement process nevertheless marks an important break with previous lump-sum subsidies and it has caused a gradual increase of competitive pressure on SJ. While no official figures are available, the subsidy cost appears to have diminished with the new arrangement. Since SJ typically wins these competitive procurements, it also means that SJ increasingly operates passenger services "on behalf of" other parties.

SUPPORT OF COUNTY LINE INFRASTRUCTURE BV's responsibility for track maintenance also includes county lines. Since revenues from track user charges do not recover track maintenance costs, BV's pro bono engineering, design, and maintenance services provide an additional subsidy to regional railway operations. The 1988 Act established that BV had no obligation to maintain lines unless a minimum of five return passenger trains operates per day. This re-

quirement is adjusted downward if the line is also used by freight trains. However, few kilometers of railway lines have been closed since 1988.

While BV maintains county lines, it does not administer investment grants for these lines. These are allocated following a two-step procedure. The government sets aside money as a line item in the annual budget for investment in "county traffic installations." This line item also includes regional bus terminals, secondary roads, etc. Under the management of the National Road Administration, grants are allocated among counties and among modes within counties. The rationale is that counties are best equipped to choose the appropriate way to spend grant money on local infrastructure (low-volume roads, railway extensions, etc.). In this process, BV supplies technical information to regional decisionmakers.

Given that the level of the national subsidy is fixed and that projects are planned over a multi-year horizon, counties have an incentive to be cost effective in their choice of projects and also to select only those projects that attract the greatest number of new passengers. This marks an important break with previous subsidy programs.

7. Post-1988 Links between Railway Organizations

Under the post-1988 system, at least three types of contacts exist between the infrastructure manager and users of the network. These include agreements which pertain to: (1) track investment planning, (2) track maintenance and timetable planning, and (3) the charging system itself.

INVESTMENT PLANNING BV submits an annual request to the Ministry for appropriations which specifies the priority order of separate projects. This application is based on a 10-year, rolling investment program. The overall program is substantially revised every third year. Significantly, it is approved by the Parliament in conjunction with a similar road investment program. The extent of implementation is determined on the basis of the funds allocated by the Parliament for each budget year. The 1988 Act included a commitment to spend a minimum of SKr 10 billion over the next 10 years on railway infrastructure investments. However, annual sums must be appropriated by the Parliament.

Investment program priorities are based on the results of cost-benefit analyses of individual projects. BV's Planning Department issues project appraisal manuals but the actual calculations are made at the regional level. An important component of an appraisal is the commercial viability of operations on the improved line. A technical understanding of the optimal ways of organizing operations, of degrees of freedom in train schedules, and of the net-

work implications of alternative departure frequencies, etc., is important for this purpose, as are data on rolling stock and personnel costs, future pricing policies, etc. Cooperation between BV and SJ is therefore crucial to assembling appropriate data. The 1988 Act includes no formalization of this cooperation and some problems have arisen in its implementation.

TRACK USE PLANNING A second class of activity requiring formalized cooperation between SJ and BV is the Track Allocation Agreement signed by the two parties each year. This agreement schedules track maintenance and investment work.

In Sweden, as in most European countries, railway timetables are set one year forward and include the opportunity to make minor changes twice a year. The timetable development process itself takes almost one year from start to finish. It involves allocating the right to operate trains to and from stations and other terminals between different categories of services (high speed, intercity, regional, and commuter passenger, high priority and lower priority freight, etc.). Dispatchers within SJ in effect implement the timetable on a day-to-day basis. Using remote control signaling equipment (or, on some secondary lines, manual control), traffic surveillance centers located at key points within the network regulate train departures and handle specific delays so as to minimize the aggregate number of train delays.

While the planning of train operations is SJ's responsibility, BV is involved in that its track work also requires line access. Trains cannot operate when a route is being maintained or inspected. One component of the timetable development process is therefore the coordination of train schedules and track works. A trade-off exists between providing efficient train services and providing low cost maintenance. While many lines have slack track capacity at night and on weekends, maintenance work is more expensive at those times. Maintenance is also more expensive when it is performed in short, frequently interrupted intervals. Hence, difficulties with track allocation increase with the amount of traffic on a line. The fact that the Swedish network has a small proportion of double tracks only increases potential conflicts between SJ and BV.

Trade-offs and differing interests between track maintenance and train operations exist on every railway and certainly pre-date the 1988 reorganization in Sweden. The 1988 split simply forced the parties to formalize arrangements for allocating "track time." One simple but significant complication in the beginning was that the planning time frames of BV and SJ differed. As with the rest of Europe, the Swedish timetable changes in early June. SJ would like to establish an approximate timetable the previous

October. BV planning activities, on the other hand, are based on the calendar year. When track maintenance activities for January-May are being prepared, a timetable is already in operation and cannot easily be adjusted.

INFRASTRUCTURE CHARGES The 1988 Act mandates that SJ will pay for its use of the state's tracks. Consistent with the Swedish Transport Model, charges have been designed to induce optimal use of existing facilities. To this end charges are designed to equal social marginal costs. A complementary principle is that charges should be established using the same principles as those used for road user charges. To meet these many objectives, a two-part tariff structure — one that includes both fixed and variable charges — is utilized.

Within this tariff there are five classes of variable charges. First, different vehicles pay different charges per gross ton km. This reflects the differential wear and tear of vehicles on the infrastructure. The fee schedule takes into account the empirically tested finding that track maintenance varies with traffic load. Second, for every km of operation, an additional charge of SKr 0.15 is levied on electric trains to account for the depreciation of the catenary systems. Third, an accident charge of SKr 1.85 per train km is added. This factor is calculated by first identifying the total railway accident-related social cost over a year and then dividing it by the total number of train km operated. Social costs include material damages, hospital care, lost production, and an insurance factor which accounts for the individual's own willingness to pay for reducing accident risks (accident risks refer primarily to level road crossings). Fourth, diesel vehicles pay an incremental environmental fee of SKr 0.30 per liter of diesel fuel. This factor is intended to reflect pollution costs. Fifth, for each car handled through one of the system's 26 marshaling yards an incremental infrastructure use fee of SKr 4.00 per handling is levied.

In addition to variable charges, operators also pay an annual fee per vehicle. Fixed or annual use charges were included because, when the 1988 Bill was being debated, the expected revenues from variable charges were considered "too low." It should also be noted that the fixed fee per rail vehicle also maintains parallelism with the road sector.

An important feature of the charging system is that user fee revenue has no impact on BV appropriations. No institutionalized link exists between rail activity and the size of track expenditures. Moreover, the current charging system gives BV no incentive for cost-effective performance or for service quality improvement. These issues are discussed in a subsequent section.

8. Preliminary Studies on Deregulation

The Swedish 1988 reform pioneered railway restructuring for all of Europe. The EC subsequently required, in its 1991 directive which took effect in 1992, that national railways keep their tracks open for “international railway undertakings.” To that end it called for an accounting and charging separation of infrastructure and train operations.⁶ This is in effect the “internal road sector model” implemented in Sweden by the 1985 Railway Act and subsequently expanded by the 1988 Transport Policy Act.

Both Britain and Germany have recently instituted reforms that in some respects go further than the Swedish reorganization. Britain has separated infrastructure from operations and Germany intends to do the same. Both countries are busy introducing entry into the sector through different methods.

In Sweden the first step toward opening the rail service market was taken in February 1991, when the Social Democrat government decided to map the preconditions for and consequences of increased competition on the state’s railway network. Four authorities were asked to submit reports to the government on this matter: (1) SJ; (2) BV; (3) *Transportrådet* — the Transport Council, which was close to the Ministry; and (4) *Konkurrensverket*, the state’s watchdog over competitive practices. Subsequently, a report was also filed with the Ministry by Rail Forum, a railway lobbying group made up primarily of representatives from trade and industry which formed after the 1988 restructuring.

The primary reason for these reviews was the general belief that competition fosters efficiency. The railway model implemented under the 1988 Act clearly allowed competitors to operate on the state-owned tracks. Moreover, the prospect of increasing the benefits realized from the large state investment in rail infrastructure was attractive.

A second set of reasons stemmed from SJ’s business strategy. As was increasingly made clear during this period, the company’s plan was to become a transportation conglomerate and supply door-to-door transport services, with rail operations making up an important component in multi-modal service packages. However, this strategy ran in the face of SJ’s legislated mandate. The 1988 Act together with previous parliamentary decisions clearly directed SJ to focus its resources on its core railway business and to de-emphasize or divest noncore businesses. Members of Parliament preferred to leave other transport activities to the private sector and to constrain SJ’s market

power to a well-circumscribed set of rail activities. When SJ failed to curb its transport diversification, deregulation of the railway traffic was espoused as a way of curbing SJ’s transport market power and of increasing the ability of others to compete on more equal terms.

Another reason for these reviews involved competitive procurement of train operating services by County Transport Authorities and by the state on the main lines. By the early 1990s many Authorities, and the state as well, found that only one operator, SJ, was willing to bid on open solicitations. Competitive pressure in the procurement process was and still is weak. Deregulation offered an opportunity to broaden and strengthen the train operating industry.

SJ itself was negative toward the idea of deregulation. Its management argued that the railway sector was subject to severe competitive pressure from other modes and, in addition, that intramodal competition on a single service network would be difficult to manage for practical reasons. SJ officials further suggested that new entrants would enter only the most profitable markets. They would “skim the cream” and leave other more marginal markets to be supported by increased state subsidies. SJ believed that the industry and its customers would be better served by increased cooperation among SJ, industrial shippers, and county authorities, rather than by the splitting of operations among several competing parties. An alternative to complete deregulation was the possibility that competition might be restricted to county lines and that short-line operators could be allowed to offer freight services, as well as transit services, on secondary lines.

BV, however, favored complete deregulation. It considered competition within the sector important to increase efficiency and thereby realize the competitive advantage inherent in the rail mode. The issue that BV considered of primary importance was that of a practical mechanism for allocating track capacity among different, potentially competing, operators.

The position of several other interested parties emerged during the policy debate. *Transportrådet* recommended a phased introduction of competition and considered it unrealistic to believe that several independent and equally credible operators would choose to compete within the same market segment(s) — at least in the foreseeable future. *Konkurrensverket* believed that intramodal competition was necessary and would serve as an effective mechanism for improving service and lowering cost.

While not a part of the official response to the Ministry’s request for recommendations, ABB, a Swedish/Swiss multinational corporation with interests in rail equipment stock design and manufacturing, expressed doubts about the merits of the 1988 split as well as about further deregula-

⁶ CEC, “Council Directive on the Development of the Community’s Railways,” (91/440/EEC), Brussels, July 29, 1991.

tion. ABB felt that small and relatively weak operators would not be able to shoulder the financial risks involved in launching major new projects involving "cutting edge" rail vehicle technology. ABB preferred a single, strong rail equipment customer.

9. Further Studies of Deregulation

The reports discussed above were requested by a Social Democrat Government but were acted upon by the nonsocialist government elected in September 1991. The government stated in its 1991-92 budget bill that its objective was to open competition within the railway sector by January 1, 1995. Its motive was to foster efficiency through increased competition.

In March 1992 the government appointed a committee to propose specific measures to implement deregulation and to ensure a workable competitive environment. The group was chaired by the recently retired Director General of the Civil Aviation Authority and included four experts, three from SJ and BV and a former Ministry official. The working group was supplemented by an adjunct trade and industry task force of eight executives. The committee's efforts were further supplemented by a "reference group" made up of the Director Generals of SJ and BV, the director of an organization representing County Transport Authorities, and two labor union representatives. The committee also engaged a group of British consultants, which submitted its report in February 1993.

The committee's report expressed some reservations regarding unconstrained market entry. It suggested that business potential in the mainstream rail market was not particularly attractive and that entrepreneurs would prefer to pursue opportunities in more promising niche markets, including: (1) services procured by County Transport Authorities, (2) terminal-to-terminal unit train operations, and (3) short-line services. Risks in these specific activities were more limited and manageable than in the general merchandise market or the nationwide passenger service market. Moreover, the report pointed out that even if open entry were limited to niche markets, the threat of new operators would discipline established operators and would induce them to produce what the market wanted at lower cost.

Two models for timetabling, or track capacity allocation, were considered: (1) one relying on competitively determined prices, and (2) the other based on administrative rules similar to those that applied to SJ. The committee's recommendation was that, in the short term, only the administrative approach was feasible. However, it also recommended that the development of a market-based model be pursued.

The committee proposed that the timetable develop-

ment function should be taken over by BV while SJ should retain the train control and dispatching function. In both cases, a trade-off existed between the need for neutrality on the one hand and the need for closeness to the market on the other. The extensive investment that new operators must make in rolling stock was seen as a major obstacle to entry. To this end, the committee recommended that an equipment leasing company be formed by interested parties, including the state. This company would own and lease rolling stock to train operating companies. This arrangement would reduce the risk that a potential entrant would face. In addition, the committee recommended that in the future when the state procured services competitively, rolling stock adequate to support these services should be transferred from SJ to the state and then leased to private operators, so that entrepreneurs would be encouraged to participate in the bidding process.

Another set of potential barriers was related to common use functions other than traffic control. These included access to real estate, passenger traffic depots, freight terminals, marshaling yards, workshops, ticketing and information systems, etc. Under a competitive regime it would be important for these functions to be made available to all on an equal basis. The principal view of the study, therefore, was that these functions should be separated from SJ. However, this would weaken SJ significantly and no guarantees existed that facilities would function satisfactorily under an alternative regime. The recommendation was therefore that "common functions" be provided by SJ to entrants under conditions that were "businesslike and neutral toward different operators."

In discussing entry into the system, the report suggested that entry should be open to anyone "fit, willing, and able." Entry would not be restricted to "licensed" operators. Thus the maximum number of potential entrants would be encouraged.

In the fall of 1993, three researchers published a book which dealt with Swedish railway policy issues.⁷ The authors were critical of deregulation and of the Swedish model as a whole with its separate control of infrastructure and operations. Their objections go to the fundamental aspects of how the industry should be structured. Their principal findings include:

- Vertical integration of train operations and infrastructure is an optimal way of organizing railway

⁷ N. Bruzelius, A. Jensen, and L. Sjöstedt, *Svensk Järnvägspolitik, en kritisk granskning* ("Swedish Railway Policy: A Critical Review"), SNS Förlag: 1993.

business in that such integration makes it possible to produce services at the lowest possible cost. This is mirrored in the fact that until recently the railway industry has been vertically integrated worldwide.

- On-the-tracks competition is not technically feasible, since infrastructure is indivisible and cannot be sold in appropriate “parcels.” Competitive entry could be allowed, but that would require excess capacity so that one service need not necessarily replace another; to supply such capacity, however, would be financially infeasible.

The authors advocate a unified railway, but one that is stripped of all subsidiary activities and that functions only as a railway operator.

10. The 1994 Deregulation Act

In the fall of 1993, the Ministry released its own report with preliminary recommendations for deregulation.⁸ This report recommended that SJ acquire greater control over both entry and asset use than did the previous committee report. In January 1994 the government sent a Deregulation Bill to the Parliament⁹ that, surprisingly, proposed deregulation mechanisms closer to those outlined in the original committee report reviewed above.

The government’s Deregulation Bill proposed that the monopoly franchises of SJ and County Transport Authorities be discontinued as of January 1, 1995. Any entrant with sound finances — not only railway operators — would be allowed to apply for track access. A regulatory agency, the Railway Committee, would be established, which would have ultimate responsibility for track capacity allocation. During an interim period, SJ would continue to manage traffic control. Protests against SJ’s misuse of this function would be reviewed by the Railway Committee. Track allocation should be based on negotiated agreements between affected parties; deals should be based on rules guaranteeing that track allocation would be based on efficiency enhancing principles. Entrants would be allowed to buy or lease redundant rolling stock from SJ on “commercial grounds.” On the basis of recommendations from the Railway Committee, the government would decide on prices for jointly used services and facilities when the parties could not otherwise reach an agreement.

The Parliament voted on the Bill in early May 1994. The Social Democrats opposed open competition in the railway sector. The anti-deregulation coalition in the Par-

liament consisted of the Social Democrats and the left-wing party, with backing from SJ and the railway unions. The nonsocialist government could not muster a parliamentary majority of its own. Anti-deregulation forces succeeded in returning the legislation to the Parliament’s standing committee on transportation where it was voted down.

The most important points raised during the debate which followed included the following.¹⁰ The deregulation proposal was based on insufficient analysis. The standing committee questioned whether deregulation would actually promote further development of the railway sector and suggested that alternative ways to facilitate partial deregulation should be further analyzed. In this context, the issue arose as to whether County Transport Authorities could procure regional transport on main lines as well as on secondary lines. For freight services, deregulation on secondary lines should be considered as a preliminary first step toward deregulation.

During this period the government reached out for support from the right-wing populist party. Initially, the party refused to lend support to deregulation. However, after vigorous “jawboning,” individual members of the right-wing party were induced to give their support. The Bill was consequently approved by a narrow majority.

Deregulation was further discussed during the summer and fall election campaign of 1994. Social Democrats questioned the sitting government’s efforts to create unfettered competition in an open railway but they offered no alternative policy. In the September 1994 general elections, the Social Democrats again assumed power. In late October the new Minister sent a bill to the Parliament.¹¹ In this bill the Deregulation Act of May 1994, which was to have opened competitive rail access by January 1, 1995, was postponed. After further review, the party in power committed itself to reconsider during 1995 the scope of possible future deregulation.

In early 1995, the situation with respect to deregulation, remains unclear. New initiatives are most likely to emerge from within the Ministry. All parties in the public debate have defined their respective positions and everyone seems to be waiting for a fresh initiative from the new government.

PART III: SECTOR PERFORMANCE AFTER 1988

1. Commercialization of SJ

A primary objective underlying the 1988 reform was to

⁸ Ds 1993:63.

⁹ Prop. 1993/94:166.

¹⁰ *Trafikskottets betänkande* 1993/94: TU28.

¹¹ Proposition 1994/95:72.

improve SJ's profit performance. This section describes the transformation of SJ, which was a precondition to that improvement, while the sections that follow provide data on actual financial performance.

From its establishment, SJ was subject to micro management by political decisionmakers and to detailed regulation. This external control was gradually loosened beginning with the 1963 Transport Policy Act, and extending through the 1970s and 1980s. At the time of its restructuring in 1988, the enterprise's management had the same day-to-day decisionmaking discretion over its operations that most private firms enjoy in Sweden. While the then incumbent management may not have fully exercised its decisionmaking authority, the stage was set for dramatic change in early 1988 when a new Director General was recruited from the private sector. In 1988 SJ's management was given full autonomy in its reorganization. The government watched the changes, but from a distance. To facilitate the restructuring process, the state accepted responsibility for "old sins." SJ's capital repayment obligations were reduced and, as was noted above, it was relieved of the full cost burden for infrastructure renewal.

Major changes also came from within SJ. The new Director General began his tenure by recruiting a team of managers who had a commercial orientation. The directors and several middle managers of both the Freight and Passenger Divisions came from the private sector, while other division directors and new middle managers were primarily recruited internally. The key Passenger and Freight Divisions were reorganized as profit centers. Within each division, new stand-alone business units were created.

Within the Passenger Division, for example, a new business unit was set up for each major origin/destination segment (one for Stockholm-Gothenburg, another for Stockholm-Malmö, etc.). Although passenger business units are still constrained in their pricing discretion, in several other respects they operate as profit centers. A deliberate effort was made to push decisionmaking lower into the organization and closer to the relevant market.

In 1989 a market-adapted pricing system, directed from the Main Office, was implemented. It has subsequently been refined. This new policy allows SJ to differentiate its passenger fares by time of day (for off-peak departures discount "red prices" are offered) and by season (fares are lowered during off-peak summer months). Since the early 1970s, freight service prices have been based on unpublished contracts.

Additional efforts were made to emulate the incentives of private companies and to narrow the gap between customer expectations and SJ's organizational capacity to respond. Responsibility for intermodal services, for example,

was separated from the Freight Division and transferred to an intermodal company in which SJ is the primary shareholder. The Mechanical and Real Estate Divisions were reorganized as profit centers and internal markets were created for their services. For example, stations and other terminal facilities are leased to the Passenger and Freight Divisions and these divisions are given the option either to out-source or to self-source essential services. In this way workshops, as well as other internal service providers, are exposed to competitive forces.

To improve cost-performance, between 1988 and 1994 the labor force was reduced by about one-third. Capital as well as labor productivity has improved significantly. Between 1988 and 1994, 500 electric and diesel locomotives and 13,500 freight cars were retired from the fleet, representing cuts of 40 percent and 45 percent, respectively, from 1988 levels. Small freight terminals have been closed with the result that the number of train assembly points was reduced from 30 to 6. Administrative overhead was slashed and maintenance facilities consolidated in response to a reduced demand for rolling stock maintenance.

New service development efforts included the introduction of the high-speed X2000 train. Although this technology had been developed beginning in the early 1970s, it was the new organization that made it a market success. In the freight market, SJ re-focused on international traffic and increased international through train services — boosting international freight departures from 350 in 1987 to 4,500 in 1993. Another new service concept that SJ aggressively developed was overnight temperature controlled services. These services move increasing volumes of vegetables and fruit from the south to the extreme north of the country.

To facilitate the restructuring, all managers participated in a special training program. This program served as a forum from which common objectives and values were disseminated throughout the organization. In a parallel development, all the business plans of the enterprise's component units were communicated informally and widely discussed. Their development became an effective basis for dialogue between top management and other levels of the organization.

At the SJ Group level a major reorganization of business units took place. For example, the scope of SJ Rail's activities was tightly circumscribed to include only core railway services. Swedcarrier encompassed all other activities which were complementary to the core business. Unrelated businesses, which offered no synergy, were divested. Business centers which were closely related, but were formerly dispersed throughout SJ organizations, were coalesced into single companies. For example, before 1988

both the Freight Division and SJ's independent shipping company operated ferry services. Today SweFerry handles all such services within the SJ Group. Similarly, all heavy maintenance workshops have been transferred to the TGOJ subsidiary. In addition, a large travel agency has been sold off and the freight forwarding agent ASG has been introduced on the stock market. SJ has recently sold its majority shares and is now a minority owner.

In the initial phase of the restructuring process SJ's management found that the public's image of the carrier was poor. While the Swedes approved generally of railways as a mode of transport, they specifically did not approve of SJ as a railway operator. Early on, it was decided that an important part of the restructuring should be to redefine the carrier's public image.

Advertisements in all the daily newspapers as well as mass-mailing to households promised the public that "SJ will be better on 100 points within three years. Please join us to ensure that we carry out what we have promised." In addition to specific financial objectives, the 100 points included revitalization of stations, modernization of 500 passenger coaches, repainting of the entire fleet, introduction of sleeping cars with showers and toilets in first class compartments, radio-controlled marshaling of locomotives, mobile telephones in all locomotives, a new system for booking and ticket sales, information systems for freight customers, joint ventures with railways in other countries,

etc. The program also included a number of major infrastructure investments funded through state appropriations via BV. After three years, the enterprise can claim success in achieving most of the 100 points and, as a result, has significantly improved its image.

Without being formally corporatized, and without a change in ownership, SJ has managed to make fundamental changes in the way it conducts its business.

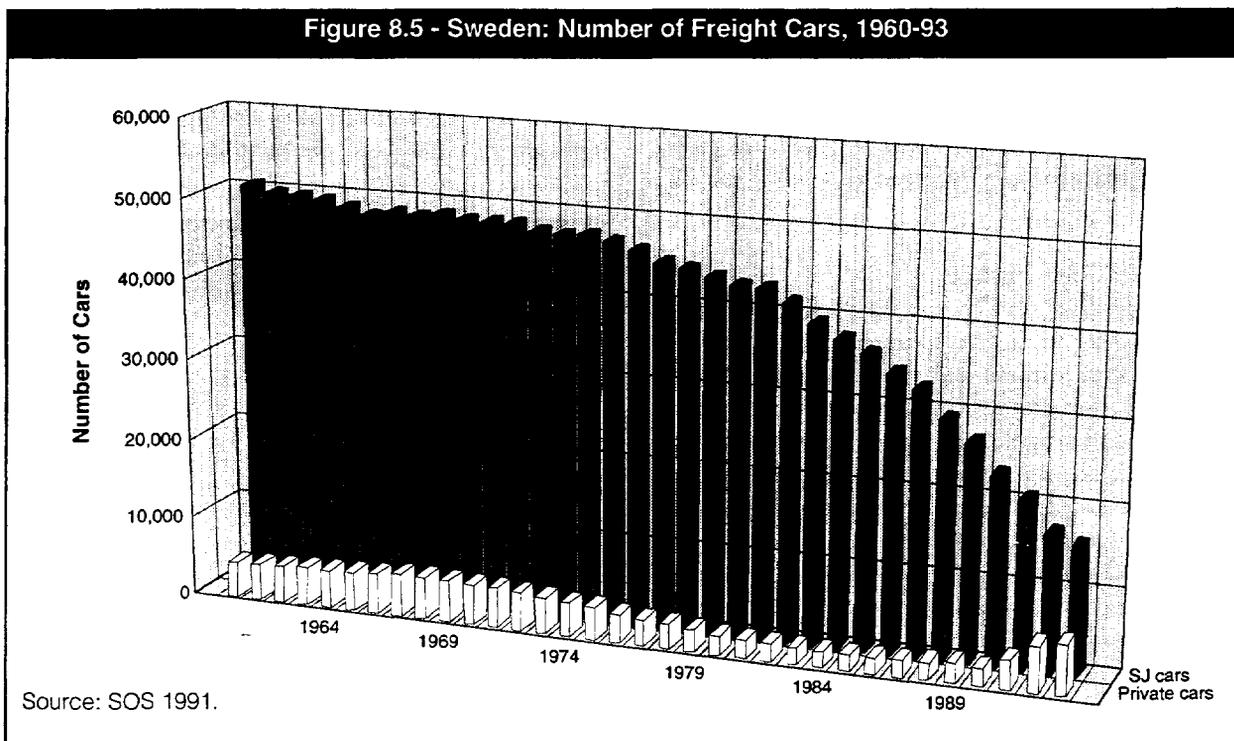
2. SJ Production and Operating Efficiency

As the foregoing discussion pointed out, passenger and freight traffic has been constant or slowly increasing since the separation. Train services have operated over the same number of kilometers of line as previously (see Figure 8.2). Nevertheless, SJ runs fewer train km today than previously. The number of train km declined from 120 million in the early 1960s to 92 million in 1992, but bounced back to 97 million in 1994.

A similar philosophy of doing more with less applies to freight cars. The number of cars in SJ's fleet declined slowly for many years. However, this downsizing accelerated after the separation. Between 1988 and 1993, SJ scrapped 45 percent of its freight cars. Figure 8.5 depicts the number of freight cars in SJ's fleet from 1960 to 1993, together with the corresponding number of private freight cars.

Since the separation, privately owned cars have increased drastically in number. SJ's customers currently own

Figure 8.5 - Sweden: Number of Freight Cars, 1960-93



25 percent of all freight cars operating on the system compared with less than 10 percent before the reorganization. At the same time total ton volumes increased and, as a result, car productivity increased from about 170,000 to almost 940,000 net ton km per car per year in 1994.

Figure 8.6 represents the total number of passenger cars, post cars, and cargo cars used in passenger trains over the period. Again, the number of cars has decreased over the long term. During the last five years the rate of decline has been moderate. It is not possible to relate precisely the number of passengers to the number of available cars since there has been a shift from cars in locomotive powered trains to electric self-powered rail cars. The latter increase is seen in Figure 8.7, which also shows a large reduction in SJ's tractive power since the 1988 split.

The labor productivity of both SJ and BV has increased markedly since the reorganization. Figure 8.8 shows the total staff between 1965 and 1993. Over the long term, staff levels have declined by between 1 and 3 percent annually. However, between 1988 and 1989 SJ reduced its work force by 8,000; 6,230 of these employees transferred to BV. In addition, 500 new employees were taken on by BV, which brought its personnel up to 6,700 in its first year.

BV has maintained a constant labor force since the reorganization. SJ, on the other hand, has continued to reduce its work force. Excluding transfers to BV, SJ Rail reduced its staff by 14,000 between 1988 and 1994. About 5,500 of these employees were transferred from SJ Rail to Swedcarrier or were reassigned to businesses that have since been sold off. SJ has realized total cost savings of SKr 2.5 billion (or 35 percent) through trimming its labor force. The aggregate effect of these labor force reductions is that while train km production per employee was 2,200 km in 1965 it had increased to 4,500 km in 1994 for SJ and BV together.

3 . Financial Performance

Figure 8.9 provides data on SJ's financial performance between 1962 and 1993. The top graph represents the difference between revenues and operating expenses. The second graph represents net income after state capital debt repayment and financial costs. Finally, the bottom graph presents a hypothetical financial scenario, simulating SJ's profit performance had the carrier not received subsidies/had the state not purchased traffic from it.

Using all three measures, it is obvious that SJ's financial results improved tremendously after 1988. In 1987, gross profit was SKr 36 million on total revenues of SKr 8.9 billion (0.4 percent of revenues). In 1993 gross profit was almost SKr 800 million (8.4 percent of revenues) on a revenue base of SKr 9.5 billion, and in 1994 gross profit was about SKr 1 billion (10 percent of revenues). In 1989

SJ's net income before extraordinary items was negative (SKr 555 million). Since restructuring, financial performance has improved significantly. SJ's net income has been positive each year, with the exception of 1989, and the result (before extraordinary items) has increased from SKr 290 million in 1990 to SKr 440 million in 1993 to SKr 471 million in 1994. Today SJ not only services its debt but also generates a substantial surplus. Moreover, government "purchases" of light density line subsidies in 1993 are a third of those provided in 1987.

Figure 8.10 represents SJ's revenue and operating costs inflated to 1993 price levels. The difference between the two (or "gross profit") decreased progressively between 1970 and the late 1980s. The figure further indicates that in the post-reorganization period both revenues and operating costs have decreased in real terms. The cost reduction reflects both SJ's absorption from infrastructure spending and its extensive asset rationalization. During this period revenue also dropped significantly. Cost reductions have in effect been shared with freight shippers in an effort to improve SJ's competitive advantage vis-à-vis other modes.

Additional insight is provided in Figure 8.11, which inflates SJ's three primary revenue streams on the basis of 1993 prices. A review of each of these streams is revealing. During this period direct state support has fallen. Income from passenger services has increased, but only slowly in real terms. Real revenue from freight services has declined continuously over the entire period, although volumes have increased.

Figure 8.12 provides additional details on yield or revenue per unit of activity. The table relates real revenue from passenger and freight services to traffic activity. Passenger

Figure 8.6 - Sweden: Number of Passenger, Post, and Cargo Cars, 1960-93

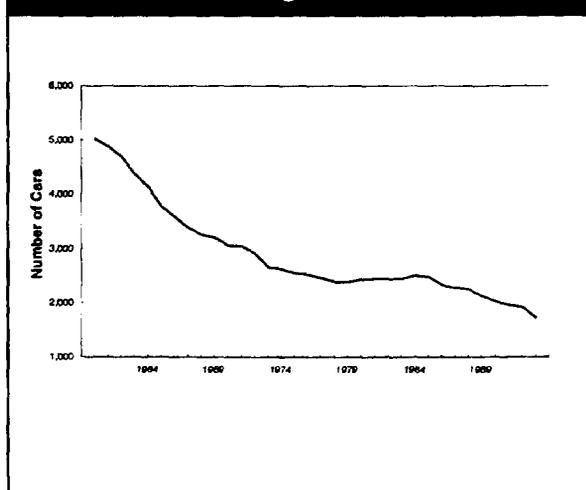
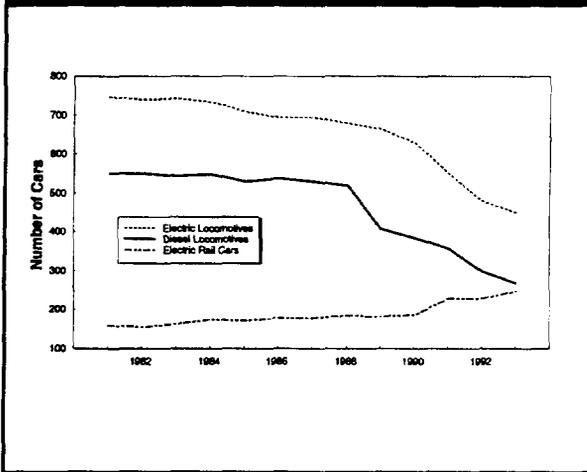


Figure 8.7 - Sweden: Number of Locomotives and Rail Cars, 1981-93



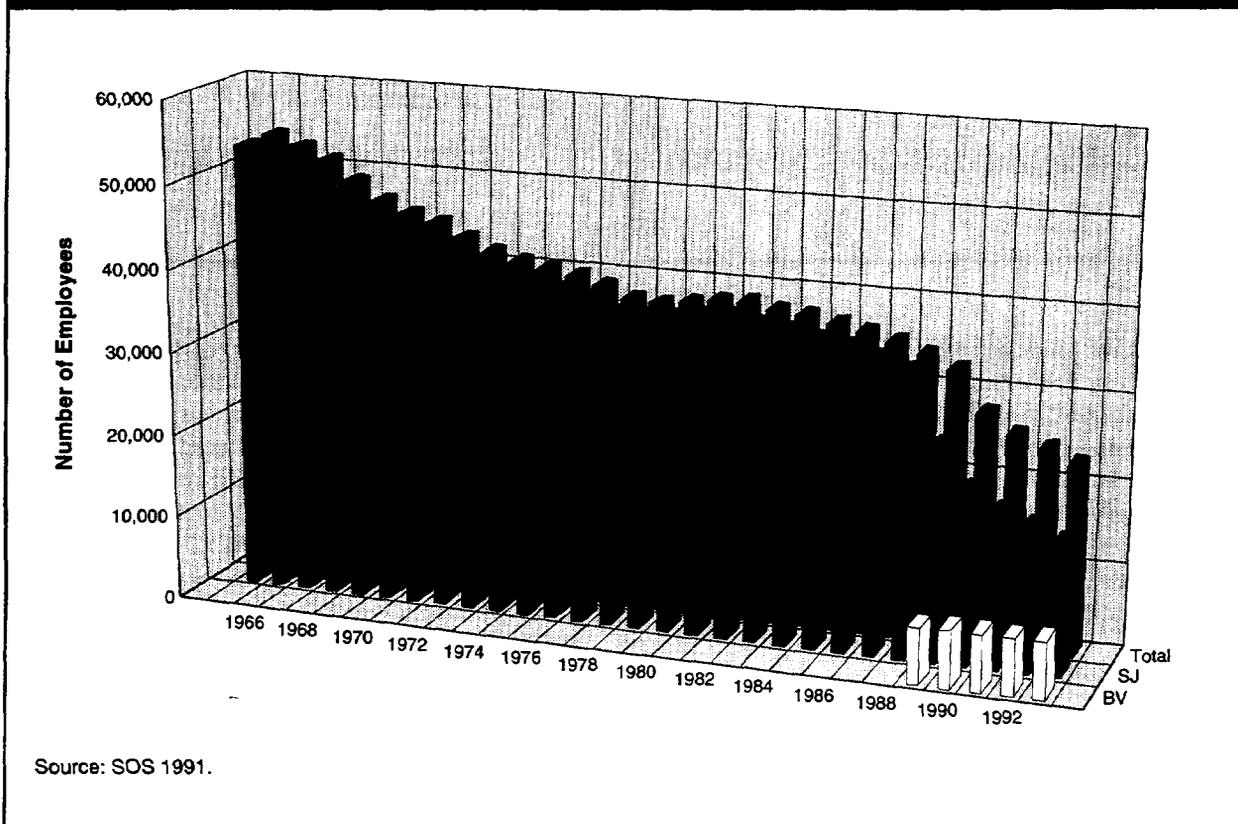
revenue includes the state subsidy, since this is directed to low-volume passenger services. No trend emerges for passenger unit revenue. A drop in yield takes place in the early 1980s, which can be explained by price experiments during this period. Otherwise, yield remains approximately constant.

Freight revenue yield, on the other hand, witnessed a continuous decline over the entire period. SJ maintained constant traffic volume over the last few years in the face of a severe recession. Thus SJ has bridged the recession of the early 1990s by reducing prices and thereby retaining its core customers. The upshot is that freight customers have benefited greatly from SJ's restructuring.

This in turn reflects increasing competition from trucks. Trucks have also improved their productivity greatly over the past 10 years. The road network has been improved so that truck combinations as long as 24 meters can operate over it, with a maximum total weight of 60 tons — up from 51.4 previously. (EU trucks have a maximum weight of 40–44 tons.) Moreover, in an attempt to adapt Swedish tax structures to those in the EU, the kilometer tax on diesel vehicles has been replaced by a flat charge on diesel fuel. The consequences are that heavy trucks have gained while light diesel vehicles have lost ground. SJ, of course, competes primarily with heavy trucks.

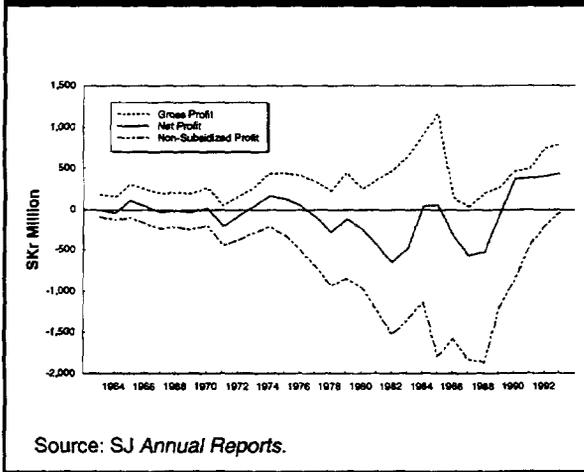
In a 1993 self-assessment of its progress, SJ's management pointed to several external developments that had adversely affected SJ's chances of achieving all the financial objectives that it had set for itself in 1987. These unexpected developments included: (1) a promised freight de-

Figure 8.8 - Sweden: Railway Employees, 1965-93



Source: SOS 1991.

Figure 8.9 - Sweden: Three Parameters Measuring SJ's Performance



Source: SJ Annual Reports.

Figure 8.10 - Sweden: SJ's Revenue and Costs in 1993 Prices, 1962-93

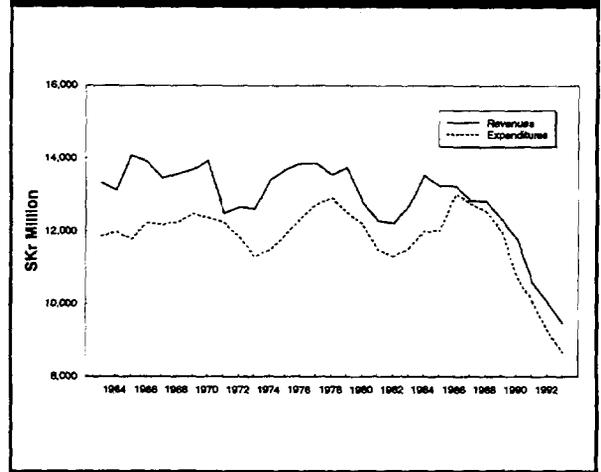


Figure 8.11 - Sweden: SJ's Revenue from Different Sources in 1993 Prices, 1962-93

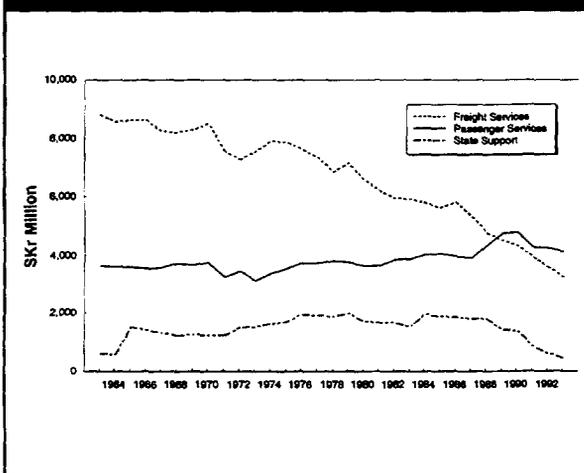
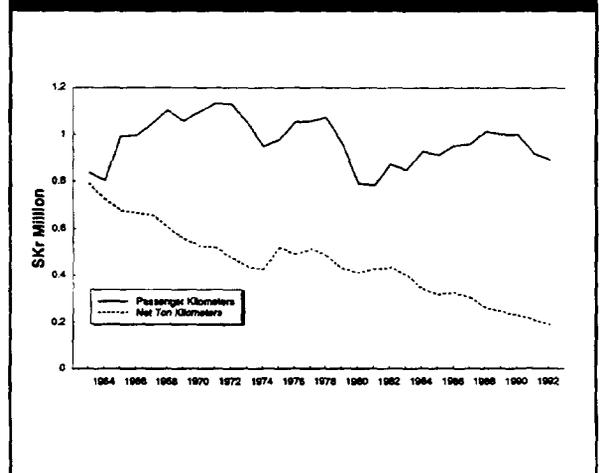


Figure 8.12 - Sweden: Real 1993 Revenue per Passenger and Freight Unit, 1963-93



velopment subsidy of SKr 450 million annually which was repealed from 1991 onward; (2) a 25 percent value-added tax which applied to rail fares and tariffs from 1991 and which was subsequently reduced to 12 percent; (3) freight traffic volumes that were lower than predicted in 1987; and (4) a collapsing real estate market caused by a severe recession, which prevented SJ's property from being sold off as intended. Despite these unexpected developments, SJ has achieved the project objective set out in the 1988 Act.

4. Quality of Service

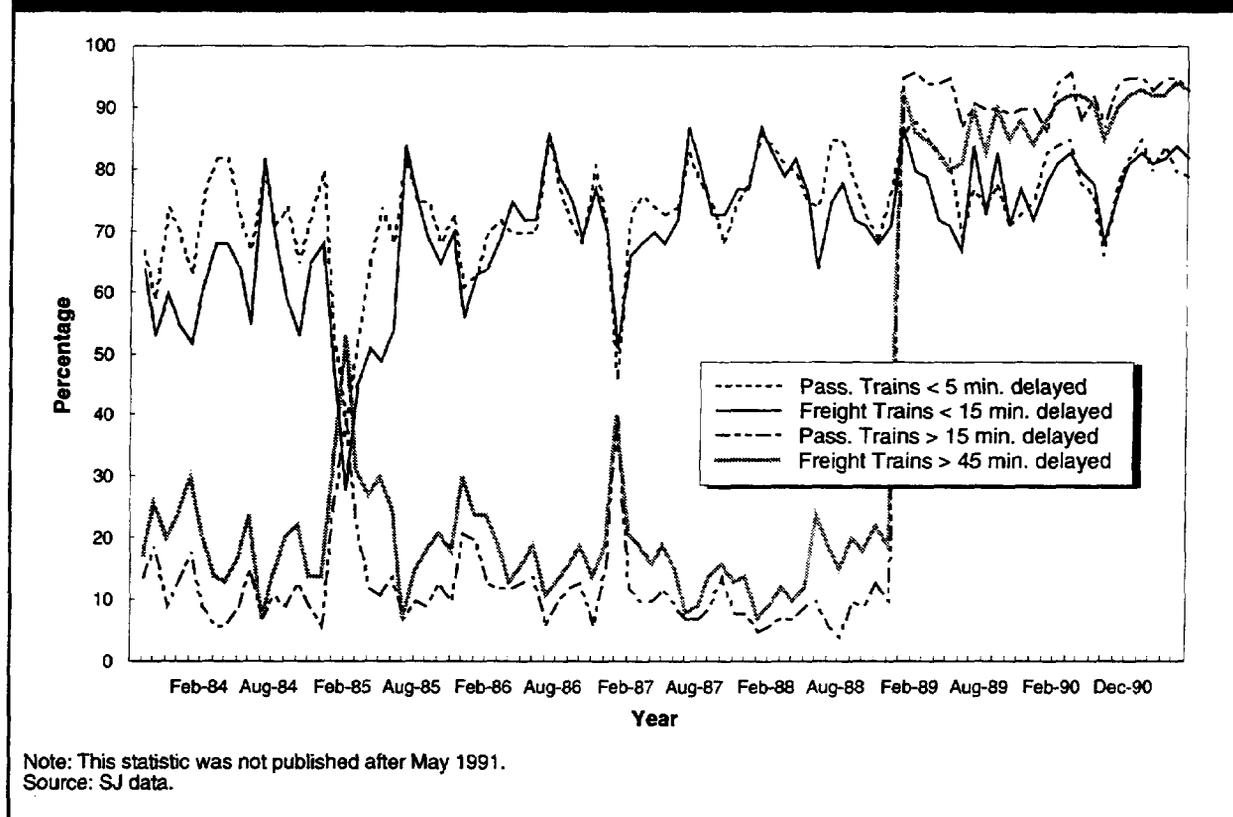
An assessment of SJ's quality of service is important for two reasons. First, quality changes may indicate the enhanced value of SJ itself apart from the financial param-

eters presented above. Second, the separation was the first case in which infrastructure was separated organizationally from train operations. The service quality consequences of this separation can now be evaluated.

Among the data that can shed light on how service performance has changed is a monthly train delay statistic for the period September 1983 to May 1991.¹² Figure 8.13 reviews this statistic for the transition period. The two upper graphs in this figure show the percentage of freight and passenger trains that are "on time." The trend is slightly positive. Performance improved somewhat after the reor-

¹² This statistic was not published after May 1991.

Figure 8.13 - Sweden: Punctuality of All SJ Trains, 1983-91



ganization. The same assessment applies to lateness statistics, shown in the lower graph. The proportion of trains that are very late decreased slowly over the same period.

5. County Lines and Private Entry

In 1990 County Transport Authorities were prepared to assume full responsibility for county line passenger operations as outlined by the 1988 Act. To this end, tenders to offer train operating services were extended for 16 lines. Of these, SJ won 12 contracts. Four other contracts went to the private operator *BK Tåg* (BK Train). BK Train is primarily a bus operator based in one of the regions in which it also secured a train operating franchise. However, the counties still own the rolling stock, set the prices, and take the revenue risk.

Under its contracts, BK Train provided only 3 percent of total passenger train km operated over the Swedish network. Although the scale of its impact on the entire market was limited, in the years that followed its initial award the newcomer demonstrated new ways of running the business that challenged SJ's orthodox practices. One example was the consolidating of job categories. BK Train used the

driver on its twin-coupled rail cars to serve coffee. Drivers also performed the work of switchmen when necessary. These improvements have been emulated by SJ. Before it was competitively challenged, SJ's unions had blocked such crossover practices.

In most cases, contract awards lasted three years. During the fall of 1993 a second round of bids was invited. SJ won all of these second round bids. From the inception of a new timetable in June 1994, SJ has been the only operator on the Swedish rail system. However, in January 1994 BK Train appealed to *Konkurrensverket*, the competition watchdog agency, claiming that SJ had been "bid-dumping" in order to discourage future competition. BK Train argued that SJ had submitted offers that did not recover its full costs. At this time, Sweden passed a new anti-competitive law; at the time of writing, however, dumping allegations had not as yet been tried, and the case had not been settled.

The 1988 Act gives BV the option to allow other operators to run trains where SJ or counties discontinue their services. From 1988 up to this writing, 42 applications have been submitted to BV to fill service gaps. Several of these

have since been repealed. BV has not taken a formal stand on others. Information on their submissions is incomplete. For still others, more detailed assessments have been made.

To date, entry by sub-contractors has occurred only on a small scale, with one significant exception. The 1988 Act gave BV the right to grant traffic concessions on *Malmbanan*. In December 1991, LKAB, the mining company and primary shipper over the line, requested permission to run its iron ore trains from Kiruna to Narvik. SJ did not approve. In spite of this, LKAB was given operating rights in spring 1992. While it was considering the option of operating its own trains, LKAB began negotiations with SJ on a long-term contract.

A deal was finally negotiated and today SJ and Norway's NSB operate the train as a contractor to LKAB. By being able to negotiate from a position in which it was no longer captive to SJ, the mining company was able to save an estimated SKr 200 million per year. The lower costs can be attributed, first, to the fact that operations have become more cost effective. Second, SJ's profit under the contract has been reduced. Part of this profit, however, was earmarked for future rolling stock renewal. Depreciations were made on replacement, not on historical costs — meaning that the long-term savings may be lower than the immediate cost cut.

6. State Involvement

A crucial question that remains to be addressed is the extent of state involvement in and financial support for the industry before and after the reorganization of 1988. Table 8.5 summarizes important aspects of this issue. The table represents all of the funds flows between the rail sector and the national government for two periods: (1) 1983 to 1988 and (2) 1989 to 1993. It is intended to represent net funds flows before and after the reorganization. A review of the figure reveals the following facts:

- Since the restructuring, direct operational subsidies from the state to the railway sector have decreased significantly. In 1988 operational support from the state was SKr 1,474 million. By 1993 the level had decreased to SKr 727 million, mainly because of the discontinuation of subsidies to SJ for non-viable routes.
- At the same time, public investment funds increased substantially. In 1988 the state provided SKr 879 million. By 1989, state-financed investment had jumped to SKr 3,858 million, and by 1993 it had increased further to SKr 7,213 billion. Several large investment projects were started in the 1990s; the government originally declared that it would spend SKr 10 billion on the sector during the period 1992-

2003 — a commitment that is now close to SKr 40 million for the period 1994-2003.

- The track fees introduced in 1989 constitute the primary funds flow from the sector to the state. These fees have not exceeded SKr 750 million since their introduction. SJ pays no taxes. When the net cash flows between the state and the sector are measured, it is evident that total flows of funds to the rail sector have increased since restructuring. In 1988 the net cash flow from the state was SKr 2,906 million; by 1993 this net flow had increased to SKr 7,281 million. Over this period the nature of the infrastructure funds flow had shifted from operating subsidies to infrastructure investment funds.

PART IV: LESSONS LEARNED

The unique restructuring of Swedish railways in 1988 was implemented in a relatively short time and apparently with limited difficulty. Given the radical and unprecedented division of assets and of functional responsibilities involved in the restructuring, this feat was all the more remarkable. The Swedish restructuring experiment was designed, at the same time, to re-balance competitive equities among competing modes of transportation and to revitalize the commercial and market development capabilities of the state-owned railway. The preamble to the legislation that separated Swedish railways into two interdependent functional units, one responsible for infrastructure maintenance and one for marketing and train operations, cited four major objectives: (1) to put an end to deficit railway operations; (2) to put railways on an equal footing with other modes of transport with respect to infrastructure costs; (3) to acknowledge the safety and environmental qualities of the mode; and (4) to safeguard various aspects of regional income distribution.

In the post-1988 organizational structure the objectives of the two railway entities are clearly defined. SJ is accountable for the commercial consequences of its decisions. Since the reorganization it has materially improved capital and labor productivity as well as its profit performance. BV is responsible for infrastructure building and maintenance. Improved infrastructure has come at cost — subsidies to support the rail rehabilitation have exceeded SKr 25 billion (about US\$4 billion). This sum appears to be excessive given the railway's traffic development to date. However, since no formal ex post assessment of the reform has been undertaken, it cannot be said definitely whether the government considers the reform a success.

The restructuring of Swedish railways did not involve

Table 8.5 - Sweden: Funds Flows between the State and the Railway Sector

	(millions of SKr)									
	83/84	84/85	1986	1987	1988	1989	1990	1991	1992	1993
CASH FLOWS FROM STATE TO SECTOR	2,073	2,956	1,987	2,277	2,353	4,440	5,262	5,528	6,633	7,940
Operational subsidies/compens. for services purchased by state	1,458	2,196	1,409	1,395	1,474	1,245	1,404	1,015	842	727
Operating compens. for eligible network	1,172	1,849	1,257	1,270	1,337	0	0	0	0	0
Compens. for rebating passenger traffic	240	285	93	66	72	82	84	86	71	68
Contribution to rail-crossroads	46	62	59	59	65	0	0	0	0	0
Development grant for freight traffic	0	0	0	0	0	458	450	223	0	0
Purchases of regional traffic by the CTA	0	0	0	0	0	45	98	113	177	181
Purchase of nonviable passenger traffic	0	0	0	0	0	660	772	593	594	478
Investment funds from the state not included in state capital	615	760	578	882	879	3,195	3,858	4,513	5,791	7,213
Funds from the state as grants ¹	376	642	552	529	697	0	0	0	0	0
Other investment grants ¹	239	118	26	353	182	0	0	0	0	0
Allowances and appropriations (BV)	0	0	0	0	0	3,195	3,858	4,513	5,791	7,213
CASH FLOWS FROM SECTOR TO STATE	443	-109	-125	0	0	-751	-729	-675	-681	-659
Track charges for SJ's infrastructure utilization	0	0	0	0	0	-751	-729	-675	-681	-659
Taxes	0	0	0	0	0	0	0	0	0	0
Dividends	443	-109	-125	0	0	0	0	0	0	0
NET CHANGE	2,516	2,847	1,862	2,277	2,353	3,689	4,533	4,853	6,052	7,281

¹Before 1988, total for railway sector; after 1988, total for SJ only.

privatization. However, subsequent developments, including the EC mandate for rail network interchange and the 1994 Swedish Rail Deregulation Act, have opened that door. The recent change of government has, at least temporarily, brought further reform to a halt.

The lessons learned from the Swedish experience with rail restructuring can be divided into two major areas: (1) "restructuring" lessons and (2) "process management" lessons. These areas are dealt with below.

1. Restructuring Lessons

• *Commercialization of train operations by itself does not assure an efficient allocation of capital to the sector.* Linkages between train operations and infrastructure investment are fundamental to an efficiently operated railway. Manage-

ment linkages and market contracts are no less essential in an environment characterized by deferred investment (the previous condition) than in one characterized by surplus investment (the current condition). To date, no effective governance procedures have been developed in Sweden to assure efficient, balanced, and productive investment in rail infrastructure and to prevent the production of more rail infrastructure than is necessary or economically justified.

• *Much of the commercialization benefit of privatization can be gained by clarifying and simplifying the profit-making objectives of a state-owned railway and by de-politicizing its decisionmaking.* One lesson reinforced by the Swedish model is that economic incentives matter. In Sweden multiple, and sometimes conflicting, social welfare objectives have been removed from the purview of SJ's management

which now is motivated exclusively to focus on a single profit maximization objective. Clarity in overriding objectives, together with performance incentives to achieve well-defined goals, has significantly improved management effectiveness within SJ. BV, on the other hand, must continue to balance cost effectiveness, safety, and environmental and regional development objectives, and must operate in a more risk adverse “political” environment than that of SJ.

- *Productive labor force restructuring can be achieved when unions are brought into the decisionmaking process and when surplus labor is dealt with fairly and equitably.* Railway labor unions were involved in each step of the decisionmaking process which led eventually to the downsizing of the industry’s work force by more than a third. All three rail labor unions are represented on SJ’s Board, and the Board provides a direct conduit between SJ’s management and its workers. Union representatives were directly involved in the process of organizational rationalization and work force downsizing through local task forces and special committees. This unique feature of the Swedish restructuring has minimized labor’s resistance to change. Indeed, labor representatives have recommended new initiatives to enhance productivity and both SJ and BV have put these initiatives into effect.

- *Even limited competition may have had some effect on improving both service and cost performance.* SJ currently faces limited intramodal competition in the form of (1) contestable awards for commuter operations under the control of local transportation authorities and (2) alternative operations of iron ore unit trains by SJ’s single largest freight customer. The state carrier confronted both of these competitive challenges and responded effectively. SJ lost some contracts in a first competitive round, but won back business in a second round. In addition, SJ appears to have improved its service quality and consequently its market share in long distance luxury express train corridors vis-à-vis airline competitors. The prospect of additional intramodal competition over the BV network through liberalized entry and contestable train operating franchises offers an additional stimulant to SJ’s service improvement. Still, allegations from a private operator that lost four contracts to the effect that SJ has been following predatory practices (still to be tried by the anticompetitive authorities) point to the very strong position that an incumbent operator enjoys in the industry, even if open access were to be introduced.

2. Process Management Lessons

- *In Sweden, as in other countries discussed in this report, a major financial crisis proved to be the operative stimulant to*

innovative thinking about rail restructuring. Despite repeated attempts to reform the industry and to inject “extraordinary” support, SJ never came close to meeting its target profit levels during the first years of the 1980s. Rather, an increased need for state intervention was seen. This was one of the reasons why the splitting up of SJ in 1988 met with no major parliamentary opposition. Instead, the radical Swedish rail restructuring design emerged as a bipartisan response to a fiscal crisis. A political consensus supported the reform process during the period of the mid-1980s, and when a new and radical restructuring plan was recommended to the Parliament, there were in fact few objections.

- *The quality of management is a significant determinant of restructuring success.* The executive management of SJ was recruited from the private sector and given broad initial latitude to reshape and refocus the new commercial enterprise. The CEO was installed with an initial six-year employment contract. This contract has since been renewed for a second three-year term. The new CEO immediately installed his own management team which then began to act effectively on the mandate given to it for fundamental change.

- *Effective corporate governance requires clearly defined limits to management authority and clearly defined management accountability to a politically independent board of directors.* Since the reorganization, the management of SJ has continued to pursue its own strategic agenda, almost unchecked by the Minister of Transportation. The issue of accountability and effective corporate governance has not yet been fully resolved in the case of SJ. This is a general feature of the relations between owner-representatives and directors in the Swedish public sector.

- *Effective management of a “turnaround situation” requires a clear future vision, effective internal and external communication, and a visible score-keeping system.* Initially, SJ suffered from severe credibility problems. The public did not perceive the railway as a quality service provider responsive to dynamic market requirements. SJ’s management understood that it was strategically important for the restructured company to win the good-will of this key public constituency. The “hundred points” contract with the public for specific improvements has indeed proved notably successful in reshaping the public’s perceptions of the railway.

- *Sustaining political and financial commitments requires consistent and progressively improving financial performance.* Ultimately, credibility and consequently the sustainability of reform within SJ depends on real progress in improving financial and operating performance. The management of SJ has taken a number of initiatives in this direction, in-

cluding: (1) moving profit and loss responsibility down the organizational ladder and closer to the market by setting up several internal profit centers; (2) allowing for partial outsourcing and external procurement of goods and services in competition with internal sources; (3) acknowl-

edging a poor public image early in the process and managing that image in a positive way; (4) developing new services which are responsive to customer needs; (5) pressing constantly to “do more with fewer resources”; and (6) actively managing and measuring service quality. ■

APPENDIX I

THE SWEDISH TRANSPORT MODEL

With the Transport Policy Bill of 1979 as a formal point of departure, and with confirmation in the 1988 Transport Policy Bill, a set of principles for designing transport sector policies has emerged. This overall policy is said to be specific to Sweden and has its theoretical basis in economic welfare theory. While the policy is valid for all modes of transport, only the rail and road sector aspects will be discussed here.

The overall policy has four basic policy components. It consists, first, of a policy component for making decisions on using existing infrastructure for freight and passenger transport. Second, there is a policy for pricing infrastructure use. Third, there is an appropriate means of considering investments. Fourth, a financing framework is set out.

The first policy proposition is thus that all decisions about *infrastructure use* should be based on commercial principles or — as in the case of private cars — should be the free choice of individuals. This open access policy may become effective also for railway freight and passenger traffic in the future. It should be noted that since the 1960s trucks have operated without regulatory restraints.¹

Deregulation was not implemented in the bus industry until the summer of 1994. While local and regional bus services are the responsibility of County Traffic Authorities, which have a monopoly franchise for this class of business, long distance coach services previously needed the approval of the Ministry before they could operate. Applications were usually denied, since services parallel with track services were considered detrimental to the latter and could also result in branch line abandonment. From July 1994, a number of applications for traffic licenses were granted. This confirms the current drive toward deregulation.

The second aspect of the transport policy is that existing roads and tracks should be *priced* according to social

marginal costs. Apart from road wear, social costs include accident risks external to the individual driver and environmentally related emissions.

Sweden's taxes on road use and vehicle ownership are fairly high in a European context; taken together, taxes more than recover financial costs for road investment and maintenance. Although taxes are high, the debate is still intense as to whether road users really pay their way when externalities are taken into account. In particular, the balance between taxes and costs for heavy vehicles is disputed. No schemes for urban congestion pricing have been instituted.

For railways, marginal cost pricing means primarily that on low density lines track users should not be required to make up for the total track investment and maintenance costs. Requiring operators to pay the difference between marginal and average cost may mean that traffic is discontinued, although it might (more than) recover its avoidable cost component. This line of reasoning has repeatedly been advanced as an argument in favor of railway subsidies. As it stands, the argument is not valid for operations on lines with high density use.

The third component of the policy is related to principles for *investments* in new infrastructure. Such investments are to be based on economic rather than commercial principles. Cost-benefit analysis has been used for many years to assess the net present value of road investments and to prioritize projects according to their respective present value ratios. The benefits side includes not only the impact on future maintenance costs of constructing a new road, but also the impact of this activity on the vehicle operating costs and time use of road users, as well as the impact on accident risks and, possibly, on emission levels. The Road Administration submits prioritized investment programs to the government, which then decides the amount of resources to allocate.

Since the 1988 split, this model has also been adapted for the assessment of railway infrastructure investments. An economic evaluation of track investments includes an analysis of the consequences for the infrastructure authority and the operators. On the basis of detailed traffic forecasts, the analysis also tries to capture the consumer sur-

¹ Since the 1963 trucking deregulation, several other decisions have been made that benefit the economic viability of heavy highway transport. These include rules relating to truck length and weight (which today make the code regulating Swedish trucking one of the most liberal) as well as a recent switch from charges by kilometer to a fuel levy, which particularly benefits the heaviest trucks.

plus (the value of shorter travel time, etc.) of current users and of traffic generated by the installment. To the extent that new railway traffic is drawn from roads, and to the extent that road users do not pay their full social costs for road use, the discrepancy between the road user charges and the actual cost is also a benefit for the railway project, since it captures the value of fewer externalities in other sub-systems.

Fourth, *financing* may be a problem under marginal cost pricing strategies in railways. The Swedish method is, in this case, close to Ramsey pricing in that revenue is generated where it hurts least. While Ramsey pricing principles recommend high markups on markets with low price elasticity, political definitions of what “hurts least” may point to a different solution. ■

APPENDIX 2

LABOR MARKET INSTITUTIONS AND CONTRACTS¹

The Swedish Labor Market Model

For most of the post-War period the most important objective of economic policy in Sweden was full employment. Between 1950 and 1992 unemployment was never higher than 4 percent. Until the mid-1970s this successful policy was usually seen as a consequence of what has been called the "Swedish Labor Market Model." The Swedish Model was regarded as a guarantee of economic balance and as a sign of successful and progressive economic and social development. Although the Swedish Model is not a precise and universally accepted description of how the labor market works, it is still a useful concept for illustrating how the market in general has functioned.

The institutional framework for the Swedish Model is a set of three law blocks. The 1920 Act on Mediation in Industrial Disputes gave the state responsibility for making mediators available to disputing parties in conflicts over wages or other aspects of negotiated labor contracts. Mediation became an accepted practice when agreements could not be reached through the normal negotiation process.

The Collective Agreements Act was passed by Parliament in 1928 over the protest of unions. It prescribes a "peace obligation" for those parties signing a collective (wage) agreement. At the same time, the Labor Court Act instituted a Labor Court whose purpose was to interpret the provisions of collective agreements and to handle disputes over the peace obligations included in the Collective Agreements Act.

The right to organize ("the right of association") for blue collar workers had been accepted by employers in an agreement with employees dating back to 1906. The third block on which the institutional underpinning of the Swedish Model rests is the 1936 Act on the Right of Association and Collective Bargaining, which codifies this initial agreement in the form of public law.

During the unemployment crisis of 1931-33, industrial actions increased markedly and the government looked for

ways to regulate the right to strike and tried to create rules to protect persons and institutions outside labor market conflicts. Such regulations were wanted neither by the unions nor by the employer organizations. To prevent such legislation and also to introduce a procedure for dealing with labor market conflicts that could be considered dangerous to the society, the *Svenska Arbetsgivarförbundet* (SAF), or Swedish Employers' Federation, and the *Landsorganisationen* (LO), the Swedish Train Union Confederation, concluded, in 1938, the "Basic Agreement" (*Saltsjöbadsavtalet*).

The Basic Agreement dealt primarily with the procedural aspects of the bargaining process. The Agreement's four constitutional rules were the following:

1. A negotiating procedure was prescribed for disputes.
2. Extensions were made to the peace obligation prescribed by the Collective Agreement, including protection of third parties and essential public services.
3. The employer retained the right to dismiss a worker at will but could no longer refuse to give reasons for the dismissal.
4. The Labor Market Council was established as a "negotiation panel" for the resolution of disputes concerning the rules for layoffs and temporary dismissals on the one hand and for industrial conflicts that affect functions necessary to the society on the other. Thus, in exchange for a series of rules designed to protect third parties from the consequences of labor market conflicts, employees were granted improvements in the handling of layoffs and temporary dismissals.

Perhaps the most important aspect of the Basic Agreement is that it gave the labor market parties a system of self-governance for their common affairs — that is, it freed them from government intervention. This freedom is greater in Sweden than in most other countries. The official doctrine concerning labor market freedom forbids direct government intervention in the wage negotiation process. An implicit condition of this freedom has come to be that the two parties attempt to avoid wage increases which would worsen the competitive situation of the economy.

¹ This discussion is based on: C. Nilsson, "The Swedish Model: Labour Market Institutions and Contracts," in J. Harburg and J. Theeuwes, eds., *Labour Market Contracts and Institutions*, Elsevier, 1993.

In other words, the government has delegated the right to establish an “incomes policy” to the parties in the labor market because of its reliance on the willingness of the parties to accept the responsibility for maintaining a macroeconomic balance.

The Wage Negotiation Process

A chief characteristic of the Swedish labor market has been the high rate of unionization. By the late 1980s, 87 percent of blue collar workers and 84 percent of white-collar workers were union members. The union represents the employees in almost all matters involving employment conditions.

As a consequence of the Basic Agreement, the entire wage negotiation process was centralized within the SAF and the LO. This, in turn, led to central agreements on wages. In 1952 the first central agreement between the SAF and the LO was signed. Negotiations have been carried through on three levels — centralized, industry wide, and local at the individual plants. Normally, there are no negotiations at the company level.

The central agreement has the character of a recommendation. SAF and LO have agreed to work for the acceptance of a recommendation in the industry level negotiations. The industry level discussions are primarily designed to transform a nationwide agreement to an agreement between each national union and employers’ association and to further decide on the allocation between single plants.

After these agreements are reached, local negotiations follow between employers at the individual plant and each union bargaining unit represented there. The wage norms at the central and industry levels never fully control the local wage negotiation process, and as a result a “wage drift” within a limited margin above industry level norms typically occurs at the plant level. The result has been that centrally negotiated agreements generally set the wage floor while local discussions are sometimes able to generate wage hikes above this floor.

The Public Sector

In 1965 a labor negotiation reform occurred in the public sector, and in 1966 public employees received for the first time the full right to negotiate wages and to strike (the Central and Local Employees Acts). Before this, public employees could formally and unilaterally decide wage conditions. In reality, however, a wage negotiation practice had gradually developed. Until the late 1980s, wage bargaining took place in a highly centralized system. The wage system has been rather hierarchic — a certain wage is ascribed to a position in the hierarchy. The system has be-

come more inflexible in the last decade, shifting toward a more decentralized and merit-based wage-setting, similar to the private sector white collar workers’ system.

Since then, no basic differences have existed between the laws that regulate public and private sector labor markets. The only differences are those that have been negotiated. These differences can be substantial for specific issues, however.

The common nature of the laws that regulate the labor market has its mirror image in the workers’ unions. The three umbrella unions — one for academics, one for other white collar employees, and one for blue collar employees — include workers from both public and private sector activities.

New Laws

The period 1974-77 saw the passage of new laws dealing with the industrial relations systems at the plant and company levels that strengthened the position of the union factory clubs (the local union bargaining units). The most important of these laws were the 1974 Employment Security Act (LAS), the 1974 Act on Union Representatives (FML), the 1973 Act on Board Representation for Employees in Limited Companies and Cooperative Associations, and the 1977 Act on Co-determination in Working Life (MBL). These laws were designed to give the union factory clubs the option of cooperating with employers in certain aspects of company affairs primarily reserved for management. Further, the union representatives were given the right to undertake union work during their regular working time. However, the central negotiation systems were not changed by these laws.

The right to collective bargaining dating from 1936 had included the unions’ right to demand negotiations. With MBL that right was extended to a right to negotiate on any and all aspects of the employer-employee relationship, and it became mandatory for management to initiate negotiations with the factory clubs about any major changes in the organization or in the working conditions. The union was also given the right to postpone any change in the employer-employee relationship until the negotiation was finished; if an agreement had not been concluded as a result the negotiations the rule was that the employer reserved the right to make the final decision. However, the MBL gives the union a veto in certain circumstances when the employer wishes to use subcontractors. In addition to the extended right to negotiate, the MBL gives the unions an extended right to secure information. Thus, the employees are not to be treated as outsiders but are to be given full disclosure company affairs. ■

CHAPTER NINE

BRITISH RAILWAYS CASE STUDY¹

SUMMARY

1. Introduction

Railway privatization in Britain has not been a simple process. It has involved the creation of many new businesses and commercial trading relationships from within what was, for over 40 years, a single, national railway undertaking. The restructuring process is still under way and may evolve in as yet unforeseen directions. This account necessarily relates to the position reached at the end of 1994.

The restructuring strategy adopted can briefly and aptly be termed “unbundling.” In practice this proved to be a complex task in which the items in the “bundle” had in many cases to be redefined and reorganized before they could be “unwrapped.” All of the issues described in this chapter are unlikely to arise in every railway privatization. However, certain common themes appear relevant to many situations, particularly where the railway to be privatized is large, is intensely utilized, has mixed passenger and freight traffic, and is “unitary” in the sense of including not only *train operations and infrastructure* but also *extensive engineering, maintenance, and support services*.

2. Lessons Learned from the Experience

The British case study defines one extreme of the restructuring spectrum — one that involves the radical reorganization of assets along functional, geographic, and business lines. The complexity of the British experience was compounded by simultaneous efforts to liberalize, to open entry to new private sector participants, and to fundamentally redefine the regulatory role of government in the commercial transactions which were previously internal to the unified railway.

The lessons learned from the British experience derive

from the risks and potential rewards of unbundling and micro restructuring prior to privatization. We can learn that the complexity of rail restructuring increases with the number of enterprise divisions and new commercial interfaces that result from the reorganization process. Clearly a trade-off exists between getting the enterprise architecture “exactly right” and getting it “done.” Other lessons learned involve the complexity of linkages and commercial requirements that connect viable solutions for one aspect of restructuring to all the other aspects. Thus, for example, in Great Britain the private sector development of competing bulk freight operations and the separate franchising of passenger operations logically entailed the creation of a unified track authority which in turn entailed the creation of a specific regulatory regime.

The British experience also underscores (1) the merits of a “learning approach” to restructuring, one which tests and refines proposed solutions before putting them into the market; (2) the need for a clear restructuring vision at the beginning; and (3) the effectiveness of delegating detailed restructuring efforts to multifunctional task forces.

3. The Case Study

This case study details the process by means of which the British Railway system was brought to the point of privatization. Part I gives the historical background of railway service in Great Britain, including the baseline conditions of the state railway system from which the restructuring efforts began. Part II describes the restructuring design and covers policy development for the different parts of the system (rail freight, passenger services, leasing of rolling stock, stations, track, and support services). Part III covers the implementation and the resultant organizational changes. This section also discusses the management aspects of the restructuring process. Part IV draws out the lessons learned from the restructuring experience. Five Appendices provide further details on various related topics.

PART I: BASELINE CONDITIONS

1. Historical Overview

Since 1948, railway services in Great Britain have been provided solely by a state-owned or nationalized industry. The British Railways Board, as it eventually became in 1962

¹ The views expressed in this chapter are those of the principal author alone and not those of the Department of Transport, nor the British Government. The purpose of this chapter is to promote understanding of a policymaking process and to assist people engaged in policy analysis or formulation. As the policy implementation phase is still in progress, the position as reported in this chapter, together with certain factual information, may be subject to change. The principal author of this case study is Brian Wadsworth, Director of Finance, Department of Transport, London, U.K.

(known also as British Rail), was the successor to the “big four” regional private railway companies. The Great Western, the London, Midland & Scottish, the London & North Eastern, and the Southern Railways had themselves been formed following a merger, in 1923, of no fewer than 123 private railway companies of varying sizes that originated for the most part before the turn of the twentieth century.

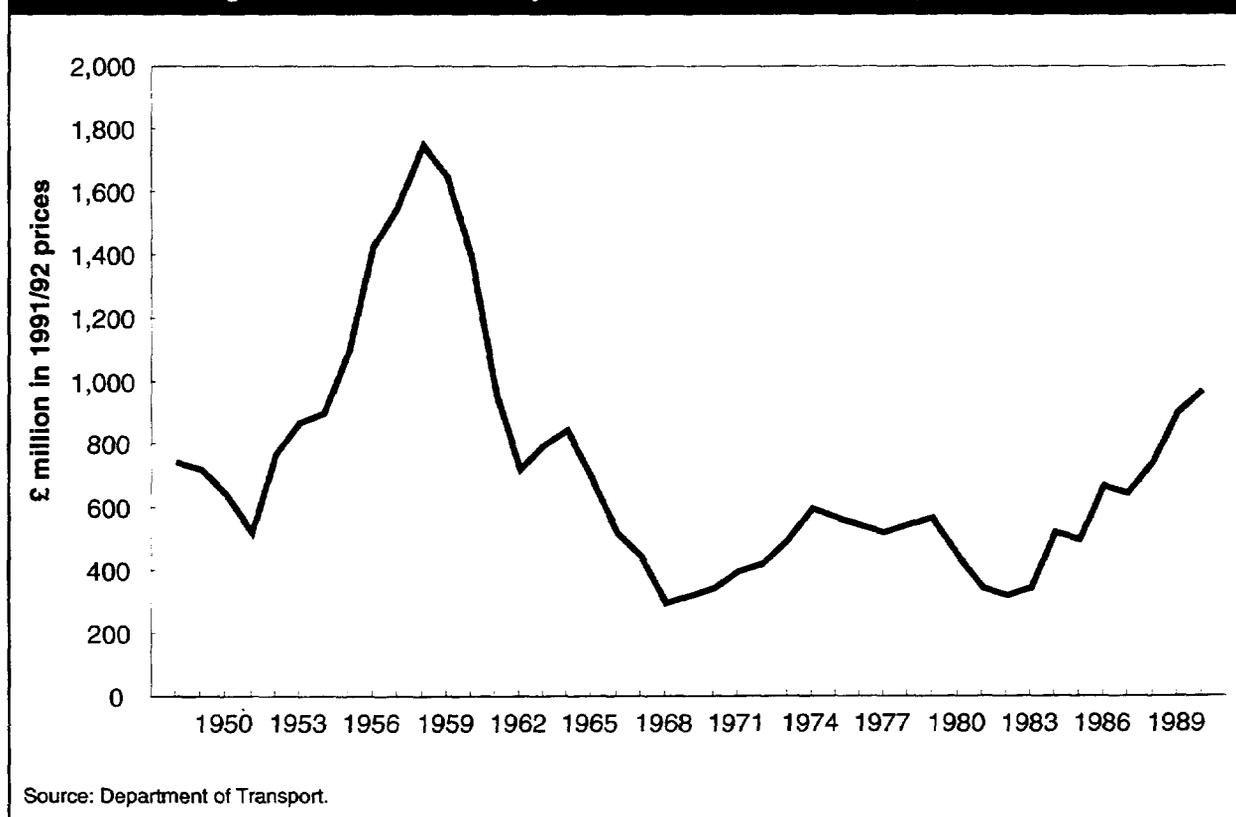
The pressures that led first to amalgamation and subsequently to nationalization of the railways gathered momentum over several decades. In many cases the railway companies had failed to provide an adequate return for their investors. Extensive regulation had been introduced, in response to both railway customers and the general public, in the days when the railways had a true monopoly over the transport of freight and passengers. During the early part of the twentieth century the railways failed to keep pace with the rapid development of mechanized road transport. Two World Wars left the railways starved of maintenance and new investment, and, particularly following World War II, severely damaged by enemy action. The weak finances of the railways and their dilapidated physical condition reinforced the political commitment of the Labour Government and others to nationalization.

2. Modernizing the Railways

While it was accepted by successive governments that an extensive network of railway passenger services could not be operated in Britain without some degree of state subsidy, a consistent emphasis on cost control was maintained throughout the post-War years. However, in retrospect the ambitious railway modernization program undertaken in the 1950s, when investment rose to nearly £2 billion at today’s price levels in the peak year (Figure 9.1), failed in certain key respects. Substantial productivity gains and improvements in reliability were undoubtedly realized through conversion from steam to diesel traction. However, the program was undertaken with insufficient appreciation of the shrinking market role of the railways and without due regard to the low utilization of railway assets.

The 1960s turned out to be the era of rationalization. In 1961, Dr. Richard Beeching was appointed Chairman of the British Railways Board. He brought forward a plan for reshaping the railways to reflect the declining use of many lines, stations, and freight facilities (see Figures 9.2, 9.3, and 9.4). Published in 1963, the Beeching report led to a decade of closures and shrinkage. Between 1962 and 1973:

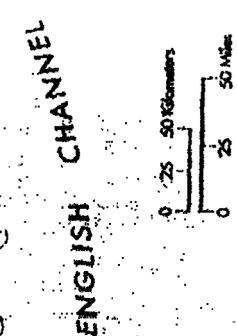
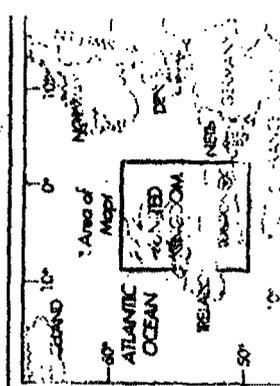
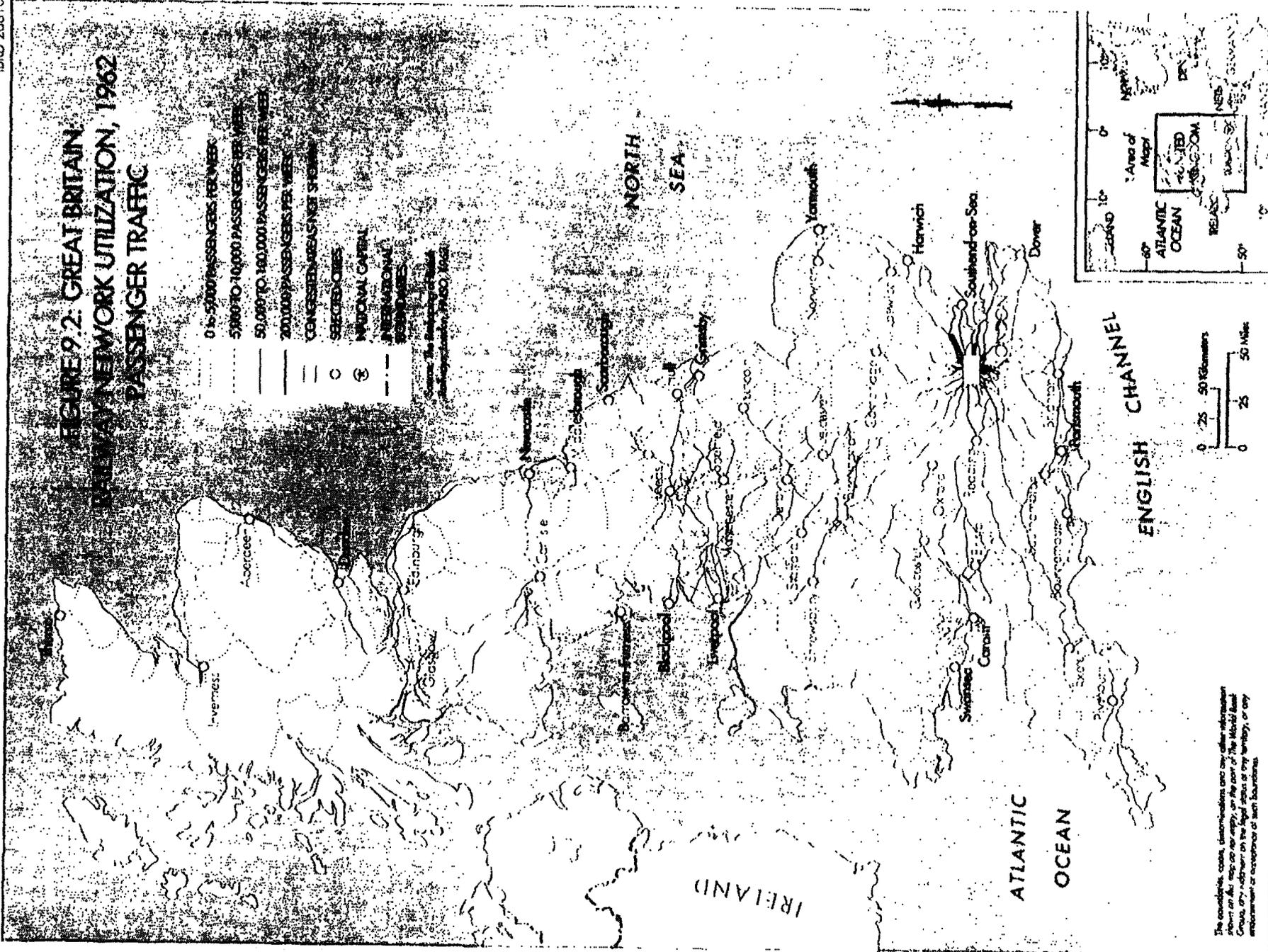
Figure 9.1 - Britain: Railway Investment at Constant Prices, 1948-91/92



**FIGURE 9.2: GREAT BRITAIN
RAILWAY NETWORK UTILIZATION, 1962
PASSENGER TRAFFIC**

- 0 to 50,000 PASSENGERS PER WEEK
- 50,000 TO 100,000 PASSENGERS PER WEEK
- 100,000 TO 150,000 PASSENGERS PER WEEK
- 150,000 TO 200,000 PASSENGERS PER WEEK
- 200,000 PASSENGERS PER WEEK
- CONGESTION AREAS NOT SHOWN
- SECTIONS
- ⊙ MEDICAL CAPITAL
- ⊕ INTERNATIONAL TERMINALS

Source: The Railway and Road
Transport Statistics, 1960/1961

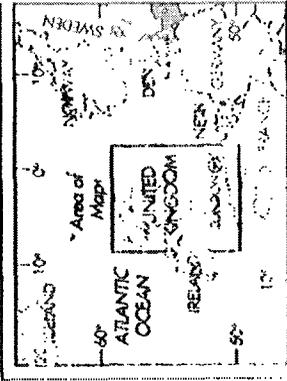
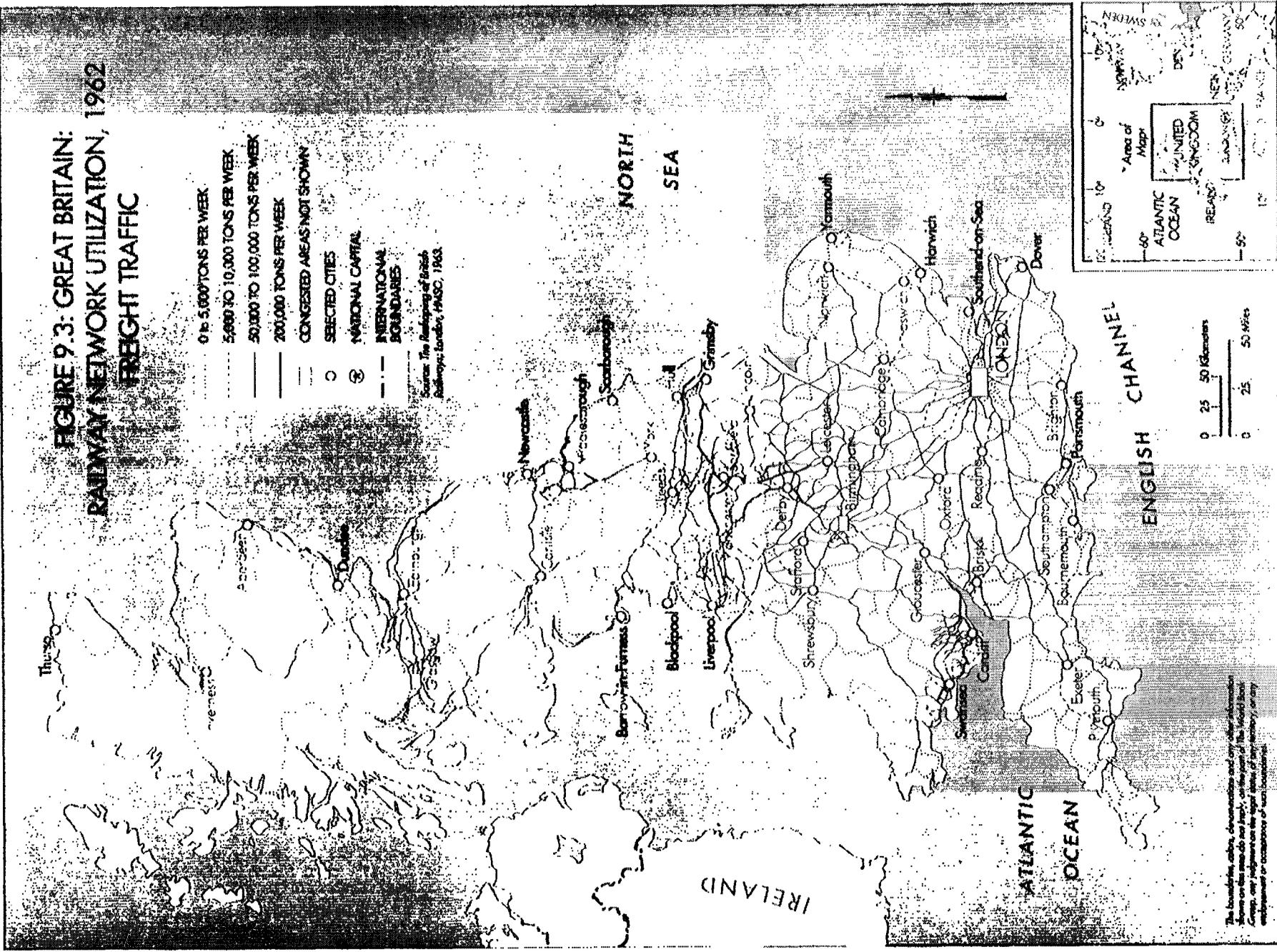


The coastlines, cities, towns, and other information shown on this map are not necessarily the property of the United States Government and are shown on the map as they appear on the ground or as they are shown on the ground or as they appear on the ground or as they appear on the ground.

**FIGURE 9.3: GREAT BRITAIN:
RAILWAY NETWORK UTILIZATION, 1962
FREIGHT TRAFFIC**

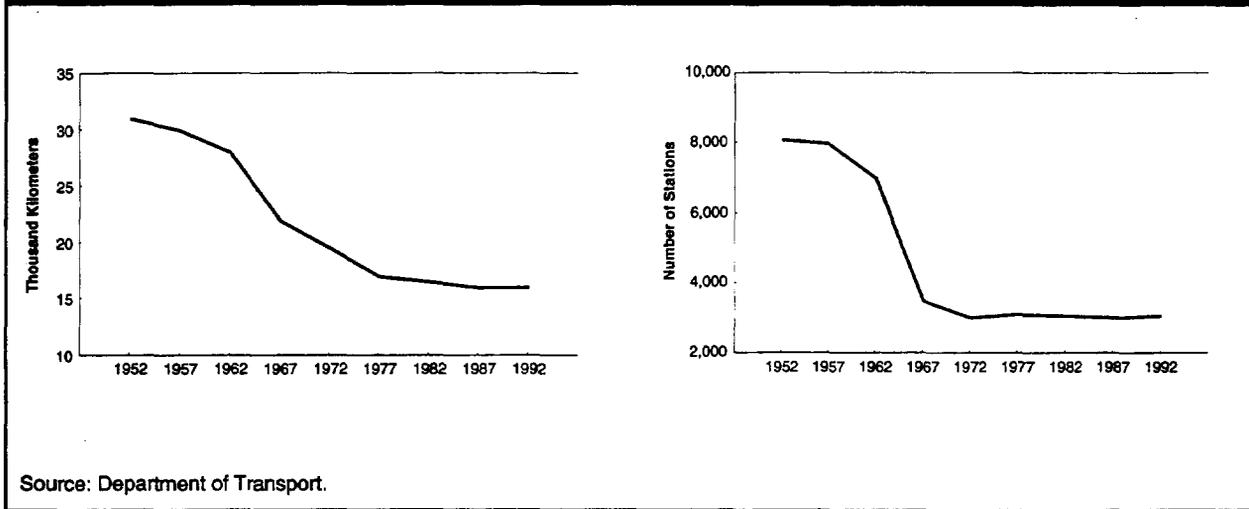
- 0 to 5,000 TONS PER WEEK
- 5,000 TO 10,000 TONS PER WEEK
- 50,000 TO 100,000 TONS PER WEEK
- 200,000 TONS PER WEEK
- CONGESTED AREAS NOT SHOWN
- SELECTED CITIES
- ⊙ NATIONAL CAPITAL
- INTERNATIONAL BOUNDARIES

Source: The Railways of Great Britain, HMSO, 1963.



The boundaries, names, designations and any other information shown on this map do not imply, on the part of the United States Government, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries.

Figure 9.4 - Britain: Railway Network Rationalization, 1952-91/92



- 45 percent of stations open to passengers were closed
- 90 percent of all freight stations and depots were closed
- 80 percent of marshaling yards were closed
- 30 percent of track open to passenger traffic was closed
- 40 percent of track open to freight traffic was closed
- the freight wagon fleet was reduced by 70 percent.

Beeching thus effectively defined Britain's current railway system and the rail network (Figure 9.5).

Rationalization and modernization of the railway asset base, together with continuing cost controls and productivity improvement programs, led to consistent and substantial reductions in total railway manpower — from over 470,000 employees in 1962 to 120,000 by 1993-94 — and to corresponding gains in productivity (see Figure 9.6). Total passenger traffic remained broadly stable, despite this reduction in the asset base and manpower of the railway, although the absolute levels of freight traffic continued to fall.

These improvements in productivity and reductions in the cost base did not, however, halt (still less reverse) the long-term decline in the railways' market share. From the beginning of the 1950s, when the railway accounted for about 20 percent of all passenger mileage and 40 percent of freight ton mileage, rail's market share had declined by the mid-1990s to about 6 percent (for both passenger and freight) (Figures 9.7 and 9.8). On the passenger side there is really only one explanation: the growth in private car ownership and use. For freight, the long-term decline in share reflects the falling output in traditional heavy industries such as coal and steel (where the railways have long had a substantial share of the market), together with the rapid growth in the distribution of light goods (which has always been overwhelmingly road-based).

Rising productivity and modernization thus proved insufficient in themselves to make the railways financially viable, although undoubtedly the position of British Rail would have become more dire had it not been for the improvements made by successive boards and railway managers through the four-and-a-half decades of national ownership. During this period bulk freight services have remained consistently profitable, albeit on a declining scale. However, intermodal freight has so far proved in Britain to be an altogether more difficult business for the railways to develop. On the passenger side, investment and operating expenses have been subsidized by successive governments, although the level of financial support, both for high speed Inter-City services and for London commuter services, has been kept low by continental European standards (the obverse of which is that passenger fare levels in Britain are relatively high).²

3. Organizational Structure of the British Railways Board

Under the British Railways Board, Britain's railways have been operated as a single, vertically integrated business, including track maintenance as well as train operations, passenger and freight services, and virtually the whole range of supporting activities, although in the period since 1980 certain "ancillary" activities have been sold to the private sector. These included hotels, ferry services, and a substantial rail vehicle manufacturing business.

Under the Board, the railway was organized on business sector lines, around train operating divisions, each of

² A condensed account of the background to nationalization, together with extensive treatment of the first 25 years of post-nationalization, can be found in T. R. Gourvish, *British Railways 1948-73: A Business History* (Cambridge University Press, 1986).

which addressed the service needs of a particular passenger or freight market (Figure 9.9). The passenger railway sectors included Inter-City (operating high speed interurban services), Network South-East (covering the extensive London commuting and feeder routes), and Regional Railways (operating local feeder and cross-country services in England, Scotland, and Wales). A new company, European Passenger Services, was established by the Board to operate high speed rail passenger services through the Channel Tunnel to France and Belgium. A further wholly owned company, Union Railways Ltd., had been established to build a dedicated, high-speed passenger rail line between London and the Channel Tunnel.

Freight services were operated by two national divisions: Trainload Freight and Rail freight Distribution. The former provided whole train, origin to destination services for bulk freight. It focused principally on the coal, steel, petroleum, and aggregates sectors. The latter operated some smaller and more diverse bulk freight services but focused primarily on the intermodal (containerized) market, under the name Freightliner. It was also charged with developing the new Channel Tunnel rail freight business.

These train operating businesses had been established, as far as practicable, as vertically integrated railway businesses. They had responsibility for the infrastructure that they used (track, depots, stations, and terminals) as well as for train operations. The passenger infrastructure (the bulk of the railway network) was assigned to the passenger business which was its principal user, while freight-specific infrastructure was the responsibility of Trainload Freight. Freightliner services operated mainly over passenger lines.

In addition, the Board operated two parcels businesses. One, Red Star, was effectively a parcels retailing and forwarding business that used spare space on passenger trains (Red Star operated no trains of its own). The other, Rail Express Systems, operated an extensive network of train services for the British Post Office.

Supporting these businesses was a large Central Services Division. This division provided diverse functions such as information technology, personnel, legal services, finance and accounting, research, and architectural design to the operating businesses. Other important divisions or wholly owned subsidiary companies included British Rail Maintenance Ltd. (a wholly owned company running the heavy locomotive and rolling stock maintenance activities), the Property Board (charged with managing and developing property assets), and British Rail Telecommunications Ltd. (a venture set up to provide communications services to the other railway businesses and to exploit the commercial potential of British Rail's network for telecommunications trunking).

This "sector-led" organization, which was in place in 1993-94, had only lately superseded a more traditional railway management structure in which activities were divided along geographical and functional lines. Under this previous organizational structure the "sectors" had existed purely as functional commercial and marketing units for a number of years.

With the implementation of the new structure came increased emphasis on internal and external trading, performance specification, and competitive supply procurement. However, the sector-led organization was not fully mature before privatization brought still more radical organizational change. In particular, most of the component businesses under the sector-led organization were managed as divisions of British Rail subject to central direction by the Board and were not incorporated.

Source: BR Annual Reports and Accounts.

Figure 9.6 - Britain: Railway Manpower and Productivity, 1970-80

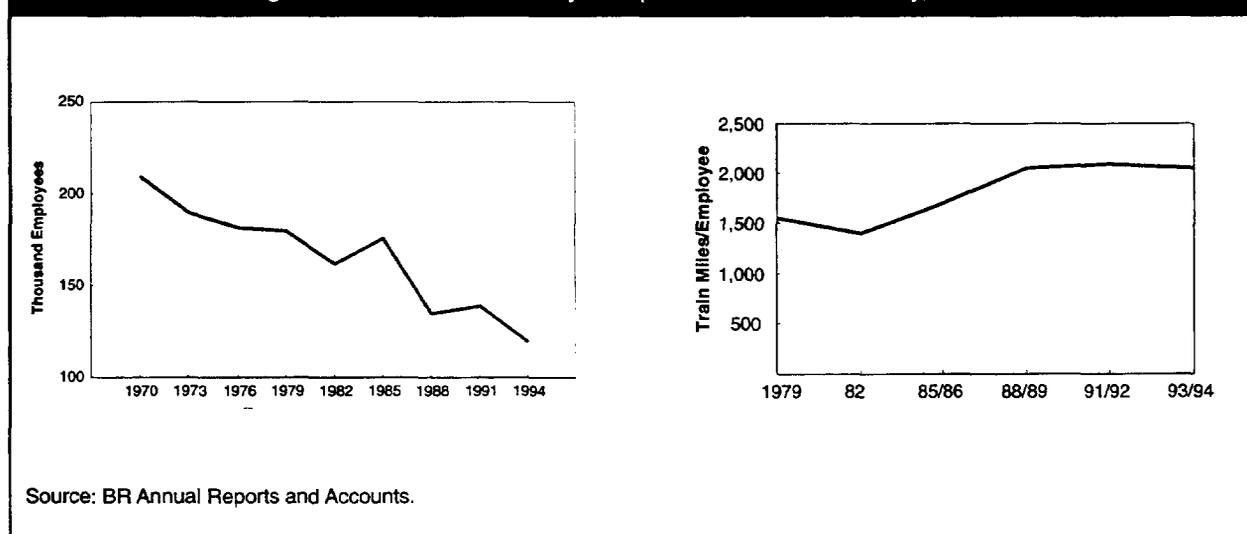
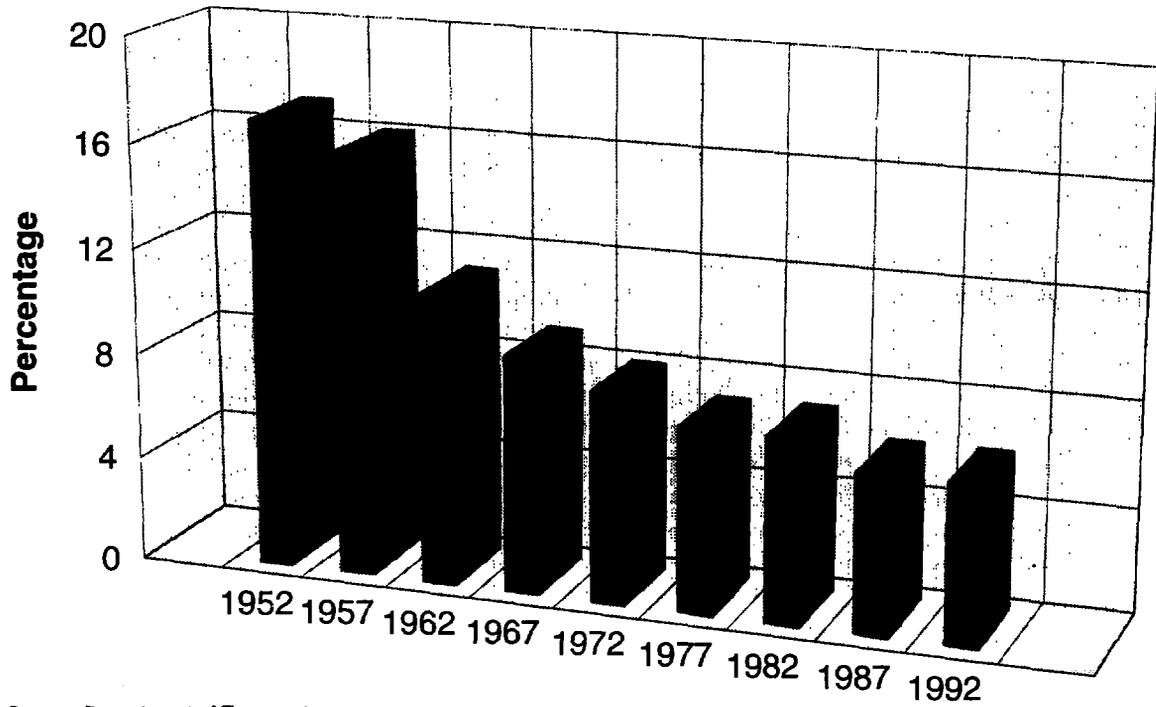
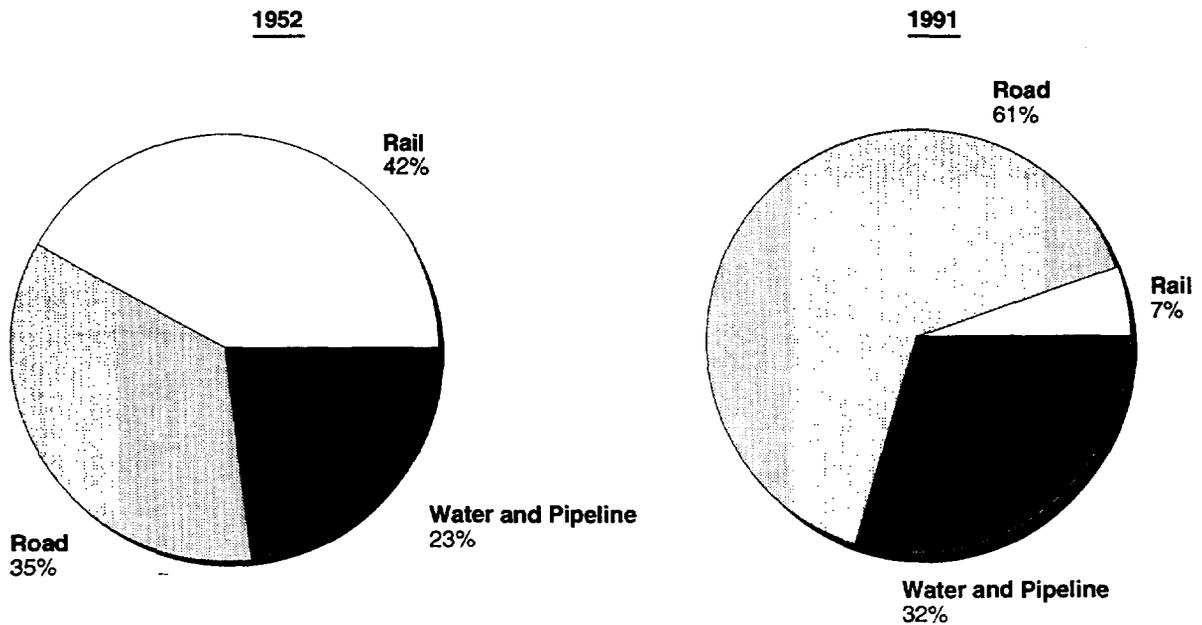


Figure 9.7 - Britain: Rail Market Share for Passenger Transport, 1952-92



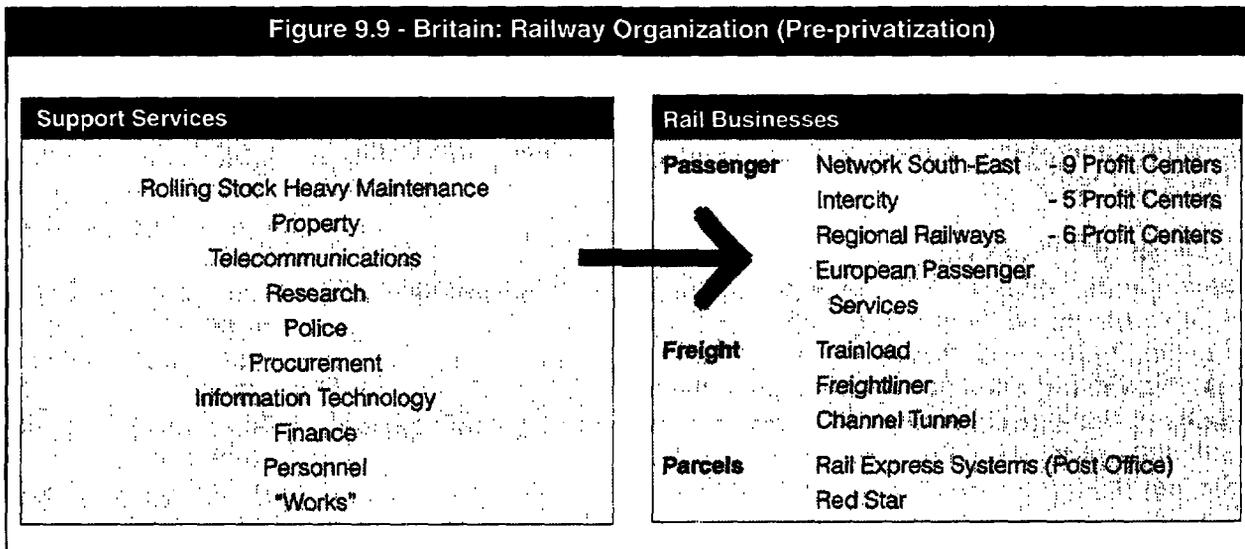
Source: Department of Transport.

Figure 9.8 - Britain: Rail Market Share for Freight Transport, 1952 and 1991



Source: Department of Transport

Figure 9.9 - Britain: Railway Organization (Pre-privatization)



4. Physical Attributes of British Rail

By 1993-94, British Rail operated a network of services extending over some 10,275 miles of route (23,450 track miles) (see Figure 9.5). A little over 1,350 of these route miles were freight only, 1,060 miles were passenger only, and the remainder were used for mixed passenger and freight traffic. Just over 2,500 passenger stations existed on the network.

Locomotives included 1,400 diesels and 260 electrics of varying types. Of these, just under 200 were high speed train (diesel) power units. In addition there were some 700 high speed train sets, 1,800 locomotive-hauled passenger coaches, a similar number of diesel multiple unit passenger train sets, and over 6,500 electric multiple units. The British Rail freight fleet included more than 13,000 cars. Half as many again privately owned cars operated on the system. Table 9.1 shows long-term trends in British Rail-owned assets.

In 1993-94 the railways carried over 700 million pas-

senger journeys, with an average distance of 25 miles. This statistic was heavily influenced by the high volume of commuting trips on Network South-East. Freight tonnage carried was just over 100 million, with an average haul length of just over 80 miles.

While London office workers would regard the railways as an essential (if not always welcome) part of their daily lives, the part now played by the railway in the life of the nation as a whole was much more limited than in the past. Trips by road accounted for nearly 95 percent of all passenger miles traveled in Great Britain in 1993, with only 5 percent being by rail. Surveys have revealed that a substantial proportion of the population of Britain — particularly people living outside the South-East commuting areas and other major conurbations — no longer uses the railways.

Turning to freight transport, the railways accounted in 1993 for 5 to 6 percent of total freight tonnage or ton-mileage, or a rather larger proportion if coastal shipping is omitted and one looks purely at inland transport. Again,

Table 9.1 - Britain: Trends in the Rail Asset Base, 1970-93/94

Assets	1970	1973	1976	1979	1982	1985/86	1988/89	1991/92	1993/94
Freight Cars	364,884	248,682	187,000	137,589	71,452	39,007	24,992	19,887	13,871
Coaches	25,186	23,344	22,373	21,496	17,628	16,164	14,258	12,925	11,802
Diesel Locos	4,176	3,639	3,380	3,397	2,947	2,535	2,117	1,831	1,625
Electric Locos	323	333	351	310	266	243	260	262	260
Stations	2,868	2,735	2,865	2,821	2,711	2,526	2,596	2,551	2,553

Source: BR Annual Reports and Accounts.

road was overwhelmingly the dominant mode, accounting for over 80 percent of ton mileage. However, this disguises the important qualification that rail, shipping, and pipelines are more important in the heavy bulk markets while road haulage has a virtual monopoly in the light goods and “distribution” markets.

5. Financial Performance

For the past 20 years, government support for uneconomic railway passenger services has been paid to the Board through a “Public Service Obligation” grant that has been determined in annual budget and public expenditure negotiations. This is not a targeted grant in the sense of being dedicated to particular passenger services or benchmarked to quantified outputs. However, Inter-City passenger services have been excluded from receiving the grant from 1988-89 onward, and over the past 10 years or more a consistent policy has been to reduce the operating subsidy to London commuter services, particularly as service quality was improved through new investment made during the 1980s. This has been achieved by implementing fare increases above the prevailing rate of inflation, by new investment and improvements in service quality, and through efficiency improvement (see Figure 9.6). During the 1970s and 1980s, more aggressive exploitation of railway commercial property assets, led by the British Rail Property Board and encouraged by successive governments, also played a significant part in improving railway finances and holding down the subsidy bill. Figure 9.10 shows trends in government support, measured as the total of government grants and loans. The increase seen in the figure starting in 1989-90 is partly attributable to the substantial investment undertaken to establish the Channel Tunnel passenger and freight operations.

In and around the largest cities outside London, urban and commuter services have been operated by the Board on behalf of groups of urban local authorities known as Passenger Transport Authorities (PTAs). The PTAs have a role in specifying service levels and other matters and pay separate grants to cover their operating deficits.

The British Railways Board has throughout been required by the government to operate its freight and parcels businesses commercially, without public subsidy.

In 1993-94, the last year of account for the unitary railway, total British Rail turnover, including government grants, exceeded £3.6 billion (US\$5.5 billion). Of this, central and local government grants amounted to just under £1.1 billion (US\$1.6 billion) in all. A broad analysis of results by sector was as follows:

Inter-City	Gross income £897 million (US\$1.3 billion) Operating profit £98 million (US\$149 million)
Network South-East	Gross income £1.1 billion (US\$1.7 billion), of which grant £372 million (US\$565 million)
Regional Railways	Gross income £817 million (US\$1.2 billion), of which grant £542 million (US\$824 million)
Trainload Freight	Gross income £432 million (US\$657 million) Operating profit £85 million (US\$129 million)
Rail Freight Distribution	Gross income £160 million (US\$242 million) Operating loss £62 million (US\$94 million)
Parcels Businesses	Gross income £78 million (US\$119 million) Operating loss £14 million (US\$21 million). ³

None of the railway passenger businesses earned a satisfactory commercial return after full allowance for capital charges, etc. Inter-City came closest, although the overall result conceals large variations in performance by route and time of day. Network South-East services had all of their capital investment requirements funded by government grant, although they more or less broke even on their operating expenses. Regional Railways Services were heavily subsidized, as in earlier years.

Overall, the bulk trainload freight business was profitable. However, both the intermodal (Rail Freight Distribution) and parcels businesses realized significant losses. Thus, within the Board’s “commercial” services significant cross-subsidies occurred — a pattern that had become established over a number of years.

Awareness of these financial fundamentals is of critical importance to understanding the policy that the British Government took in relation to privatization. The reality was that few, if any, railway passenger services were commercially viable. This situation became clear when proper accounting for reinvestment and full attribution of “common” costs and overheads was taken into account. Yet in

³ BR Annual Report and Accounts, 1993-94.

Britain, as in many other countries, the operation of a full network of high quality passenger rail services was regarded as an important social and political objective, which successive governments had reinforced through public subsidy.

On the freight and parcels side, although a standing objective for many years was that the British Railways Board should operate these services commercially without public subsidy, certain services were more profitable than others, and indeed some were loss-making. Thus the overall position of the freight business was dependent on extensive internal cross-subsidy. Although these services had not been directly supported by the taxpayers, strong public support existed for the policy of diverting more freight onto the railways and away from an increasingly crowded road network. The freight railway was widely perceived as having a significant and positive environmental role, notwithstanding the commercial remit set by the government.

PART II: THE RESTRUCTURING PROCESS

1. Railway Privatization: The Beginning

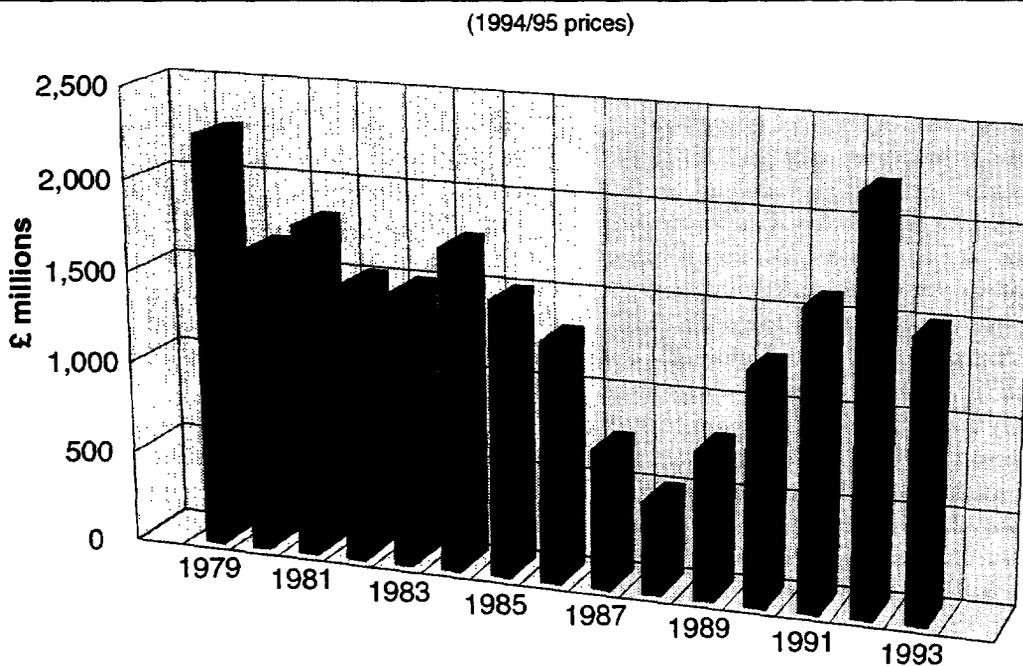
Although privatization had been a central tenet of the government's political philosophy and objectives since 1979

(when the present Conservative Government first came to power), privatization of railway activities languished behind other activities that had a higher priority. From an early stage, railway privatization had been viewed as a potentially difficult undertaking, which, if implemented naively or insensitively, could profoundly reshape the railways in ways that might not command public support.

Throughout the earlier years of the Conservative Government, railway policy had been focused primarily on achieving continued efficiency improvements measured in terms of the operating account, while a substantial capital investment program was in progress, essentially to replace a "bulge" of life-expired assets — the legacy of the rapid modernization that had taken place in the 1950s. During the 1980s, substantial re-equipment programs were implemented. These covered South-East and Regional Railways services and the London to Edinburgh (east coast main line) Inter-City route.

Privatization of the railways was first raised publicly as a policy objective by the then Secretary of State for Transport, Paul Channon, at the Conservative Party Conference in 1987. The policy was reaffirmed and fleshed out five years later, in the Conservative Party's 1992 Election Manifesto:

Figure 9.10 - Britain: Government Financial Support to Railways (Grants and Loans), 1979-93/94



Source: Department of Transport.

We believe that the best way to produce profound and lasting improvements on the railways is to end BR's state monopoly. We want to restore the pride and local commitment that died with nationalization. We want to give the private sector the opportunity to operate existing rail services and introduce new ones, for both passengers and freight.

A significant number of companies have already said that they want to introduce new railway services as soon as the monopoly is ended. We will give them that chance.

Our plans for the railways are designed to bring better services for all passengers as rapidly as possible. We believe that franchising provides the best way of achieving that long term; as performance improves and services become more commercially attractive as a result of bringing in private sector disciplines, it will make sense to consider whether some services can be sold outright.

A great deal of water had passed under the bridge in the period between the initial and what proved to be the final government commitment to railway privatization.

There was no one, simple reason why the issue of railway privatization came to a head at the time that it did. It might be inferred from the tone of the Election Manifesto that nationalization of the railways was perceived as a "failure." Undoubtedly, that viewpoint had its political adherents, spurred on perhaps by frustration with the fact that considerable public investment in British Rail had failed to remove it from the strong light of media criticism.

More important, privatization was undoubtedly viewed by the government as a considerable success story. In other sectors of the economy it had delivered benefits to investors and consumers and was popular with the electorate. Privatization had already transformed and revitalized other businesses within the transport sector, including British Airways, the British Airports Authority, bus companies, and ports. It is probably fair to say that successive privatizations had created a policy bias in its favor. The burden of proof had been reversed: each business still in public ownership needed very good reasons to stay that way. Perhaps British Rail remained nationalized as long as it did not because state ownership was either necessary or inevitable but simply because no one had been able to think of a satisfactory way of privatizing it. Thus privatization slowly and imperceptibly moved from being an idea that was not really associated with railways to an idea that was biding its time until the right solution would emerge.

While it would be wrong to attach too much weight to this idea, there are grounds for believing that a subtle but significant shift in public attitudes toward the railways had

also taken place. Undoubtedly, the railways had become progressively less important to an increasing number of people in terms of their impact on daily lives. While service quality had begun to improve, the railways had acquired an unfortunate reputation as a standing butt of public criticism and black humor. Perhaps rising service standards and consumer expectations in other fields had made the British public more impatient with the railways' shortcomings. Perhaps this attitude was the by-product of the difficulties that the railways have experienced in trying to keep up with the luxury of the private car.

Public disaffection with the railways, then, was doubtless seen as attributable to the shortcomings of railway management and operation. Supporters of privatization felt that, notwithstanding the substantial reductions in manpower achieved under the nationalized structure, the railways remained heavily overmanned. From the experience gained in other sectors, privatization was viewed as potentially beneficial to railway users and taxpayers alike. Private sector operation of the railways would relieve railway managers from the constraints binding nationalized industries (although the ongoing need for subsidy would not permit a "hands off" relationship between the government and the railways even after privatization). Private sector management would increase productivity, would improve value for money, and would adopt a more enterprising and conscientious approach to pleasing the customer. All of these factors formed the backdrop against which the British Rail privatization was first conceived.

2. Development of Railway Privatization Policy

The government's detailed proposals as to how privatization would be effected were published in July 1992, after the General Election. In between the first public, political reference to privatization and the publication of this policy statement, extensive deliberation took place within the Department of Transport. This deliberation was driven principally by the search for that elusive railway commodity, financial viability.

Detailed viability analysis of railway operations is a complex and rather judgmental undertaking. Railway operations typically involve shared or "common" costs as well as fixed costs that are insensitive to output level. The cost associated with track use is a notable example. Main line infrastructure is provided in common for a wide range of operations including both passenger and freight. Particular costs may be attributable to individual flows, but many are typically unattributable (in any precise and scientific way) below the flow or even the sector level. Many of these costs are also largely fixed — at least until substantial step changes in output levels are considered.

Within the operations account of a large unitary rail-

way, a high level of cost sharing and cross-subsidy typically takes place between one service and another. For example, train crews may work for more than one passenger sector, or in some cases on both passenger and freight traffic. Locomotives, similarly, are used for different duties. Within a particular passenger schedule, peak hour services may amply recover their operating costs from fare income, while off-peak services within the same “group” may generate significant operating losses. Even *identifying* the revenue base associated with specific services may be difficult, given the “open” nature of most passenger tickets and the network complications caused by passenger trips that entail one or more changes of train.

While revenue attribution is generally more straightforward for freight operations, market strength and consequently operating economics vary widely between flows or flow groups — in some cases even within a single customer portfolio. No fixed or universal relationship exists between the structure of costs and the structure of revenues, and financial performance varies widely.

Thus, the operation of the railway as a whole depends on a complex web of operational and financial synergies between different services. A railway with a number of independent operators and no (or limited) cross-subsidy could appear quite different from the existing railway.

As a preface to privatization, the Department of Transport had first to consider the viability of the railway passenger businesses. On the freight side, all elements of which would stand on their own after privatization, the performance of the bulk (trainload) freight business had to be analyzed at the movement level of detail. A zero-based network simulation analysis was undertaken for the intermodal freight business, in which operational synergies were significant.

In some cases new analytic approaches had to be developed and agreed upon for tackling the cost attribution issues noted above, so that the end result would be a line of business profit and loss analysis that was as comprehensive and “accurate” as possible. A major study was also undertaken of infrastructure cost causation and attribution, covering both passenger and freight operations; this effort helped to underpin the later establishment of a separate track authority. Different (but compatible) approaches had to be devised to reflect the economic characteristics of commercial freight services on the one hand and the subsidized passenger services on the other. These approaches had to allow for full economic cost recovery for infrastructure, including reinvestment cost, without pricing traffic off the railway. A summarized account of the proposed track charging regime is given in Appendix 1.

In addition to looking at the railway’s cost and revenue base, the Department and the Board made judgments

of the potential efficiency gains that might be realized as a result of post-privatization efficiency improvement, and of the future investment requirements of the various businesses, in order to estimate their longer-term prospects.

Against this background, the privatization policy was debated and tested from every angle. Would privatization improve services to passengers and freight customers? How? Might it instead lead to reductions in services? Would a privately owned railway simply become a private monopoly, or could competition be introduced? And how could competition be made to work fairly and effectively in the rail environment? What would persuade potential investors to take on businesses that had not previously appealed to shareholders and that in many cases were dependent on state subsidy? To what sort of investors would this kind of business appeal? How could it be ascertained that new investment would be made and proper maintenance carried out? What would be needed to ensure continued, safe operation of the railway? What would happen to aspects of railway operations that required a corporatist, “common good” approach, such as arrangements for through ticketing or standardization of equipment? How could these be maintained if the railway were sub-divided? How could the interests of the taxpayer be protected, given that the railway would not only continue to require subsidies, but that, in order to attract private investors, total public funding would have to rise to levels necessary to ensure adequate returns on capital? Would the longer-term savings achieved through privatization outweigh the new element for private profit in the railway accounts?

Answering these questions was not straightforward, partly because of the complexity of the financial viability issues and partly because of the numerous and difficult to reconcile policy objectives and viewpoints. For a better understanding of the dimensions of the task faced by those developing a railway privatization policy, it is perhaps easiest to consider each of the main business divisions of the railway in turn.

The account that follows is neither strictly sequential nor exhaustive. For the sake of clarity, the main elements of the policy formulation process are described separately and the various strands are traced through. In practice, many blind alleys were explored and particular issues debated, set aside, revisited, and debated over again.

3. The Rail Freight Business

On the freight side it was determined early on that the policy should be both to privatize the activity outright and to introduce a degree of competition, the lack of which gave rise to criticism on the part of the railway’s commercial customers. Policy within the European Community had already moved toward the adoption of a “liberalized ac-

cess" policy for European railway networks, particularly (though not exclusively) for freight services, with the adoption of EC Directive 440 in 1991. The Ministers' disposition was that Britain should move further and more rapidly along the liberalization path, with competition built into the restructuring design wherever possible.

A detailed movement flow and group flow analysis of the bulk trainload freight business revealed considerable variations in financial performance across and within the "core" business portfolio of the railway. Overall, the picture that emerged was that of a business clearly capable of generating cash but one in need of significant improvements in productivity to remain competitive with road haulage, to expand, and to generate profits sufficient to fund reinvestment.

The main rail bulk commodity groupings in Britain are coal, steel (and related products), petroleum, and construction products (principally aggregates) (Figure 9.11). British Rail had operated the bulk freight business as a single national entity. Marketing sub-divisions of the single enterprise were organized around these four commodity groupings.

Since the early 1960s, when coal was largely phased out as a domestic heating fuel, the market for coal had centered on large volume deliveries to power stations and to very large industrial consumers, such as British Steel. Power station flows in particular typically involved short hauls with regular cycle times between two points. This led to the development of the so-called "merry-go-round" operation, with automated, "in motion" loading and discharge

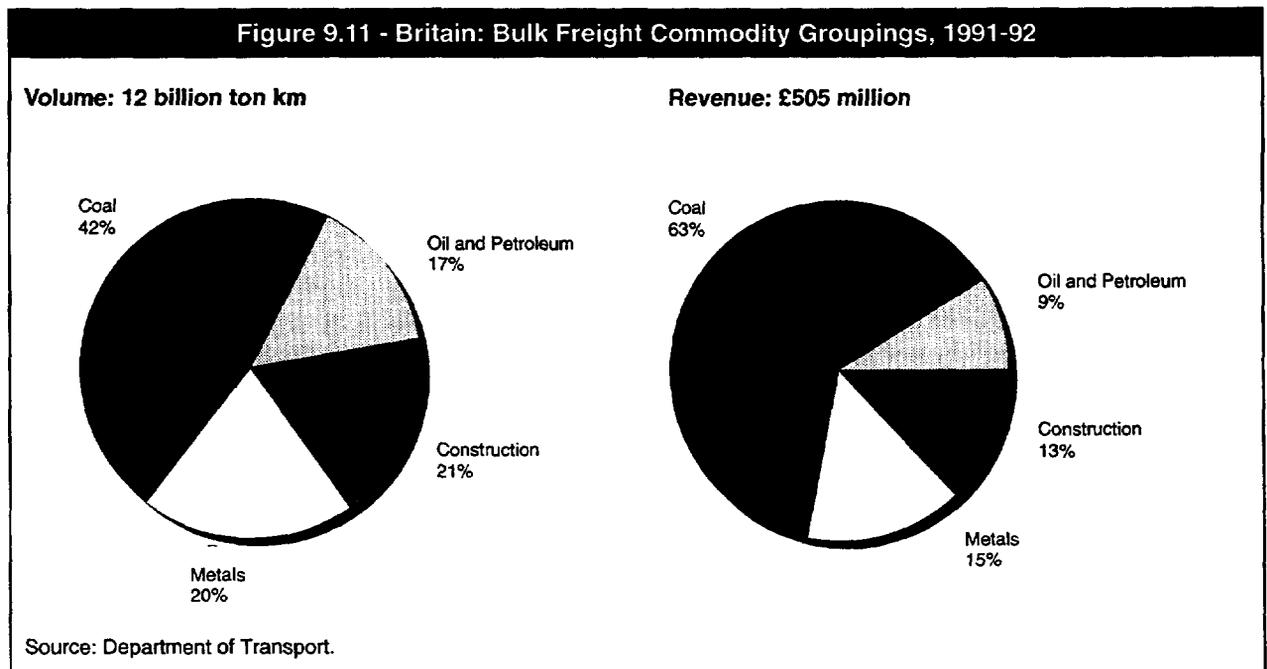
of rail cars. Within the steel group, bulk iron ore deliveries to steelworks from coastal terminals had broadly similar characteristics.

This type of business was relatively easy to serve and was commercially profitable. With high annual flow volumes and large shipment lot sizes, it was also judged to be relatively safe from road haul competition. However as railway privatization policy developed, it became increasingly clear that the power generating industry was becoming significantly less dependent on coal. Coal burning capacity was being displaced by the construction of relatively small, inexpensive, and flexible gas-fired power stations, which were highly cost-competitive and less polluting. Between 1992 and 1994, coal traffic carried by rail dropped by a third.

Conversely, flows in the intermediate and finished steel, petroleum, and aggregates sectors involved longer hauls, lower annual volume, and more widely dispersed and less predictable origins and destinations. These types of businesses were more difficult to serve and more dependent on scope economies (such as the operation of multiple freight flows from common locomotive depots). They had a more variable financial performance and were inherently more vulnerable to competition from road haulers.

For many years the railway freight business had been losing ground to road transport. In absolute terms, and ignoring recent changes in the coal market, rail market decline had been gradual. However, the growth in total freight market had been quite steep. Virtually all of this incremental market had been captured by road rather than

Figure 9.11 - Britain: Bulk Freight Commodity Groupings, 1991-92



rail. Public concerns, aroused by environmental issues and the inconvenience of the growing congestion on major roads and motorways, focused increasingly on shifting more freight to the railways.

A detailed analysis of the Trainload Freight business indicated that no significant market shift was likely to take place unless a way could be found to engineer radical change in the business. “Breakthrough” improvements in efficiency would have to be achieved rapidly to counter deteriorating rail competitiveness and to offer a realistic prospect of developing new markets.

While privatization itself might be expected to drive the business toward greater productivity, the analysis added weight to the case for going further and allowing open entry and competition in parallel with privatization. Notice was taken, for example, of the experience of the “short line” operations in the United States, where smaller scale, independent operators had made a success of businesses that the major railroads had written off as unviable. In principle, on-rail competition could come either from attracting new entrants to the business (“open access”) or from splitting up the existing Trainload Freight business into competing companies. The *threat* of competition alone was expected to have beneficial effects on efficiency.

From the outset, ministers were keen to allow open access and to encourage it. Indeed, in 1991 (long before the privatization policy White Paper) the then Secretary of State, Malcolm Rifkind, encouraged the British Railways Board to facilitate open access, although it was recognized that new legislation was needed to clarify some potential difficulties, such as aspects of legal liability.

Open access was seen as particularly desirable since new entrants would by definition not be encumbered with the manning and operating practices developed over nearly half a century of public ownership and could be expected to inject a “breath of fresh air” into the industry, thus stimulating widespread efficiency gains through demonstration and emulation.

However, persuasive reasons also existed for not regarding the liberalization of access to the railway network as sufficient to guarantee the development of effective on-rail competition. New entrants might be deterred by the dominance of a single, very large, national bulk freight operator if British Rail’s Trainload Freight business were to be sold as it then stood. The natural barriers to entry into the rail freight business are quite significant; they arise from the basic business characteristics discussed earlier, such as high capital requirements and long asset lives, and volatility in the freight markets. There were other deterrents as well, such as the specialized training and technical knowledge required to operate trains safely on a network

that is not protected by fully automated train control systems — training and technical knowledge that for over 40 years had been the exclusive domain of British Rail.

The policy eventually adopted was therefore a combination of liberalization, privatization, and restructuring of the existing Trainload Freight business into independent, competing entities. A substantial aspect of the analytic and preparatory task was to determine how best to achieve this split. Care was needed — not least in view of the marginal financial state of significant parts of the business and its extensive dependence on internal cost sharing and cross-subsidy. The government certainly did not wish to precipitate a substantial diversion of traffic from rail to road.

A new, initially geographically based, structure was developed that respected the essentially geographic production basis on which the railway operated (it was built up from local traction and train crew depots around the country). The effort to strike a balance between ensuring competition and protecting financial viability led to a three company division of assets and focused on concentrations of key customers and flow groups. One company, eventually renamed Loadhaul, was based in the North-East of England, historically a center of coal mining, power generation, and steel-making. Another, called Mainline, was based in the South-East but also included the important East Midlands coalfields. The third, Transrail, was given a much larger area, extending from the South-West of England up to and including the whole of Scotland, taking in Wales and the West of England on the way. This company was less active in the coal market and had a higher proportion of the lower volume, longer haul type movements of bulk commodities.

While these companies began by being geographically based, they also operated trains and served customer transport needs outside their own areas. The government’s policy document *Rail Freight Privatization: The Government’s Proposals*, published in May 1993, stated that “of 11,600 track miles carrying trainload freight at present, more than half will carry trains operated by more than one company and nearly a quarter by all three.” Therefore, the splitting up of Trainload Freight was done in a way that created three new national bulk freight businesses, each with a mixed and mutually competitive portfolio of traffic — not three regional monopolies or three narrow subsector specialists.

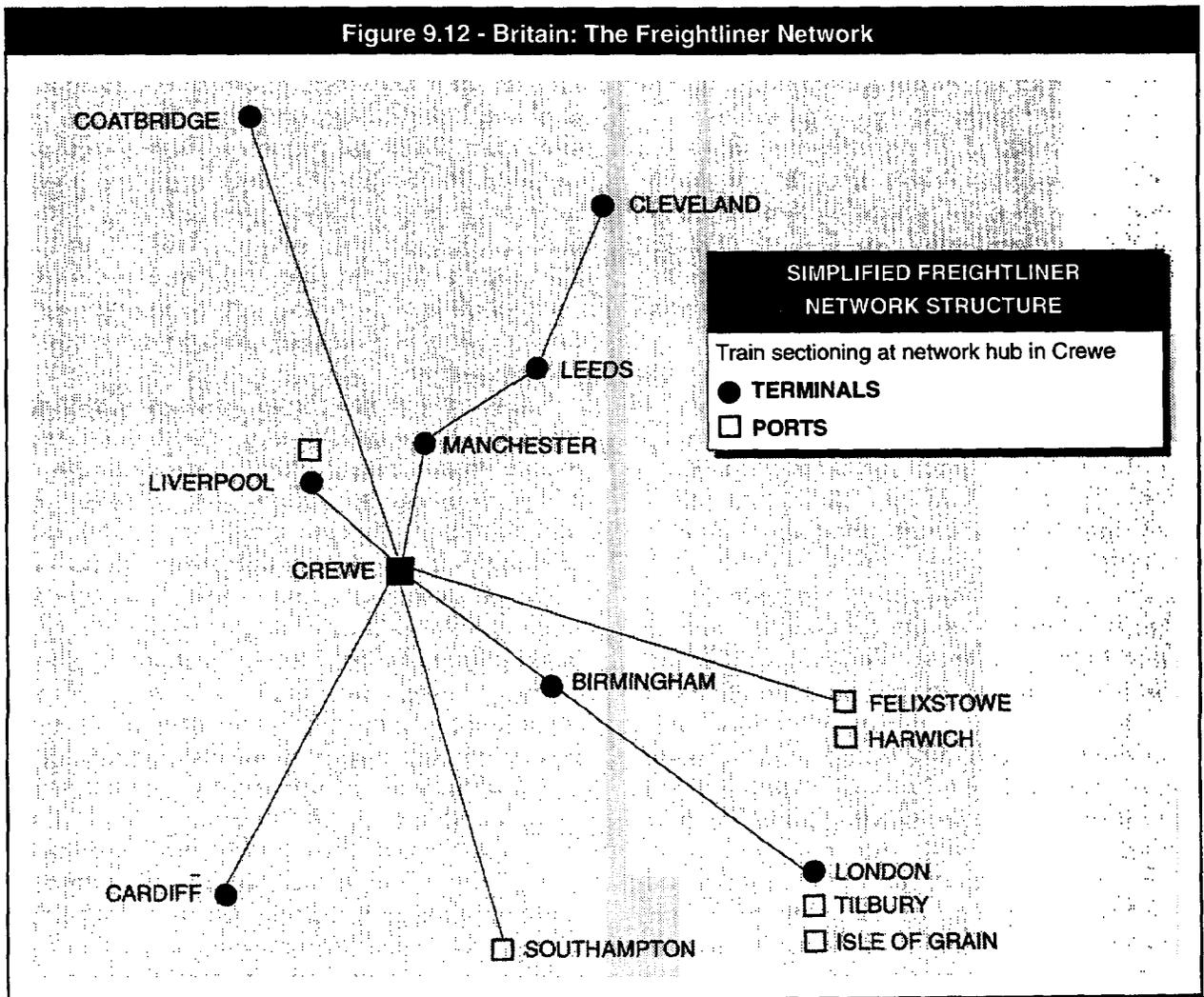
To facilitate and protect competition it was important that the new freight companies should not be given the opportunity to create “ransom territories” by locking in customers whose facilities were located on spur lines or sidings that a single carrier accessed exclusively. Full vertical integration of the rail freight businesses was never an option in any case in Britain, given the dominance of the

passenger railway on the network. Early in the process it was determined that freight-specific infrastructure such as freight only spur lines and sidings should be owned by the new track authority, Railtrack. Competitive use of these facilities would be protected through regulated "access agreements." Fueling points, essential to the day-to-day operation of train services, were also made subject to open access in order to facilitate future competition.

A balance needed to be struck between, on the one hand, giving the three new companies a proper asset base with which to continue their operations and the corresponding "ownership and control" over the asset base, and, on the other hand, providing a liberalized, competitive framework and competitive access via third party tracks. In addition to locomotives, rail cars, personnel, and offices, etc., each company was allocated an appropriate share of existing train crew depots, light maintenance depots for wagons and locomotives, and switching yards (although these last were made subject to the open access regime).

A policy decision to give the new companies responsibility for the operation of so-called engineers' trains (delivering materials and supplies for track maintenance and renewals work) significantly boosted the total portfolio and asset base of all three businesses. In addition, some bulk freight flows that had been operated within another division of British Rail (Railfreight Distribution) were transferred to the trainload freight side.

A separate analysis was conducted of the established rail intermodal (containerized) freight business, Freightliner. Freightliner operated a national network of services principally in the ocean container market — the distribution of ISO containers between inland terminals and coastal ports, with an operational hub at Crewe, in the North-West of England (Figure 9.12). The sharing of terminals and (to some extent) trains led to more extensive interdependencies between flows than existed in the bulk trainload freight businesses. Therefore, operational viability had to be analyzed with the help of a zero-base network



simulation, to establish the “value added” of each incremental terminal or terminal pair and each additional leg of the network. The conclusion was that Freightliner could not viably be sub-divided and should be transferred to the private sector as a single business.

Rail Express Systems was another national operator, running a nationwide network of train services for the British Post Office. These included both unmanned mail vans and the famous traveling Post Office trains, on which late mail is sorted overnight for early next day delivery in major towns and cities. Plans to privatize Rail Express Systems were given a substantial impetus by the Post Office, which demonstrated its future commitment to the railway by entering into a new 10-year contract and by investing in a new London mail sorting center and a number of new train sets, amounting to around £100 million in all.

Another business earmarked for separate sale was Red Star. This was in effect a parcels retailing and forwarding business. Red Star used spare space on Inter-City passenger trains for delivery between major centers. It also contracted with road courier services for door-to-door deliveries. A statistical summary of the main rail freight and parcels businesses, as they appeared in mid 1994, is given in Appendix 2.

4. The Railway Passenger Business

The issues confronting those developing the concept of passenger service privatization were in some ways profoundly dissimilar to those raised by the sale of the railway freight business. Franchising was the concept that eventually came to the fore, but the path to franchising proved lengthy and entailed the creation of a separate track authority along the way.

On the freight side, privatization and liberalization seemed to be the natural extrapolation of the government’s existing commercial policy, although the application of the policy involved extensive refinement because of the uneven financial performance of the businesses and the overriding objective to keep freight off the roads.

By contrast, on the passenger side, it might be fair to observe that “the devil was in the concept” as much as in the detail. Far from assuming that railway passenger services should be operated against commercial objectives, the accepted policy of governments of all political persuasions for decades had been that the passenger railway existed as much to fulfill broader social and economic objectives as to make money — which, in any case, it had signally failed to do.

While the Conservative Party’s Election Manifesto of 1992 could suggest a long-term aspiration that privatization would bring about improvement in efficiency and that this

might put at least parts of the passenger railway on a commercial footing, a significant projected financial viability gap remained in the case of Inter-City services. This was the case even after allowing for some financial restructuring to take account of underfunded investment requirements. For Network South-East (predominantly London commuter services) and Regional Railways, a substantial profit shortfall was projected, although in the case of the former some individual service groups were close to financial viability.

Further surgery of the sort which Dr. Beeching had performed on BR in the 1960s did not offer a viable solution to this problem. Not only did it pose the risk that privatization would founder on the rocks of political discontent, but the available operations analysis suggested that radical downsizing offered no certainty that financial viability would be attained. One of the lessons that can be drawn from railway restructuring is that it is easier to shed traffic and revenues than it is to escape costs. What has been termed “the search for the profitable core” can become a wild goose chase.

From the outset, the government took it as axiomatic that privatization should offer *improvements* in the quality, variety, and value of services offered to the traveling public, as it was perceived to have done in other industries — and, indeed, elsewhere within the transport sector. It followed, then, that the first step toward privatization could not take the form of substantial service cuts or massive fare increases. From this it followed in turn that a substantial measure of government subsidy for passenger services would have to be offered indefinitely after privatization, just as during the decades of public ownership. Nor was there any significant part of the passenger railway that could be excluded from subsidy. While this had recently been done for Inter-City services while they were under British Rail (as was noted earlier), a detailed commercial viability analysis indicated that Inter-City as a whole would require substantially more than its fare box income in order to achieve returns that private investors would regard as acceptable, while providing satisfactorily for reinvestment.

Moreover, sector results concealed wide variations in the financial performance of individual services or service groups for passenger services, just as for freight. Thus, peak hour Inter-City trains from London to Edinburgh might be commercially viable, while services beyond Edinburgh and off-peak services on the same route might be loss-making. A similar (or worse) picture obtained in the case of many other Inter-City routes, while the picture for many Network South-East and Regional Railways services was starker, as was indicated above.

As has been noted, for some 20 years the principal tranche of public support for the passenger railway had

been paid to British Rail as a single sum. Subsidies had not been targeted for specific services. The understanding on which the support was provided was that British Rail would, in return for public funding, operate a network of services "broadly comparable" to that which they had operated in 1974, when this form of Public Service Obligation was first devised and imposed. Admittedly, over the years, changes had taken place in the nature of the obligation, most notably the exclusion of Inter-City services from grants, effective from 1988-89. However, these changes had been peripheral, and the system of support continued to afford a high degree of flexibility in which particular services could be introduced or withdrawn as market and financial factors dictated. From the conclusion that a substantial level of financial support would have to continue after privatization, it followed that this established system for paying grants needed to be radically reformed to fit into the new environment.

As a publicly owned corporation, British Rail could broadly be relied upon to balance efficiency improvements and improved financial performance against the public and political expectation that the passenger railway would not change radically from one year to the next. In that context, a somewhat loose understanding was possible of what was being purchased in return for the Public Service Obligation grant, and, indeed, this arrangement proved remarkably durable.

Let us take the example of the London to Scotland Inter-City services cited above and change the context to the extent of postulating a private company as owner/operator in place of a nationalized industry. In the absence of specific prohibitions, such a private operator would be motivated to trim or withdraw loss-making services extending into more sparsely populated areas, or services in off-peak hours, or at night, to the extent that the bottom line of the business could be improved. Such commercial freedom was diametrically opposed to the underlying ethos which defined the relationship between the government and the railway. As part of this ethos, the Public Service Obligation grant was paid in order to facilitate and protect the operation of loss-making but socially or economically desirable passenger services while maintaining an "acceptable" level of operational flexibility. The implications were that the grant regime for a privatized railway and the obligations associated with it would have to be explicit and specific. The process of annual planning and determination of service levels would have to be more tightly directed for the privatized railway than it was under nationalization.

The same considerations also had profound implications for liberalization and competition in passenger railway operations. Let us take again the example of the Lon-

don to Edinburgh Inter-City services. If we suppose that a policy of open access was adopted, paralleling that already described for freight services, new commercial operators would thus have the right to introduce new passenger services that would be operated on a purely commercial basis (that is, without subsidy). If we assume that a pattern of services could be devised that was profitable and that required no subsidy, open entry to the business would have the effect of "cherry-picking" on pre-existing businesses. That is, a new service pattern could be introduced that would redirect traffic from existing services, at the most profitable times of day and over the most profitable sections of route.

Supporters of *laissez-faire* might welcome such a development as promoting a more efficient allocation of resources. However, the government did not regard provision of railway passenger services as a matter that could be left entirely to the market. Given the underlying requirement that loss-making but socially desirable services would continue to be supported through public subsidy, unfettered entry to the market by commercial operators posed substantial practical difficulties. For example, the process of planning train services over a crowded, high-speed railway network is technically not amenable to constant "churning." Moreover, the intrinsic economics were such that the overall public subsidy bill could easily be increased as a consequence of the introduction of new commercial services — an outcome difficult to defend in public interest terms.

The issue of competition and how it could be accommodated proved to be one of the most difficult questions that arose during the development of privatization policy on the passenger side. Its implications extended beyond passenger railway operations per se and affected, for example, the eventual decision to separate train operations from the provision of railway infrastructure — certainly one of the "biggest" decisions of the entire policy formulation process. This is not to imply that the policy debate was always framed in terms of how much competition would result from specific restructuring options and in what form. Rather, it was a leitmotif that constantly surfaced and evolved through different forms.

A desire for improved customer service, which a more competitive environment could be expected to deliver, meant that the option of simply privatizing the passenger railway as a single, vertically integrated entity (in effect, a private sector mirror image of British Rail without freight) was dismissed at an early stage. This option was perceived as perpetuating the rail monopoly, albeit in a private sector form. Such an entity would be challenged to innovate and respond to passenger needs only by the competitive pres-

tures arising from other modes of transport. Substantial though it was and is, intermodal competition did not ensure the kinds of benefits to consumers that Ministers wanted privatization to yield. And it would also have been extremely difficult to fix a defensible level of subsidy for a single private sector owner in perpetuity.

While these were unquestionably the main reasons for rejecting unitary privatization, such a structure was also seen as raising questions about the relative positions of the privatized freight companies and the would-be open access freight operators that would be confronted by a huge private corporation that would own and control the whole of the railway network but with a commercial interest focused entirely on the operation of passenger services. That prospect offered little comfort for the successful privatization or future development of existing freight operations, or for the aspiration to expand the size and role of the freight railway.

Railway history afforded another broad option for consideration — namely, the sub-division of British Rail to recreate vertically integrated regional railways resembling the pre-nationalization companies — the Great Western, the Southern, the London, Midland & Scottish, and the London & North Eastern. It was accepted that this would amount to the creation of regional railway monopolies in place of the current national monopoly. With this scenario, only in limited cases would it have been practicable for passengers to choose between two or more regional companies for an individual journey. Nevertheless, this alternative structure could have provided competition by emulation. Railway managers and employees in one company might vie with others to offer the best quality services.

Still, the idea of competition by emulation had its detractors. The view that the re-creation of the old, vertically integrated regional railways would suffice to stimulate innovation was not universally shared. Moreover, this idea posed significant practical difficulties. The trip patterns of railway passengers and the patterns of railway passenger services had changed significantly since nationalization. While a substantial volume of railway services was still organized in a radial pattern with London as the principal hub, many new cross-country passenger services had developed that did not fit within the pre-1948 network parameters. The same point applied with greater force to freight services, for which the east-west axis had become as important as the north-south. Confronting the operators of cross-border passenger or freight services with the need to negotiate access and train paths with two or more large private sector network owners/operators, focused primarily on their own passenger service portfolios, was no more attractive than the private monopoly option described above.

Nor did splitting up the railway on this model solve the vexing question of subsidy. Investors purchasing large regional railways would also need assurance about future levels of subsidy (running possibly indefinitely into the future) — a requirement that any government would find difficult to satisfy.

Last but not least, there was the issue of how and to whom such companies could be sold. Had the private monopoly prevailed in the final analysis, one answer would have appeared appropriate — public flotation. The massive turnover and asset base of such a company put it well beyond feasibility for a trade sale and made a management buyout even less likely.

Latter day reincarnations of the old regional railway companies would also be too large to appeal to any but the most substantial strategic investor. Therefore, the preferred option for effecting the privatization would again be flotation. However, despite the loyal army of railway enthusiasts whose nostalgia for the days of “God’s Wonderful Railway” (as the Great Western Railway company was colloquially known) was boundless, the appetite of the general public for a series of railway share offers might prove limited. Compounding this problem, it was found difficult to design the boundaries and portfolios of modern regional railway companies in a manner that did not leave some railway companies looking distinctly less attractive than others from a conventional investor’s viewpoint.

This situation left a range of options based substantially on the sector-led organization of the railway that British Rail had begun to develop. Few stones were left unturned among the variants that were considered, and views evolved significantly as time went on.

The objective of effective competition left its mark on the development of restructuring policy as well. While it was accepted that unbridled liberalization would destabilize railway operations and endanger the satisfactory operation of public subsidy regimes, the search continued for ways of promoting competition. This concern was motivated by a desire to release competitive pressures for service improvement and by the continuing need to protect the interests of the taxpayer.

The options described up to this point had all involved some form of outright sale (conventional privatization). However, as the privatized companies would have required substantial public subsidy indefinitely, outright sale was open to the objection that it would leave the taxpayer at the mercy of the new owners of the railway, quite apart from questions as to the form that sales might take and their feasibility. From this policy dilemma arose the idea of franchising the operation of passenger services. While the idea of franchising was initially conceived for the more heavily subsidized Network

South-East and Regional Railways sectors, it was adopted in due course as the preferred policy for the whole of the passenger railway, including Inter-City services. Franchising had three particular attractions:

- Franchising unlocked the door to competition for the market. Without veering toward laissez-faire liberalization at one extreme, or relying solely on competition by emulation or at the other, franchising the operation of services for limited periods through competitive tender offered a genuine market test that could be expected to give private operators the incentive to achieve high quality and good value for money for public subsidy.
- Franchising offered a ready mechanism for protection of the passengers' and the taxpayers' interests on a month-to-month, year-to-year basis, and resolved the problem of putting in place a more deterministic subsidy regime after privatization. Franchises could be let in terms that would make clear the basis on which subsidy would be paid and would set the parameters within which the new operator would be expected to perform. A degree of flexibility could be built in to give the operator an incentive. Subsidy could be committed for the life of the franchise without tying the government's hands forever (which had proved a serious problem in considering any option involving the outright sale of subsidized services). In extreme cases, if a franchisee did not perform acceptably the franchise rights could be terminated and re-offered.
- Franchising would enable the privatization of the passenger railway to proceed progressively, at a speed reflecting the differing characteristics and performances of the varying service groups within British Rail and the need to develop the market for railway privatization over time. Whatever its shortcomings, British Rail had a substantial track record in running the railway. Handing this task over to new operators — possibly from outside the railway industry — was seen by some as a high risk strategy that could go wrong. Progressive franchising would enable the policy change to proceed more cautiously, at least in the early phases of implementation. British Rail would continue to run all passenger services until these services were successfully franchised.

In Britain, interest in operating railway passenger services had been expressed not only by some larger companies but also by smaller companies whose current activities were such that investment in passenger rail operations might

provide a natural opportunity for diversification. Regional bus companies were the prime example. Ministers were keen to encourage such interest, to broaden the potential market and also to ensure that railway privatization would not be seen purely as a business opportunity for very large corporations.

In view of the market evidence and also of the policy concerns to introduce franchising progressively, to promote competition by emulation (as well as through letting franchises), and to imbue the new businesses with a regional or local character, it was decided to restructure the railway for franchising passenger service groups of varying scale and complexity. Another relevant concern was that of ensuring that the new units would have adequate market strength and operational coherence.

A vigorous political debate followed concerning the precise map for franchising. The initial published version can be seen in Figure 9.5. In all, 25 franchises were defined, representing a substantial unbundling of passenger railway operations. These were sub-divided into two groups:

- Eight fast track franchises, comprising four Inter-City service groups (London - Edinburgh, London - Sheffield/Leeds, London-South Wales/Cornwall, and the London - Gatwick Airport express) and also the London - Tilbury/Southend line, the Central and South-Western divisions of Network South-East (London - Brighton, Bournemouth, Exeter, and Weymouth), and ScotRail (all Scottish passenger services except the Edinburgh and Glasgow Inter-City trains).
- Eighteen other groups, comprising the other Inter-City groups, further sections of Network South - East, and groups of Regional Railways services.

A brief statistical overview of the first eight franchises is given in Appendix 3 to this report.

The concept of franchising embraced the value added activities of marketing and operating passenger trains, including ticketing, service planning and timetabling, provision of train crew, manning and operation of stations, and provision and maintenance of rolling stock and locomotives, together with the management of these activities.

To ensure continuity and protect employee rights in accordance with the law, it was decided that the operations to be franchised would be set up as separate companies with their own staff, assets, and supporting contracts, which would be taken over by the initial franchisee and, to the extent necessary to secure continuity of service, transferred intact to subsequent inheritors of the franchise.

A substantial political concern from an early stage was

the risk that fragmentation of the national railway would lead to the disappearance of the "network benefits" that railway passengers had taken for granted, notably the ability to purchase through tickets, at an all-inclusive price, for journeys extending across different parts of the system. Ministers determined that measures should be taken to protect and preserve such benefits to the maximum practicable extent. Franchisees would be required to participate in certain inter-operator agreements to this end.

5. Rolling Stock Leasing Arrangements

It was recognized that conveying to franchisees outright ownership of locomotives and rolling stock, together with the responsibility for planning and providing for reinvestment in new equipment, could pose a substantial entry barrier, especially to smaller companies. It would also complicate the process of letting and re-letting franchises, given the variability of equipment condition, maintenance cycles, and costs and replacement cycles. Therefore, it was decided to create three Rolling Stock Leasing Companies (ROSCOs), which would own and lease out the passenger locomotives and rolling stock to franchisees. Leases would be determined on fully commercial terms, making the ROSCOs profitable (and substantial) companies in their own right, which could be offered for sale.

Each of the three ROSCOs would have a portfolio of between 3,000 and 4,000 railway vehicles of varying age and type, together with the responsibility for new investment and for planning and commissioning heavy maintenance. The government's objective was to establish a competitive market in the supply of railway rolling stock.

6. Stations

A policy debate also ensued about stations. Passing outright ownership of and full responsibility for stations to the passenger service franchisees raised problems similar to those noted with respect to locomotives and rolling stock. Ministers were concerned that the commercial potential, particularly of some of the larger stations and terminals, should be effectively exploited to create new business opportunities and to generate income for the railway industry. It was felt that leaving this task to the passenger franchisees would not necessarily ensure the best results in this area. Moreover, some major terminals, for example in London, would be used by several franchisees.

It was clear, however, that the majority of stations on the network were relatively small, had limited development potential, and would be used either exclusively or predominantly by a single franchisee. In such cases, leaving the management and operation of the station to the franchisee seemed the simplest solution. The actual ownership of

the stations, together with responsibility for the major multi-user terminals, was eventually resolved by the creation of Railtrack.

7. Railtrack

The single biggest step in the unbundling of the railway was the creation of an independent national track authority. The idea of a separate track authority was considered from an early stage, but strongly opposing views on the subject surfaced.

In several European countries the idea of a separate track authority had already been adopted, although the degree of separation between the track and operations varied. The track authority concept had probably been taken furthest in Sweden (see Chapter 8).

The European Commission had also shown an interest in the idea. In parallel with liberalization measures in other fields (such as European air services and road haulage), a debate had occurred within the EC about the scope for a more open regime involving all European railway networks. Some advocates in this debate were more interested in the development of a free rail market, while others focused on inter-operability and the improvement of cross-border transportation. In 1991, a directive on intercarrier access was adopted which required all European railways to separate infrastructure from operations, at least in accounting terms, and to provide access on a fair basis for railway service companies operating international passenger services and for railway operators offering international combined transport freight services. In principle, this directive opened the door for new entrants.

This measure had some influence on the British policy decision to liberalize the provision of rail freight services. While the measure did not lead directly to the adoption of a separate track authority structure in Britain, it was an important precedent, and it had a direct effect in requiring British Rail to restructure its accounts and to grant track access rights on the limited basis set out in the directive.

The concept of separating ownership and management of infrastructure from operations aroused strongly divergent opinions. Broadly speaking, the arguments in opposition were predominantly technical and commercial. Opponents pointed out the complexity and specificity of the technical interconnections between track and structures, on the one hand, and operational matters such as car design and crew operating procedures on the other. They also pointed out that the infrastructure use accounted for only slightly less than half of total railway costs and that vertical integration represented the natural state of railway enterprises. Effective cost control and productive use of infrastructure were as vital to successful operations as were train

operations themselves. Introducing an arm's length commercial interface between the two would inject needless legal complexity and would lead to endless unproductive disputes. The track authority idea was characterized as a leap into the dark, one which entailed needless commercial and operational risks. In addition, significant opposition surfaced within the railway industry to the idea of liberalization and open access, with which the track authority concept was also associated.

Advocates of liberalization and competition saw the track authority as a friendly and facilitating structural innovation. It was accepted that a vertically integrated railway (whether kept together as a national system or split up into smaller geographical units) could in principle be made compatible with liberalization. However, concerns remained about the lack of commercial neutrality under such an arrangement and about the complexity of the commercial and operational interfaces if the railway system were divided geographically — an outcome which was more likely than privatization of the whole railway as a single business.

From the earliest stages of the planning process, there was a tendency to treat freight on a different basis from passenger services. A consensus emerged early on that freight should be run on a fully commercial basis, that freight businesses should be sold outright to the private sector, and that the new owners/operators should be given as much commercial and managerial freedom as was accorded to the owner of any private business. To ensure that the commercial freight side did not face unfair competition from subsidized passenger services operators that also ran freight trains, it was thought preferable that the Railways Board (for as long as it continued to operate) and its successors, the passenger franchise operators, should withdraw entirely from freight operations. Since the only workable vertically integrated models for railway organization involved combining infrastructure control with dominant passenger operations, increasing pressure for a separate track authority emerged from those arguing the cause of rail freight. It was felt that a neutral, third party control of infrastructure would be more conducive to the commercial and operational requirements of freight than would a series of vertically integrated, passenger only railway operators.

In addition, several technical reasons arose for creating a track authority. While it was not physically impracticable to split railway infrastructure into regional or local units based on line and/or signaling system control areas, this arrangement might not be the most satisfactory, technically. However the splitting up might be done, train services would still have to cross infrastructure boundaries,

which raised commercial concerns and concerns about coordination and train control. Concerns were expressed that subdividing the network could inhibit future investment in projects to modernize and unify train control, and could also inhibit the adoption of improved technical and safety standards. It was argued that different parts of the railway might be induced to move toward different technical solutions, which would reduce the extent of inter-operability.

Market concerns surfaced, as well. The decision as to whether to set the new operations up as vertically integrated businesses substantially affected organizational size and complexity, asset portfolios, and target markets for the businesses. Given the uncertainties as to the breadth and strength of potential markets, pressure existed to adopt solutions that would make sales more certain and that would widen potential markets, as contrasted with solutions that would exclude whole market areas or would make sales more difficult.

The adoption of franchising for passenger services made a difference to the technical arguments, as well. It was not easy to combine re-tendering for operational franchises at regular intervals with giving the franchisee primary responsibility for major infrastructure investment planning.

Arguments in favor of the track authority concept also emerged from the viewpoint of accounting transparency and the implementation of privatization "across the piece." The progressive implementation of a franchising program would take several years, during which time the nationalized British Railways Board would continue to exist as a passenger train operator. However, if the infrastructure were kept together as a single national unit (rather than being split up with the franchises), British Rail would have an altogether more substantial and longer-term role. Conversely, if the infrastructure were separated from operations and from BR, the impetus for change could be strengthened in the following ways.

- British Rail's ongoing role would be reduced substantially and at an early stage in the process.
- The infrastructure side of the business could be set up on a fully commercial basis, charging operators access fees that would enable it to reinvest and earn a viable return. While this would undoubtedly require increased subsidy for passenger services in the short term, it would help to make transparent the true costs of running the railway.
- The arrangement would also expose the infrastructure provider to direct commercial pressure. To sustain access charges at levels that would promote business growth, the track authority would have to

seek ways of improving value for money — for example, by contracting out for the supply of support services and for track maintenance and renewals, and by improving track utilization.

- At some point, the track authority itself could be privatized. It would have a viable revenue base and a set of commercial trading relationships. This would constitute a major step toward the overall privatization goal.

It would be wrong to point to any one argument as having “clinched” the decision in favor of a separate, unified track authority. It is probable that the balance shifted toward the track authority in the wake of the decision to adopt franchising as the preferred route for privatization of passenger operations. In particular, once it had been accepted there could not be a “big bang” sale (in other words, passenger service privatization would be implemented progressively, over time), Ministers were increasingly drawn to the policy arguments listed above. Since passenger franchising also strengthened the technical case for separating the infrastructure from operations and since separation was more obviously compatible with the government’s policy intentions for rail freight, the scales were finally tilted in favor of the track authority.

Initially, “Railtrack” would be organized as a government-owned company, separate from British Rail. The intention was to transfer it to the private sector when conditions were right. To facilitate this transfer, Railtrack would not be subsidized and would be given a commercial control regime from the outset. It would also be established as a “lean” company; its day-to-day operational staff would include signalmen but not British Rail’s large infrastructure maintenance and renewal organization, which would have an arm’s length contractual relationship to Railtrack. This would facilitate the progressive introduction of competition in the provision of track maintenance services.

The creation of Railtrack also resolved the remaining questions regarding the passenger stations. It was decided that Railtrack should own all passenger stations and should initially take responsibility for the management and commercial exploitation of major, multi-user terminals. At a later stage, these large terminals might be transferred to independent station operators. Management of smaller stations would become the responsibility of the passenger franchisees who would lease them from Railtrack.

It is interesting to note how similar structural solutions can be advocated and adopted for fundamentally different reasons. On the Continent, the most common reason cited for adopting the track authority approach had been what might be called the modal balance or harmonization argument. Because local and national road networks were provided and maintained by

the state and not charged for at point of use (nor, typically, are they fully charged for indirectly through road vehicle and fuel taxation), the argument ran that the railways could not achieve their proper role in the national transport system unless the state separately provided and (heavily) subsidized the railway network — a very different perspective from that of policymakers in Britain.

8. Unbundling Support Services

From the outset it had been an important part of the railway privatization agenda to inject competition and other market disciplines into the provision of key railway support services.

The heavy train maintenance depot activities had been grouped earlier by British Rail under a separate subsidiary. It was determined that these activities should be offered separately for sale. British Rail Telecommunications Ltd., which provided telecommunications services to the railway, was also earmarked for separate sale. A new organization was required to provide large track project maintenance and renewals services on a separate footing. A competitive, commercial market for track maintenance would follow from the formal, arm’s length relationship between this large project company and Railtrack and from the separate organization and sale of the local/regional track maintenance units. The umbrella organization for these units became known as British Rail Infrastructure Services. In addition, miscellaneous service activities involving business systems, architectural design, engineering services, research, and other activities were spun off. It was decided that these would be unbundled and privatized to the maximum extent practicable.

Appendix 4 to this chapter gives some broad details of these activities.

9. The Railway Regulator

As with earlier large privatizations, particularly those in which a dominant or near-monopoly business had been created, it was accepted that independent regulation of the industry would be needed. For this purpose a new statutory Regulator would be created with three main roles:

- To ensure fair play by Railtrack in allocating and charging for track access between different operators
- To promote competition and prevent the abuse of any dominant market position
- To protect the interests of railway passengers, for example by ensuring the preservation of the network “connectivity” benefits.

The Regulator would be jointly responsible (with the Office of Fair Trading) for enforcing domestic competi-

tion law in relation to railway activities. In addition, the Regulator would be empowered to intervene and mediate in cases of dispute between operators and Railtrack or between one operator and others. In order to police railway activities effectively and to enforce compliance with regulatory requirements (and also to enforce participation in joint industry arrangements such as through ticketing), the Regulator would have two main “powers”:

- Powers to license railway passenger and freight operators, providers of network (i.e., infrastructure) services, and critical support activities such as maintenance depots
- Powers of approval over regulated access agreements, particularly those covering the terms and conditions for access to track, stations, and depots, and powers to amend or impose such agreements.

It is important to stress that the British Government did not favor a return to intensive state regulation of railway activities. Instead, the powers and guidance given to the Regulator were to be focused in ways which would help to promote the effective operation of normal market forces within the railway industry, thus allowing commercial participants to earn adequate returns but preventing them from adopting anti-competitive practices in order to inflate those returns artificially.

In accordance with previous practice, it was accepted that the Regulator should be statutorily independent in order to avoid the risk that regulation might revert to a mechanism for political intervention in railway affairs.

10. The Franchising Director

A similar concern led to the establishment of a second statutory appointment. It was apparent that the introduction of franchising on a service group basis necessitated the development of a far more specific regime for the negotiation, calculation, and payment of public subsidy to the railways. The general nature of the Public Service Obligation under which British Rail had operated has already been described. Franchising to private companies required more detailed contracts in the form of a franchise specification document that would set out the minimum service standards that the franchisee would be expected to provide, the life of the franchise, and other specific requirements to protect the public interest (of both passengers and taxpayers).

Franchising was recognized as both a strength and, potentially, a weakness of the new structure. It would be a strength because railway operators would be placed under much tighter performance obligations, which would help

to achieve the most popular and widely supported objective of privatization — improving the standard of services to customers. Offset against this strength was the risk that this more intimate relationship between the railway operator and the state would invite a greater degree of political involvement in the day-to-day operation of the railway, whether as a consequence of a predetermined political agenda or in response to specific passenger complaints. This risk was seen as incompatible with the underlying philosophy and objectives of privatization.

The solution adopted was to create a new non-ministerial government department, headed by a Franchising Director appointed by the Secretary of State for Transport. The Franchising Director would:

- Be responsible for agreeing with Ministers a program of passenger service franchising and for implementing that program (actually organizing the competitions and awarding the franchises)
- Be responsible for determining the minimum service and quality standards to be met by franchisees, and for developing other aspects of the franchise specifications
- Be responsible for allocating and paying subsidy to franchise operators, from within an overall subsidy budget determined by Ministers.

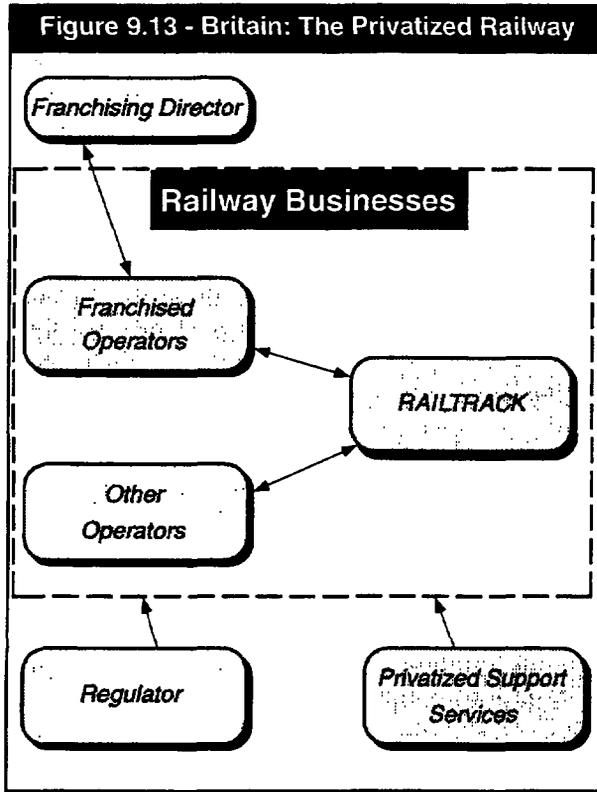
This organizational structure clearly left ultimate responsibility for determining public expenditure with Ministers, while delegating to the Franchising Director the day-to-day responsibility for managing the relationship with franchisees, determining, monitoring and enforcing proper performance standards, and achieving value for money. The Franchising Director, as head of a government department, would remain accountable to Parliament, through Ministers, for the effective discharge of his functions, but would also have some clear, statutory functions which would be for him alone to undertake.

Figure 9.13 presents a schematic overview of the relationships between the various players in the new structure of the railway industry.

11. Safety Validation

The continuing operational safety of the railways had been a paramount concern throughout the policy planning stage. The Health and Safety Executive (HSE) (an independent statutory authority with responsibility for promoting safety across a wide range of commercial and industrial activities, including railways) had been extensively consulted during policy formulation, but the government was keen to demonstrate that there would be no behind the scenes

PART III: IMPLEMENTATION OF RESTRUCTURING SOLUTIONS



compromise in this vital area. Therefore, the HSE was invited to undertake a thorough study of the proposals published in the government's policy statement and to publish its findings.

The HSE reported in January 1993.⁴ In this report there were over 30 detailed recommendations on important aspects of railway safety. The HSE confirmed that, provided care was taken to monitor and enforce proper safety standards throughout the development of the new, more complex organizational structure, there was no reason for the railway to become less safe. It had been accepted from an early stage, as key planks of the policy, that safety concerns should be thoroughly explored through the procedures for granting train operating and other licenses, and that the HSE should continue to be the body responsible for overseeing safety on the railway and for investigating accidents.

The government accepted the HSE's recommendations in full. It was determined that all prospective train operators and applicants for other forms of railway license should be required to prepare a comprehensive safety case and submit it for approval as a precondition of being granted a license. For train operators, the initial vetting and approving authority would be Railtrack, whose decision would be subject to confirmation by the HSE.

⁴ Health and Safety Commission, *Ensuring Safety on Britain's Railways*, published by the Department of Transport.

1. Institutional Context

The policy of railway privatization was determined upon by Ministers and developed in detail and implemented by the Department of Transportation and the British Railways Board, working with professional advisers. No intermediating organization was specifically assigned to manage the implementation process. In view of the democratic accountability of Ministers in Parliament, it is not considered appropriate in Britain to discuss in detail the role played by particular individuals within the Civil Service or by their professional advisers.

2. The Implementation Phase: Policy Announcement and Legislation

In his Introduction to the first comprehensive public policy statement on railway privatization, issued by the government in July 1992, the then Secretary of State for Transport, John MacGregor, wrote as follows:

Privatisation is one of the great success stories of this Government. It has taken different forms in different industries. But common to all privatisations has been the harnessing of the management skills, flair and entrepreneurial spirit of the private sector to provide better services for the public.

The time has come to extend these benefits to the railways. This calls for a new approach. British Rail makes large losses. It cannot therefore be sold as a complete concern in the same way as other industries which we have privatised and there will not be substantial proceeds to the Exchequer. Our objective is to improve the quality of railway services by creating many new opportunities for private sector involvement. This will mean more competition, greater efficiency and a wider choice of services more closely tailored to what customers want.⁵

A government bill to implement these proposals was brought forward to Parliament in January 1993 and became law in November 1993. The Railways Act 1993 ran to nearly 250 pages, with over 150 Sections and 11 Schedules. Its main provisions included the following:

- The establishment of the new offices of the Rail Regulator and the Director of Passenger Rail Franchising, with various statutory powers and duties

⁵ "New Opportunities for the Railways: The Privatisation of British Rail," Command Paper 2012, London: HMSO.

- A new licensing regime for railway operators and companies engaging in ancillary activities, such as running maintenance depots
- A new system of regulated access agreements conveying rights to use the railway network, depots, and other key facilities
- Powers to franchise the operation of railway passenger services and consequent changes to earlier railway and general legislation
- Measures to protect the interests of existing railway employees, particularly with regard to established pension and concessionary travel entitlements
- Extensive powers to reorganize the railways, by creating new companies and transferring assets and employees, together with financial restructuring powers
- Equally extensive powers to dispose of railway businesses and assets by sale.

There were also numerous ancillary and supporting provisions, including measures to adapt pre-existing safety regimes, revisions to earlier powers to pay subsidy, and measures relating to the British Transport Police (a separate national police force responsible for police activities on railway property).

The Act did not mention Railtrack. There was no need, as the powers for creating new companies, transferring assets and liabilities, and effecting disposals were broad enough in themselves to allow for the establishment of a separate track authority.

It would be wrong to say that the railway privatization legislation had an untroubled passage through Parliament. However, the greatest controversy did not arise where it had been expected. The issues of protection for the pension entitlements of railway workers and for the future of the British Transport Police Force prompted lengthy and heated debate virtually throughout the passage of the legislation, and necessitated much political negotiation and additional work. Conversely, while concerns were expressed about the wide-ranging nature of some of the general powers, the debate on the substantive policy questions of passenger franchising and rail freight privatization was more muted than had been expected.

On franchising, the debate focused on what would happen if there were no acceptable response to the offer of franchises and in particular on whether British Rail should itself be allowed to bid. For example, some argued that, if it proved preferable on "value-for-money" or other grounds, British Rail should be allowed to retain responsibility for operating specific franchises. Ministers argued against this proposition. Not only did this proposed policy amendment seem inconsistent with the objective of

privatization but it might deter managers within British Rail from developing their own independent bids for franchises. This ran counter to the government's long-standing policy of encouraging management buyout interest in privatizations and could significantly shrink the potential market for franchises. Parliament finally decided to let the Franchising Director decide whether, in any particular case, British Rail should be allowed to bid. But this decision did not detract from the general thrust of the new legislation. For example, Section 113 of the Act specifies that, in exercising the main transfer, reorganization, and disposal powers in the Act:

It shall be the principal objective of the Secretary of State...to secure as soon as, in his opinion, is reasonably practicable the result that the function of providing railway services in Great Britain is performed by private sector operators.

Diverting freight from the road network and putting it onto the railways continued to be a policy issue during the passage of the legislation. While there was some concern about the impact of privatization on the future of rail freight, this was mitigated by a decision to take new powers to make grants to rail freight operators to assist in paying Railtrack's access charges in cases where the traffic was too marginal to generate sufficient revenues and the environmental and wider benefits of attracting the traffic onto the railways were judged sufficient to justify the amount of grant required. This measure, which paralleled and supplemented a long-established power to make grants toward the cost of privately owned rail freight facilities, commanded cross-party support.

Less predictably, so did open access for new rail freight operators. The wide support for the cause of freight on rail perhaps made it difficult for Members of Parliament who might otherwise have opposed liberalization to argue that the opportunity to bring additional traffic to the railway should be denied to prospective entrants.

3. Labor Relations

As will be evident from the foregoing discussion of the passage of the Railways Act, careful thought had to be given, from an early stage in the restructuring, to the position of railway employees (both active and retired). The railway industry in Britain has long been heavily unionized, although there is no closed shop or compulsory union membership. In Britain there are three main railway unions: ASLEF (which represents train drivers), RMT (the union to which the majority of BR employees belong), and TSSA (which represents some managerial staff).

As of general statutory right, railway employees have

the protection afforded by general employment law, including the relevant provisions of European Community law which have direct effect in Britain. Broadly speaking, it is unlawful to transfer ownership without affording their staff the opportunity to transfer with the business, taking their existing terms and conditions of employment with them. The government from the outset reaffirmed that this protection would apply to railway employees and managers.

In order to facilitate the restructuring of British Rail in the period leading up to privatization, it was necessary to evoke special powers to transfer railway staff (as well as assets) into new business units or subsidiaries of BR. These powers were obtained in the 1993 Railways Act. As was noted above, steps were also taken in the Railways Act to reassure railway staff about the future security of their pension entitlements and staff travel concessions.

The provisions of general law regarding the transfer of undertakings constrain what is feasible by way of changes in employment levels or employment practices either before or at the point of privatization. Any changes in terms or conditions of employment have to be negotiated through the channels provided in existing labor agreements, either by British Rail (before privatization) or by the new owner, after a business is sold. Reductions in the work force can be achieved through voluntary early retirement and severance schemes. Experience in Britain has been that properly planned and targeted voluntary schemes have proved attractive both to staff and to the railway, on cost-benefit grounds.

The main railway unions made clear their opposition in principle to railway privatization from the outset. However, earlier privatizations of "ancillary" businesses (hotels, ferry services) were achieved in the 1980s without substantial labor unrest and this has not been manifest up to now in the privatization process currently under way. The one recent labor dispute, which led to a strike of signaling personnel against Railtrack, concerned the more traditional flashpoint of pay and rewards for past and projected productivity improvements, and was not caused by privatization. It remains to be seen to what extent and how rapidly labor practices may change after privatization and with what effect on future labor relations.

4. Organizational Change

The government's proposals were much more ambitious than a conventional privatization in that they involved first of all creating — and only then seeking to privatize, whether by outright sale or franchising — large numbers of interdependent and interacting businesses.

As had become standard practice from earlier privatizations, statutory powers were sought through a preliminary "paving" act, before the main legislation was put

to Parliament, to initiate work involving the massive reorganization of the railways required by the policy.

These radical organizational changes were vigorously pursued and implemented within remarkably short spaces of time, given the size and complexity of the undertaking and the traditions that had to be uprooted. Teams of managers and professional staff within British Rail worked long hours to manage the change process, in addition to carrying out their normal duties. Other key players included external legal advisers, merchant bank advisers, management consultants, and accountancy firms, as well as teams of civil servants within the Department of Transport and the Treasury and, of course, the Railways Board and Ministers themselves.

By April 1, 1994, the broad shape of the new railway had emerged. Railtrack was established from that date as a separate government-owned company, with its own assets and personnel. British Rail Infrastructure Services was established as a separate division of British Rail, with local Track Renewals and Infrastructure Maintenance Units to carry out track maintenance and renewals work as commissioned by Railtrack. Freight services were extensively reorganized along the lines described earlier. The bulk freight business was divided into three and given responsibility for additional, non-intermodal commercial traffic flows transferred across from Railfreight Distribution and for the whole of the extensive civil engineering trains operation (the previously internal supply trains delivering ballast, rail, sleepers, etc., to site for track renewals work). The passenger franchise boundaries were drawn, and management structures were identified and put in place for the new operating divisions. Initial access agreements were negotiated and agreed between British Rail (still the owner of all the train operations) and Railtrack. These agreements were of a general nature for the passenger divisions, but, on the freight side there were tailor-made agreements for each individual bulk freight head contact, plus separate, network-wide agreements for intermodal services and the Post Office trains business.

At the time of writing (the end of 1994), work was well advanced toward both the sales of freight operations and the offering of the first tranche of eight passenger franchises to the market. The relevant operating divisions of British Rail were moving toward legal vesting as Companies Act subsidiaries of the Board, each with its own approved safety case and operator's license.

Sales already in progress (but not yet completed) included British Rail Maintenance Ltd. (the heavy train maintenance depots which were already trading as a separate subsidiary of the Board before the reorganization), the Red Star parcels business, and Freightliner, the network-wide container freight business.

The British Government is currently looking to make substantial progress in implementing privatization during the next 12 to 18 months. During that period, it is intended:

- To complete sales of all freight and parcels businesses
- To let the first eight passenger franchises, covering a substantial part of the passenger railway
- To sell British Rail Maintenance Ltd., all the local Track Renewals Units and Infrastructure Maintenance Units making up British Rail Infrastructure Services, British Rail Telecommunications Ltd., and a number of smaller central services activities.

In November 1994 the government announced its intention to privatize Railtrack by means of a public share offer (flotation) within the lifetime of the present Parliament (the next Election is due, at the latest, in May 1997, although Parliaments often do not run their full five-year term). This will constitute the biggest single step of all toward a fully privatized railway.

A broad timetable of the railway privatization process is given in Appendix 5 to this report.

PART IV: LESSONS FROM THE RAILWAY REVOLUTION

This section is necessarily brief, as it is written while the revolution is still in progress. That said, some lessons become apparent even at an early stage. This selection represents an early and provisional view of lessons that can be learned from the British experience. They are presented in no particular order.

- *There are a number of complexities associated with “unbundling.”* It pays to be aware that a great deal of complexity is added to the restructuring process when the task is not merely privatization but is also the creation of multiple new businesses, followed by privatization. Just as the annual Christmas unwrapping ceremony can leave the floor littered with brightly colored paper, so the full unbundling of a large, unitary railway, entailing the creation of hundreds of new trading interfaces, some of which may be regulated, brings with it a mountain of legal documentation. Scaling this mountain has been described as the largest single legal task ever undertaken in the whole history of British commercial law. Clearly, a trade-off exists between, on the one hand, unbundling into multiple competitive enterprises and, on the other, dealing with excess complexities and their resultant work load.

- *Reorganization requires both “inside” and “outside” professional expertise.* Reorganization requires a combination

of “inside” and “outside” skills and capabilities. Not everything can be done by external professional advisers. Lawyers, merchant bankers, management consultants, systems experts, and others can supplement, but not replace, the efforts required of the managers and employees in the business itself — who are on top of business details on an ongoing basis and who alone can keep the business running smoothly. These latter bear a particularly heavy burden of responsibility, and the many demands on their time may constrain the pace of change.

- *New business systems are essential to the transition.* Restructuring tests systems support to the limits. The corporate commonwealth is typically held together in part by dependency on large central services organizations and internal information systems. Pulling component value added functions away from the center (and each other) creates the demand for new management support systems and services. Supplying these replacement systems quickly becomes a significant success factor in the reorganization process.

- *Maintaining morale and organizational integrity through the transition is difficult but essential.* Unbundling calls into question the future of the central services organizations that are left behind. Yet the commitment and active support of central service groups is needed in order to achieve the transformation from a corporate entity to a diverse trading structure. The history and culture of a long-nationalized industry is likely to compound this problem. Managers who have grown accustomed to working within fixed rules of a large corporate commonwealth do not find it easy to adapt to the different culture and imperatives of a commercial trading business. It is important throughout the transformation to understand and manage the organizational psychology. Within large organizations, there is often suppressed energy, waiting to be released. It is a mistake to assume that, because a particular organizational structure has lasted for half a century, no one working within it will be able to conceive of change — or even improvement.

- *A clear vision and clearly stated objectives help to maintain focus.* As with any complex and far-reaching policy change, the most important step is to focus from the outset on clear and consistent objectives. Change for its own sake can be costly, pointless, and demoralizing. The law of diminishing returns may also set in. Only if the change has, and is seen to have, a coherent and positive set of goals will it foster commitment and justify, in the end, the huge amount of work involved in bringing it about. Large organizations may act (although not necessarily intentionally) to suppress initiative. With consistency of vision, belief in ultimate goals, and determined implementation on the part of those involved, unbundling can release the suppressed

energy within a railway organization and focus it to assist the forces of change rather than to oppose them. Identifying and harnessing these positive forces is likely to be a far more effective strategy for change than simply seeking to corral and counter those who oppose it.

- *It is important to move consistently step-by-step in an effective management strategy in a period of uncertainty.* Given the magnitude of the unbundling and reorganization task

involved in dealing with such a large and diverse set of activities, it is advisable to carefully weigh the incremental benefit against the incremental cost of each additional step in the process before taking it. It may be easier to assimilate a change process that is progressive and is phased over a longer period. That said, when change is neither fundamental nor comprehensive, it can more easily grind to a halt in the face of inertia or outright opposition. ■

APPENDIX I

TRACK ACCESS CHARGING REGIME

The following is a simplified description of the initial track access charging regime developed for application throughout the British Rail network. The regime is subject to further refinement and evolution, not least in the light of regulatory practice

All train operating activities require track access agreements, which are subject to regulatory approval. The Regulator can also impose agreements or specific terms in cases where there is a dispute between Railtrack and a train operator.

Railtrack is set an overall financial objective, in the form of a return on capital employed. Assets are valued at replacement (current) cost, except where their earning power is insufficient to justify replacement. Investment which is truly "sunk," such as land cost, is not valued.

Railtrack's aggregate income from access charges must be sufficient to meet its rate of return objectives. Access charge income falls into two sub-categories: income earned from commercial (non-subsidized) train services, principally freight, and income earned from franchised (subsidized) passenger train services.

Commercial service access charges are negotiated on a case-by-case basis, subject to four principal constraints:

- Each service (flow or flow group) must *at least* pay for the marginal costs that it imposes (those costs that Railtrack would not incur if that service did not exist)

- No service should pay more than its stand-alone costs (the costs of providing and operating a dedicated line or lines of appropriate standard to carry it)
- Railtrack should avoid negotiating prices in a manner that would prevent, limit, or distort competition between train operators or in the relevant final markets
- Total income from commercial services should *at least* cover the total costs attributable to those services (e.g., total freight income should at least cover total network freight-specific costs).

After the deduction of estimated income potential from commercial services (freight and passenger), access charges from franchised passenger services make up the balance of Railtrack's total income requirement. The subsidized services are thus treated as the residual and collectively defray the bulk of network costs.

Commercial and franchised service access charges are typically constructed on a two-part tariff. Freight service access agreements are generally "back-to-back" with customer contracts, while the terms of franchised passenger service access agreements will reflect the duration and specification of the franchise as agreed by the Franchising Director, with allowance for any additional (non-subsidized) services which the franchisee may wish to operate. ■

APPENDIX 2

THE MAIN RAIL FREIGHT AND PARCELS BUSINESSES

"Transrail" (Trainload freight west)

Diesel locomotives	415
Wagons	9,350
Managers and staff	3,800
Turnover (est. 1994-95)	£195 million

"Mainline" (Trainload freight south-east)

Diesel locomotives	245
Wagons	7,340
Managers and staff	2,950
Turnover (est. 1994-95)	£190 million

"Loadhaul" (Trainload freight north-east)

Diesel locomotives	228
Wagons	5,170
Managers and staff	2,300
Turnover (est. 1994-95)	£170 million

Freightliner

Diesel locomotives	45
Electric locomotives	29
Wagons (approximate)	1,000
Trucks	270 tractors 740 trailers
Terminals (inland)	9
Managers and staff	1,300
Turnover (est. 1994-95)	£80 million

Rail Express Systems (Post Office Train Services)

Diesel locomotives	140
Electric locomotives	20
Traveling Post Office coaches	130
Mail wagons	460
Managers and staff	720
Turnover (est. 1994-95)	£46 million

APPENDIX 3

THE FIRST EIGHT PASSENGER FRANCHISES

STATISTICAL OVERVIEW (1993-94)						
Franchise	Train Miles	Passenger Miles	Passenger Journeys	Fares En	Route Miles	Employees
Gatwick Express	1.3 million	96.0 million	3.6 million	27	27	320
Great Western	7.9 million	1.2 billion	14.0 million	156	807	3,050
Inter-City East Coast	9.7 million	1.9 billion	10.0 million	217	847	2,950
Midland Main Line	3.4 million	442.0 million	5.3 million	58	333	1,280
London, Tilbury, Southend	3.1 million	423.0 million	23.0 million	53	80	800
Network South Central	13.0 million	1.3 billion	84.0 million	158	439	3,200
South-West Trains	18.0 million	1.8 billion	95.0 million	221	584	3,930
ScotRail	19.0 million	915.0 million	52.0 million	90	1,504	4,250

Source: Office of Passenger Rail Franchising.

APPENDIX 4

RAILWAY SUPPORT SERVICES TO BE PRIVATIZED

1. BRIS (British Rail Infrastructure Services)

BRIS comprises seven Infrastructure Maintenance Units (IMUs) and six Track Renewal Units (TRUs). The IMUs will offer a full range of expertise in infrastructure maintenance, including civil engineering and building, signals engineering, and fixed equipment maintenance. The TRUs will undertake large-scale and small-scale track renewals work and heavy, mechanized track maintenance. IMUs and TRUs will be sub-contractors to Railtrack. In addition, TRUs will buy train services from the three bulk (train-load) freight operators for delivery of ballast, sleepers, and continuously welded rail (CWR) to site. It is intended to offer individual IMUs and TRUs for sale separately.

2. BRML (British Rail Maintenance Ltd.)

BRML comprises six "level 5" depots at sites in different areas of England and in Scotland, together with one Electronic Service Center in England. The BRML level 5 depots provide heavy maintenance and overhaul services for a wide range of locomotives and rolling stock. In 1993-94, expenditure on these services amounted to just under £170 million for the railway as a whole. Some 3,800 persons were employed within BRML. Under the new railway structure the BRML depots will be subcontractors to the Rolling Stock Leasing Companies (for vehicles used in franchised passenger services) and commercial train operators, includ-

ing freight companies. The BRML depots are being offered for sale individually.

3. BRT (British Rail Telecommunications Ltd.)

BRT operates a nationwide telecommunications network developed primarily to serve the substantial internal requirements of the railway. It has a core network extending over 9,000 route miles and operates a national radio service with 300 transmitter sites serving around 8,000 mobile radio sets. Recent legislation liberalizing the telecommunications industry in the United Kingdom has opened the way for BRT to develop into a general telecommunications services provider. It is intended to offer BRT for sale as a single entity.

4. BR Central Services

BR Central Services is an umbrella name for over 30 internal suppliers that are due to be privatized. Their activities range from steel, wood, and concrete fabrication to management training, architectural design, rolling stock and signaling engineering consultancy, materials testing and safety services, property management, occupational health services, operational, technical, and scientific research, equipment repairs and testing, spares procurement and stock control and business systems.

Together these units employ some 6,200 managers and staff. Their annual revenues total around £600 million. ■

APPENDIX 5

OUTLINE TIMETABLE OF THE RAILWAY PRIVATIZATION PROCESS

Tentative ideas for railway privatization were being discussed as early as the mid- 1980s. It was not until 1987 that railway privatization became government policy. Key milestones from that point onward include the following.

1987

First political commitment to railway privatization (speech to Conservative Party conference).

1988 onward

Internal studies of options for privatization (passenger and freight) and of related matters such as track access charging.

April 1992

Conservative Party election manifesto commits the government to proceeding with privatization after the election.

July 1992

Publication of first detailed railway privatization policy document, "New Opportunities for the Railways."

January 1993

Railways Bill introduced with statutory powers for restructuring and selling railway businesses, plus powers to establish a Rail Regulator and Director of Passenger Rail Franchising.

November 1993

Railways Act 1993 becomes law.

November / December 1993

Regulator and Franchising Director formally appointed.

April 1, 1994

Railtrack established as a separate government-owned company. British Rail freight business reorganized into three bulk (trainload) freight operating divisions. Initial passenger service operating divisions created. Initial track access agreements put in place.

April 1 to December 30, 1994

Restructuring of British Rail continues. Work to complete contractual structure and clarify operation of regulatory framework. Red Star parcels, Freightliner, and British Rail Maintenance Ltd. offered for sale. Pre-qualification document issued for first eight passenger franchises.

1995 and 1996 (projected)

Substantial number of passenger franchises let and all British Rail freight and parcels businesses sold. Sales of BRML, British Rail Telecommunications Ltd., British Rail Infrastructure Services, and Central Services units. Railtrack to be offered for sale by public flotation. ■

CHAPTER TEN

UNITED STATES SMALL RAILROADS CASE STUDY

SUMMARY

1. Introduction

The story of railroad restructuring in the United States is the story of industry segmentation into two kinds of carriers: (1) large inter-regional carriers and (2) small local carriers. Structural changes in the industry have been initiated primarily by the private sector within a regulatory framework that is supportive of railroad reorganization. Since the liberalization of economic regulation in 1980, the industry has transformed itself and has significantly improved its competitive position vis-à-vis other modes. A distinguishing aspect of this restructuring process has been the emergence of a small railroad segment within the industry. This change, which has resulted in the creation of hundreds of small railroads, has been referred to as the "short line revolution." This revolution has had a positive effect on shippers, communities, and the railroads themselves.

In recent years the freight railroad system in the United States has moved away from subsidization for most types of service. Legislation passed in 1980 greatly reduced rate regulation and eliminated the requirement to provide uneconomical services. In turn, this legislation set the stage for changes in the structure of U.S. railroads, and, in particular, facilitated the conversion of uneconomic light-density branch lines into privately owned and operated small railroads. Between 1970 and 1992, 258 small railroads (operating less than 350 miles of track or generating less than \$40 million¹) and 11 regional railroads (generating revenues between \$40 and \$250 million) began operations. As of January 1993 these small rail carriers operated 29,000 miles of track or approximately one-fifth of the total national network.

2. Lessons Learned from the Experience

The success of this small industry segment in the face of growing competition from trucks, a continuing shift within the U.S. freight market away from low value-to-weight commodities, and the cessation of most government sup-

port demonstrates that the economics of small rail operations are both durable and profitable. It also indicates that rail services can be tailored to the needs of small customers and that small railroads can create value for large shippers as well, by tailoring services that precisely meet logistical requirements.

The economics of small-scale rail operations differ essentially from those of large-scale operations. The former are based on lower wage levels, minimum capital investment, effective but simple cost controls and management systems with heavy reliance on minicomputers, greater flexibility in work rules and work assignments, and the use of part-time employees. However, small railroad start-ups are not without their risks. The incidence of business failure in the small railroad segment exceeds that of businesses in general. The failure rate of small railroads in the United States is comparable to that of general industry.

The small railroad industry segment emerged in a regulatory setting that encouraged commercial experimentation and permitted large rail carriers to exit light density markets that they could not serve profitably. Two additional regulatory pre-conditions enabled small railroads to flourish: (1) freedom to contract with shippers for customized services, and (2) relief from mandatory labor protection, which remains a condition for the restructuring of assets through merger, acquisition, or sale of Class I rail carriers.

The American short line experience is presented in this study because it suggests one way in which large railways (or portions of large railways) may be restructured and sold to private operators. The American experience demonstrates that lightly utilized railroad assets can be productively restructured even in a mature and highly competitive transportation market. The U.S. small railroad experience is instructive in other ways as well. In recent years, small railroad operators based in the United States have pursued small railroad ventures in other countries. Thus, the small railroad industry segment has become multinational. Two of the prerequisites for successful small railroad development — entrepreneurial skills and proved management capacities — appear to be exportable, and thus the development of this segment appears possible even in the context of countries in which small railroad management skills are not indigenous.

¹ Dollar (\$) amounts are in US\$.

3. The Case Study

The purpose of this case study is to identify the factors that created an economically viable small railroad industry segment in the United States. This case study presents a comprehensive review of institutional, legal, and market developments that hastened the emergence of this segment in the 1980s. In particular, it assesses the public policies which appear to be necessary prerequisites for efficient, "bottom up" railroad structural change.

Part I of the case study details the baseline industry conditions prior to small railroad restructuring. Part II discusses the evolution and the restructuring of private railroads in the United States. The recent performance of specific small railroads that are representative of the segment is the subject of Part III, while Part IV explores the lessons learned during the process of converting uneconomic branch lines to viable small railroads — lessons that may have relevance for other countries.

In general, this case study proves that a combination of "environmental" factors is necessary to facilitate a market-based rationalization of railroad assets without direct government intervention. These "environmental" factors include: (1) permissive regulations concerning railroad entry and exit; (2) a competitive, transparent, and contestable process for selling assets; (3) a set of entrepreneurs with interests in the rail industry; (4) long-term debt financing at rates close to prevailing market levels; (5) well-defined ownership rights and obligations for new owners; and (6) statutes and regulations that permit new owners to negotiate their own labor contracts.

PART I: BASELINE CONDITIONS

Ever since railroad mileage peaked in 1920, U.S. railroads have progressively rationalized their rights-of-way by reducing the amount of track owned. Where light-density lines were uneconomical, they were generally proposed for abandonment. The "abandonment process" resulted in time-consuming and costly hearings before the Interstate Commerce Commission (ICC). In a few cases, track proposed for abandonment was saved because the abandonment was denied or because a third party took over the property. Where the abandonment was denied, the continuation of uneconomical service most often resulted in a cycle of poor service and lost traffic, and, eventually, further attempts to abandon service. However, the process of railroad abandonment changed dramatically in the 1980s. The passage of the Staggers Rail Act greatly facilitated the exit of large railroads from uneconomic branch lines, and in a parallel development the ICC clarified the labor contract requirements of small railroad operators and ex-

empted them from pre-existing labor contracts. Thus, a major hurdle was removed for market entry.

1. The Small Railroad Segment

A clarification of the relative position of small railroads within the rail industry is important to an understanding of the recent dynamic growth of this segment. Figures 10.1 through 10.11 present an overview of the U.S. railroad industry in 1992. As can be seen in the figures, the 513 small railroads that represent the sum of regional and local railroads accounted for 26 percent of total miles of road in the United States. The line-haul, switching, and terminal railroads that made up this segment represented fully 11 percent of employment and 9 percent of freight revenue for the entire industry.

A revolutionary restructuring of the U.S. freight railroad system took place in the late 1970s and 1980s. Since 1976, 250 new small railroads have been started up from the branch line operations of larger railroads. These new railroads represent 52 percent of the 480 small railroads currently operating. In addition, the percentage of roadway owned by small railroads increased from 6 percent of the total railroad industry in 1970 to 26 percent in 1993. The majority of these small railroads have been successful in that they are still operating; many are profitable. Growth in this segment accelerated in the mid-1980s, apparently peaking in 1986 and 1987, and leveling off somewhat into the 1990s as opportunities for the line rationalization of Class I railroads diminished (see Figure 10.12).

The ICC classifies railroads by their level of operating revenue. These levels are adjusted annually for inflation. For 1991, the revenue thresholds were as follows:²

Railroad Classification	Annual Revenue
Class I	250.0 minimum
Class II	Over 20.0 but under 250.0
Class III	20.0 maximum

The ICC formerly required all three classes of railroads to report their financial and operating statistics. In 1979, however, reporting requirements were eliminated for Classes II and III. To fill the information void, the Association of American Railroads (AAR) began its own annual survey of small railroads. Because the AAR found that smaller railroads have characteristics other than revenue that distinguish them, it did not adopt the ICC revenue classes. Instead, the AAR redefined non-Class I railroads as: (1) regional railroads, (2) local railroads, or (3) switch-

² Based on 1991 dollars; subsequently adjusted each year.

Figure 10.1 - U.S. Rail Industry: No. of Railroads by Type, 1992

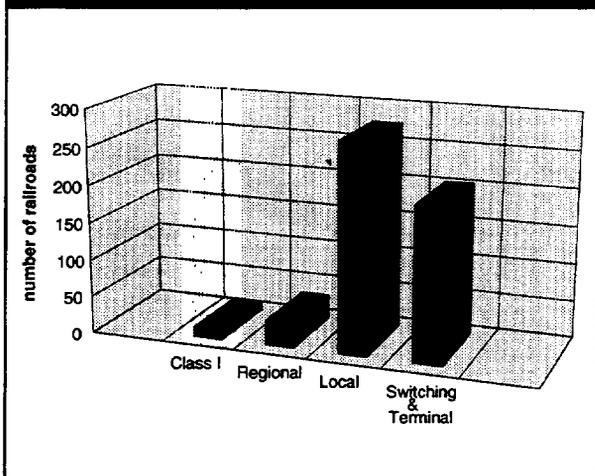


Figure 10.2 - U.S. Rail Industry: Revenue by Type of Railroad, 1992

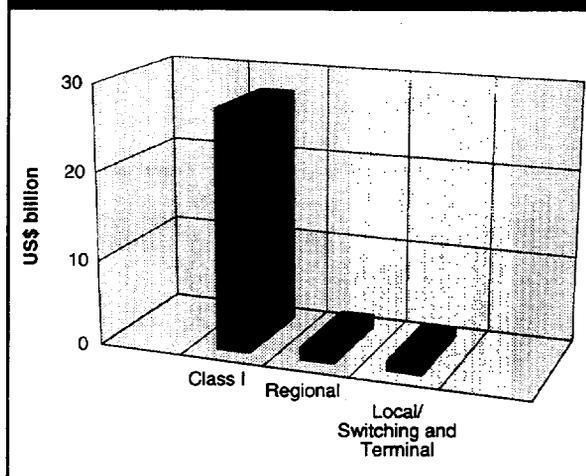


Figure 10.3 - U.S. Rail Industry: Mileage by Type of Railroad, 1992

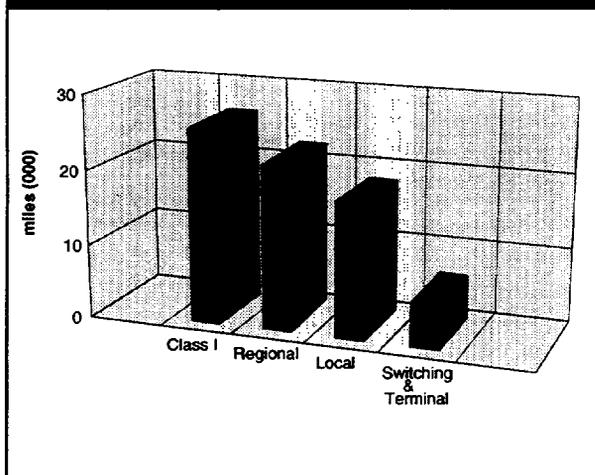
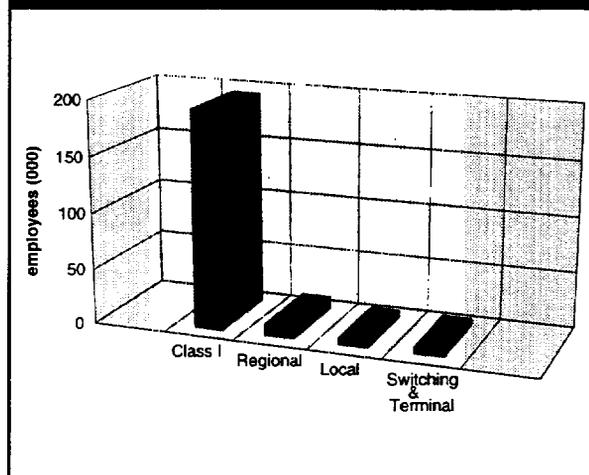


Figure 10.4 - U.S. Rail Industry: Employees by Type of Railroad, 1992



ing and terminal railroads (for a profile of railroad ownership in 1992, see Table 10.1).

REGIONAL RAILROADS Regional railroads are line-haul railroads that either operate 350 miles or more of railroad or earn revenues between \$40 million and the Class I revenue threshold (\$250 million in 1991). Although small when compared to the Class I carriers, regional railroads are large businesses. The 33 regional railroads in the United States employ 11,600 workers (an average of 351 employees per road). In 1992 the average length of track operated by regional carriers was 627 miles. The average number of carloads handled per mile of track for regional carriers ranged from 4.7 to 1,663 with an average of 189 (see Figures 10.1-10.11).

Between 1987 and 1992, the regional railroad sub-segment exhibited the highest growth in terms of carloads carried, achieving during this period a compound annual growth rate of 10.2 percent. This compares with 0.3 percent for Class I railroads and negative growth for local and switching and terminal railroads. In 1992 regional railroads carried over 4 million carloads.

In terms of freight revenue, the regional segment achieved sales of more than \$1.5 billion in 1992. Significantly, it has enjoyed a much higher rate of revenue growth than the industry overall. Its compound annual growth from 1986 to 1992 amounted to 3.9 percent, more than twice the corresponding figure (1.4 percent) for Class I railroads.

Network "connectivity" is a critical prerequisite in the regional railroad segment, as is competitive access to more

Figure 10.5 - U.S. Rail Industry: Percentage in Numbers, 1992

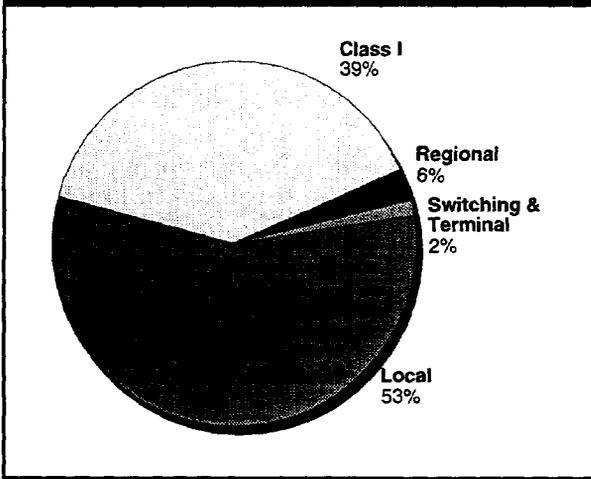


Figure 10.6 - U.S. Rail Industry: Percentage of Revenue, 1992

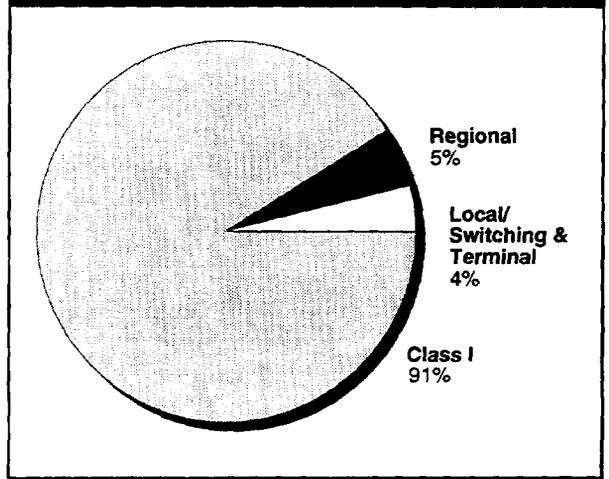


Figure 10.7 - U.S. Rail Industry: Percentage of Miles, 1992

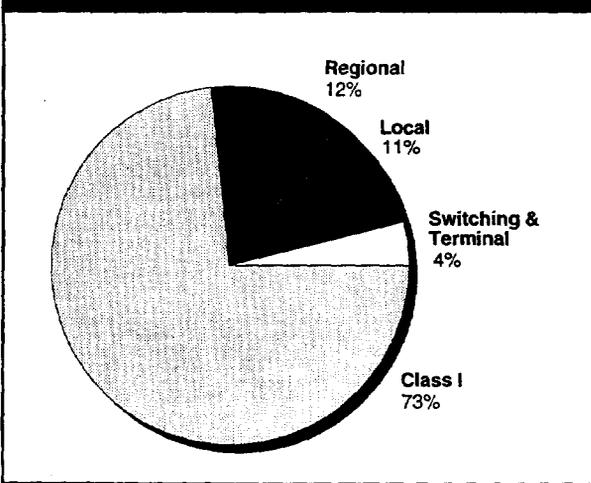


Figure 10.8 - U.S. Rail Industry: Percentage of Employees, 1992

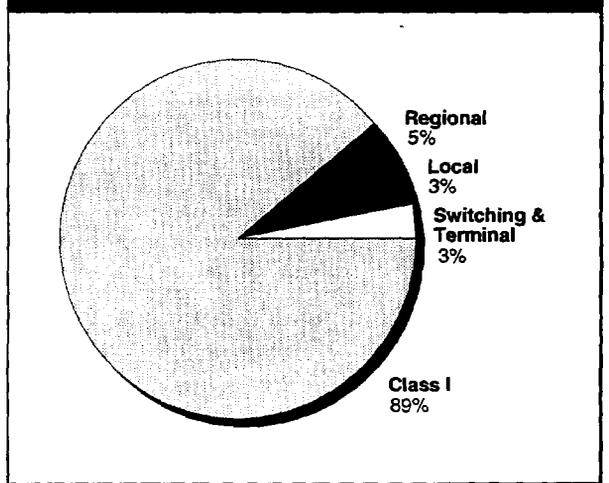


Figure 10.9 - U.S.: Growth of Small Railroads since 1976

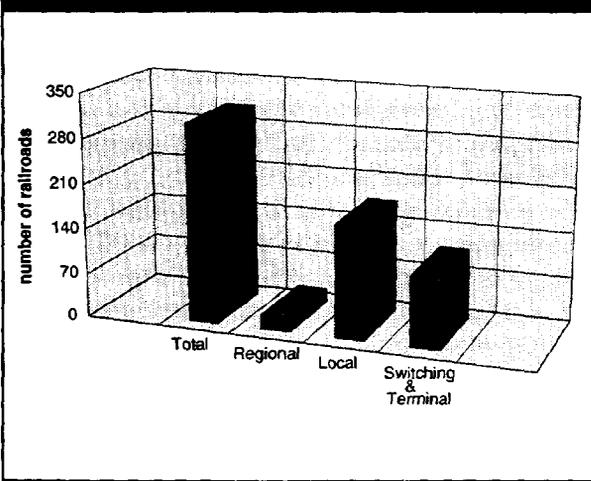


Figure 10.10 - U.S.: Growth of Small Railroad Employment since 1976

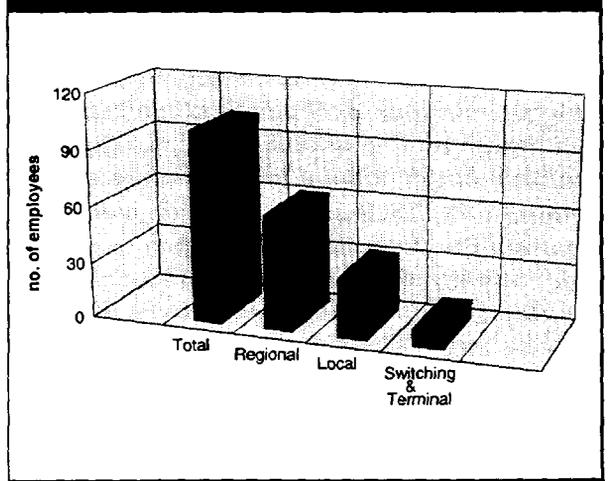


Figure 10.11 - U.S.: Growth of Small Railroads in Mileage since 1976 (miles in operation)

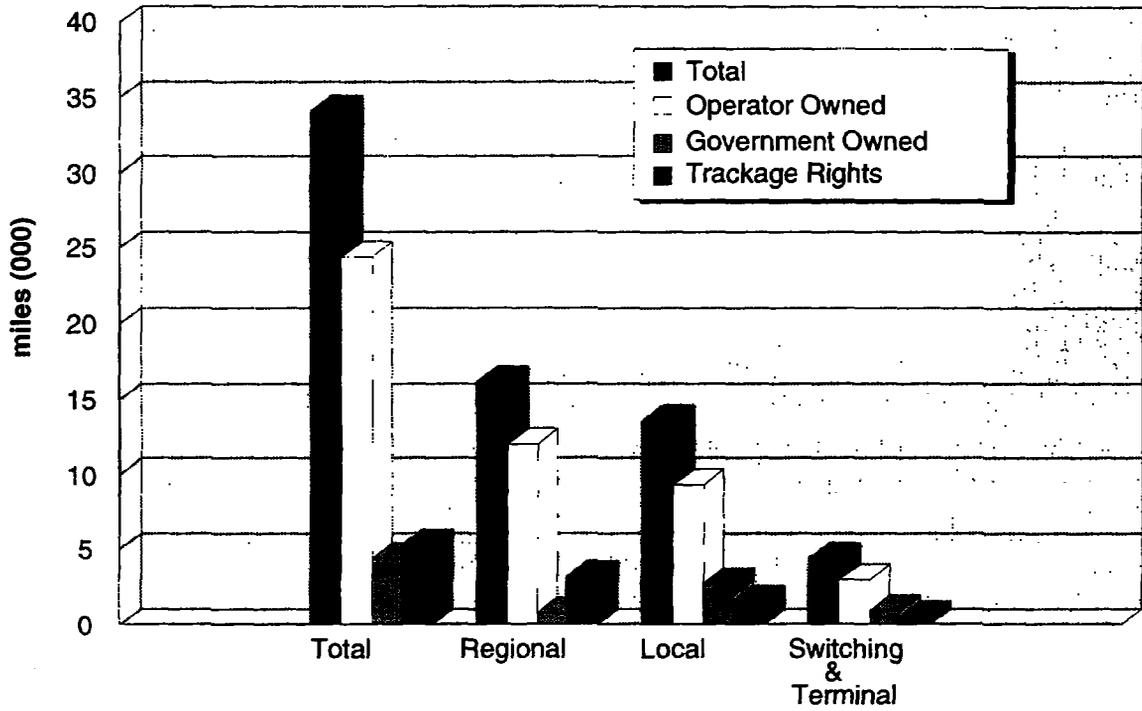


Figure 10.12 - U.S.: Cumulative Number of Miles of Road Operated and Employees of Small Railroads Created since 1976

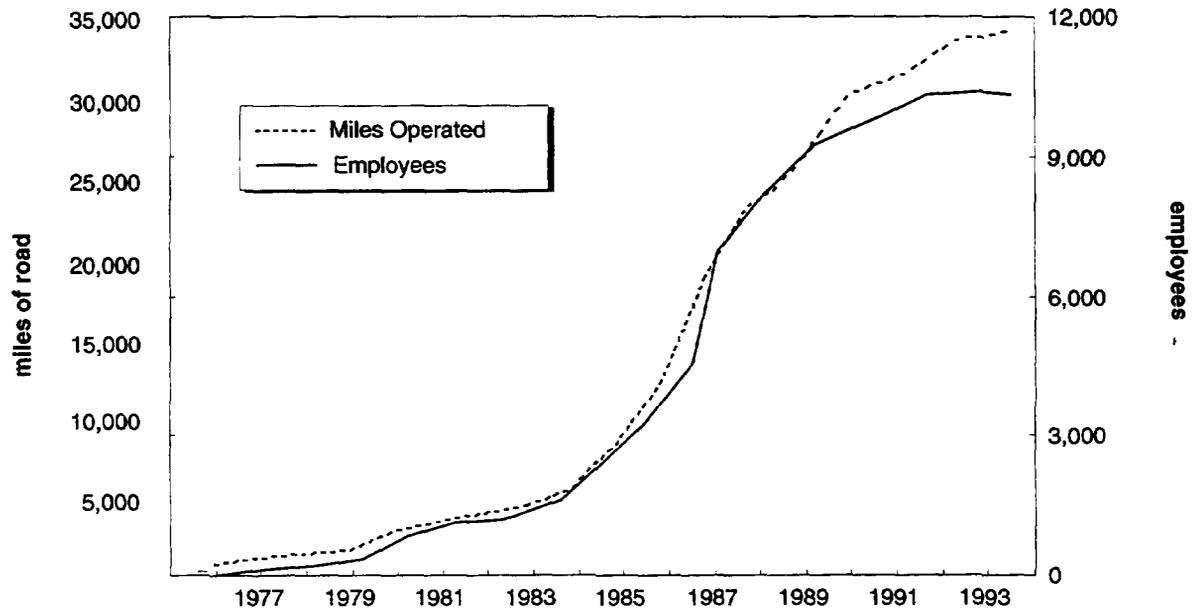


Table 10.1 - U.S. Railroad Industry by Railroad Ownership, 1992

Owned By	Regional	Local	Switch. & Term.	Total
Class I	4	5	21	30
Regional	—	1	1	2
Local	1	7	—	8
Switch. & Term.	—	2	2	4
Private	25	194	122	341
Shipper	—	48	35	83
Car Lessor	—	—	1	1
St./Local Gov't.	1	15	18	34
Other	2	4	3	9
Unknown	—	—	1	1
TOTAL	33	276	204	513

Source: Association of American Railroads, *Profiles of U.S. Railroads*, 1993 Edition, Supplement.

than one Class I carrier. The number of interchanges with other railroads ranges from 2 to 35. The average regional railroad has 10.5 interchanges.

The majority of regional railroads (25 of 33) are privately held, while four are owned by Class I railroads. Only one railroad is government owned. This limited government role distinguishes the regional railroad segment from the local and switching and terminal railroads, where government ownership is more significant. Because of their size, regional railroads tend to have a much more diverse traffic base than other small roads. For example, only 6 of the 33 regional railroads depend on a single commodity for two-thirds or more of their traffic.

Although there are regional railroads in nearly every part of the country, the largest number is concentrated in the Northeast and Midwest. Not incidentally, these are the regions most affected by the bankruptcies that took place in the late 1970s. Indeed, many regional railroads trace their origins to the Penn Central; the Chicago, Milwaukee, St. Paul, and Pacific; and the Chicago, Rock Island, and Pacific (all liquidated or reorganized in the 1970s).

Many of the most dynamic and successful U.S. railroads are regional railroads. The Wisconsin Central, for example, a regional railroad serving Illinois, Michigan, Minnesota, and Wisconsin, recently purchased the newly privatized New Zealand railway system with the proceeds of an initial public stock offering (see Chapter 6). Another regional railroad, the Springfield Terminal Railway, is restoring railroad service as a viable transportation option in much of New England.

As regional railroads emerge, their owners restore large portions of previous main line track to good condition. One of the more successful regionals was the MidSouth Corporation, a spin-off of the Illinois Central Railroad. In 1986,

when the Illinois Central decided to concentrate on its north-south corridor between Chicago and New Orleans, it sold its east-west routes (from Birmingham, Alabama, to Shreveport, Louisiana) to the MidSouth, together with many light-density branch lines. This was done in preference to creating several smaller railroads. The MidSouth thus controlled adequate traffic levels and generated sufficient revenue to rebuild portions of its main lines. In fact, the MidSouth was so successful that the Kansas City Southern purchased the railroad in its entirety and integrated it into its network. The transaction was approved by the ICC in May 1993.

LOCAL RAILROADS Local railroads are line-haul carriers that fall below the regional "scale" criteria. That is, they operate under 350 miles of road or earn freight revenues of less than \$40 million. The majority of railroads in the United States fall into this category. Local railroads employ 6,343 workers — an average of 23 employees per railroad — and operate 18,201 miles of road. The average length of track operated by local carriers in 1992 was 66 miles. The majority of local railroads generate revenues of less than \$5 million. Indeed, only 4 of 276 local railroads generate revenues above \$20 million. The average number of carloads handled per mile of track in 1992 was 142.

Over the last few years, local railroads have experienced a decline in both freight revenue and carloads carried. Freight revenue declined at an annual rate of 4.7 percent from 1986 to just under \$700 million in 1992. Similarly, carloads carried declined to 2.45 million in 1992, having declined at a compound annual growth rate of 2.9 percent from 1987. The number of interchanges with other railroads ranges from 1 to 16, but the average local railroad has just over 2 interchanges.

Some of the oldest railroads in the United States are local railroads. Many have been in operation since the nineteenth century. The Bessemer and Lake Erie, for example, was started in 1869. The Texas Mexican Railway has been in operation since 1881. However, most local railroads started up in the 1970s and 1980s. Since 1976, the number of local railroads has increased by 169 percent. This increase was ultimately the result of the changes in public policy described below. Most new local railroads were former light-density branch lines of large railroads. Because of their small size and limited geographical coverage, many local railroads are dependent on a single commodity. In fact, almost 40 percent of all local railroads created since 1976 are dependent on a single commodity for two-thirds or more of their traffic. Hence, market risk is much higher for local railroads than for regional railroads. A drought, the closure of a mine or pit, or a general downturn in a specific industry can ruin small railroads and, indeed, has done so.

SWITCHING AND TERMINAL RAILROADS Switching and terminal railroads are engaged primarily in providing switching or terminal services on behalf of other railroads or other industries. These railroads derive their revenues primarily from services that they sell to other rail carriers rather than from freight services sold directly to shippers. Table 10.2 summarizes the activity data that are available on these carriers for 1992.

Terminal railroads also have a long history which dates back to the nineteenth century when large railroads used them at critical interchange points to realize mutual benefits by facilitating switching and movement around busy hubs. A set of commonly owned terminal carriers emerged in the mid-nineteenth century in major rail hubs including Chicago, St. Louis, Houston, and Kansas City. Each of these primary interchanges has at least one switching and terminal railroad owned by connecting Class I carriers. In fact, nearly half of all switching and terminal employees

work on switching railroads owned by Class I carriers. Separate and autonomous switching and terminal companies assure service neutrality and equal treatment among the Class I carriers in local switching and terminal operations. The creation of a separate profits center to provide these essential services also ensures economies of scale in interchange services.

While Class I-owned switching and terminal railroads account for most employment in this sub-segment, well over half of all carriers (122 out of 204) are privately owned. With switching and terminal railroads, as with local railroads, shippers rank second in ownership, accounting for 17 percent of all such railroads. Privately owned and shipper-owned switching and terminal railroads employ just over 1,500 people each, while the 21 Class I-owned operations account for 3,300 employees.

As Table 10.2 shows, a few switching and terminal railroads are owned by state or local governments. Most of these publicly owned terminal railroads serve state-owned port facilities. Originally, their economic rationale was to assure equal access to ports via multiple line-haul rail carriers. Over time, and for lack of competition, the operating costs and corresponding switching tariffs of many state-owned railroads increased to the point where they reduced rather than enhanced the competitiveness of the ports that these railroads were originally intended to serve.

From 1987 to 1992, switching and terminal railroads experienced a negative growth of 4.9 percent per year measured in terms of carloads. However, these railroads achieved large increases in freight revenue. While carloads carried fell to 3.1 million, freight revenue grew at 11 percent per year from 1986 to 1992, reaching almost \$55 million in 1992.

2. Successful Small Railroad Operations

The great majority of small railroads had previously been operated as part of larger systems. In the 1970s and 1980s the number of new small railroads increased sharply as new lines were "spun off" from Class I carriers. In a number of cases the Class I carriers received formal permission from the ICC to abandon lines before negotiating a sale with the new owners. In most cases, however, the Class I carriers negotiated directly with the new owners for line sales.

Small railroads do not make up a homogeneous industry. As was noted above, they can be classified by size and function; alternatively, they can be classified by types of ownership and strategic orientation. These ownership/strategic orientation classifications include: (1) privately-owned, common carrier railroad operations; (2) Class I subsidiaries; (3) shipper-owned railroads, which resemble private, common carriers but which have a special affiliation and

Table 10.2 - U.S.: Switching and Terminal Railroads, 1992

Ownership	Number	Employees
Class I RR	21	3,299
Other RR	3	75
Private	122	1,533
Shipper	35	1,520
State/Local Gov't	18	344
Other	5	41
Total	204	6,812

logistics support function vis-à-vis their owners; (4) publicly supported, or subsidized, companies; and (5) railroads that are used by equipment lessors to supply rail equipment to the national service network. It is the first and second categories that offer the most instructive lessons in the development of a small-scale private railroad segment. The other categories are focused on strategic functions other than the core activities of a profit-making rail common carrier.

Most railroads that had their genesis as uneconomic branch lines of larger railroads began operations with four prerequisites for financial success in place: (1) a for-profit philosophy which permeated management decisions; (2) sufficient financial resources to complete the restructuring and to fund a business start-up; (3) well-conceived business plans, transition plans, and management action agendas; and (4) supportive third-party institutions that provided accounting, operational, data processing, and other services.

Most small railroads carry freight traffic between shipping facilities that they serve directly and junction points with larger railroads, and most have an interchange with one or two Class I carriers. In most cases small railroads provide the only rail service to the shippers and communities that they serve. Hence, their development is of concern to local and state governments, many of which have developed programs designed to incubate small railroads.

Nonetheless, only about 85 percent of the small railroads created since 1976 are still operating. This "success" level is not unlike that of other industries in the United States. Most small railroads that have survived their initial "shakeout" appear to be earning reasonable profits, have established dependable operations, and are building solid and diversified traffic bases.

Other small railroads were doomed from the start. These typically began operations with one, or a combination, of the following handicaps: (1) inadequate capital resources; (2) inadequate liquidity; (3) overdependence on a single shipper or a single commodity; (4) incompetent management; (5) uncooperative labor; (6) inadequate traffic; and (7) poor quality of track, equipment, and/or rolling stock. It is essential for small railroads to start their operations free of "unsolvable" problems. "Unsolvable problem avoidance" can be achieved if, before becoming irrevocably committed to a startup, railroad management first (1) talks with shippers; (2) inspects the track and determines the state of deferred maintenance, if any; (3) signs equitable agreements with interlining railroads; (4) secures adequate financing; (5) negotiates efficient and productive agreements with labor; and (6) identifies all operating and defined capital costs and covers these with anticipated revenue or startup financing.

3. The U.S. Service Network

The emergence of a small railroad segment is part of the larger transformation of the U.S. rail network. A comparison of this rail network in 1993 with the one that existed in 1970 reveals significant structural changes. In 1970, for example, 73 medium to large privately owned railroads operated a network of 206,000 rail miles. In addition to these larger (Class I) carriers, 212 small railroads operated an additional 9,000 miles of track. The total employment for the industry in 1970 was 600,000. The network covered the entire country but was particularly dense in the industrial Northeast.

By 1993 a major restructuring of the entire industry had been completed. The Class I carriers had consolidated through mergers and acquisitions into 13 major regional carriers, most of which presently operate either east or west of the Mississippi River. All of these Class I carriers are privately owned. No mega-carrier has as yet acquired a nationwide market franchise. This core Class I network consists of 130,000 miles of track, a significant reduction from 1970 levels. Most of the reductions in rail network occurred in the Northeast and Midwest where, as has been mentioned, a number of bankruptcies occurred in the late 1970s.

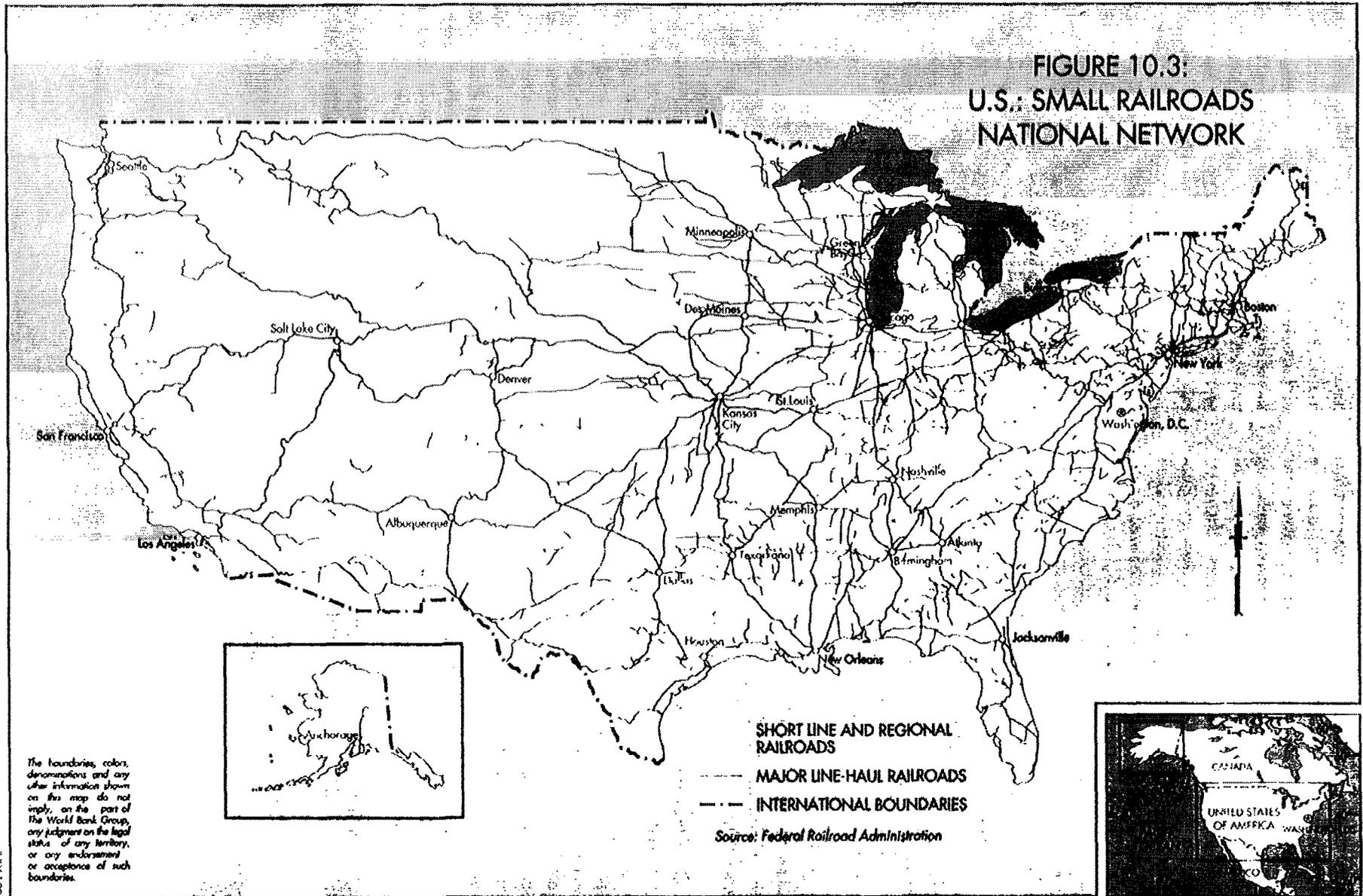
In 1990 the Class I core network was complemented by 540 regional and short line carriers that operated 43,000 miles of track. Much of this track devolved from the larger carriers. The peak year for these sales was 1987, when large railroads divested nearly 8,000 miles. As the map in Figure 10.13 shows, small railroads are scattered throughout the United States but are concentrated in the Northeast and Midwest. In 1990 the rail sector, including both large and small carriers, employed 225,000 workers.

4. The Market for Freight and Passenger Services

Transportation markets in the United States are well developed. Shippers and business travelers are sophisticated purchasers of transportation services who demand continuous improvement in the quality and cost of the services that they use. Shippers in the United States have many alternative services from which to choose. In this market, as shipper needs are articulated, new services are continuously designed and offered.

The result is market segmentation into several specialized service niches and a progressive improvement in the quality and cost of transport services. The emergence of a small-scale segment within the railroad industry since the 1970s is, at least in part, a response to these more general transport market dynamics. In particular, it is a response to a growing demand for shipper-tailored services.

**FIGURE 10.3:
U.S.: SMALL RAILROADS
NATIONAL NETWORK**



The boundaries, colors, denominations and any other information shown on this map do not imply, on the part of the World Bank Group, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries.

Small railroads play an important intermediary role in the rail distribution channel. They provide the shippers that they serve with a transportation connection to the service networks of the Class I carriers, and they also provide the Class I carriers with a unique customer-focused marketing and distribution channel through which large carriers can "retail" their services. Many large carriers are neither organized nor slated to serve the needs of small volume shippers or, for that matter, medium-sized shippers located on light-density lines. A survey of shippers prepared by the Federal Railroad Administration and the ICC's Office of Transportation Analysis reveals that small railroads play a valuable role in the supply chains of their customers (see Table 10.3).

According to this study, shipper satisfaction with short line and regional railroads increased in terms of both service and rates after their spin-off from large railroads. No significant differences appear to exist between the responses of shippers served by short line and regional carriers. It is significant that an overwhelming 94 percent of survey respondents felt that service levels had been maintained or improved through the small railroads "conversion." Shippers responded favorably with regard to rates provided by the small railroad that served them, with 88 percent reporting that rate levels had either improved or remained the same through the conversion.

5. The Evolving Competition

Since 1970 intermodal competition, primarily with motor carriers, has intensified greatly. Through the 1970s and 1980s, motor carriers realized significant cost savings through the use of more fuel-efficient and heavier loading equipment. In particular, significant productivity gains came about through the liberalization of weight and length restrictions on the interstate highway system and from the corresponding "stretch" of road freight hauling equipment. For example, the Service Transportation Assistance Act (STAA) of 1978 made it lawful for double trailers to operate throughout the nation. It also allowed single trailer

lengths to increase from 45 to 48 feet, while trailer widths increased from 96 to 102 inches. These measures resulted in truck load volume increases of 12 percent without significant changes in per truck movement cost. The net effect of these developments was to make highway transport more competitive in the medium-haul to long-haul transport markets for commodities with low value-to-weight ratios — markets that rails had traditionally dominated.

Other technologies that helped to reduce track operating costs significantly included the use of satellite-based communications systems and the use of real time computer-aided dispatch. The greatest competitive gains, however, were realized through improvements in process management, particularly in the low-cost segment of the general merchandise market. The so-called "advanced truckload carriers" realized breakthrough cost improvements in the late 1970s and early 1980s through modern equipment and driver utilization. This set of carriers succeeded in balancing loads in headhaul and backhaul directions and in utilizing equipment so efficiently that the group managed to reduce its overall cost by one-half, thereby undercutting other motor carriers and challenging railroads.

The 1980s also saw an increased emphasis among shippers on reliability and service quality. The interface between shipper and carrier became increasingly transparent. In some cases, shippers expected carriers to perform work that shippers themselves had previously performed. Shippers expected carriers, as the forward extension of their own supply chain, to execute all aspects of a freight delivery transaction flawlessly. "Zero" defect billing, "zero" loss and damage, and "100 percent" on-time delivery increasingly became essential criteria for carrier selection.

At the same time, large rail carriers were restructuring and refocusing assets. In the process, many of them downsized their own sales and customer service capabilities. Many rail carriers redirected their in-house sales focus toward large national accounts and diverted other customer support resources to the largest of their potential customers. In the process they created a new "value added"

Table 10.3 - U.S.: Shipper Evaluation of Small Railroad Performance after Conversion

	(in percent)			Total	No. of Responses
	Improved	Same	Worse		
Service	52	42	6	100	382
Rates	28	60	12	100	335

Source: U.S. Department of Transportation, Federal Railroad Administration, and U.S. Interstate Commerce Commission, Office of Transportation Analysis, "A Survey of Shipper Satisfaction with Service and Rates of Shortline and Regional Railroads," Joint Staff Study, August 1989.

function for small railroads, as distributors, service repackagers, and customer service agents for those shippers located on light-density lines.

6. Rail Deregulation and Its Implications

Although the railroad industry in the United States has traditionally been privately owned and operated, for many years restrictive federal controls undermined the industry's ability to simulate the behavior of market-oriented enterprises. Beginning in 1970, however, market-oriented public policies began to move railroads toward the type of flexibility enjoyed by most other business enterprises. These actions included: (1) the separation of intercity passenger and freight businesses, with the former becoming government owned and operated while the latter stayed in private hands; (2) the rationalization of railroad structure through the approval of mergers and acquisitions, including the creation of a major Eastern railroad, Conrail, as a private enterprise; (3) the rationalization of railroad assets largely through the enactment of legislation providing for the timely sale and transfer of what had previously been abandoned branch lines; (4) the differentiation and contract formatting of pricing and rates through economic deregulation; and (5) a move toward the rationalization of labor costs through government-aided settlement of labor-management disputes.

Beginning in 1970 the series of public policy changes noted above moved the railroad industry inexorably toward market-oriented operations. These changes did not emerge holistically as a coherent policy framework, but rather evolved step-by-step as responses to the deteriorating financial condition of the industry, the growing realization that intermodal competition was intense and that railroads were restrained by government regulation from competing effectively, and the important recognition that the federal government was a part of the "railroad problem." Looking back, this ensemble of public policy actions set the stage for the market-driven restructuring of the railroad industry in the 1980s.

The government reform process was consolidated in the Staggers Rail Act of 1980, which effectively removed the government from intrusive economic regulation of railroads. While some freight rates have remained regulated after Staggers (less than 10 percent of total traffic according to AAR estimates), in the 1990s U.S. railroads are generally free to respond to market needs and conditions. One of the major impacts of this deregulation was the structural change in the industry, which resulted in the creation of hundreds of new small railroads. These developments are discussed in the sections that follow.

SEPARATION OF PASSENGER AND FREIGHT SERVICES: 1970 In 1969 the financial deficit generated from rail passenger operation was estimated at about \$200 million annually. This represented 25 to 40 percent of overall railroad industry profit. Since capital investment in unprofitable rail service was not prudent, service continued to deteriorate. The industry found itself in a cycle of lost business, train discontinuance, deteriorating service, and further lost business. In 1970, after years of debate and congressional testimony, legislation was passed to separate the passenger and freight services and to operate the passenger service as a separate public enterprise.

The Rail Passenger Service Act created, in 1970, the National Railroad Passenger Corporation (Amtrak) to service the national intercity rail passenger system selected by the Secretary of Transportation. Railroads that joined the passenger system could discontinue their own passenger services. Most railroads joined immediately. Eventually, all freight railroads turned their intercity passenger services over to Amtrak. Under the Act, state and regional authorities could obtain additional passenger service by paying at least 67 percent of the losses derived solely from passenger service. Amtrak was to be managed by a 15 person board, of which 8 members were to be appointed by the President, 4 were to be elected by common stockholders, and 3 were to be elected by preferred stockholders. The initial congressional appropriation was \$200 million, and service began on May 1, 1971. Commuter rail passenger services and other short-haul passenger services in metropolitan and suburban areas were excluded from the provisions of the legislation. The federal government has owned and operated Amtrak since the corporation's founding in 1971.

Since the passage of the act that created Amtrak, a number of legislative actions have strengthened passenger service and have provided additional funding. These actions included: the National Passenger Corporation Assistance Act of 1972; the Amtrak Improvement Acts of 1973 and 1974; and the Amtrak Reorganization of 1979. By freeing freight railroads from the obligation to subsidize passenger service, the government helped to move the freight railroad system toward a stronger profit and market orientation.

RATIONALIZATION OF COMPETITIVE STRUCTURE: 1973 Railroads in the United States have been involved in mergers and acquisitions since the 1800s. Because economies of scale and density characterize the industry, the history of railroad restructuring has largely been one of consolidation, merger, and acquisition. In the United States, the

number of railroads has progressively decreased while their size has increased. Today large Class I railroads form the trunk-line, “wholesale” backbone of the railroad industry. Clearly, large railroads are essential to a viable privately owned and operated railroad system.

However, from time to time the consolidation of railroads, particularly financially troubled railroads, has called for government involvement to facilitate the reorganization. Two regions of the country were particularly distressed when the railroads serving them experienced a “market shakeout” in the 1970s. The Regional Rail Reorganization Act of 1973 (3R Act) created two temporary federal agencies — the United States Railway Association (USRA) and the Rail Services Planning Office (RSPO) — to develop system plans for the Midwest and Northeast regions. These plans were designed to assure adequate and efficient rail services. In relatively short order, the USRA developed a plan for self-sustaining regional rail systems; RSPO evaluated railroad mergers; and a new mega-railroad was launched in the Northeast. This mega-railroad, known as the Consolidated Rail Corporation, or Conrail, was formed from the consolidation of a formerly large bankrupt railroad, the Penn Central, with five other regional bankrupt railroads.

Conrail was created in 1976 by an act of Congress and was initially funded by \$2.1 billion in federal money and \$490 million in private sector financing. In 1978 Conrail received another \$1.2 billion. The trustees of the bankrupt railroads that merged into Conrail received 31.7 million shares of Conrail preferred stock and 25 million shares of common stock in exchange for rail properties, until a final settlement could be reached. In 1981 the federal government paid \$2.1 billion to the Penn Central and lesser amounts to the other predecessor railroads for their common and preferred stock. Since the government did not wish to retain Conrail, a decision had to be made as to whether the railroad would be sold in one piece or liquidated. As was ordered by the Northeast Rail Services Act (NERSA), passed in 1983, the USRA was selected to make the determination. NERSA also facilitated the restructuring and reorganization of Conrail by: (1) providing for the transfer of commuter services to local and regional authorities; (2) eliminating labor contract obligations to operate with full crews; (3) eliminating Conrail’s liability for wage guarantees; (4) providing for cash settlements to terminated, idle employees; and (5) expediting line abandonment procedures.

By the early 1980s Conrail had become modestly profitable and was sought by prospective buyers. The U.S. Department of Transportation recommended Conrail’s sale to another large railroad, the Norfolk Southern. However,

the Conrail Privatization Act of 1986 authorized a public offering. In 1987 Conrail returned to the private sector with an initial public offering of 58,750,000 shares at \$28 per share — the largest initial public offering in the history of the New York Stock Exchange — which raised \$1.65 billion.

The creation of Conrail and its maintenance as a viable private enterprise helped retain a strong core railroad structure in the United States. This structure is essential to the private sector development of a small rail segment because it allows for economies of scale and density and for the provision of services to smaller railroads that are unable to generate these economies on their own.

RATIONALIZATION OF PLANT: 1976 For many years railroads in the United States were required by public regulatory agencies to provide services, even if the services were not making a profit or even earning their costs of capital. Thus, while many miles of light-density branch lines were eventually abandoned, other applications for abandonment were denied in what were often long and costly regulatory proceedings.

Prior to 1920, railroad abandonments were subject to regulation by the state(s) in which the line was located. The Transportation Act of 1920 provided the ICC with the authority to approve or deny railroad abandonments, using the standard that “public convenience and necessity” would permit the abandonment. The ICC sometimes interpreted this standard to make judgmental trade-offs between the economic burden on the railroad associated with continuing operations versus the potential hardships that the abandonment might cause to communities and shippers. Even when the chances for successful abandonment appeared to be good, the railroads held back and declined to propose many abandonments because of the time and cost associated with the regulatory proceedings. Between 1920 and the late 1970s, the procedures associated with the regulation of abandonments tended to delay, if not prevent, asset rationalization.

In 1976 the Railroad Revitalization and Regulatory Reform Act (4R Act) was passed to address this problem. This legislation changed the way in which the ICC interpreted the statute. The 4R Act required the railroads to publish maps identifying lines that might be subject to abandonment applications. In this way, prospective purchasers received advance warning and affected communities and shippers could take protective action. The act also enabled all states to receive federal assistance for rail service continuation, and it contained a provision that allowed the ICC to exempt certain types of abandonment applications from regulatory review.

However, it soon became apparent that the problems of the railroad industry would not be resolved by the 4R Act alone. In 1978 the Department of Transportation concluded that a significant part of the industry's problem was that, over many years, the railroads had not been allowed to reduce their plant to match traffic; The Department stated that:

There are now too many miles of track and other facilities of the wrong kind or in the wrong location to survive in the new competitive climate.... Unnecessary lines must be abandoned and traffic consolidated onto parallel or connecting lines, so that service can be maintained, but costs can be reduced.

FURTHER RATIONALIZATION OF PLANT: 1980 ICC statistics, the average time to act upon an abandonment was reduced from 743 calendar days in 1976 to 104 days in 1985. In addition, the Staggers Act gave the ICC the discretion to decide whether to investigate an abandonment. Previously, the ICC had been required to investigate all abandonments. Finally, the act established the Feeder Line Development Program to provide shippers and communities with the legal means to purchase rail lines before abandonment. Under this provision, the ICC could set terms for the sale of a line when a bona fide purchase offer was made. While these changes did not explicitly alter the standards for approving an abandonment, they accelerated the process and contributed to a new approach that gave the railroads more freedom to abandon a service unless the affected parties were willing to subsidize or assume responsibility for the operation of the line.

In 1983 Congress enacted the Northeast Rail Service Act, which gave Conrail greater latitude to abandon lines than was given to other railroads. The act required the ICC to approve all Conrail abandonment applications filed before November 1, 1985, unless a reasonable offer of financial assistance had been made.

Thus, by the early 1980s, the need for the railroads to reduce their physical plant in order to remain financially viable had been widely recognized. While the "public convenience and necessity" standard had not been altered statutorily, its application had been modified so that the railroads were no longer required to continue operating money-losing lines. Local jurisdictions and shippers were encouraged, through the state rail planning process, to support — or even to purchase and operate — lines that were essential to their business activity but that could not be operated profitably by the Class I railroads. This more creative approach provided a valuable alternative to the traditional abandonment process. The newly created railroads

have preserved and often improved service while retaining traffic for the rail industry. This has also helped railroad labor by preserving jobs that would otherwise have been lost.

The legislation discussed above had a dramatic effect on proposals to abandon uneconomical services. Just prior to passage of the 4R Act, in 1974 and 1975, there were, respectively, 25 and 42 railroad abandonments authorized by the ICC, representing, respectively, 546 and 708 miles of route. In 1977, the year following the passage of the 4R Act, the ICC authorized 160 abandonments constituting 2,923 miles of route. And in 1982, the first full year after initial implementation of the Staggers Act, the Commission authorized 385 abandonments, or 5,203 miles of route. Obviously, the shift in public policy aided the abandonment of uneconomical railroad businesses. But not all uneconomical services were abandoned: following the passage of the Staggers Act, many were converted into small railroad operations.

The Illinois Central Railroad is widely credited with pioneering light-density line sales to new regional and local railroad operators. In 1985 the Illinois Central sold over 700 miles of road from which the Chicago, Central, and Pacific Railroad was formed. This was the first substantial spin-off in a series of line sales that allowed Illinois Central to reduce its system from 8,366 miles operated in 1980 to a core system of 2,732 miles in 1982. Indeed, during this period, the development of "trunk line/feeder line" relations became a key strategic element in the market development strategy of some Class I carriers.

Since then, most other Class I railroads have re-examined their networks to identify lines and operations which, although marginal to the Class I carrier, were viable small railroads. Sales of lines in advance of traffic diversion and physical deterioration have proved advantageous in the successful creation of the new railroad entities. Thus, the launching of many new local and regional railroads has come about through partnerships with the Class I connecting carriers and through the support of shippers and communities located on the line. Newly formed railroads have in turn retained, and in many cases actually increased, traffic on the national rail network while preserving rail service and employment for countless communities and businesses.

RATIONALIZATION OF RATES: 1980 Before October 1980, railroad freight rates were tightly controlled by the federal government. Regulation of rail rates and the related bureaucratic requirements worked against economically efficient pricing and resulted in a "regulatory lag" that cost the industry billions of dollars and created an unnecessary

cost burden on railroads. The Staggers Rail Act of 1980, although short of total economic deregulation, substantially eased the regulatory burden on ratemaking, as well as other areas of railroading, in the areas described below.

Jurisdictional Threshold. The ICC's regulatory jurisdiction was to be limited to rates that fell above a threshold level to be determined annually — which was initially set at 160 percent of variable costs, and is currently at a range between 170 and 180 percent: in reality, the jurisdictional threshold rate has stayed at 180 percent since the inception of the range. The AAR estimates that about 70 percent of rail traffic currently moves on rates that fall below the jurisdictional threshold.

Contracts. Rate agreements between railroads and shippers allowed for the tailoring of services and for the establishment of longer-term relationships between shippers and carriers. Service contracts increased shipper investment in rail equipment and rail transfer and storage facilities and converted the buyer/seller relationship to a partnership. For many years, before the Staggers Act, contracts were illegal in the United States. Contract freedom allowed the commercial relationship between rail carriers and their customers to mature and to emulate forms found in other industrial sectors. The AAR estimates that about half of rail traffic was carried under contract rates.

Exemptions. The ICC was given the authority to exempt any commodity or type of traffic from regulation where that traffic was shown to be highly competitive. Since Staggers, the ICC has exempted such traffic as intermodal (containers and trailers) and box car, as well as a host of commodities including many agricultural items and automotive goods.

7. Exit and Entry Processes under Current Legislation

The conversion of uneconomical branch lines to viable small railroads contains particularly useful lessons regarding private sector development. Previously subsidized branch lines operated by Class I carriers resembled publicly owned and operated entities. The branch line operations were, in essence, cross-subsidized and their conversions to viable operations are analogous to privatization. These conversions resulted from and in turn influenced the public policy discussed above.

Until passage of the Staggers Act of 1980, small railroads had been affected only generally by federal policies directed at the entire railroad industry. Section 401 of the Staggers Act explicitly acknowledged the need to develop an alternative to inadequate rail service and to preserve feeder lines prior to the total downgrading of such lines. More specifically, Section 401 enabled the ICC to require a railroad to sell a line to a person (or entity) after deter-

mining that the current level of service was inadequate and that the prospective purchaser had adequate financial capability. The prospective purchaser had the burden of proving that the current level of service was in fact inadequate and was required to: (1) demonstrate that it (the purchaser) was neither a Class I nor Class II railroad, (2) provide evidence that it could pay the determined price for the line, and (3) demonstrate its ability to assure three years of adequate service.

To determine whether the current level of service is inadequate, the ICC still considers "public convenience and necessity," but the operational criteria are now explicitly defined as follows:

1. The railroad refuses to improve service to an adequate level
2. Service is inadequate for the majority of shippers
3. The sale of the line will not adversely affect the financial and operating performance of the current railroad
4. Service will improve with the sale.

After these four conditions are met, the sale price must still be determined. Section 401 directs the ICC to set the sale price at the net liquidation value of the line or its going concern value, whichever is greater. The price does not include the cost of providing for labor protection arrangements. Figure 10.14 presents a schematic diagram of the Section 401 process.

The Staggers Act also established in Section 402 new, more liberal and expeditious, procedures for handling abandonment applications. Figure 10.15 provides a schematic diagram of Section 402 abandonments. Section 402 and also increased opportunities for new railroads to enter the market.

8. Economics of Small Railroad Operations

The economic advantage of small railroad operations derives from improved labor productivity and lower wage rates. In 1992, wages and salaries for the average Class I railroad worker amounted to \$44,336. A generous benefits package raised total compensation to \$61,708. Small railroads pay lower base wages and offer lesser benefits. Although an exact figure is not available, the average worker on a non-Class I railroad makes about \$33,800 a year in wages and salaries and receives a far less generous benefits package than a Class I employee. Since labor costs amount to 48 percent of total operating expenses for the Class I carriers, this lower wage can dramatically improve the performance of a marginal line segment.

Perhaps of greater importance to the small industry

Figure 10.14 - U.S.: ICC Sale of Light Density Lines under Section 401 of Staggers Act

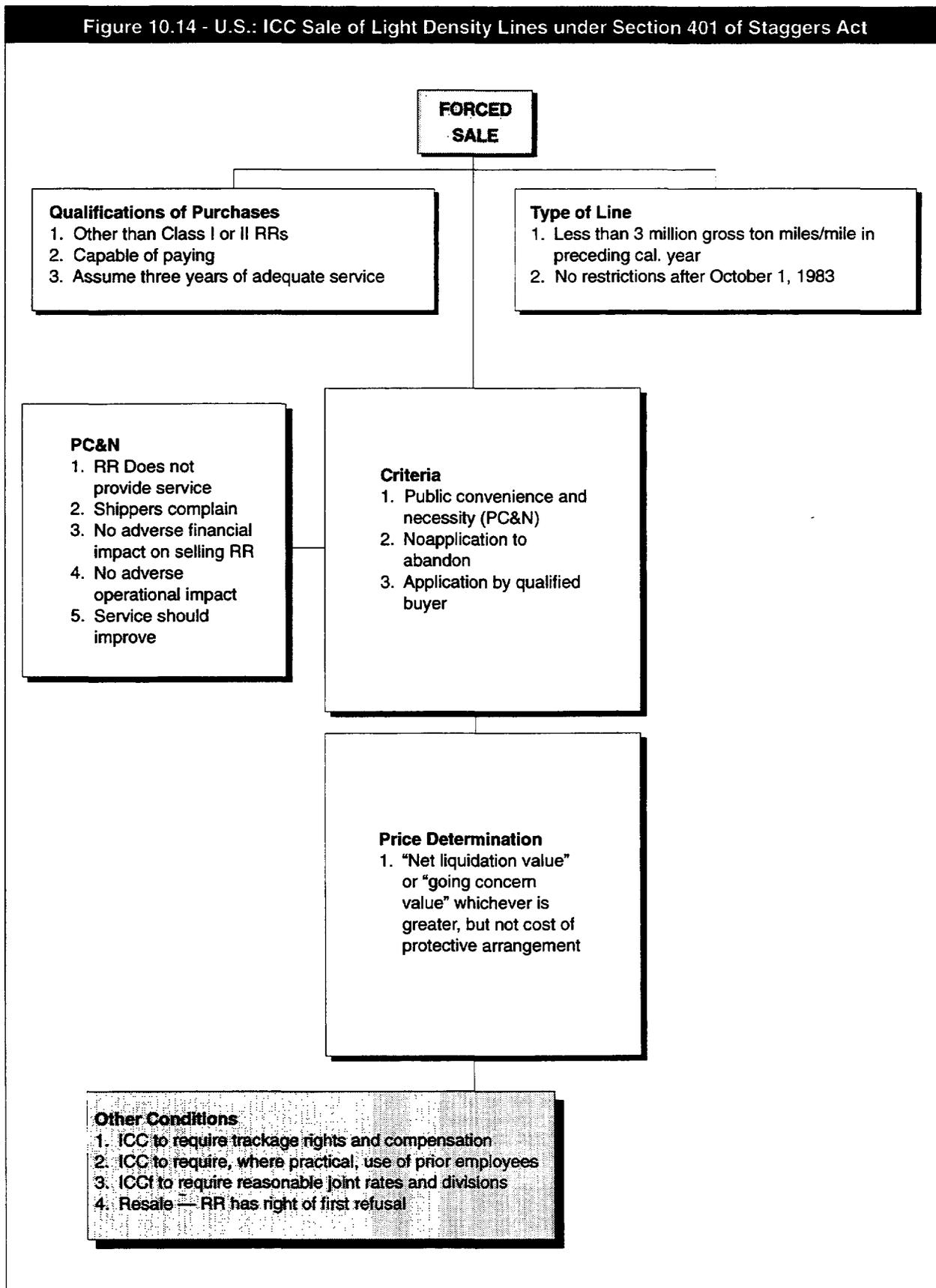
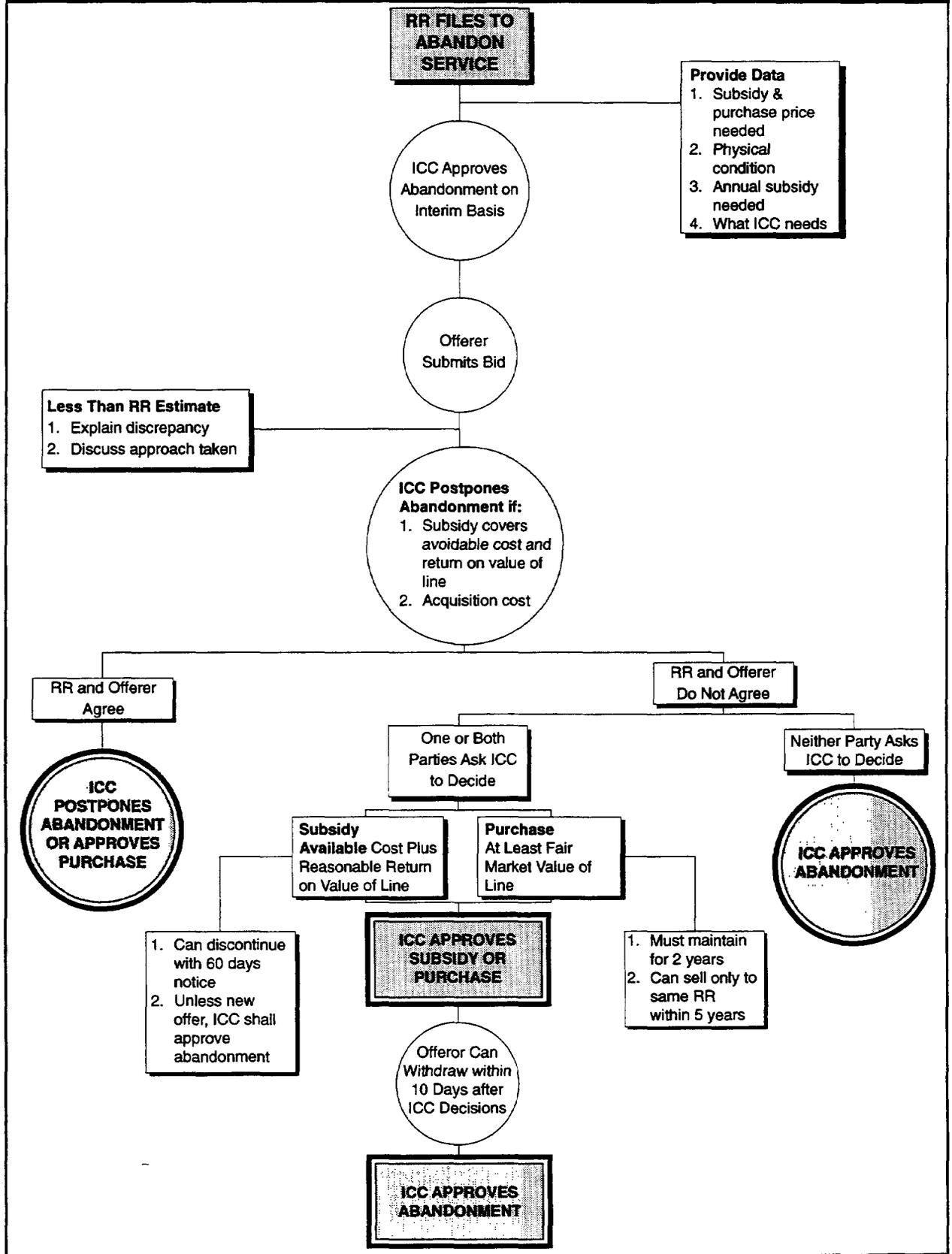


Figure 10.15 - U.S.: ICC Abandonment Procedures under Section 402 of Staggers Act



segment are work rules. Most new small railroads were able to negotiate reduced crew size agreements (that is, two-man crews) long before the Class I railroads had such agreements. In addition, small railroads are able to begin operations free of work rule limits (for example, on crew mileage, train crew districts, etc.) that apply to most Class I carriers.

Similarly, small railroads are not burdened with the craft distinctions that limit Class I railroad productivity. Workers on a small railroad are normally expected to perform a variety of unrelated tasks, a situation which can significantly reduce costs. In contrast to the 100 percent unionized work forces of Class I railroads, many of the work forces of the new small railroads are non-unionized.

PART II: RESTRUCTURING OF PRIVATE RAILROADS

In the early nineteenth century when railroads first developed in the United States, a strong anti-Federalist view prevailed in the country. Consequently, direct investment in state-owned enterprises was avoided. In the 1820s, as the nation's infrastructure was being rapidly built up, President Andrew Jackson vetoed federal funds for both roads and canals. In this way, he sent a clear message to Congress that infrastructure, and specifically railroads, would *not* be built with federal funds. Instead, the earliest railroads were built with private funds and organized as profit-seeking ventures. Fortunately, sufficient private capital was available to create the nascent rail industry. Additional private capital appeared as the attractive potential for profits became increasingly apparent.

Over the years, however, the federal government did provide indirect aid to the private railroads. This aid took several forms, including: (1) the right of eminent domain, whereby the government could empower an entity to take private property for a public use without the necessity of the owner's consent; (2) land surveys, which were conducted by the federal government in anticipation of land development; (3) federal and state grants of land for specific development in exchange for various considerations; (4) state charters and the ensuing regulation of rates and services; and (5) publicly supported financial assistance such as grants, low-interest loans, and equity purchases. All of these forms of public assistance would be used to develop privately owned railroads in the United States.

In 1887 the federal government imposed economic regulation on railroads, intensified that regulation during the first part of the twentieth century, and generally retained it until 1980. Because of economic regulation and related public sector involvement, railroads in the United States, at different times and to different degrees, have

been controlled by the government. In fact, they were nationalized during World War I.

1. Private Sector Development and Growth: 1827-86

The first railroad in the United States, the Baltimore and Ohio Railroad, was chartered in 1827 and completed in 1830. Financing for the railroad was provided through a \$2.0 million stock offering to the citizens of Baltimore and \$0.5 million of stock subscribed to by the City of Baltimore itself. Shortly thereafter, other railroads were funded by the sale of stock to individuals. Railroad lines increased from 23 miles in 1830 to 2,818 miles in 1840, and 9,021 miles in 1850 (see Table 10.4).

Railroad growth was nothing less than spectacular in the nineteenth century and was spurred by several factors, including: (1) the desire to expand the country westward, (2) the granting of 130,000 acres of federal land for railroad development between 1850 and 1872, (3) the use of railroads during the Civil War (1860-65), and (4) the Industrial Revolution during the latter half of the nineteenth century. As Table 10.4 demonstrates, railroad routes increased by almost 40,000 miles during the 1870s, and by 41,000 miles in the first six years of the 1880s.

From this base, the industry continued its growth. By the end of the nineteenth century railroad employment represented almost 10 percent of the country's adult population. The industry's capital investment was estimated as representing one-seventh of the total wealth of the country, and railroad industry annual revenues exceeded those of the federal government fourfold.

2. Federal Regulation and Continued Growth: 1887-1917

Because of the dominance of the railroad industry and the ineffectiveness of state economic regulation, and also in

Table 10.4 - U.S.: Growth of Railroad Mileage, 1827-86

Year	Route Miles Owned	Millions of U.S. Population	No. of States
1827	13	11.9	23
1830	23	12.9	24
1840	2,818	17.1	26
1850	9,021	23.2	31
1860	30,635	31.5	35
1870	52,922	39.9	39
1880	92,147	50.3	40
1886	133,565	57.9	40

response to enormous pressure from the agricultural community which alleged that railroads charged excessive and discriminatory rates, the federal government imposed economic regulation on the industry in 1887. Federal legislation was strengthened and broadened for many years thereafter so that the federal government regulated rate, service quality, and structural aspects of the railroad industry. The extent of regulation, from 1887 to World War I, can be summarized as follows:

- *1887: Interstate Commerce Act.* Provided complete economic regulation extending to rates, discrimination and prejudice, pooling, tariffs, service, and structure
- *1903: Elkins Act.* Strengthened rate regulation against rate cutting and rebates
- *1906: Hepburn Act.* Strengthened rate regulation by giving government power to set maximum rates
- *1908: Federal Employees' Liability Act.* Provided for workers' compensation and gave employees the right to sue railroads for liability claims
- *1910: Mann-Elkins Act.* Broadened rate regulation with regard to relative length of haul
- *1913: Valuation Act.* Tied rate regulation to return on investment by requiring asset valuations.

In spite of increased federal regulation, the railroad industry grew significantly in the years prior to World War I. Railroads represented the dominant form of transportation at a time when the country's industrial production was accelerating and its population was growing rapidly. It was during this period that railroad growth peaked, with 2,404 railroads operating in 1907, 254,037 miles of track in 1916, and 2,147,843 employees in 1920 (see Table 10.5).

3. World War I and the Federal Takeover: 1918-20

Federal involvement in railroad operations was direct and controlling during World War I, after President Wilson nationalized the industry on December 26, 1917. Federal

Table 10.5 - U.S.: Railroad Growth, 1887-1920

Year	Number of Railroads	Miles of Road Owned	Number of Employees
1887	1,488	147,913	704,743
1890	1,797	163,597	749,301
1900	2,023	193,346	1,017,653
1910	1,306	240,493	1,699,420
1920	1,785	252,845	2,147,843

control remained in effect until March 1, 1920. During this period massive public funds were expended, unfortunately with little lasting improvement in operating efficiency. The Federal Control Act allocated \$500 million for rail operations. However, much more was subsequently expended: estimates range up to \$5 billion. During the same period, railroad labor received substantial wage increases and as a result labor expenses as a percentage of railroad revenue increased from 40 percent in 1917 to 55 percent in 1920. Excessive wage "hangover" adversely affected the industry for the next 75 years. Under government control, freight rates rose by the largest percentage in history (25 percent) — a development that brought strong protest from shippers. At the same time, service to shippers that were not directly supporting the war effort greatly deteriorated, even though total railroad traffic in 1918 increased by only 2 percent over 1917 levels. In 1919 railroads generated large financial deficits for the third consecutive year and experienced widespread car shortages.

The adverse experience associated with the federal takeover was acknowledged on the eve of World War II, when the government decided to leave the railroads in private hands. During the War the government acted as a coordinating and supervisory body.

4. Continued Regulation and Decline: 1920-40

By 1920, after years of aggressive investment, the industry found itself over built and ripe for a "shakeout." A rationalization of plant and work forces inevitably began. As a direct result of an expanding highway system, competition from the motor carrier industry intensified. At the same time, excessive federal regulation limited the industry's ability to respond to shifting shipper needs. This government regulation can be traced through the following series of legislation, up to the beginning of World War II.

- *1920: Transportation Act.* Refined rate controls and addressed, among other subjects, joint rates, pooling of equipment, abandonments, labor disputes, and financial regulation
- *1926: Railway Labor Act.* Established government procedures to handle railroad labor-management disputes, including strikes
- *1933: Emergency Transportation Act.* Established separate (from Social Security) federal retirement system for railroad employees
- *1938: Railroad Unemployment Insurance Act.* Established federal system of unemployment insurance for railroad workers (other industries are under state systems)
- *1940: Transportation Act.* Enacted "National Transportation Policy" statement.

During the 1930s and 1940s the industry continued to shrink in size. In the face of increasing competition and weak market demand it experienced numerous bankruptcies. This downsizing was harsh and radical: between 1920 and 1940 the number of railroads declined from 1,117 to 736; the number of railroad employees declined from 2,147,843 to 1,221,000; and the miles of route owned declined from 252,845 to 233,670. In addition, the number of intercity passengers dropped from 675 million in 1920 to only 227 million in 1940. In the 1930s the number of railroads in receivership reached record levels. This slide was temporarily halted during World War II, as rail traffic again reached record levels measured both in freight and passenger traffic.

5. Post-World War II and the Big Slide: 1946-79

The boom years for railroads ended after the war, as traffic was increasingly diverted from trains to trucks, and passengers moved from trains to cars and airplanes. A key factor that contributed to the railroad industry's economic and financial decline in the post-War era was the development of a federal highway system, for which the government provided 90 percent of construction costs as well as a trust fund for highway maintenance. At the same time, the railroad industry continued to be handicapped by the government's financial and economic regulation. Railroad legislation enacted between the end of World War II and 1969 included the following:

- 1948: *Reed Bulwinkle Act*. Provided antitrust immunity to railroads for interline rate-making
- 1958: *Transportation Act*. Amended a rate-making section
- 1966: *Department of Transportation Act*. Created the federal (Cabinet level) Department of Transportation, which was responsible for railroad safety regulation; economic regulation remained with the ICC.

While federal regulation of what had become a non-competitive industry continued during the 1950s, 1960s, and 1970s, the railroad industry reached its nadir. The industry experienced a second "shakeout" in the 1970s. About 22 percent of the industry was in bankruptcy and the remainder earned an average return of between 2 and 4 percent — far below the industry's cost of debt, to say nothing of the cost of capital. During this period radical solutions were considered. For example, policy discussions involved the possible nationalization of the entire industry or, at least, of the industry's rights of way. Considerable support also existed for liberalization and a dissolution of federal control. A number of congressional studies recommended market-oriented solutions. A widely distributed 1970 study conducted by the industry study group

America's Sound Transportation Review Organization (ASTRO) crystallized recommendations that supported the deregulation track. ASTRO found that railroad earnings would continue to be inadequate under the current regulatory control unless the following recommendations were followed: (1) railroads should be allowed to price their product in accordance with competitive and economic realities; (2) the handicaps on eliminating light-density branch lines should be removed; (3) the regulatory process should promote the intent of Congress to encourage sound railroad mergers; and (4) railroads should be part of total transportation companies.

6. Mergers and Consolidation

Since the mid 1960s the history of the Class I segment of the rail industry has been the history of the consolidation of local carriers into mega-carriers serving broad inter-regional markets. The trend toward mega-rail systems began in 1967 with the Seaboard Coast Line, which consolidated the formerly competing networks of the Atlantic Coast Line and the Seaboard Air Line in the southeastern quadrant of the United States. This merger was followed by the formation of a second mega-carrier in the Northeast. The Penn Central was formed in 1968 and 1969 with the consolidation of the Pennsylvania Railroad, the New York Central, and the New York, New Haven and Hartford.

In 1970 the Burlington Northern emerged as a mega-carrier in the West with the merger of the Great Northern, the Northern Pacific, and the Chicago, Burlington and Quincy. This combined system acquired the Spokane, Portland and Quincy by lease. In 1972 the Illinois Central Gulf was formed from the merger of the Illinois Central and the Gulf, Mobile and Ohio. This consolidated network linked the industrial heartland of the Midwest to the Gulf of Mexico. Four years later, Conrail was formed in the Northeast under the 3R Act. Conrail emerged as a public corporation with the forced consolidation of most bankrupt carriers in the Northeast, including the Penn Central, the Central Railroad of New Jersey, the Erie, Lackawanna, Lehigh and Hudson River, the Reading, and the Ann Arbor.

In 1980 CSX was formed in the East with the merger of the Chessie System and the Seaboard Coast Line and, in the West, the Burlington Northern expanded further with the acquisition of the St. Louis-San Francisco. In 1982 the Norfolk Southern system took shape in the East in response to the CSX and Conrail mergers and, in 1982, the Union Pacific emerged as a Western mega-carrier, with the acquisition first of the Western Pacific and then of the Missouri Pacific. In 1994 the Union Pacific added to its Western network by gaining control of the Chicago and North Western.

Each of these railway mergers and acquisitions required

the review and prior approval of the ICC, which by statute must make a prior determination that a proposed consolidation is in the public interest. In this respect rail mergers and acquisitions differ from all other corporate mergers and acquisitions in the United States. The “public interest,” as it is now defined by practice and precedent, involves a balancing of the multiple interests of labor unions, shippers, and competing railroads. In determining that a merger is in the public interest, the ICC is empowered to impose conditions on the consolidated system. One set of these conditions, referred to as the New York Dock Conditions, provides job protection and work guarantees to employees of the predecessor railroads who are likely to be affected by subsequent work force rationalization. The net effect of the ICC’s imposition of merger conditions is to dilute the operating and marketing synergies that might result from a merger and to share these economic benefits on some basis among the affected parties.

The involvement of the ICC in the merger process affects the cycle time for the preparation and implementation of the merger as well as the economic value of the final consolidation. Typically, merger proceedings are highly litigious and can drag on for years. In the 1980s the ICC declined to approve at least one proposed large merger between the Southern Pacific and the Santa Fe Railways.

In 1994 a new round of merger activity emerged with the proposed consolidation of the Illinois Central and the Kansas City Southern, as well as the takeover battle between the Union Pacific and the Santa Fe for control of the Burlington Northern Railway. The Union Pacific’s efforts to block the merger of the Santa Fe and the Burlington Northern and to initiate a hostile effort to gain control of a majority of Burlington Northern’s publicly traded shares represented the first time that competitive and contestable market mechanisms were used to bid for railroad corporate control in the United States. This development clearly signals that the industry has reached a new level of post-regulatory maturity in its ongoing efforts to restructure and reorganize in ways that will increase value for both shareholders and shippers.

7. Emergence of the Small Railroad Segment

The growth of the small railroad segment during the 1970s and 1980s and into the 1990s is the latest chapter in the structural evolution of the industry. Future prospects for growth in this segment appear robust. With the new wave of large railway mergers, new spin-off opportunities will no doubt emerge.

Although the small rail segment has continued to grow, the rate of increase has slowed. Figures 10.16 and 10.17 detail the creation of new roads between 1976 and 1992.

Growth began to slow after 1987. While some of this deceleration was due to the factors discussed above, an important U.S. Supreme Court decision in 1989 also retarded the development of the industry: that case was *Pittsburgh & Lake Erie Railroad Co. v. Railway Labor Executives’ Association*. This case addressed the conflict between labor contracts and ownership rights and the requirement of new small railroad owners to make severance payments before restructuring their work forces.

8. Work Rules and Unionization

Organized labor has traditionally played a dominant political and economic role in the U.S. railroad industry. All Class I railroads are unionized and exhibit wage levels substantially higher than those of non-unionized Class II and Class III railroads. Class I work forces are organized by craft; dealing with specialized crafts compounds the difficulties of collective bargaining. Craft-by-craft negotiations allow for less flexibility in the modification of work rules, which are carried out with modern technological advances. Thus, while competitive pressures and technological change have rendered many work rules outmoded, both the craft union organization and the limited negotiating flexibility allowed under railroad law make it difficult for the management of large railroads to change work rules.

U.S. railroad labor law has its origins in the 1926 Railway Labor Act (RLA), which applies uniquely to both railroad and airline labor. The RLA was a forerunner of the New Deal and pre-dates the National Labor Relations Act (NLRA), which applies to all other industries. The most important distinguishing feature of the RLA is that when an existing agreement expires neither management nor labor can act unilaterally to change the terms of the previous agreement. Neither management nor labor can take action without filing a notice on the other party and bargaining to impasse.

The strong *status quo ante* bias of the RLA was shaped by the railroad industry’s central economic role and the belief at the time that prolonged work stoppages would wreak havoc on the economy. In addition, the RLA requires that if new terms are not agreed upon by both parties a mediation process is automatically activated. The legislation specifies that once the arbitration process is initiated, wages and work rules — including those that are not specified in written contracts but are customary in practice — cannot be changed, and no action may be taken until all mediation efforts have been exhausted. It is only when all alternative remedies have been attempted that unilateral action can be taken (that is, that management can make changes to working conditions, or labor can go on strike). The status quo feature of railroad labor law in the United

Figure 10.16 - U.S.: Growth of Small Railroads, New Roads, 1976-92

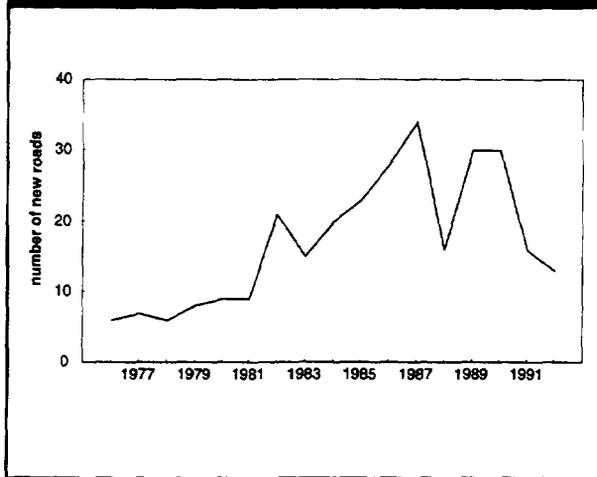
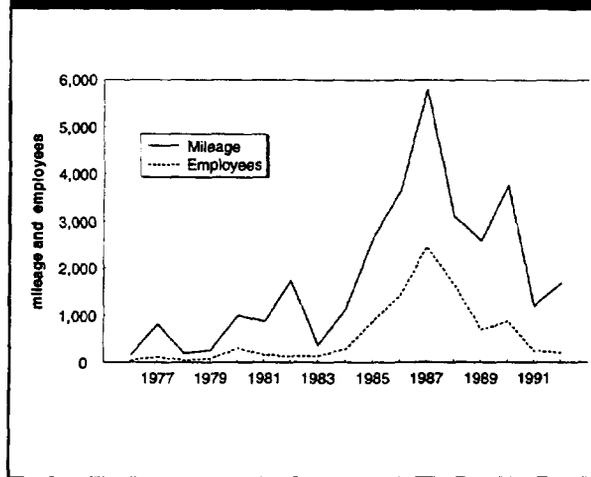


Figure 10.17 - U.S.: Growth of Small Railroads, Mileage and Employees, 1976-92



States makes fundamental changes in labor contracts difficult for railroads to realize.

This legislation plays a pivotal role in railroad line sales. The Interstate Commerce Act requires all railroads to obtain ICC approval before merging, constructing, selling, buying, or abandoning rail lines. In the past, the ICC made its approval of a transaction conditional on the railroad's provision of specific protections to employees who were threatened with displacement to lower paying jobs or outright dismissal as a result of the proposed transaction. In most cases, these protections represented a significant transaction cost, shares of which the parties to the transaction negotiated.

In the mid-1980s, in an important policy reversal, the ICC decided that labor protection measures would not be required for the sale of a rail line to a noncarrier. The rationale for this policy change was that branch lines would be abandoned if they could not be sold. By imposing costly labor protection on an already marginal situation, the ICC would either prevent a transaction from being completed or would so burden the purchaser that the risk of failure would increase considerably. The ICC's change in policy resulted in a flurry of small railroad sales. Branch lines that could not be operated profitably by Class I carriers could now be operated as short lines. Traffic that would have been lost continued to be fed into the Class I railroads. Unions opposed the lower staffing and wage levels which resulted.

The railroad unions challenged the ICC policy in the courts. One closely watched case — the aforementioned *Pittsburgh & Lake Erie Railroad Co. v. Railway Labor Executives' Association* — involving the sale of an entire railroad to a noncarrier, reached the U.S. Supreme Court. The

Court ruled that a railroad planning to go out of business and sell its entire line to a noncarrier "is not required to bargain with its unions over the sale, but may consummate the sale while it is bargaining with its unions about the effects of the sale on its employees, and may terminate effects bargaining when the sale is consummated."

The Pittsburgh & Lake Erie was a financially troubled regional railroad that agreed to sell its assets to another company. The railroad's unions, represented by the Railway Labor Executives' Association, argued that the sale of assets amounted to a change in working conditions and that such changes must be negotiated through collective bargaining. The Supreme Court found that the sale itself was not subject to negotiation with the unions but that the effects of the sale on the employees did require negotiation pursuant to the terms of the U.S. Railway Labor Act. This act provides for generous severance benefits. As a result, the effect of the decision was to slow somewhat the development of the small railroad industry.

After the decision, several important issues remained open. In fact, the decision may have raised more questions than it answered — for example: its application to a railroad selling only part of its line; the extent to which unions can use strikes to defeat the sale of a line; the rights of unions and carriers in carrier-to-carrier sales; and the authority of the ICC in affecting the respective rights of carriers and unions. Since the Pittsburgh & Lake Erie decision, the courts, the ICC, and various arbitrators have struggled with these questions. The result of the residual uncertainties from this case may well be fewer small railroad transactions in the 1990s.

On May 3, 1990, President Bush established a Presidential Emergency Board to investigate disputes between

railroads and labor regarding wages and work rules. On January 15, 1991, this Emergency Board recommended a series of wage increases through 1995, as well as changes in work rules that were less restrictive than those that had applied in the past. These recommendations were subsequently implemented for most railroads. In response to union protests, a second Presidential Emergency Board was appointed and its report issued on May 28, 1992. This second Board recommended the same wage increases and work rule changes as the first Board. The significance of the recommendations of both Boards was that the federal government for the first time supported railroad management's goals of (1) reducing inefficient work rules, and (2) reducing the wage gap between rail labor and workers with comparable skills.

PART III: PERFORMANCE OF SMALL RAILROADS

As a result of the changes in public policy discussed above, at least one-third of the mileage that would have been abandoned during the 1970s and 1980s was turned over to new small railroads. This asset conversion resulted in a significant social benefit. For example, small railroads provide the only available rail service to many small and rural communities. These communities enjoy lower freight costs and better transport service than would have been the case if rail service had been abandoned. In addition, fewer trucks travel over the highways — a circumstance which, in general, improves highway safety, lowers emissions, and reduces traffic congestion. Moreover, the large railroads have benefited from the overhead traffic that the small railroads generate as well as by the reduction in costs made possible by the spinning off of the light-density lines. Government has also benefited from tax revenues that would have been lost had the industry failed.

1. Incidence of Success and Failure

To date, the rate of survival of the newly formed small railroads has been encouraging. A recent study on short line railroads sheds light on new railroad formation.³ The study took as its sample the 118 new railroads formed in the period from 1970 to 1984. These new railroad companies were formed to take over lines abandoned or spun off by major companies and represented a total mileage of 7,479 at the time of their formation. By 1984, 19 of these lines had been abandoned (1,038 miles). By 1993, 16 of the

remaining lines, representing 783 miles, had been abandoned. By that time 7 other firms had abandoned portions of their lines, representing an additional 341 miles. Thus, of the 7,479 original short line miles, 5,317 remained. Six railroads actually offset part of this loss by adding a total of 668 miles. Thus, the total of miles operated was 5,985.

These figures hide an important factor underlying the dynamic nature of the small railroad segment. A substantial shifting of track and other assets apparently takes place from one line to another. Among the "test" case railroads, transfers of entire lines totaling 1,449 miles and partial transfers of 188 miles took place. These changes took place as a result of a variety of causes: financial difficulties, change in ownership, change in management policy, and change in the policies of the track owners. In a few instances operations were discontinued and subsequently resumed by a new firm only after a year or so.

Since the 1970s and early 1980s, divestment and re-investment activity has picked up dramatically. According to the above-mentioned study, a total of 184 new small railroad enterprises took over lines abandoned or spun off by major railroad companies from April 1984 to January 1993. In addition, nine new railroads were formed from lines abandoned earlier, before January 1, 1993. These lines were still in operation at that date. The total mileage of new railroads was 13,898 — a substantially larger increase during this eight-year period than during 1970-84.

It should be borne in mind, then, that few small railroads started since April 1984 have failed. Small roads have had remarkable success. The total post-1984 small railroad mileage abandoned by 1993 was less than 4 percent of the total of new post-1984 small railroad mileage.

There were several apparent reasons why the 1984-92 roads fared better than the roads formed before 1984. Fully 14 percent of the mileage of the earlier roads had been abandoned by 1984 — 28 percent by 1993. First, lines spun off in the later period had started with substantially more traffic than their predecessors. In the late 1980s, major rail systems began to spin off longer lines and network segments that generated significant traffic volume. For that reason, complete abandonment would have been strongly resisted. Second, by the mid-1980s financial instability and third party investors had learned from earlier experience. In the second epoch, only seasoned managers with adequate knowledge of railroad operation received financing. Third, by the mid-1980s less subsidy money from state and local governments was available.

The continued expansion of the new small carriers and the survival of existing carriers has been all the more remarkable in the face of several unanticipated economic challenges: (1) the recession of 1990-91, which caused a

³Due, John F., and Suzanne D. Leever, "The Post-1984 Experience with New Small and Regional Railroads," *Transportation Journal*, Vol. 33, No. 1, Fall 1993.

significant reduction in traffic volume; (2) the reduction of the local or state government support that was available in earlier years; and (3) the increased competition from trucks. Another challenge appeared in 1993 when the performance of small railroads was affected by floods. The segment's success can be attributed to (1) the ability of smaller companies to operate more cheaply than the major railroads on low volume lines, and (2) the ability of these companies to provide tailored service based on a superior knowledge of local needs. Lower operating costs derive in part from lower wage levels, greater flexibility in the use of workers in a variety of tasks, and the ability to use part-time labor.

Another interesting recent development is the separation of assets from rail operations. While more than two-thirds of the local carriers are privately held, 15 of the 276 new local railroads formed since 1976 are owned by state and local governments. Others receive operating subsidies from local municipalities in the form of reduced fees for leased track. Fully 3,278 of the 18,201 miles operated by local railroads established since 1976 are owned by government agencies. Among new local railroads, 48 of the 276 are owned by shippers. The "core" businesses of these shippers include coal mining, steel milling, stone quarrying, and grain elevator operation. In cross-ownership relationships involving shippers and railroads, "core" business operations can cross-subsidize rail operations, or vice versa, in ways that are beneficial to both sides, particularly if the cost of alternative transport is relatively high.

Many new local railroads are owned and operated by local railroads over trackage leased from Class I carriers. This arrangement has also proved mutually advantageous. For example, through small railroad control the Class I carrier can capture all of the overhead traffic that the local railroad generates. Conversely, the local railroad can benefit from assured car supply and advantageous repair agreements with the larger railroads. Norfolk Southern Corporation, a large Class I carrier operating primarily in the Southeast and Midwest, has been active in developing joint marketing and operating synergies with its local railroads.

Since local market conditions directly affect the success of a local railroad, owning railroads in different locations that carry different commodities is an effective way of diversifying ownership risks. This strategy has been pioneered by a number of small railroad "holding" companies. For example, Railtex, which is based in San Antonio, owns two dozen small railroads. These railroads are spread throughout the United States (and now Canada) and carry a wide assortment of commodities. The corporate office of Railtex handles accounting and makes decisions on car allocations and capital investment. It also provides mar-

keting and financial assistance, while the local offices actually operate the railroads. Railtex recently completed a successful IPO and with the process of that capital flotation expects to expand its formula for improving the productivity of the small railroads in which it invests. Railtex dispatches a "go team" to assist with the installation and initial operation of the company's operating systems on each investment road. The railroads typically invest in new sales personnel, in increased train service, and in restoring sidings to small shippers shortly after a takeover. The result in 23 acquisitions has been a significant improvement in profitability. Several other multi-railroad groups have followed similar strategies.

2. Mini Case Study: Wisconsin Central

No single formula exists for successful small railroad operations. The strategies and operations of individual carriers vary widely. However, a review of several specific small rail operations may help in explaining both their success and their diversity. Wisconsin Central Ltd. is the railroad operation of Wisconsin Central Transportation Corporation. The company was founded in 1987 in a \$122 million leveraged buyout of the Lake States Transportation Division of the Soo Line Corporation. The origin of the company can be traced back to the entrepreneurial efforts of two railroad industry executives who were looking for a small railroad to buy and operate. An important factor in their plans to was the greater price-setting flexibility which the Staggers Act gave to non-Class-I lines. The Staggers Act also set the stage for network downsizing programs which Class I carriers used to create feeder railroads.

The two railroad executives felt that they could lower the fixed costs of operating the former Soo Line tracks by minimizing the use of switching yards and switch engines and at the same time improving the quality of services offered to local customers. With more flexible labor agreements, reduced crews, and a sophisticated computerized information and control system, they believed that they could operate the former Soo Line profitably.

Wisconsin Central's operating concept rests on three elements: (1) non-union operations, (2) a strong focus on customer service, and (3) a market-oriented management. When it was founded, Wisconsin Central became the largest regional railroad in the United States. Its operations served Wisconsin extensively, as well as parts of Minnesota, Illinois, and Michigan. As a non-union railroad, the company was able to realize competitive cost and service advantages over more traditional railroads in three areas: (1) more service flexibility, (2) high productivity and low cost operations, and (3) customer-tailored service designs and effective marketing.

The period immediately following the buyout (1981-88) was financially difficult for the carrier. By late 1989, however, the company had improved its cash position significantly and was able to complete a \$40 million refinancing, thus extending the maturities on its existing debt. In May 1991 the company completed an initial public offering for \$36 million, for 36.7 percent of its equity. Proceeds from the offering were used to repay debt. The company's stock was issued at \$16.50 and three years later was trading above \$30.

Figures 10.18 and 10.19 review the company's financial performance. From 1988 to 1993 the company increased its operating revenues by almost \$60 million. During this same period traffic volume increased significantly while revenue per carload actually decreased. By 1993 carloadings had increased to 257,000, up from 145,000 in 1988 — a 77 percent traffic improvement. Over the same period the railroad industry experienced a relatively flat performance. The net result, however, was significantly improved revenue and profit. By 1993 Wisconsin Central's operating ratio had decreased to 77 percent, which placed it among the best performers in the rail industry.

In addition to various customer service awards, the company was nominated as Regional Railroad of the Year by *Railway Age*, a prestigious industry publication. Wisconsin Central was specifically cited for "setting an example of prudent management and bold marketing for the entire industry." Figure 10.20 shows total assets for the period.

Wisconsin Central achieved an exceptional level of performance in a short period of time to a large extent because of its non-union status. Significantly, the carrier has managed to create 400 new jobs since it started operations (see Figure 10.21).

Labor issues have remained a key focus of manage-

ment attention since the company's startup. The transaction creating Wisconsin Central has been delayed because of the company's plan to transform the unionized operation into a non-union operation. The labor unions filed suit against the company in both state and federal courts. While they were not successful in blocking the sale, they delayed the closing of the transaction. Subsequently, in 1990, the Brotherhood of Locomotive Engineers gained sufficient employee support to hold an election but received less than 20 percent of employee votes, thus falling short of the required organizational threshold. A second unsuccessful drive at unionization took place more recently.

Management believes that favorable pay and a "team" attitude explain the failure to unionize. More flexible work practices have improved productivity levels and have helped reduce operating costs to levels well below those of Class I carriers. An automated billing, inventory, and control system has also enhanced productivity by minimizing the need for clerical workers. Cross-training and cross-staffing have enabled the company to minimize periodic layoffs and callbacks, which have a disruptive effect on the work forces of other, larger railroads. Significantly, Wisconsin Central spends 30 percent of its revenue on labor costs compared with 50 percent spent by the larger Class I unionized carriers. Although its base salaries are lower than the railroad industry average, the company pays a performance bonus. At the time of the IPO the company also initiated an employee stock ownership plan (ESOP) for all employees, which held slightly less than 5 percent of company stock.

Since its formation, the company has sustained an aggressive communication campaign for potential customers, in which the management has pledged to offer more frequent and dependable service at competitive prices by

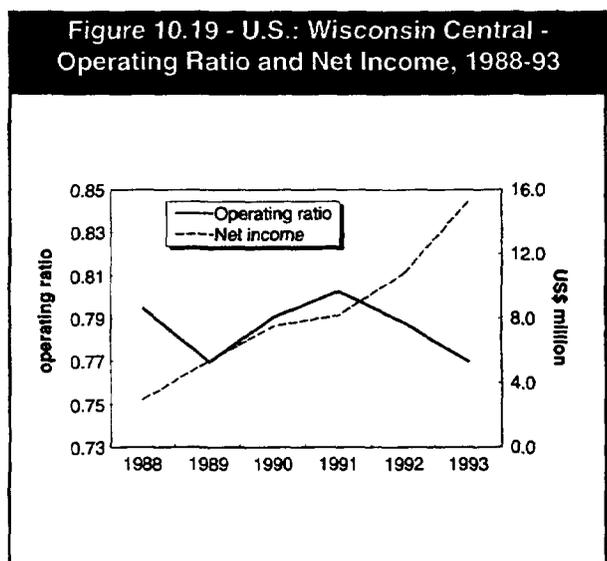
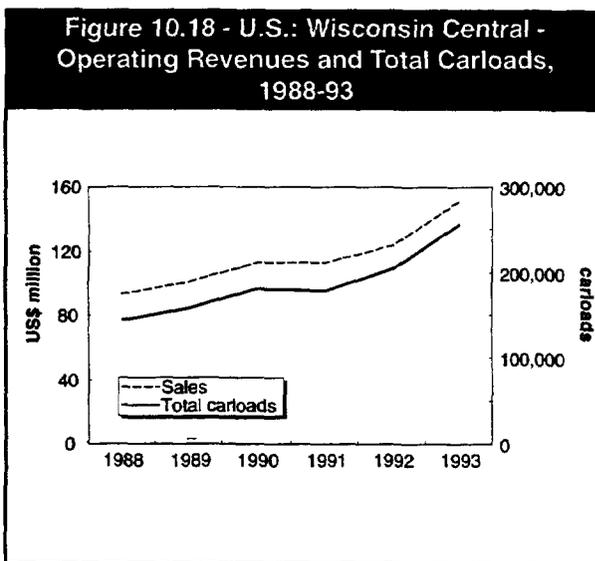
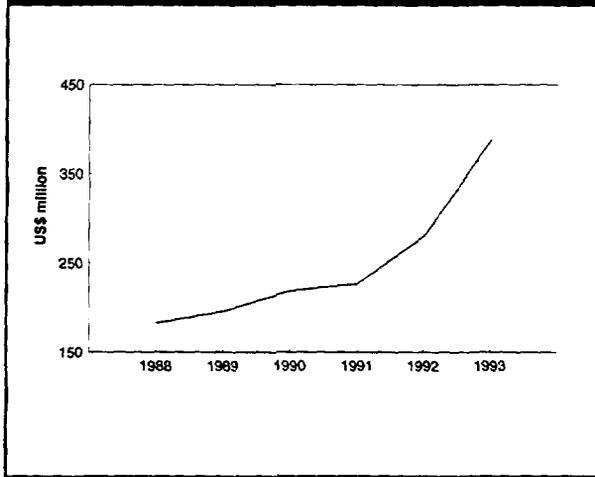


Figure 10.20 - U.S.: Wisconsin Central - Total Assets, 1988-93

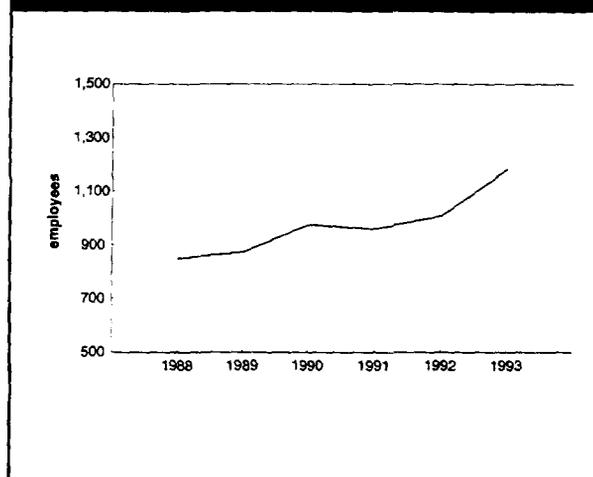


customer-oriented employees. This campaign has proved essential to retaining customers in an uncertain financial atmosphere and to building the foundation for a resurgent traffic base.

The company's marketing approach is also unconventional: field sales/marketing and customer service departments report through the operating department rather than through a separate sales or marketing department. The rationale for this innovation is that most customer problems are operations-related and should be dealt with directly by the relevant department. Wisconsin Central interchanges traffic with seven Class I railroads, thereby offering its customers multiple routes and competitive rates to many destinations. The railroad's service achievements have attracted an increasingly diverse traffic base. Although the paper industry continues to be the single most important client industry group (raw fiber materials and finished paper products account for 27 percent of volume and 34 percent of gross revenues), in 1992 the company commenced joint intermodal services with several motor carriers (primarily J.B. Hunt Transport, Inc., and Schneider National, Inc.). This service involves direct door-to-door truck/rail service to and from northeastern Wisconsin. This business has grown rapidly and represented 12.3 percent of the company's 1993 volume.

As of the end of fiscal year 1993, Wisconsin Central operated 2,507 route-miles of track and trackage rights. It owned 150 locomotives and 9,673 rail cars, and employed approximately 1,200 workers. In recent years the company has pursued an aggressive capital expenditure program (for example, in 1992 it placed a \$35 million order for 750 freight cars) (see Figure 10.22). The company ranks among the most aggressive regional carriers in the United States:

Figure 10.21 - U.S.: Wisconsin Central - Average Work Force, 1988-93



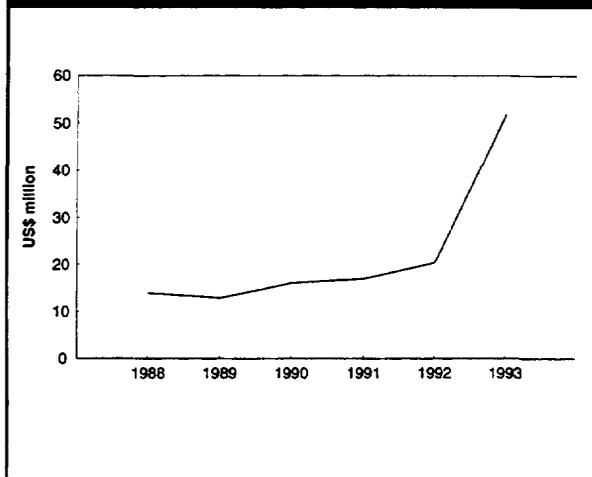
this fact is underscored by its active acquisition program. In early 1992 Wisconsin Central agreed to purchase the rail operating assets of the Green Bay and Western and Fox River Valley Railroads, both subsidiaries of ITEL Corporation. Organized labor objected to the transaction, but the ICC voted unanimous approval before the end of the year. Also in 1992, the company sold shares in a secondary share offering, which reduced the stake of "zero stage" outside investors in the company, as part of its exit strategy.

Wisconsin Central's acquisition-led expansion strategy continued in 1993 and the company also led a consortium, that bought the 2,500-mile New Zealand Rail system. This consortium, which included Berkshire Partners, a U.S. investment firm that had helped found Wisconsin Central, as well as various New Zealand investors, paid NZ\$328 million (US\$179 million) for New Zealand Rail, in a transaction including the inter-island ferry service but excluding running track. The arrangement also includes an annual government subsidy aimed at assuring continuation of passenger service. Eventually the consortium plans to float some of the company (possibly 40 percent) locally.

3. Mini Case Study: Iowa Interstate Railroad

The complex restructuring of Iowa Interstate illustrates the resourcefulness and resilience of the U.S. short line industry. Its predecessor, the Rock Island Railroad, filed for bankruptcy in 1977 and in 1980 was in the process of being liquidated. Various operators had taken over isolated segments of the Chicago-Omaha main line on an interim basis, and integrated operations had ceased, when Iowa Interstate was founded in 1984, assisted by a \$16 million loan from the Iowa Railway Finance Authority. The loan was highly controversial at the time. In retrospect, it was

Figure 10.22 - U.S.: Wisconsin Central - Annual Capital Expenditure, 1988-93



probably the only way to preserve the line, which is the only route serving the state's most densely populated corridor. The 552 miles of assets were purchased by Heartland Rail Corporation, a consortium of on-line customers, for \$31 million. Heartland Rail then leased the track back to Iowa Interstate.

In 1990, the Chicago West Pullman Transportation Corporation (CWPT) assumed management responsibilities of the Iowa Interstate as part of a planned acquisition of the company, which failed to materialize.

In 1991 the Railroad Development Corporation (RDC), a Pittsburgh-based railway investment and management group, together with Heartland, bought 19.9 percent and 80.1 percent, respectively, of Iowa Interstate and together restructured its finances. This was the first year in which Iowa Interstate came under the purview of RDC. RDC invests its own money and provides "hands on" rail management. The company typically seeks cooperation with labor before making a railroad acquisition. In addition to Iowa Interstate, RDC has taken an equity position in two Latin American railways, Buenos Aires al Pacifico and Ferrocarril Mesopotámico - General Urquiza.

At the time of its restructuring Iowa Interstate faced millions of dollars of overdue bills and could not produce an audited financial statement. In advance of the closing of its acquisition, RDC assumed responsibility for managing Iowa Interstate's day-to-day operations. RDC has an option to buy the railroad and its track assets exercisable between 1996 and 2001 — a strong incentive to realizing a successful turnaround. The operating business (Iowa Interstate) and the trackage business (Heartland) were consolidated at the time of the 1991 RDC acquisition.

Since 1991, Iowa Interstate has moved to control its

costs and to restructure its debt. On the marketing side, the company has emphasized cooperative arrangements with connecting lines to better serve customer needs and thereby generate a higher traffic volume. The company has also rehabilitated its tracks to allow for higher train speeds, and this has improved its service reliability. As a result, 1992 was the most profitable year in the company's history. The company's financial strength was tested again in 1993 when floods severed its main line for more than a month. In 1994 the State of Iowa agreed to finance the construction of a new intermodal terminal at Newton, Iowa, to handle the 1996 expansion of the railroad's largest customer, Maytag, a manufacturer of home appliances. The abandonment of its Audubon branch is pending; this will eliminate costs without resulting in loss of revenue. The company's financial and operating performances are reviewed in Table 10.6.

PART IV: LESSONS LEARNED

The lessons that can be learned from the experience in the United States of incubating a small railroad industry segment are of value to public policymakers, to railroad entrepreneurs, and to large railroads wishing to downsize their asset bases and improve their returns on invested capital. These lessons include the following:

- *A liberal regulatory framework is essential, in particular one that facilitates both entry into and exit from the industry.*

In the case of the United States, the regulatory framework (which supported light-density line conversions into small railroads) decreased as efficient markets for railroad assets replaced regulatory structures and restrictions as the basis for ownership transfers. In the development of a small railroad industry, an important initial formative role exists for government in establishing the "rules" for asset conveyance. Market mechanisms, including carrier-initiated mechanisms for advertising the availability of light-density lines and financial intermediaries and brokers, will emerge spontaneously.

- *Buyers must not be bound to assume the labor obligations of sellers.* In the United States it is clear that the right of new owners to negotiate contract terms and conditions appropriate to small-scale operations was a driving force behind the creation of a viable small railroad segment. Clarification of labor and new owner rights can be gained either through legislation or through judicial interpretation.

- *The availability of long-term financing is a necessary prerequisite for entrepreneurial startups.* Long-term financing for small railroads can be assured only through accumulated experience and "missionary selling" to financial institutions. The assets of small railroads are long-lived,

Table 10.6 - U.S.: Iowa Interstate Railroad - Performance, 1985-93

	1985-89				
	1985	1986	1987	1988	1989
Carloads	31,584	38,228	48,080	54,318	58,477
Freight Revenue	\$11,159,836	\$15,355,342	\$20,300,598	\$24,530,047	\$28,573,213
Operating Profit	(\$658,237)	\$556,217	\$586,070	\$1,105,041	(\$2,716,328)
Net Income (Loss)	(\$3,250,263)	(\$1,662,076)	(\$1,550,296)	(\$2,272,319)	(\$5,142,964)
Operating Ratio	1.1042	1.0029	0.9955	0.9892	1.1055
Total Debt					
Revolving Credit Agreement	\$5,812,423	\$3,938,494	\$3,772,340	\$250,000	\$550,000
Long-term Debt Due within 1 Year	839,439	1,066,474	2,002,292	8,560,283	8,351,522
Long-term Debt	23,547,360	27,415,125	28,885,593	27,976,916	27,661,082
TOTAL DEBT	30,199,222	32,420,093	34,660,225	36,787,199	36,562,604
	1990-93				
	1990	1991	1992	1993	
Carloads	53,369	48,285	48,278	44,207	
Freight Revenue	\$27,546,556	\$24,884,173	\$24,725,173	\$24,354,345	
Operating Profit	\$2,960	(\$1,378,541)	\$2,379,771	\$1,515,000	
Net Income (Loss)	(\$2,436,154)	(\$2,078,758)	\$1,448,321	(\$17,000)	
Operating Ratio	1.0361	1.0775	0.9184	0.9632	
Total Debt					
Revolving Credit Agreement	\$0	\$1,200,000	\$183,000	\$800,000	
Long-term Debt Due within 1 Year	6,624,000	5,327,000	5,218,000	2,188,000	
Long-term Debt	26,163,000	21,909,000	19,863,000	20,041,000	
TOTAL DEBT	34,787,000	28,436,000	25,284,000	23,029,000	

Note: Data are from Annual Report for Class II and III Railroads to the State of Iowa.

and require long-term financing. In the United States much of the energy and effort of railroad entrepreneurs, particularly in the first years of operations, is directed to extending maturities on existing debt, refinancing, and, in general, improving weak balance sheets. In the United States, this process has entailed the development of specialized third-party financial intermediaries (i.e., merchant bankers, commercial banks with specialized rail investment capabilities and venture capital funds), which have grown with the small railroad segment itself. In this context, one potential policy inhibitor that has raised the threshold for long-term private sector financing is the existence of bankruptcy laws that treat railroad assets uniquely and make it more difficult for small railroad creditors to satisfy their claims in bankruptcy proceedings through expeditious liquidation. Equal treatment of risk implies equal access to capital for this segment.

- *The best protection for a third-party investor in a small railroad is a thorough "prudential review" or "due diligence analysis."* Private investors can minimize the risks of investment only by systematically assessing the markets, op-

erations, finances, and management experience of the startup railroad. A thorough due diligence analysis should cover a number of issues, including those identified in Box 10.1 and Table 10.7.

- *Institutional support at the industry level is another essential prerequisite.* In the United States, small railroads enter the rail service marketplace with an entire interline operations and support system available. This support takes multiple forms, but primarily involves: (1) joint line pricing; (2) revenue settlements; (3) operating systems and standard interline procedures; and (4) car hire and car supply management.

- *Due diligence analysis is an essential prerequisite to protecting the buyers' interests.* Prudence and preparation are the keys to successful investment in small railroads. Before funding is arranged by a bank or other financial institution, the outside investor typically performs a due diligence study of the railroad. This entails an analysis of a railroad's short-term financial prospects and a critical evaluation of the railroad's business plan. Due diligence studies may be organized in different ways, but they typically ad-

Box 10.1 - Typical Issues to Be Covered in a Due Diligence Analysis

Joint Line Pricing	Revenue Settlements	Operating Procedures	Car Hire and Car Supply Management
<p>Fully 87 percent of the loads handled by small railroads move in connection with other railroads. Most of these loads move as "through rate" shipments, which means that: (1) they involve uninterrupted dock-to-dock movement; (2) they require a single bill of lading; and (3) they move via the route (carrier and junction sequence) specified in the bill of lading. The implications of through rates and through shipments are significant for small railroads. Through shipments entail a range of mutual dependencies among railroads which run from price setting and price administration to the settlement of joint liability claims for damaged cargo. Most small carriers participate in joint rates with Class I carriers and in many cases they designate these carriers as their agents in adjusting prices to respond to competitive circumstances.</p> <p>The method by which revenues from joint rates are distributed among the carriers who participate in through movements is by way of "divisions." Divisions are private contracts that specify the basis on which revenues are shared among rate territories (primary divisions) and among specific carriers within a rate territory (secondary divisions). A contractual basis for dividing revenues and for administering through prices is typically negotiated and agreed upon when a new railroad is organized, and this determination is one of the key determinants of small railroad viability.</p>	<p>Under the auspices of the AAR, the railroad industry has established conventions and systems for "clearing" revenues. Typically, the delivering carrier in a through movement collects the freight charges and notifies other participating carriers of the availability of funds to compensate them for their participation in the movement. The procedures, timing, and formats for interline settlements of revenues are specified under the AAR's Railroad Accounting Rules. The AAR serves as a clearinghouse for exchanging computer data relevant to reconciling revenue accounting records among carriers. Through its Accounting Division — a committee comprised of the chief accounting officers of its member railroads — the AAR administers the industry-wide use of the Railroad Accounting Rules. This group also serves as an arbitrator for resolving disputes among carriers.</p>	<p>Over the past two decades the railroad industry has become increasingly information-intensive. The standard format for exchanges among carriers, as well as the rules and procedures that apply to interchange operations, are developed under the aegis of the AAR's Operating Division — a representative committee of chief operating officers. For example, the AAR maintains, for the entire industry, the following standard procedures:</p> <ul style="list-style-type: none"> • Railroad Identification Code • Car Hire/Car Service Agreement • Interchange Rules Agreement • Assignment of Trailer and Container Reporting Marks • AAR Interchange Rules for Trailer-on-Flat-Car Service • Code of Trailer and Container Service and Reporting Rules • Rules Governing Assignment of Reporting Marks and Mechanical Designations • Embargoes and Reroutes. 	<p>In 1911 the ICC ruled that a railroad could not restrict its cars to on-line operations if that railroad participated in through rates and routes. Contemporary railroads freely interchange their equipment. The terms and conditions under which this equipment moves among carriers and the basis for settling the car hire which is due between users and suppliers of free running equipment are administered at an industry-wide level by the AAR. The Transportation Department of the AAR enforces car service rules that have been adopted as industry norms, and issues directives to individual carriers which assure the equitable and efficient use of equipment when it is made empty on foreign lines. Similarly, uniform rules have been established by voluntary agreement within the industry for the compensation by a user carrier for the equipment of another carrier, based on original cost and hours of use and distance. These rules, together with the reconciliation of car hire accounts, are administered by the AAR. In addition, railroad subscribers to the AAR "Interchange Agreement" operate within an administered system that determines responsibility for off-line car repairs and the debit and credit of standardized car repair costs. Yet another industry-wide AAR car maintenance accounting system and a corresponding set of conventions applies in this area of essential interline activity.</p> <p>Small railroads are the beneficiaries of all of these institutional arrangements. In many instances the primary Class I interchange carrier that links to the small railroad also provides the accounting and information connections through which the small carrier accesses industry-wide clearance capabilities. Significant economies of scale apply in the creation of standard procedures, standard systems, and ancillary information exchanges. Without such industry-level support, a small railroad industry segment could not be started up.</p>

Table 10.7 - U.S: Sample Railroad Due Diligence

1. Property Selection	2. Financial Considerations	3. Other Important Factors	4. Regulatory Process	5. Special Analyses
Marketing	Coordinated Business Plan	EDP	Economic (Rate/Service) Regulation	Environmental Liability
Operations	Availability of Funding	Risk Management	Labor Impact	Assignment of Agreements
Human Resources	—	Taxes	Competitive Criteria	Fiber Optics/Mineral Rights
		Accounting System	Trackage Rights Agreements	Earn Out Structures
		Surplus Assets	Political Support/ Customer Support	

dress the same issues. For example, one due diligence study commissioned by one successful purchaser of a small railroad divided its analysis into the areas of: (1) property selection, (2) financial considerations, (3) other important factors, (4) regulatory process, and (5) special analyses.

The successful purchaser using the due diligence shown in Table 10.7 concluded that the business plan was realistic, that adequate funding was available, and that good managers and employees were available. After operating the company for a number of years the owners realized that the process would cost more and take longer than had been anticipated and that four key elements should have been stressed in the due diligence analysis, as follows:

- Customers must fully support the new ownership
- Employees must have strong performance incentives
- Service, rates, and equipment should be better than those of the previous owners
- The new operation should have access to multiple carriers and interchange locations.

Many investors employ consultants to review the operating business plans of small railroads, to interview key

shippers, to make equipment appraisals, to undertake a legal review of operating contracts, and to conduct an environmental review. The entire analysis then goes to experienced legal counsel for review. Even when the investment appears viable, the bank defines its own range of investment interest on the basis of several considerations, as follows:

- *Capitalization:* The level of equity is dependent on interchange agreements, capital expenditure needs, commodity/customer mix, cyclicity/seasonality, and fleet needs
- *Term:* 30-year term
- *Interest Rate Protection:* A minimum of 50 percent of debt to be rate protected
- *Funded Debt/Equity:* A maximum of 4:1, reducing to 3:1 by the end of year 3
- *Cash Flow Coverage:* A minimum of 1.2 percent.

Finally, a bank typically conducts a “fallback” of “exit” analysis. It values the railroad as a going concern, for its strategic value to a larger railroad (for possible sale), and for its liquidation value. ■

CHAPTER ELEVEN

CANADIAN RAILWAYS CASE STUDY

SUMMARY

1. Introduction

Canada has a unique rail industry structure that is dominated by two giant parallel rail systems — one privately owned (Canadian Pacific Railway) (CP) and one publicly owned (Canadian National Railway) (CN) — competing with each other for freight traffic. These two transcontinental carriers account for 89 percent of main and secondary lines in the country, while 23 other rail carriers operate in one or more of Canada's 10 provinces. Sixteen of the 25 carriers in the country are under federal jurisdiction, while 9 are under provincial jurisdictions.

In Canada, railway restructuring has been primarily “permissive” and thus is in contrast to government-directed railway restructuring, described elsewhere in this study. The Canadian experience is similar to that of the United States in terms of the prerogatives given to managers of individual railways to restructure their service networks, assets, liabilities, and work forces. However, unlike the U.S.-based railroads, Canadian railways have been relatively slow to restructure in the face of mounting challenges from both intermodal and international competitors. While the reasons for this slower pace are many, they lie primarily in the framework for economic regulation within which Canadian railways operate.

“Permissive” or “bottom up” restructuring takes place more or less efficiently in various competitive, regulatory, and state/private ownership environments. In Canada, the specific competitive factors that compel railway restructuring are strong. They include cross-border intermodal competition as well as competition from national motor carriers and increasing international rail competition. The regulatory environment that offsets the restructuring influence of these market factors has multiple dimensions. Generally, this environment can be characterized by: (1) labor laws that limit opportunities for productivity gains that could be made through operating consolidation and through light density line spin-offs; (2) a system of government-directed economic support which involves substantial cross-subsidies among markets and line segments; and (3) “open access” regulation which affords shippers the

alternative of being served by carriers other than those that access them directly (thus, the regulatory environment diminishes the value of ownership rights).

2. Lessons Learned from the Experience

The restructuring experiences of the Canadian railways offer several useful lessons in the areas of: (1) the divestment of the railway passenger business to a government-sponsored operating company, VIA Rail; (2) the independent and incremental downsizing efforts of CN and CP, including shedding of excess work forces and abandonment of light density lines; (3) the gradual development of a short line industry segment; and (4) the continental combination and network integration of CN and CP.

In each of these areas a marked contrast exists with the parallel restructuring activities within the United States, where the pace of rail transformation has been more rapid. Throughout the twentieth century, the structure of the Canadian rail industry has for the most part remained intact, while, at the same time, the transport markets served by Canadian rail carriers have changed radically. The structural changes that have taken place in Canada have “followed” rather than “led” the market.

The lessons learned from the Canadian railway experience have to do primarily with the intrusive nature of economic regulation and the consequences of cross-subsidies — and, more specifically, with the consequences of these factors for restructuring. We can learn from the Canadian experience that regulations that require railways to support uneconomic activities also significantly reduce incentives for reorganization.

The most important issue confronting Canadian railways at the present time is asset rationalization. The 1991-93 recession highlighted the need for bolder and more strategic steps toward re-sizing the asset bases of Canadian railways to match the needs of changing markets. Recently, CP and CN have acted unilaterally, without government encouragement, to rationalize their combined asset bases. Initially the two carriers entered into a number of cooperative agreements designed to facilitate a national network restructuring of their operations. In early 1995, negotiations were under way between the two carriers.

3. The Case Study

The remainder of this case study is organized into four parts: Part I discusses the underlying conditions defining the environment in which the Canadian rail industry operates — namely, the market, the competition, the network, geography, and the economic regulation under which Canadian carriers operate. The restructuring experience of Canadian railways is the subject of Part II. In this section, Canada's incremental restructuring process and the legislation that defines its course are reviewed in detail. Part III describes the industry's recent performance, while Part IV draws out lessons to be learned from the Canadian experience.

PART I: BASELINE CONDITIONS

1. Structural Evolution of Canadian Railways

Beginning in the early nineteenth century, numerous independent regional railways were built to serve the colonial residents of central Canada. As Canadian national unification became increasingly important, political and economic pressure for a transcontinental rail line increased as well. A flurry of rail building activity and subsequent consolidation eventually resulted in the construction of the two railways that still dominate the Canadian rail industry: the Canadian Pacific Railway (CP) and the Canadian National Railway (CN).

Prior to the consolidation of the industry into two transcontinental providers, several private regional companies served the needs of the growing Canadian nation. These companies included, among others, the Grand Trunk Railway (GTR), the Intercolonial Railway (ICR), and the Great Western. These carriers provided freight and passenger services between major population centers in central Canada and the United States. By the mid-nineteenth century private railways had constructed over 3,000 kilometers of track which connected cities such as Winnipeg, Toronto, Sarnia, Montreal, Detroit, Chicago, and Duluth. Through rail links with the St. Lawrence Seaway (Quebec City) and the Atlantic (for example, Portland, Maine), early Canadian regional railways provided landlocked communities with essential access to European markets.

In the 1880s, in order to consolidate the politically and geographically dispersed colonies of Canada and to provide commercial access to the hinterland (the prairie regions), the central government persuaded railway builders to construct an "intercolonial" railway from coast to coast. Although the task required overcoming major difficulties (such as penetrating the Rocky and Selkirk Mountain ranges), CP was completed in 1885 with considerable government assistance. CP linked the colonies together and

expanded economic development opportunities within the country; it connected Halifax (among other cities) on the Atlantic with Port Moody on the Pacific.

By the end of the nineteenth century, the development of grain production in the prairie provinces helped CP become a highly profitable company. A flurry of imitative interregional rail building activity followed as other companies constructed railway links into the western regions. Some of this development was motivated by expectations of large profits; other rail lines were built by the federal government to advance nation building, and also in response to the threat of war with the United States. In any case, an over-capacity of railways resulted, which eventually led to the first industry "shakeout."

In 1917 a royal commission was established to study the domestic "rail crisis." On the basis of the commission's recommendations, the government consolidated and rationalized the assets of three nearly bankrupt railway companies (Intercolonial, Trans-continental, and Canadian Northern) to form CN in 1919. CN emerged from this consolidation process as a Crown corporation. Capital stock in CN was and still is vested in the Minister of Finance on behalf of the Crown. In 1923 the federal government entrusted to the new corporation the ownership of the various insolvent railways that it had taken over. The creation of CN was based on pragmatic considerations rather than on any desire to radically alter Canada's market economy. Federal and provincial governments had been co-investors in the predecessor railways and the consolidation of the railways into CN was carried out in order to protect public investment and to preserve the government's credit in international markets.

The new Crown corporation was given the mandate "to operate as one united system, on a commercial basis, under its own politically undisturbed management for the benefit of Canada." This original charter has neither been altered nor revoked since the carrier began as a conglomerate of near-bankrupt railways in 1923.

The sheer size of the new CN conglomerate (over 35,000 network kilometers), and the fact that its internal controls were inadequate, initially resulted in loss-making operations and delayed, for an extended time, the divestment of redundant lines. In this respect, CN's initial operations contrasted starkly with those of CP, which at that time operated a trim 23,000 kilometers of profitable rail line.

CN and CP cover the same territory and in many parts of the country run parallel lines which are only a few miles apart. In the early 1920s, CP's president, Thomas Shaughnessy, proposed that the CN conglomeration of roads be operated jointly with CP. Under this scenario, operations could be integrated but ownership of the lines

and profit shares would remain separate. Shaughnessey's proposal was rejected for three reasons: first, the government would have been obliged to guarantee advances for CP shareholders; second, this arrangement would have created a virtual rail monopoly; third, a short-term improvement in financial performance for CN raised false hopes about future potential profitability.

In any case, CN began the work of downsizing and integrating its overlapping operations in earnest when its board of directors hired Sir Henry Thornton as the company's first chairman. Thornton overcame numerous "startup" difficulties and began to unify the three railways that he inherited — Grand Trunk Railway of Canada, Intercolonial Railway, and Canadian Northern (CNOR) — to form an integrated CN network. He restructured the lines into an efficient network and began the process of downsizing CN's labor forces. Under Thornton, CN made aggressive investments in rail facilities and rapidly advanced its technical capabilities. It began to compete effectively with CP. Although aggressive investment improved the competitive capabilities of CN vis-à-vis CP as long as freight markets continued to grow, with the advent of the Great Depression the added investment burden proved too costly. As a result of sharp reductions in traffic levels in the early 1930s, CN was unable to cover its interest and principal payments. Thornton was dismissed in 1933.

During the years of Thornton's chairmanship, the CP management remained harshly critical of CN's expansion

and modernization strategy. CP publicly disclaimed "unfair" competition and unnecessary duplication of facilities. In 1932 a royal commission, the Duff Commission, was organized to investigate these criticisms. The Duff Commission found that competition between the two railroads was "wasteful" and suggested that their competitive relationship be replaced by a more cooperative one. Most of the commission's recommendations were incorporated into the Canadian National-Canadian Pacific Act (CN-CP Act) of 1933 (see Box 11.1). However, only limited cooperation followed the Act — primarily the joint operations of through passenger trains between major Canadian centers.

Since CN's startup in 1919, CN and CP have maintained independent transcontinental networks to the exclusion of new entrants. Head-to-head competition between the two carriers and a consequent duplication of rail facilities remains to the present day the most distinctive structural aspect of the rail industry in Canada (see Figure 11.1). No institutional arrangements have been found to effect an efficient, coordinated operation between the two primary carriers and at the same time allow for effective competition.

2. CN's Status as a Crown Corporation

Crown corporations such as CN are expected to make a profit and realize a reasonable return on public investment. Crown corporations may be formed for a variety of reasons. CN, however, was created to bail out failing private

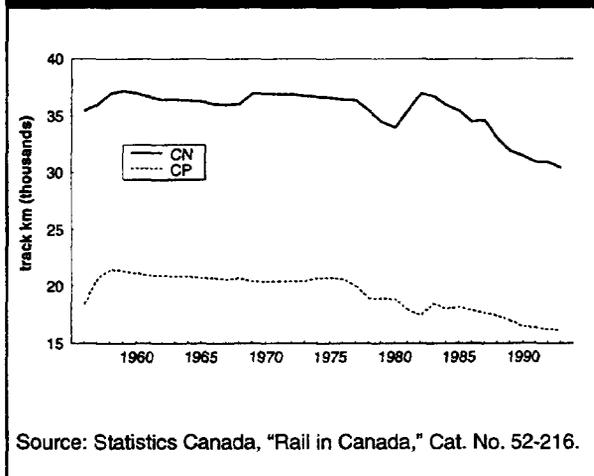
Box 11.1: The CN-CP Act of 1933

With the onset of the Great Depression, CP and CN were faced with dwindling traffic levels and increased financial difficulties. The CP management suggested merging the two railways under CP's direction to streamline operations across Canada. Both the public and CN's management were opposed to the merger since it would create an intercolonial rail monopoly in Canada. However, the government could not ignore the poor performance of the two companies and the duplication of rail services. To settle the issue, they established the Royal Commission on Railways and Transportation under Sir Lyman Duff (the Duff Commission).

Recommendations of the Duff Commission were incorporated in the CN-CP Act of 1933. The Duff Commission concluded that unnecessary duplication of facilities did in fact exist. However, the Commission stopped short of recommending a merger of the two railways and instead called for the establishment of an "arbitrary tribunal composed of the chairman of the Board of Railway Commissioners and a representative from each railway, with power to enforce cooperation in running rights, joint use of terminals, abandonment of lines and the pooling of services." Since the CP management was opposed to this tribunal, the mechanism did not find its way into the CN-CP Act. Instead, the Act merely called for increased cooperation between the two railways. This came in the form of the Joint Cooperative Committee (JCC), composed of appointees from each of the railways. Apart from pooled passenger services on some heavily traveled lines, however, the amount of cooperation that resulted from the JCC was minimal.

The CN-CP Act also established a public trusteeship for CN with an appointed chair and two directors. Since CN was incurring severe losses, the government had to assume direct financial liability in order to support the failing company. This, in tandem with a significant recapitalization (\$1.23 billion), stayed CN's losses and once again instilled a sense of public confidence in the company.

Figure 11.1 - Canada: CN and CP Networks, 1956-93



railways, to maintain rail services in dependent regions, and to facilitate the nation building aspirations of the federal government.

From its inception, CN suffered from lack of a coherent corporate governance policy, which made it difficult for CN management to effectively guide the corporation toward long-term objectives. By the 1970s serious concerns were raised about the effects of mixing public policy with profit-making objectives on CN as well as other Crown corporations. Following the general recommendations of the Lambert Commission, Parliament passed the Crown Corporations Act (C24) in June 1984.

C24 defines a number of principles which apply to the corporate governance of Crown corporations, including CN. For example, the Act requires government to clearly define the mandate of all Crown corporations. It effectively prohibits Crown corporations from pursuing activities that lie outside their mandate. The Act also requires Crown corporations to receive prior governor-in-council approval before creating or acquiring subsidiary companies. In addition, it mandates that operating and capital budgets of Crown corporations be approved by the Treasury Board; similarly, it requires that the governor-in-council approve the corporate plan. Finally, C24 allows government to direct the policies of Crown corporations toward social objectives other than profit making, provided that such interventions are infrequent and — if losses result from them — that compensation is provided.

C24 further mandates that CN must receive government approval prior to any share transactions. Hence, the speed with which CN can carry out a strategic transaction is constrained by this requirement as is the decisionmaking discretion of its management. This, in turn, compromises

the ability of CN to radically restructure its assets, liabilities, or strategic focus.

C24 further circumscribes the manner in which CN can raise equity and assume debt. As a practical matter, CN relies exclusively on the federal government for external investment. Under these circumstances, if political requirements or deficit conditions dictate fiscal constraint, CN is simply unable to raise the needed capital. This explains the periodic and statutory recapitalization of CN, including: (1) the CN-CP Act of 1933 (\$1.23 billion)¹, (2) the Capital Revision Act of 1937 (\$1.8 billion), (3) the Capital Revision Act of 1952 (\$1.5 billion), and (4) the Capital Revision Act of 1978 (\$808 million).

CN's ability to raise debt as well as its ability to secure equity financing is affected directly by CN's special relationship with the government. Although the government does not guarantee loans made to CN through international capital markets, historic precedent suggest that the government would not allow CN to fail. Thus, private lenders are more secure in financing CN than its private sector counterparts (such as CP or competitive trucking firms.)

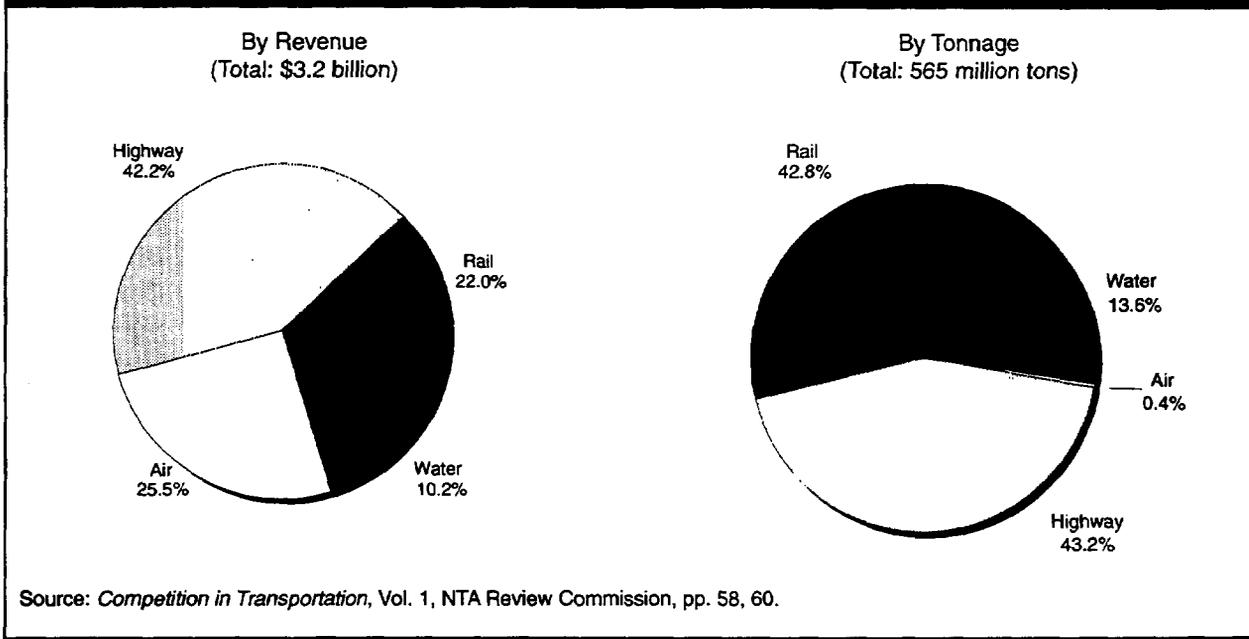
3. The Canadian Transport Market and Rail Competition

The Canadian rail industry plays a significant role in the national economy, which is natural resource-intensive. In 1993 the Canadian rail industry represented about 1 percent of the gross domestic product and fully 19 percent of the transportation, communications, and utilities sector. The importance of rail transport is enhanced by the large geographic expanse of Canada. The average length of haul for rail freight was 1,141 kilometers for 1992 in Canada, a distance that significantly exceeds comparable figures in the United States (859 kilometers), India (721 kilometers), France (365 kilometers), and India (222 kilometers). Although the rail industry accounts directly for a significant portion of Canada's national economic output, it supports logistically a much larger share of economic activities which are based primarily on resource development and manufacturing.

Still, over the past 50 years rail's role has declined vis-à-vis competing modes of transport. In the 1960s rails controlled fully 82 percent of the market for land-based transportation services (by revenue) while trucking accounted for only 10 percent. By the 1990s the respective roles of the two were reversed: the trucking industry held over 60 percent of the market, while railways maintained a declining 38 percent share. Figures 11.2 and 11.3 show, for 1990,

¹ Dollar (\$) amounts are in 1994 Canadian \$.

Figure 11.2 - Canada: Freight Modal Shares (by revenue and tonnage), 1990



modal share for freight and passenger traffic, respectively, in Canada.

In spite of the fact that rail share has declined in recent years, in terms of tonnage railways still account for 50 percent of the freight market. Trucking has become particularly competitive in specialized commodities and general freight market segments, which truckers dominate. Signifi-

cantly, these highly valued commodity segments correspond to the sectors of the Canadian economy that have grown most rapidly in recent years.

The development of national pipelines has also seriously diminished the ability of railways to compete for oil and natural gas transport. In these markets, rail market share has also fallen sharply. Historically, Great Lakes shipping has long challenged railways in the movement of bulk commodities. Still, for many specific bulk movements, particularly those which originate in Canada's prairie provinces, only limited competition exists for rail transport.

Table 11.1 shows shifts in the commodity composition of the rail traffic base between 1986 and 1993. The vast majority of freight traffic carried by Canadian railways consists of large-volume, bulk commodities. In 1992, for example, six bulk commodity categories — grain and products; coal and coke; metals, minerals and products; forest products; chemicals and petroleum products; and potash and fertilizers — accounted for fully 87 percent of all rail movements by weight. Grain movements represented the largest traffic flows, with more than 40 million tons in 1991. This was followed by coal and coke (36.9 million tons); metals, minerals, and products (28.3 million tons); forest products (25.9 million tons); chemicals and petroleum products (16.8 million tons); and potash and fertilizers (15.6 million tons).

In recent years, competition with U.S.-based motor carriers and railroads has intensified, particularly since the negotiation of a free trade agreement with the United States

Figure 11.3 - Canada: Passenger Modal Shares (by trips), 1990

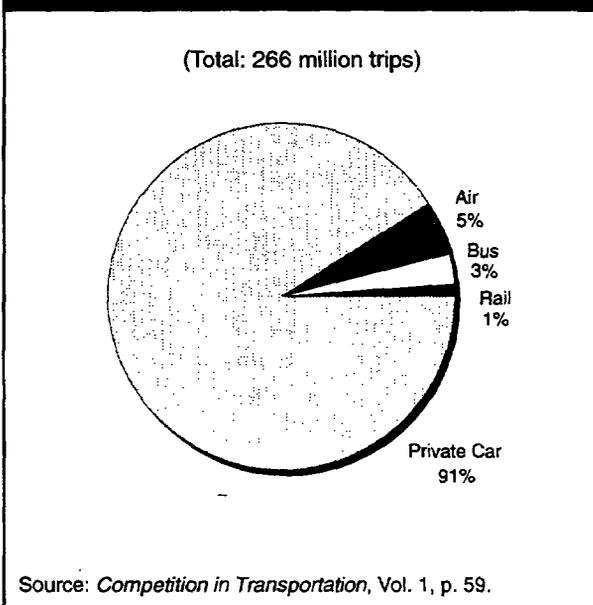


Table 11.1 - Canada: Rail Traffic Mix by Commodity/Product, 1986-93

(million tons)								
	1986	1987	1988	1989	1990	1991	1992	1993
Grain and Products	33.0	40.6	34.1	26.4	32.2	40.4	37.1	31.3
Coal and Coke	30.9	31.9	37.9	36.7	36.1	36.9	29.9	32.6
Metals, Minerals, and Products	36.4	35.0	36.0	32.5	29.2	28.3	26.3	27.4
Forest Products	30.0	29.4	30.0	28.6	26.7	25.9	35.9	28.1
Chemicals and Petroleum Products	15.6	15.6	16.5	19.3	19.8	16.8	20.2	19.9
Potash and Fertilizers	15.9	16.7	18.0	16.1	16.5	15.6	12.4	12.7
Misc. Products	23.5	28.2	27.4	23.6	23.5	24.6	30.3	34.2
TOTAL	185.3	197.4	199.9	183.2	184.0	188.5	189.6	186.2

Source: National Transportation Agency.

in 1992. Earlier and more complete deregulation of surface transport in the United States allowed carriers based in that country to sharpen their competitive capabilities earlier and subsequently to compete more effectively for the increased North-South traffic flows that followed the Free Trade Agreement. More favorable labor contracts and correspondingly higher labor productivity make U.S.-based rail and motor carriers the "low cost" competitor when they face off against their Canadian counterparts for cross-border traffic. Hence, it is not surprising that U.S. motor carriers and railroads have gained market share at the expense of Canadian railways since 1990. For example, in 1960 Canada received 22.3 million tons of goods from U.S. rail companies (representing 15 percent of total carriage). However, by 1992 this had fallen to 13.6 million tons (5.7 percent of total carriage).

Overall, the long-term market pattern has been erratic. From the end of 1970 to the mid-1980s traffic growth was relatively steady. Since 1986, however, freight traffic growth has been flat. Increased competition and slow rail economic growth explain this sluggish performance.

Passenger service traffic, which represents 8 percent of total rail industry revenues, has declined steadily since its peak in 1966, when the industry delivered 5 billion passenger kilometers. By 1993 passenger traffic had dropped to a little over 1 billion passenger kilometers.

CN North America and CP Rail System dominate the Canadian markets. In 1993 these two firms accounted for fully 85 percent of the \$6.8 billion in revenues generated by the railway industry. CN North America controlled a slightly larger market share (47 percent) than CP Rail System (38 percent). The remaining 15 percent of the market was divided among VIA Rail (7 percent), BC Rail (5 percent), and other smaller railways (3 percent).

The controlling position of CN and CP is mirrored by the ownership of main and branch lines within the industry. Again, CN and CP dominate: together they control 89 percent of all tracks operated across the country (see Table 11.2).

Total freight volumes carried by all railways in 1992 amounted to 251 billion ton kilometers. Of this total, CN and CP represented, respectively, 135 and 94 billion ton kilometers, and jointly accounted for 91 percent of all rail freight traffic. Total traffic for CN and CP has grown, respectively, from 45 and 38 billion ton kilometers in 1960 to, respectively, 144 and 104 billion ton kilometers in 1993. Table 11.3 provides freight activity measures for selected years from 1960 to 1992.

4. Network Characteristics and Traffic Patterns

Canadian rails span an enormous geographic region. From

Table 11.2 - Canada: Track Distribution by Railway, 1993

Railways	Track km	Track percentage
CN	29,450	62.4
CP	19,800	35.2
BC Rail	2,224	4.0
Ontario Northland	1,345	2.4
Other Regional and Terminal Railways	664	6.0
TOTAL	56,218	100.0

Source: "Canada's Rail System: Dealing with Overcapacity," Vol. 20, No.1 (Draft), Westac, August 1994, pp. 9-11.

Table 11.3 - Canada: Freight Activity Measures for CN and CP, 1960-92

Year	CN		CP	
	Tons	Ton km	Tons	Ton km
1960	61,895,519	45,114,467,361	54,362,084	37,568,908,490
1970	85,226,380	75,848,847,849	70,216,466	61,319,219,116
1980	104,757,932	119,651,035,058	82,215,699	85,244,958,602
1991	104,615,000	135,181,133,000	77,173,000	101,804,312,000
1992	104,627,000	134,730,134,000	77,478,000	93,598,577,000

Source: Statistics Canada.

Port Alberni, British Columbia (in the West), to Halifax, Nova Scotia (in the East), the network stretches east-west more than 4,500 kilometers. From Kansas City in the South to Churchill, Manitoba, in the North, it traverses approximately 2,400 kilometers. These geographic regions encompass mountainous forest regions, prairies, tundra shield, boreal forests, and rugged coasts. In important ways geography has determined the shape and magnitude of the Canadian rail network. Some of the most isolated and harshest regions of the country produce vast quantities of valuable resources (for example, grain, forest products, potash, petroleum products, minerals, and metals). Historically, Canada's railways have transported natural resources to the more densely populated industrial areas of Canada and the United States, as well as to coastal ports. The major consumer markets in Canada are located within a narrow strip, approximately 100 kilometers wide, which runs along the U.S. border. End users are concentrated in the center of the country and in the provinces of Ontario and Quebec.

Figure 11.4 shows a map of the major CN and CP rail lines serving Canada and the United States. Although not shown on the map, branch lines account for a significant proportion of total track length. In 1991, for example, of the 70,583 kilometers of Canadian rail tracks, 20,351 kilometers included branch lines. If rail lines associated with industrial yards (17,795 kilometers of track) are omitted, branch lines account for almost 40 percent of all operating lines in Canada.

Traffic density is unevenly distributed over this sprawling network. Traffic density has long been an issue of concern to the Canadian rail industry. In 1991, for example, CN carried 90 percent of its traffic on only one-third of its track, while CP handled more than 97 percent of its traffic on approximately 50 percent of its track. Traffic densities in Ontario and Quebec are among the lowest in Canada and appear to be decreasing. In contrast, traffic densities in the western provinces and the United States are rela-

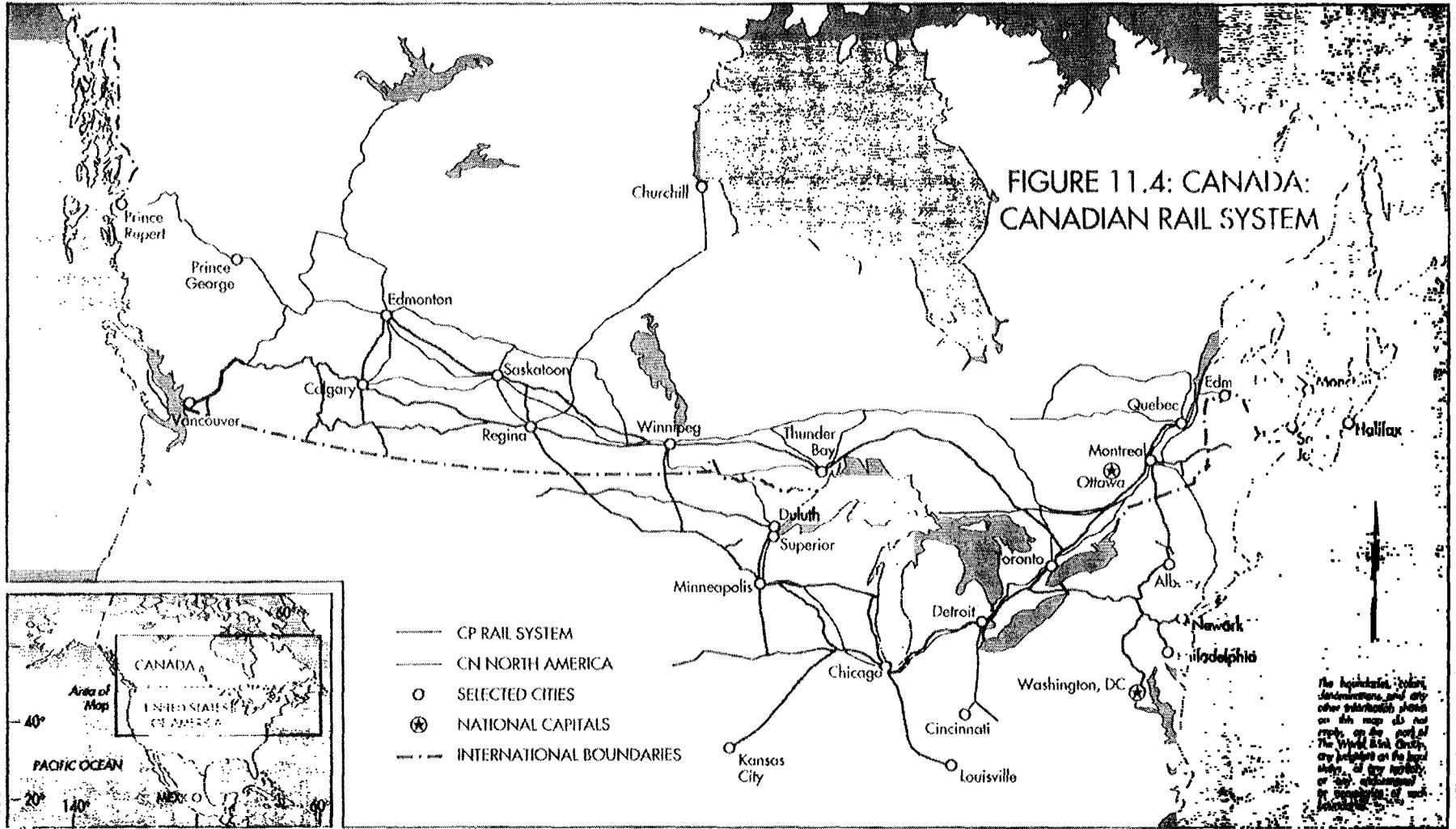
tively high and are either stable or growing. Saskatchewan, Alberta, and British Columbia consistently generate the greatest volume of freight. In 1991, 111 million tons originated in these three western provinces. By comparison, the provinces east of Saskatchewan (Manitoba, Ontario, Quebec, and Nova Scotia) generated only 57 million tons. As their industrial mix has shifted toward higher valued manufacturing and service activities, Ontario, Quebec, and Nova Scotia have experienced progressive decreases in traffic volumes (see Table 11.4).

Traditionally, most of the freight handled by CN and CP has moved east-west across Canada. However, the establishment of more open economic relations with the United States and trade liberalization with Mexico have accelerated the development of a north-south freight axis. CN and CP provide rail services in both Canada and the United States. Since the late 1980s, both CN and CP have capitalized on the opportunities offered by the Free Trade Agreement by extending their service reach south into the high density U.S. market. For example, CN has formed strategic alliances with U.S. rail companies such as Conrail (involving coordinated sales activities and joint operations). CN also entered into a number of agreements with U.S. trucking firms to give it rapid access to virtually every major U.S. city.

In order to extend its own southern market reach, CP acquired the Soo Line into the U.S. Midwest in 1989. This acquisition gave CP access to a market of 66 million people within a 650 kilometer radius of Chicago. Subsequently, in 1991 CP also purchased the bankrupt Delaware and Hudson (D&H) Railroad. With the D&H, CP gained access to the high density New York and Philadelphia markets. As the Canadian and U.S. economies become more intertwined, CP and CN are likely to continue expanding into the United States.

Comparisons between the two major railway systems reveal that CP is concentrated further south than CN, a circumstance that reflects the historical development of

FIGURE 11.4: CANADA:
CANADIAN RAIL SYSTEM



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Table 11.4 - Rail Traffic by Canadian Province and for the United States, 1984-91

Province	Track km		Density (metric tons/track km)				1984-91 Density change (%)
	1984 million tons	1984	1984 Density	1991 million tons	1991 Density	1991 Density	
N.S.	6.5	712	9,129	5.5	705	7,801	-14.5
Que.	16.8	4,696	3,576	14.8	4,601	3,217	-10.1
Ont.	38.3	15,044	2,546	27.5	13,500	2,037	-20.0
Man.	9	2,824	3,187	9.5	2,873	3,308	3.8
Sask.	32.3	4,019	8,037	32.3	3,715	8,694	8.2
Alta.	37.3	3,730	10,000	41.1	4,455	9,227	-7.7
B.C.	36	6,300	5,714	36.9	6,573	5,615	-1.8
U.S.	10.8	575	18,783	11.7	577	2,028	8.0

the two railways. CP, as a private sector enterprise, concentrated its network closer to existing markets in populated regions near the border as well as in the United States. The CN service network, in contrast, was constructed to foster the development of the interior natural resources of Canada and thus did not develop a network which exclusively served the needs of then existing population centers. As the country has grown primarily at its borders, CP has continued to enjoy a market advantage which derives from its initial southern alignment.

5. Early Economic Regulation

While industry structure has remained more or less intact during most of this century, the Canadian rail system has evolved under several distinct regulatory regimes. Before reviewing the restructuring experience of Canadian railways in Part II, it is important to understand the regulatory backdrop against which restructuring has taken place.

Since the 1830s, rail ratemaking and regional development have been interrelated in Canada. The original railway rate structure of that era was based on "standard mileage tariffs." Toward the latter part of the nineteenth century this rate structure began to evolve into "class rates." Originally 4 tariff classes existed. These were expanded to 10 toward the end of the century to accommodate greater commodity differentiation. In each class, standard mileage scales applied with regional differences and geographic and traffic density variations. For ratemaking, Canada was divided into three principal regions: Western, Eastern, and Maritime. Later, this regional structure was refined to include Pacific, Prairies, Algoma, Central and Maritime regions, each with its own class rates. In addition to mileage tariffs, the railways also offered special class rates, generally referred to as "town" and "distributing" class tariffs. These were the first forms of volume discounts and were

typically offered between specific points. To respond to particular market conditions, the railways also offered commodity rates, which provided a discount below class rates. Discounts varied by commodity. Constraining this differentiation of rate structures were regulatory requirements which took a number of forms during the hundred year history of railroad development in Canada.

The assumption implicit in much of this legislation was that the two Canadian railways operated under near-monopoly conditions and therefore required strict legislative control over their rate-setting practices. The Railway Act of 1888 first imposed "rate reasonableness" conditions on ratemaking. The Act further stipulated a condition of "rate equality" which required that all shippers facing similar conditions enjoy equal prices.

A number of regulatory initiatives followed through the beginning of the twentieth century. The Railway Act of 1904 established the Board of Railway Commissioners. The Railway Act of 1903 formalized tariff publication, giving CN and CP limited freedom to adjust unilaterally both rates and service levels. However, where disputes arose between railways and shippers, the Board adjudicated and determined appropriate rates and service levels. Its decisions were subject to review only by the Minister of Transport and/or the Cabinet.

Much of the debate over railway rates during the first quarter of the century concerned regional disparities. The Board of Railway Commissioners became involved in defining commodity classes on the basis of various criteria and hence interpreting the effective conditions for "rate equity." A large share of the traffic still moved under class rates, which constituted the maximum rates that the railways could charge.

Mounting regional pressure for "rate equalization" resulted in the general freight rate investigation of 1925-27.

One of the outcomes of this investigation was the Maritime Freight Rate Act (MFRA), which reduced rates within the Maritimes as well as westbound Maritime rates by 20 percent. Savings accrued to the shippers, while the railways were compensated by the federal government for the difference between the enforced MFRA rate level and normal rates. This marked a significant precedent in Canadian ratemaking policy — the precedent of direct government subsidy.

The next landmark development was the establishment in 1932 of the Duff Commission. This commission recognized that motor carriers were exercising increasingly competitive pressures on railways and recommended that a single regulatory body be set up to manage competitive parity between the modes — a proposal that was legislated but never implemented. The Duff Commission's recommendations led, however, to the Transport Act of 1938 and the subsequent introduction of "agreed charges." For the first time, a railway could offer a shipper an agreed charge in return for a commitment to secure a shipper's entire traffic base. Agreed charges were the precursors to contract rates.

In 1938, continuing regional pressures for rate equalization led to the appointment of another royal commission, the Rowell-Siroix Commission. A report prepared by this commission found that Maritime class rates were 20 percent lower than those of Ontario/Quebec while Prairie rates remained 14 percent higher; those in British Columbia remained as much as 32 percent higher. These regional rate disparities reflected varying degrees of competition vis-à-vis other modes. The commission concluded that steps should be taken toward the reduction of regional differentials and suggested that complete equalization could be achieved only through the action of a single regulatory authority over all modes of transportation.

The struggle for "equalization" continued after World War II. The Turgeon Royal Commission was appointed in 1948 with the following mandate:

- To review economic, geographic, or other disadvantages under which certain sections of Canada find themselves in relation to the various transportation services
- To review the Railway Act with respect to general freight rate revisions, competitive rates, international rates, etc.

The Turgeon Commission made a number of recommendations designed to facilitate "equalization." In addition to a uniform class rate scale, it recommended a uniform class rate structure and an equalized commodity mile-

age scale. While recognizing the need for exceptions to equalization in cases in which competitive conditions warranted them (including point-to-point commodity rates, agreed charges, export/import rates, international rates, and rates of small Canadian railways), the commission also made recommendations with a view to "standardizing" ratemaking. For example, the commission shifted the burden of proof to the railroads by requiring them to provide the Board of Railway Commissioners with data pertaining to competitive conditions. Many of the commission's recommendations were incorporated into the Railway Act of 1951. This legislation enforced class rate equalization across the country, except in the Maritimes where the provisions of the MFRA continued to prevail.

In the 1950s the railways came under increasing financial pressures as their operating costs increased sharply. In response, CN and CP initiated a series of across-the-board increases which were strongly opposed by both shippers and provincial governments. Although the Board attempted to settle the controversies that arose, the high political profile of the events in 1958 set the stage for the McPherson Royal Commission on Transportation.

The McPherson Commission signaled a major departure from earlier commissions whose focus had been primarily on regional rate "equalization." The McPherson Commission's objective was to increase the ability of railroads to compete with other modes of transportation by giving them much greater pricing freedom. Thus, the century-old "just and reasonable" requirements for rates gave way to "minimum and maximum" provisions which were intended to prevent predatory pricing practices and the abuse of market power. Minimum rates were defined as variable cost and maximum rates were defined as specific profit margins over variable cost. The latter were intended to protect captive shippers who had limited transportation options. Since regional and sectoral development objectives and political considerations continued to prevent the implementation of a strictly market-driven pricing system, subsidies continued to be required. The McPherson Commission in fact strongly advocated direct subsidies rather than inferred cross-subsidies to compensate railways for publicly imposed burdens. The recommendations of the McPherson Commission were incorporated into the NTA 1967.

6. Subsequent Regulatory Reform: 1967 and 1987

With the NTA 1967, rate relationships and tariff structures became more varied and market responsive. Rate differentials increased for commodities, territories, and industry segments, as the railways increasingly charged what the market would bear, subject only to intermodal competi-

tion and the maximum and minimum rate controls. Still, the system maintained its “transparency.” Publication requirements remained and the railways continued to engage in collective ratemaking. However, under the NTA railways remained effectively protected from price competition within the rail industry itself.

The Railway Act of 1951 had required all freight rates to be compensatory and had thus attempted to minimize cross-subsidies. The Act imposed a variable cost “minimum” criterion determined by the Canadian Transport Commission (CTC). The Railway Act set maximum rates at 250 percent of variable costs. These rates were designed to protect captive shippers. The legislation required shippers to make their own case for maximum rate protection before the CTC. The NTA 1967, however, placed considerable emphasis on the discipline of intermodal competition.

Still, the real pressure for change came from developments in the United States. Prior to 1980, stringent rate regulation exercised by the Interstate Commerce Commission (ICC) in the United States limited the railroads’ ability to compete with truckers and undermined their financial viability. In the mid-1970s, a series of bankruptcies and a general financial crisis loomed over the entire railroad industry. The reform process began with the Railroad Revitalization and Regulatory Reform Act (4R Act) of 1976. The Staggers Act of 1980 which followed introduced a level of ratemaking freedom which Canadian railways had enjoyed since 1967. However, it went beyond that freedom. It gave the U.S. railroads the right to enter into confidential contracts. This freedom removed “rate transparency” and the old published tariff system of price administration. The lifting of the all publication requirements marked the beginning of a dynamic era in the U.S. rail industry. In short order, the financial health of the railroad industry was restored and substantial productivity gains realized.

Changes in the United States had collateral effects on Canadian railways. U.S. railroads used the ability to enter into confidential contracts to increase their market participation in Canada. Since trans-border traffic constituted about a quarter to a third of their total revenue base, Canadian railways quickly responded by requesting similar commercial freedom for transborder traffic.

In 1983 the Minister of Transport ordered the CTC to examine the effects of U.S. rail deregulation. The scope of the inquiry was subsequently expanded to include intrarail competition in the domestic system as well. The inquiry commission could not justify the unique treatment of trans-border traffic and instead recommended introducing confidential contracting practices for all movements.

However, the CTC inquiry was overshadowed when a

new government gave economic deregulation a top priority. As outlined first in “Freedom to Move,” the new government emphasized competition as an effective economic stabilizer and declared its intention to eliminate all unnecessary regulation. In this spirit, the NTA 1987 introduced far-reaching regulatory changes. Key provisions of the NTA 1987 led to some significant changes. These changes included:

- Removing “rate transparency” and promoting intramodal competition through confidential contracts
- Extending interswitching limits and competitive line rates and providing captive shippers with greater bargaining power
- Improving dispute resolution procedures and making the regulatory process more accessible to shippers and more responsive to their needs
- Streamlining branch line abandonment procedures and encouraging greater “plant rationalization” in an effort to reduce the cost burden of the railways.

These changes constituted a radical departure from the regulatory philosophy embodied in the 1967 Act. They reflected a commitment to protect shipper interests and a recognition of the need for greater intramodal competition.

7. Elimination of Statutory Grain Rates: WGTA, 1983

Grain shipments are of vital importance to the commercial viability of Canadian railways as well as to the agricultural economy of the three Western provinces, particularly Saskatchewan. Consequently, regulation of Western grain rates has been a continuous source of political controversy in Canada since the nineteenth century. “Equalization” of grain rates has particularly strong regional development implications. Until 1984, the rail rates on export grain were fixed at levels established under the Crow’s Nest Pass Agreement of 1897. These statutory rates were originally designed to satisfy the political demands of Western farmers. In 1993, export grain shipments from the prairie provinces (30 to 35 million tons annually) accounted for approximately 20 percent of the railways’ total traffic and represented annual revenues of more than \$1 billion.

Railway costs account for 35 to 40 percent of the total cost of delivering grain to final markets. Depending on market conditions, rail costs can represent more than one-half of world market grain prices. Hence, the level of rail rates faced by the grain shippers directly affects the marketability of their product. Annual grain transportation subsidies provided by the government are now in the or-

der of \$700 to \$750 million. Table 11.5 shows yearly increases in grain rate subsidies provided by the federal government since 1985.

The NTA 1967 left the non-compulsory Crow's Nest Pass rates intact but instituted branch line subsidies which partially offset the railways' grain movement losses. By 1982, grain-dependent branch lines were receiving \$310 million in annual subsidies. This large subsidy, however, was inadequate to compensate the railways.

By the late 1970s it became apparent that the rail system could not completely support growth in Canadian export grain shipments — a situation that seriously undermined producer confidence. By the early 1980s rail losses from grain shipments reached \$300 million annually, and railway service to Western shippers appeared in jeopardy if the railways did not receive additional compensation.

Grain farmers and farm organizations were initially opposed to changes in the statutory Crow rates. However, faced with the threat of inadequate rail service, they reversed their initial position. After two years of intense debate, the government in 1983 introduced the Western Grain Transportation Act (WGTA, 1983).

Under the WGTA, grain producers paid one-third of rail transportation costs and the federal government covered the remaining two-thirds through direct railroad payments. Over time, the producers' share was to increase gradually. The cost-revenue "gap" was expected to decrease because of efficiency improvements.

Federal subsidy of rail rates was only one subcomponent of a multi-faceted system introduced under the WGTA. The system was designed to: (1) provide protec-

tion for farmers; (2) treat all producers on an equitable basis, (3) ensure that the railways were adequately compensated; and (4) provide incentives to make the grain handling system more efficient. Some of the key objectives of the WGTA were the following:

- To define grain movements that qualify for subsidies (export rail movements to British Columbia ports, or to Thunder Bay, Armstrong, or Churchill) and also to specify qualifying grains and grain products.
- To prescribe the cost-sharing arrangement between the federal government and grain producers (method of payment).
- To establish a quadrennial costing review process and the annual cycle for rate adjustments.
- To provide a measure of protection to producers from unanticipated rate increases. (The federal government picks up a share of inflation and protects shippers if freight rates exceed a specified percent of the average grain price.)
- To provide performance and investment incentives (both awards and sanctions) and, to meet the needs of shippers, to establish an agency that will ensure that railway investments and infrastructure maintenance are "adequate" for safe and efficient railway operation.

Payments under WGTA are predicated on complex costing principles. The costs to be compensated comprise three components: (1) volume-related costs; (2) line-related costs; and (3) contribution toward fixed costs (set at 20 percent of volume-related costs after crop year 1986-87). The line-related costs are permissible only for lines deemed grain dependent. The volume related cost portion is based on the actual costs associated with eligible grain movements. The eligible costs are updated each year for inflation and a freight rate index is periodically published. The cost-sharing formula in 1991-92 set the government share of the rate at 65.6 percent and the producer share at 34.4 percent. The producer share is scheduled to increase over time to 60 percent by the year 2000.

One important aspect of the WGTA rate mechanism is "cost pooling." Under cost pooling, movement costs for both CN and CP, and for all origins and destinations, are averaged. Consequently, the cost for a specific origin/destination move does not reflect the rate that is actually charged to producers. In other words, producers located on high cost lines "see" costs lower than the true cost. Another important aspect is that rates are based on the distance from the origin to the closest port, irrespective of cost differentials arising from actual distances. Under port

Table 11.5 - Canada: Grain Transportation Subsidies (WGTA), 1985-93

Year	(\$ '000,000)	
	To CN	To CP
1985	278.9	n.a.
1986	378.0	n.a.
1987	435.3	332.6
1988	416.0	460.2
1989	332.6	245.8
1990	335.3	310.2
1991	406.4	378.0
1992	393.4	374.5
1993	328.1	320.1

Sources: Statistics Canada; National Transportation Agency.

“parity,” rates to West Coast ports are equalized on the basis of the longest distance route. The distance to Vancouver for rate purposes, for example, is based on the longer distance over the CN lines versus the CP lines.

An important institutional element in the grain transportation system is the Canadian Wheat Board (CWB). The CWB acts as the “central” agent for grain sales and distribution and controls most of Canada’s grain sales of wheat and barley grown in western Canada and sales of these grains within Canada. Domestic wheat and barley may be sold either through the CWB or through private trades. The CWB coordinates grain movements from primary elevators to export terminals, mills, and processing plants.

The CWB manages grain markets in “lot pools.” Under lot pooling, revenues and costs associated with each sales lot are “pooled.” Similarly, transport infrastructure is shared among pool lots, and all costs incurred by the CWB are absorbed against the pool. Separate pool accounts are maintained for wheat, durum, and barley. The quality of grain that a producer delivers into each pool account is determined according to its grade specifications. Pooling was established initially so that producers would incur only those costs associated with placing grain of equivalent quality into equivalent export positions.

In practice, CWB pool accounts are maintained on the Thunder Bay/Vancouver price basis. This means that the CWB purchases grain from producers, who pay the rail freight to either Thunder Bay or Vancouver, whichever terminal is closer. The pricing basis is figured by deducting the applicable freight rate from the CWB initial payment at the primary or inland elevator position. Consequently, the initial price for each grade of grain is reflected in the relative locational advantage to equivalent export positions. In the past, producers located in the eastern prairies (for example, Manitoba), and thus located closest to export position, received the highest initial price after deducting freight costs. Producers located in the central part of the prairies, in the vicinity of Scott, Saskatchewan, were farthest from the export position (Vancouver or Thunder Bay) and thus received the lowest initial payment net of freight.

Another important institutional component of the grain system is the Canadian Grain Commission (CGC), which is an agency of Agriculture Canada. The CGC regulates grain handling and establishes and maintains quality standards. The CGC also licenses elevators and grain companies and allocates producer cars. Finally, the Grain Transportation Agency (GTA), which reports to the Minister of Transport, controls the allocation of rail cars and has a role in planning and coordinating the transportation system.

Under the WGTA the railways are fully compensated

for the line-related costs, and through the volume-related costs of all grain movements (branch and main line) they generate significant contributions to their overhead costs. However, the pooling and averaging mechanisms of WGTA leave little scope for producer-driven efficiency improvements, and the institutional custodians of the grain transportation system — CTA, CGL, and CWB — have little incentive to press for innovation and efficiency improvement. As a result, the system has changed little over the last 10 years. Little or no efficiency improvement can be measured.

By protecting the grain-dependent branch lines from abandonment, the government prevented the prairie rail system from being rationalized. Even without this protection, however, the WGTA subsidy mechanism sharply diminished the incentive to abandon branch lines. The WGTA involves complex costing and rating procedures and a maze of institutional responsibilities, but in the end it accomplishes little more than transferring approximately \$600 million annually from the general fund of the Canadian government to the railways.

However, international pressure is mounting to reduce, and in time eliminate, subsidies for Canadian wheat. In this event, the viability of Canadian producers in world markets may depend on the magnitude and pace of efficiency improvements in the domestic grain handling and transportation systems.

If shippers were free to make their own transport choices, and if prices of available options reflected their true economic costs, grain producers would seek the least-cost mode of transportation. This alternative mode might involve, for example, trucking to consolidated collection points, large grain elevators, or terminals, and the least-cost rail route to export positions beyond. Moreover, since transportation subsidies are limited to export grain, changes in crop production levels and mix in production might also be expected to occur. Branch lines would probably be abandoned or operated as short lines. The process of rail asset rationalization might proceed further to affect main lines as well, through increased pressure to consolidate operations. In shifting the financial burden of grain movements from the railways to the federal government, the WGTA has merely postponed the process of rail system restructuring and rationalization in Canada.

8. Railway Labor Laws

Labor cost is one of the key determinants of the long-term viability of railway companies. In 1993 the 50,000 employees of CN and CP accounted for 49 percent of the total combined operating costs of the two firms. However, the numbers of employees have steadily declined as both com-

panies have attempted to decrease labor costs and simultaneously increase productivity. For example, CN is pursuing an initiative — introduced in 1992 — to reduce its work force by 11,000 employees by 1995, and CP is carrying out a program to decrease employment levels by 5,800 by the same year.² In the long run, the objective is to reach the kind of labor productivity gains made in the United States over the past decade. This is of particular concern given the increasing integration of the Canadian and U.S. economies.

Generally, the government has been unwilling to abide by the possible consequences of any extended interruption of railway operations because of strikes. Rather, the government has issued back-to-work orders and has appointed arbitrators to reach settlements, and these settlements have in general been favorable to labor. In this environment, little, if any, incentive exists for union leaders to compromise and the result has been that the collective bargaining process has not functioned.

Moreover, there is little doubt that the resistance of the government to accepting disruptions has had the support of the shipper community in Canada, who would be seriously affected by any prolonged railway strike. This is the reason behind labor's power in the Canadian rail environment. The relatively high labor costs of the Canadian rail industry are a consequence.

Labor rationalization within the Canadian rail industry — including employment reduction, labor contract renegotiations, concessions for private short lines, and so on — is a complex matter. Three factors in particular complicate the process: (1) the high level of unionization within the railway sector, (2) the “successor rights” provision within the Canadian Labour Code (CLC), and (3) provincial labor regulations.

Six separate unions are responsible for negotiating contracts with CN Rail and CP Rail on behalf of their members. These unions represent the running trades (trainmen, engineers, brakemen, etc.), non-operating workers (track and building maintenance workers, clerical workers, dispatchers and controllers, etc.), and shopcraft workers (carmen, machinists, pipefitters, etc.). In recent years, each union has negotiated with both CN and CP, concerning the future rationalization plans of both companies. The talks have included issues such as the following:

- *Contracting Out Restrictions*, which prohibit contracting out work performed by unionized employees

- *Employment Security*, which includes guaranteed pay and benefits until retirement age for employees with eight years or more of service
- *Work Rules*, which restrict workers to tasks outlined in collective agreements
- *Train Crew Size*, which stipulates minimum crew numbers on trains of different types
- *Train Crew Pay Structure*, which is based on a formula that includes miles run and hours-on-duty, plus arbitrary payments.

In each case, technological advancements and/or general railway restructuring are causing railway companies to seek labor cost reductions and increased work force flexibility. Unions, on the other hand, are trying to maintain income and employment standards in line with previous collective agreements. There are speculations that, because of the difficult and sensitive nature of the current negotiations, a national strike could take place in the near future.³

The CLC includes provisions — known as successor rights — which guarantee the continued application of existing collective agreements in the event of an ownership transfer within the federally regulated rail sector. These rights are meant to prevent the purchase and/or transfer of railway assets to new owners for the express purpose of reducing labor costs. Successor rights have slowed rationalization within the Canadian rail industry. For example, they have had a significant retarding affect on the development of short lines in different parts of the country. Central Western Railway (CWR), which operates in the Province of Alberta, was involved in a lengthy legal challenge to the CLC's successor rights provision. Eventually, the case came before the Supreme Court of Canada (December 1990), where CWR won the right to negotiate its own employment contracts under provincial labor legislation. The key precedent set by the case was that, as long as a proposed short line railway existed entirely within provincial boundaries, the operations of the rail line were not considered “integral to the operation of a federal work or undertaking.”⁴ Hence provincial, not federal, labor-management legislation applied.

The CWR victory, however, derived from existing labor codes within Alberta. Had successor rights been guaranteed under provincial legislation as well, the CWR probably would not have carried the case forward. Already other provinces are beginning to respond to the CWR precedent

² *Canada's Railway Industry: Moving in New Directions*, CP Rail System and CN North America, p. 7.

³ “Canada's Rail System: Dealing with Overcapacity,” Vol. 20, No. 1 (Draft), Westac, August 1994, pp. 9-11.

⁴ *Competition in Transportation: Policy and Legislation in Review*, Vol. 1, National Transportation Act Review Commission, p. 97.

by incorporating contractual guarantees within provincial labor legislation. Ontario, for example, has recently introduced Bill C40 which would require short lines to honor existing labor contracts within the province. British Columbia has followed suit, and Saskatchewan is considering the development of similar legislation. Thus, the potential labor cost-savings enjoyed through provincial shortlining may disappear, if provinces continue to introduce successor rights amendments to their existing labor codes. This legislation could require regional and short line carriers in provincial jurisdictions to operate under the same labor wage rates and working conditions that existed in the precedent Class I carrier operations.

PART II: THE RESTRUCTURING EXPERIENCE OF CANADIAN RAILWAYS

1. Overview

As was discussed above, the structural evolution of the industry has been constrained by the regulatory environment in which the industry operates — specifically by the National Transportation Acts (NTAs) of 1967 and 1987 and the Grain Transportation Act, 1983, which established statutory rates and subsidies and hence diminished the incentives for restructuring.

These activities are the subject of the discussion that follows. Railway restructuring over the last 25 years in Canada has primarily involved four sets of activities. The *first* involves the creation of a passenger rail corporation (VIA Rail) designed to relieve the railways of the burden of providing uneconomic services under direct public subsidies. The *second* involves the infrastructure rationalization for Canada's two transcontinental carriers through the various remedies available to them under existing legislation. The *third* deals with the development of a small railroad segment in Canada, and the *fourth* deals with the "strategic restructuring" of Canada's two transcontinental carriers, including coordinated operations, mergers, and line swaps.

2. Creation of a Passenger Railway: VIA Rail

Passenger services were at one time an important part of railway operations in Canada. However, with the maturity of motor carrier and air transportation, rail's share of intercity passenger travel has declined substantially. In the 1950s and through the 1960s, rail passenger traffic approximated 4 to 5 million passenger kilometers. Unfortunately, passenger traffic also generated a significant share of the railway industry's losses.

Accordingly, the McPherson Commission initially recommended that the railways be relieved of the financial

burden of providing passenger services and that the government provide a direct subsidy for these services. The Commission recognized the essential public benefits that result from rail passenger service and concluded that individual railways should not be made responsible for achieving public interest objectives through the mandatory provision of unremunerative services. The NTA 1967 signaled a significant departure from the traditional principle of cross-subsidization.

Prior to 1967, railways were obligated to provide passenger services under the terms of their operating authorities. Railways were expected to recover losses incurred in the provision of passenger services from the proceeds of profitable freight operations. This arrangement dated back to the earliest days of railway development in Canada, when railways received a substantial "start up" capital infusion from the federal government. In return, railways provided passenger services. This remained a workable trade-off as long as rail enjoyed an effective monopoly in long-distance freight transportation. However, with the rapid development of a national highway network after World War II, the situation changed.

In the 1950s and 1960s, as motor carrier competition grew, the railways experienced increased deficits. Increasingly, it became clear that the burden of uneconomic passenger services could not be borne by the railways alone without negative impacts on the sector and on the economy as a whole. Under the NTA 1967, money-losing services deemed to be in the public interest were subsidized by direct payments from the federal government. The subsidy process required that the railways first petition the CTC to abandon uneconomic services on a route-specific basis. If the CTC determined that subsidization was in the public interest, the extent of the railways' losses was estimated through an economic assessment, and the railways were compensated for 80 percent of those losses. Non-economic services would then be continued. Provisions of the NTA 1967 that applied to rail passenger services initially received endorsement from the railways and the traveling public.

Immediately following passage of the Act, the railways filed numerous applications for discontinuance of service. Unfortunately, the implementing process envisioned under the act was time-consuming. Moreover, the public did not understand that "notification of intent to discontinue" was a formal prerequisite for government subsidies and not an actual announcement of discontinuance of service. The hearing processes were drawn out and costly. In a series of fact-finding proceedings, the CTC established the extent of losses on a specific route and the extent to which covering these losses was deemed to be in the public interest. The complexities of railway costing, particularly where

routes were shared by a variety of freight and passenger services, also made the development of appropriate methodologies time-consuming. Moreover, CTC had the prerogative, in lieu of prescribing subsidies, to order changes in operations if it determined that such changes would enhance financial performance.

Despite procedural shortcomings, the explicit subsidy principle embodied in the NTA represented a significant improvement over the cross-subsidy situation that it supplanted. It gave the government some control over the passenger services provided to the public, while maintaining a degree of accountability over the actions of the railways. Still, under this arrangement the railways were required to partially (20 percent) cross-subsidize their own operating deficits.

A clear deficiency of the NTA was that railroads had little incentive to develop competitive passenger services. Rather, the NTA encouraged railways to relinquish their responsibilities for passenger transport completely. The railways lobbied for an arrangement whereby they could recover 100 percent, rather than 80 percent, of operating deficits. During this time, the rail passenger market continued to decline, losses mounted, market share was stagnant or declining, and little investment was made in new equipment. Proponents for an autonomous passenger service organization argued that more aggressive marketing, a higher level of service and equipment, and a general upgrading of the system would attract passengers back to the railway, generate more revenues, and improve the financial viability of rail passenger service. VIA Rail Canada was established against this background.

VIA Rail Canada Inc. was formed in 1977 by an act of Parliament that consolidated, under this new entity, rail passenger services previously managed by CN and CP. Initially incorporated as a subsidiary of the CN, VIA Rail became a separate Crown corporation in 1978. By 1979 VIA Rail had taken over all rail passenger services from the railways and had integrated rail passenger services under a single enterprise that had a mandate to promote and develop this mode of transport.⁵

⁵ The institutional framework for VIA Rail was established by legislation passed and agreements reached in 1977 and 1978. The transition to having VIA responsible for all passenger services previously operated by CN and CP Rail was completed on April 1, 1979. The timetable of legislation was the following:

- **January 2, 1977** - Parliamentary approval for creation of VIA Rail given by Appropriation Act 1, 1977. The Company is established as a wholly owned subsidiary of CN.
- **July 19, 1977** - CN, CP, VIA Rail, and the Minister of Transport formally sign Memorandum of Understanding outlining

The Government of Canada, through the Minister of Transport, owns VIA Rail. The Minister appoints its board of directors, as well as its chief executive officer, and approves VIA's annual operating budget. Through the budget approval mechanism, the Minister has ultimate decision-making authority with respect to route and service planning.

VIA Rail essentially operates rail passenger service under contract to the government of Canada. The routes and services provided are ultimately decided by the Minister of Transport. While VIA's board and management play an active role in service planning, it is the Minister who approves these services on an annual basis. In fact, the Minister may dictate routes and services outside of the normal planning process, as was the case in 1981 when VIA Rail was directed to eliminate approximately 30 percent of its services as a federal cost-saving measure. Those services were subsequently restored in 1985 by the Minister of a new government. The principal mandate of VIA's board and management is to manage the prescribed services and to make them more attractive to passengers while seeking at the same time to reduce their cost.

VIA's board and management undertake all of the responsibilities of managing a railway — planning operations, setting fares, managing a labor force, planning capital investment, etc. However, the political sensitivities of rail passenger service changes have kept VIA's directors (many of whom are political appointees) aware of the political ramifications of their decisions, particularly when they affect service rationalization or other significant departures from the status quo. VIA requires ministerial approval for its budget because that budget always includes a substantial requirement for government funding.

VIA negotiates with the railways for line haul services provided by the railways. The basis for compensation for these services is set out by statute. In addition, VIA has been able to negotiate performance-based incentives with the railways related to on-time performance. Ultimately, however, VIA's strategy has been to assume greater control over its costs by assuming more direct control over opera-

the overall concept and responsibilities of VIA Rail.

- **November 23, 1977** - CN, CP, and VIA sign Implementation Plan, specifying the process by which responsibilities would be transferred to VIA from the railways.
- **April 1, 1978** - VIA is made a separate Canadian Crown corporation.
- **April 1, 1978** - Personnel Transfer Agreement reached by CN, CP, and VIA.
- **September 28, 1978** - Master Operating Agreement reached detailing working relationships and cost of services between VIA and CN and CP.

tions — for example, by building its own maintenance facilities for rolling stock, and by making train crews VIA employees rather than using CN or CP employees.

Under the arrangements established in 1979, VIA Rail acted as a broker for line rail services. In the provision of passenger services, it was responsible for route and service planning as well as for pricing. It contracted with the railways for train operation over lines owned by the railways, as well as for station and equipment maintenance. VIA provided the railways with locomotives and passenger cars purchased from the railways by the federal government.

At this point in the development of VIA Rail, the role of its personnel was limited to the provision of on-board services. Under subcontract with Air Canada, VIA Rail also operated a ticketing and reservations service and engaged in its own marketing, advertising, and promotional programs. VIA retained all revenues earned from the provision of service and paid all costs incurred by the railways. The federal government made payments to VIA Rail that were adequate to cover the shortfall between operating revenues and expenses.

Both major Canadian railways provided train and related services under service contracts negotiated with VIA Rail. All of these services were rendered in accordance with general operating agreements negotiated between the railways and VIA. Under these agreements, charges for ser-

vices were determined in accordance with rail costing regulations established by the CTC. All direct railway costs (labor, materials, fuel, and administration) were passed on to VIA on a full recovery basis. In addition, the railways were reimbursed for ownership costs (rights of way and track) allocated to passenger service.

The CTC (and later the National Transportation Agency) played a role by establishing the cost-plus basis on which the railways were permitted to charge VIA Rail. The CTC audited the railway charges to ensure compliance with the approved principles. In considering a service modification or expansion, VIA was required to obtain cost estimates from the relevant railway, prepare its own revenue forecasts, and estimate the projected loss for inclusion in its annual funding request to the Minister of Transport. If the service charge was approved, the determination of actual railway charges to VIA would be made in accordance with CTC regulations. Ultimately, the actual loss incurred by the service would be determined following the railway audit.

Although the creation of VIA Rail was intended to revitalize the rail passenger industry, the service continued its downward spiral. Losses escalated and VIA's operating deficit increased by 75 percent between 1979 and 1981 (see Table 11.6). In 1981 the Minister of Transport announced major service cutbacks in an effort to stop the

Table 11.6 - Canada: VIA Rail Financial Data, 1979-93

Year	Operating Revenue	Operating Expenses	Net Revenue	Capital Expenditures	Total Government Funding
1979	106,644	349,416	(242,772)	53,659	236,431
1980	140,081	459,163	(319,082)	90,238	409,320
1981	167,900	580,779	(412,879)	109,447	522,326
1982	178,960	602,067	(423,107)	114,115	534,789
1983	194,513	642,128	(447,615)	135,132	597,640
1984	201,087	595,020	(393,933)	153,649	473,496
1985	205,700	724,703	(519,003)	153,928	631,360
1986	208,695	688,630	(479,935)	92,577	506,080
1987	197,602	696,126	(498,524)	81,322	536,438
1988	223,508	790,066	(566,558)	126,476	636,600
1989	248,649	775,320	(526,671)	60,569	587,240
1990	142,762	526,386	(383,624)	31,483	441,483
1991	150,151	541,433	(391,282)	40,103	392,803
1992	155,780	533,022	(377,242)	44,711	388,911
1993	164,171	547,999	(383,828)	11,779	348,079

Source: VIA Rail Annual Reports.

drain on the federal treasury. Still, operating deficits continued to grow, albeit at a slower rate, and dissatisfaction with VIA's service level increased; this was evidenced by a 1983 audit of on-time performance.

While some of VIA Rail's problems in the 1980s stemmed from loss of passenger markets to competitive modes offering higher quality and more flexible service, other factors also hindered VIA's performance. These included: (1) aging equipment; (2) poor infrastructure, which inhibited high-speed service; (3) sparse population distribution, which did not justify high service frequencies; and (4) technical and financial problems associated with the operations of passenger and freight trains on common track. Still, it is clear in retrospect that VIA Rail was seriously constrained by the required institutional arrangements which defined its relationship to the operating railroads.

The key original arrangements between VIA Rail and the railways for sharing costs and management responsibilities constrained the flexibility of the passenger carrier and created perverse economic incentives. For example:

- They provided little incentive for the railways to reduce costs when they were assured of 100 percent compensation.
- They allowed only minimal VIA Rail control over railway operating practices and/or charge-backs, all of which were prescribed in regulations.
- They placed insufficient accountability on VIA. The federal government essentially obligated itself to fund all of VIA's losses.
- They lacked a commitment to strengthen VIA's negotiating position with the railways.

The bottom line was that from 1979 to 1985 VIA lacked effective control over its own costs and operations. Fully two-thirds of VIA's operating costs in the early 1980s were controlled by the railways, and VIA lacked effective negotiating power to influence these costs. Without performance-based incentives, VIA Rail could achieve little improvement in either operating efficiency or service quality.

In 1985, VIA Rail began to control the maintenance of its rolling stock in its new, dedicated facilities. This allowed the adoption of improved maintenance practices aimed at increasing the reliability of passenger trains. At the same time VIA began purchasing passenger train stations from the railways and took direct control of train crews costs (that is, all train crews became VIA employees). Thus, the majority of VIA's operating costs come under its direct control. The only service for which VIA continues to pay the railways is the use of track and right-of-way.

Despite this increased control, little improvement in financial performance has been realized. Unfortunately, opportunities to reduce costs, particularly through improved and streamlined labor contracts, have been forgone during the transition. Even after it took direct control VIA Rail management failed to achieve financial and service improvements. Failures to improve productivity were most conspicuous in labor contract negotiations where, for example, distance-defined work days continued. Instead of improving the efficacy of conventional services, management has focused attention on higher visibility projects such as a proposed high-speed train in the Quebec-Windsor corridor. Internal incentives within VIA Rail itself have not been adequate to stimulate a fundamental refocusing of the the company on bottom line results.

3. Infrastructural Rationalization: Branch Line Divestment and Abandonment

Over time, the regulatory environment in Canada has become progressively more supportive of asset rationalization. Since the 1940s, public policy has shifted from cross-subsidies and mandatory service requirements to diminished or direct subsidies and streamlined abandonment processes. In 1967 the NTA defined a branch line as a segment of the railway that, "relative to a main line within the company's railway system of which it forms a part, is a subsidiary, secondary, local or feeder line of railway, and includes a segment of any such subsidiary, secondary, local or feeder line of railway." Under the provisions of the NTA 1967 and the Railway Act, the railways received direct public subsidies for 80 percent of the losses incurred in branch line operations.

In 1982, branch lines constituted 54 percent of CP's total service network and 49 percent of CN's network. In that year, 55 percent of total branch line miles were protected from abandonment and 74 percent were subsidized. The bulk of the branch line subsidies went to grain-dependent branch lines in the prairie provinces. For example, \$310 million in direct subsidies went to branch lines in 1982, while only \$13 million went to non-grain branch lines.⁶

As of 1984, the WGTA changed the subsidy arrangement and further reduced the incentive for asset rationalization. Rather than receiving direct subsidies for branch line operations, the railways received payments for all grain movements. WGTA rates are based on total costs, including variable costs for operations and fully allocated costs

⁶In 1982, \$1,949 per carload for non-grain branch lines compared with \$984 per carload for prairie branch lines.

for grain-dependent branch lines. Under the WGTA railways are fully compensated for the operation of grain-dependent lines. The reciprocity was that compensated lines are protected from abandonment through the year 2000.

The NTA 1987 developed procedures intended to streamline plant rationalization. However, these have proved only partially effective. Under Section 164, the National Transportation Agency has the power to determine whether lines proposed for abandonment are in fact uneconomic. If there is a reasonable probability of a line becoming economic in the foreseeable future, the Agency can order the operation to continue. The Agency can also order the retention of a branch line on the basis of public interest considerations, including the following:

- The actual losses that are incurred in the operation of the branch line
- The alternative transportation facilities available
- The extent to which the applicant would be prepared to provide alternative transportation facilities
- Whether it would be more economic to use alternative transportation facilities
- The period of time reasonably required for the purpose of adjusting any dependent facilities with the least disruption to the economy of the area
- The probable effect on other lines and other carriers and on the transportation system generally
- The economic effect of the abandonment on the communities and area served by the branch line
- The feasibility of maintaining the branch line by changes in the method of operation or by interconnection with other lines
- The feasibility of maintaining the branch line either jointly with or as part of the system of another company, by sales or lease or exchange of operating/running rights
- The existing and potential resources of the area served by the branch line, seasonal restrictions on other forms of transportation, and the probable future of transportation needs.

The National Transportation Agency has broad powers to secure alternative operating arrangements. These powers include recommendations to the railways with respect to transfer or exchange of branch lines, the granting of operating or running rights, and the connection of different rail lines. The Agency can also make recommendations with respect to the orderly handling of traffic and the improvement of alternative transportation facilities. The Agency can also facilitate the purchase or transfer of the branch line for a price at least covering its net salvage value.

In the event that the Agency considers the continuation of a branch line to be in the public interest, the railway is eligible for payments to cover its losses in accordance with relevant costing regulations. Even when the Agency decides to abandon a branch line, the governor-in-council may (on the application of a shipper or of a municipal or provincial government) extend the date of abandonment by as much as five years.

Under the NTA, the Minister of Transport has the power to enter into an agreement with provincial or municipal governments, or shippers or associations representative of shippers, to fund the improvement of alternative transportation facilities for shippers served by a branch line. Where the National Transportation Agency has ordered the abandonment of a branch line, the Minister can enter similar arrangements to provide assistance to shippers in the transition to other transportation facilities (the amount is not to exceed the estimated amount of loss attributable to the branch line ordered to be abandoned).

Before the NTA 1987, railways were eligible for subsidies 90 days after applying for abandonment and were compensated for their losses during the abandonment decision process, which could take many years. Under the NTA 1987 the railways are still required to give 90-day notice but are eligible for subsidies from the time of their application, which has to be ruled upon within six months. Section 256 (Railway Act, 1987) claims and payments for unprotected branch lines totaled \$11.5 million in 1987. These subsidies involved 43 CN and 16 CP lines. On 12 of these lines abandonments were authorized during 1987, while 15 new applications were received (in both cases, subsidies were claimed for only a portion of the year).

The NTA 1987 placed a 4 percent limit on the amount of track eligible for abandonment in the first five years of the act. This limit was intended to pace the process of abandonment and to allow regulatory authorities to process applications without causing undue disruption to rail service. In 1988 — the first effective year of the Act — the limit represented 1,250 miles of track on the CN network and 575 miles on the CP network. In total, 43 abandonment orders were issued to close down a total of 664 miles of track — substantially less than the statutory limit.

The process accelerated during 1989. In that year, the National Transportation Agency permitted CN to abandon 4 percent of its network and CP to abandon 3.5 percent. Abandonment activity slowed down somewhat in 1990. CN was permitted to abandon 1.19 percent of its network, while 0.95 percent was ordered to be retained. CP petitioned the Agency to abandon 5.2 percent of its network and received permission for only 3.75 percent, effective in 1990.

In 1991 the regulatory activity was still constrained by the statutory limit. In that year CN brought forward cases totaling 3 percent of its network and received abandonment decisions on only 0.7 percent effective in 1991 and 0.3 percent back to 1992. CP put 2.2 percent of its network before the Agency for abandonment and received permission on 1.3 percent effective in 1991 and 0.1 percent effective in 1992.

In 1992, CN initiated plans to file 21 applications covering 422 miles, and CP invited 24 applications covering 600 miles. The total of a little over 1,000 miles again fell short of the 4 percent rule, which in any event expired at the end of that year.

During this period the railways have shifted their abandonment activities to larger segments of their networks. The most important effort has involved CP's abandonment of its lines east of Sherbrooke to St. John, New Brunswick, through Maine. Abandonment approval in this case has been granted by the National Transportation Agency, but the railway is still considering offers to sell all or part of the lines to other operators.

While the NTA 1987 streamlined abandonment procedures and also placed an annual ceiling of 4 percent on abandonments for the first five years, Canadian railways have had difficulty reaching this quota, and less than half of the statutory limit has been reached.

4. Short Line Railway Development

Regional and short line railways have been an important part of the Canadian railway system for decades. In western Canada they include regional railways such as BC Rail, short line railways such as the BC Southern and the Alberta Resources Railway, and numerous industrial railways that handle logs, coal, and other commodities. Short line railways have created increased interest in Canada during the last 10 to 15 years as a result of the rapid development of a small railroad industry in the United States. However, to date, a small railway segment has been slow to develop in Canada (see Table 11.7). With the notable exceptions of terminal railway operations such as Toronto Terminal Railway and Port Stanley Railway, and regional railways such as B.C. Rail and Ontario Northland Railway, short line railway operations have not attracted as much entrepreneurial interest in Canada as in the United States.

It is only when cross-subsidies are removed from the system that uneconomic segments are exposed and large railways have an incentive to divest these segments. At this point, shippers may face the possibility of losing rail service entirely. However, restructuring also opens opportunities for operators whose cost is lower than that of large railways. Under the right set of conditions, low-density lines

can be operated profitably. However, the short line railway concept requires entrepreneurial talent and new capital. In Canada, neither the occasion (abandonment) nor the prerequisites (small railroad entrepreneurs and venture capital) have come forward as they have in the United States.

The low level of abandonment activity in part limits opportunities for short line startups. More important, however, is the fact that labor laws restrict the ability of new railway enterprises to realize significant cost savings. Even where federal laws can be bypassed, provincial legislation has proved equally, if not more, restrictive with regard to labor successor rights. Another factor that has impeded short line development is the cost of severance. Under existing labor law, railways abandoning light density lines must absorb severance costs arising from downsizing.

Severance packages in the Canadian rail industry are typically negotiated between the carrier and the unions representing various labor categories within the industry. Thus, where downsizing is a consideration (for example, through an intended abandonment), management must respect its contractual obligations to workers. In 1985, for example, Canada's railway companies negotiated an employment security package with shopcraft and non-operating employees who had completed at least eight years of cumulative service. These employees were entitled to receive benefits and salaries until retirement. Similar packages were negotiated with workers from other railway trades.

In 1991 CN paid out approximately \$94 million for employee separations. Similarly, CP wrote off cumulative expenditures of about \$250 million to cover severance payments and related expenses.

Apart from some notable exceptions, independent short line operations have not attracted the entrepreneurial interest in Canada that they have attracted in the United States. These exceptions, however, offer valuable lessons in small railway germination. One Canadian railway operation that closely resembles the U.S. short line model is the Central Western Railway (CWR). This railway's traffic is primarily grain, and it moves under WGTA rates. The CWR was incorporated in Alberta under a special statute in 1984 to operate CN's abandoned Stettler Sub-division. The railway serves nine grain elevators on 106 kilometers of track. It interlines all of its traffic with CN. This railway demonstrates that, even in an economic environment characterized by direct government subsidies and strict enhancement of pre-existing labor contracts, a niche can exist for small railway operations.

Other short line ventures include RailTex, a U.S. company with 23 short line operations throughout North

Table 11.7 - Canada: Short Line Transactions, 1986-94 and Proposed

Year	Seller	Miles	Province	Buyer
<i>Conveyances to existing railways</i>				
1988-92	Misc.	75	Qué., Ont.	Misc.
1992	CN	154	Ont.	Ontario Northland
1992	CN	27	Ont.	Leased to BASF
<i>Conveyances to newly formed short lines</i>				
1986	CN	108	Alta.	Central Western Railway (CWR)
1990	CN/CP	50	Sask.	Southern Rails Cooperative
1992	CN	71	Ont.	Goderich-Exeter Railway (GER), wholly owned subsidiary of RailTex
1992	CP	133	Alta.	CWR
1992	CP	10	Qué.	Bellgaz (shipper located on line)
1993	CN	235	N.S.	RailTex
1993	CP	3	B.C.	Grand Fork Railway
1994	CN	90	Qué.	SCF du Québec
1994	CP	53	N.S.	Iron Roads and Eastern Maine
<i>Transactions in progress</i>				
	CN	126	Qué.	Selection of successful tender in progress
	CN	113	Ont.	Initiating requests for tenders for five lines
	CN	325	U.S.	RailTex
	CP	190	Qué.	Iron roads and RailTex are potential bidders

Source: *Competition in Transportation*, Vol. 2, p. 93.

America. In 1991 the company purchased 100 kilometers of CN track in the Bruce Peninsula of Southwestern Ontario and started operating as the Goderich-Exeter Railway. Since then RailTex has purchased the CN line between Truro and Sydney, which it operates as the Cape Breton and Central Nova Scotia Railway.

The development of a small railway industry in Canada has, however, been much slower than the development of a parallel industry in the United States. The primary obstacle to this development in Canada, as has been mentioned, has been federal labor legislation which mandates the transferability of pre-existing labor contracts when rail

assets are sold or restructured. In the case of the CWR, for example, a Canada Labour Relations Board (CLRB) ruling determined that pre-existing wage rates would continue even after the sale of the subdivision by CN to a provincially incorporated railway. The CLRB ruling determined that the CWR operations constituted federal work and consequently fell under the Canada Labour Code. This ruling maintained the right of the previous union to bargain exclusively on behalf of CWR employees. It further bound the short line railway to provisions of the collective agreements that were in place at the time the CWR took control. The CLRB's decision with respect to federal juris-

diction was based on the finding that the CWR was an interlining railway handling extraprovincial traffic, and that virtually all of its traffic moved under the WGTA. Although the CLR's rationale was later challenged in federal court, the decision was upheld. The case was remanded before the Supreme Court where the ruling was reversed in favor of CWR. The Supreme Court determined that CWR's labor relations fell under the jurisdiction of the province of Alberta which has no successor rights provisions. The CWR case and other test cases which followed suggest that a short line industry is most likely to emerge in those provinces where the applicable labor legislation allows new small railroad owners to negotiate new labor contracts.

As was noted above, the principal rationale for short line railway operations is their ability to implement flexible work rules and deliver shipper-tailored services. Short lines have fewer levels of management and smaller, more customer-oriented work forces than large carriers, which are constrained by labor contracts and traditional organizational structures. However, as was made clear by the CWR test case, labor "successor rights" may prevent an independent operator from implementing more flexible work rules and low wage rates. A short line rail industry may be kept from emerging in Canada if (1) a defining judicial decision finds that branch line operations fall under federal jurisdiction; (2) restrictive provincial legislation is passed; or (3) a judicial decision determines that existing collective agreements are found to be binding.

5. Strategic Restructuring: Trade-offs between Efficiency and Competitiveness

Although the scope of branch line abandonment in Canada has been limited to date, the two major railways have recognized the need for "strategic rationalization." To this end, they have entered into a number of cooperative initiatives. For example, in 1993 CN and CP formed a joint venture to operate 440 kilometers of track in the Ottawa Valley. Under this arrangement, both railways will operate on CN lines and CP lines will be abandoned.

Opportunities for joint asset use and plant rationalization are particularly attractive in eastern Canada. In 1994 CN and CP explored the possibility of merging interests in the East. In addition to allowing unproductive lines to be eliminated, this option offered the following two benefits:

- It would allow valuable real estate to be released for development in major urban areas
- It would enable terminals and facilities to be integrated, which would mean that switching areas could be reduced and service quality could be improved.

Had the railways been able to reach an agreement between themselves, the merger approval process would have required the following additional steps:

- Formation of a legal entity and consummation of a transaction between the two owning carriers and the merged entity
- Review and approval by the National Transport Agency
- Investigation and approval by the Competition Bureau.

In a subsequent effort to rationalize the eastern operations of both CN and CP, CP prepared a bid to purchase CN North America's rail lines east of Winnipeg. The bid, which followed on the failed merger negotiations between CN and CP, is in the range of \$1.4 billion and had been submitted to Transport Canada for approval by the end of 1994. The offered price is for CN's fixed plant and facilities as well as for an appropriate portion of CN's locomotive, freight car, and intermodal container fleet. CP has set an effective date of January 1, 1996 for the purchase. To receive approval, CP may need to gain the support of certain groups, including the following: (1) CN North America; (2) shippers and regulators; (3) the rail labor unions; and (4) CP shareholders.

Should this bid be approved, CP plans to rationalize the existing rail overcapacity in eastern Canada. Although no final decisions have been made, it is likely that CP will reduce current operations from two routes to one to Halifax and from two lines to one north of the Great Lakes. Additional rationalizations and possible sales to shortliners are also being considered.

In terms of employee impact, CP is willing to offer employment to all CN employees "directly involved in the business being acquired at the time of closing."⁷ Furthermore, integration of unionized employees would occur under terms specified under the Canada Labour Code and in accordance with established contractual obligations. New collective agreements reflecting CP's work rules would be negotiated with all affected employees. Although CP is not certain at this point, it is expected that within three to four years the collective eastern work force will drop to about 16,500 — a reduction of 2,500. CP will also assume responsibility for employment security payments to CN workers laid off in the eastern business sector prior to acquisition.

In order to maintain some degree of competitive parity

⁷ CP Rail System News press release, September 22, 1994, p. 3.

in the eastern market, CP has included an “access agreement” in its bid. This agreement would allow CN to compete with CP on traffic moving between western Canada (Winnipeg) and the Toronto and Montreal areas. As was stated in September 1994, “Under the agreement, CP will provide CN with all the services normally associated with handling rail traffic, including line-haul transportation, switching at customer sidings, movement of empty rail cars and interchange services. CN will be responsible for providing rail cars and will be free to market and price its own services. This will give shippers and receivers in the East competitive access to both railways.⁸ In return for the use of CP’s facilities and operations, CN would pay a fee reflecting the current average cost of handling the traffic (intended to equalize the base operating costs of both companies in the affected region).

CP has left its offer open for a period of 90 days (from September 22, 1994). As the purchase is subject to government approval, CP has asked that the process be expedited. Assuming the offer meets with government approval, CP hopes to negotiate all final arrangements with CN.

By purchasing CN’s eastern operations, CP is hoping to rationalize the regional market, in which assets are most frequently mismatched with market opportunities. Currently, the eastern operations of both railways lose, respectively, \$300 million and \$100 million annually. The restructuring of eastern operations under one company may contribute to the long-term viability of Canada’s entire railway industry. In addition, rationalized rail operations could lead to lower overall freight rates, which would clearly benefit shippers. Although it has been argued that the further consolidation of rail market power would encourage price increases, the existence of a competitive trucking industry and of U.S. rail operators is likely to mitigate CP’s incentive to price above competitive levels. It has also been noted that, owing to increasing competitive pressures to rationalize operations, labor reductions may take place regardless of the restructuring.⁹

It is only because of the WGTA that strategic plant rationalization and restructuring discussions between CN and CP do not also encompass western Canada. A change in the WGTA mechanism, in particular a shift to a “pay-the-producer” concept, would expose a large part of the rail system in western Canada to accelerated restructuring as well, and would perhaps lead to a country-wide merger or some form of jointly owned operation. The competitive implications of this scenario from the standpoint of shippers are considerable and are discussed below.

⁸ *Ibid.*, p. 1.

⁹ “Canada’s Rail System: Dealing with Overcapacity,” p. 15.

The regulatory apparatus in Canada has swung back and forth on the issue of intra-industry cooperation. The NTA 1967 gave the railways the freedom to set market rates (except for grain) but protected them from competing against one another. The regulatory philosophy inherent in the NTA depended on intermodal competition to provide market discipline for railway pricing. Under this regime, captive rail shippers paid significant rate premiums despite the maximum rate provisions of the NTA 1967.

The NTA 1987 was designed in part to increase industry competition. It contained three key rail access provisions: (1) competitive line rates (CLRs); (2) expanded interswitching limits; and (3) running rights. These provisions formed part of an overall package that also contained confidential contracts, final offer arbitration, and a more streamlined rail line abandonment process. However, most captive shippers still lack competitive options and are likely to have still fewer options as the rail system is rationalized. The issue of competitive access is as important to large shippers as is the issue of abandonment and rationalization to the railways themselves. One of the fundamental tensions in Canadian regulatory policy is the unresolved conflict between operational restructuring and competitive consequences.

CLRs give captive shippers an option that they can use to access the lines of a railway company that does not offer direct service. The CLR allows shippers to enhance their negotiation position vis-à-vis their local carrier with regard to both rates and service. A CLR shipper’s freight rate would include the following components:

- The zone interswitching charge which is now conducted and regulated by government; plus
- The CLR from the zone interswitching limit to the point of interchange with the connecting carrier which is subject to binding arbitration if it cannot be agreed upon; plus
- The rate assessed by the connecting carrier(s) from interchange to final destination.

The NTA introduced two key changes in its the definition of switching charges. First, it extended interswitching boundaries to 30 kilometers. Second, the National Transportation Agency was given the responsibility for prescribing maximum interswitching rates. The NTA establishes charges annually for switching zones segmented between 0 and 30 kilometers. Over the past six years or so, CLRs have had only limited use. In fact, the Canadian Transport Commission has prescribed CLRs in the case of only two shippers. In contrast to CLRs, interswitching has become a widely used form of competitive access in Canada.

Another competitive access option involves running rights and joint use of track, both of which fall outside the regulatory domain and are matters of negotiation between carriers. The Railway Act does permit the Canadian Transport Commission to order a railway to "take possession of, use or occupy any lands belonging to any other railway company, use and enjoy the whole or any portion of the right-of-way, tracks, terminals, stations or station grounds of any other railway company, and have and exercise full right and power to run and operate its trains over and upon any portion of the railway or any other railway company." Under the same section, the Canadian Transport Commission may fix the amount of compensation if the parties fail to reach an agreement. The Commission has elected *not* to use this authority to effect restructuring or reorganization, which it has been left exclusively to the involved parties.

Understandably, the use of trackage rights as a means of gaining competitive access is a sensitive issue among railway companies. Only a few examples exist of provincial carriers applying for running rights over federally regulated railways. For example, the Ontario Midwestern Railway and the Victoria County Rail in Ontario established an important precedent in their applications to the Canadian Transport Commission for trackage rights. The implications are that running rights over federally regulated railways are difficult to obtain.

PART III: PERFORMANCE SINCE 1967

CP and CN operate according to the same market and regulatory parameters in most instances. They are affected by the same tax laws and they are both regulated by the NTA 1987. They have labor agreements with the same unions. In addition, CN is not legally considered an agent of the Crown, although the financial world treats it as a part of the Canadian Government. The primary differentiating factor is that CN must seek Cabinet approval for its borrowing.

Still, during most of Canada's railway history, CP has typically out-performed CN in financial terms. As Table 11.8 shows, the net income of CP has exceeded that of CN for most of the period from 1950 to the present. CP has also consistently generated a larger net contribution to the national treasury, as Figure 11.5 demonstrates. VIA Rail's financial performance has been disappointing since its creation (see Table 11.6) and has failed to achieve break even results.

The CN's large debt burden has adversely affected its competitiveness and has affected its cyclical profit performance. On occasion, as has been mentioned in Part I, the federal government has had to "bail out" CN. For example,

Table 11.8 - Canada: Net Income¹ for CN and CP, 1950-93

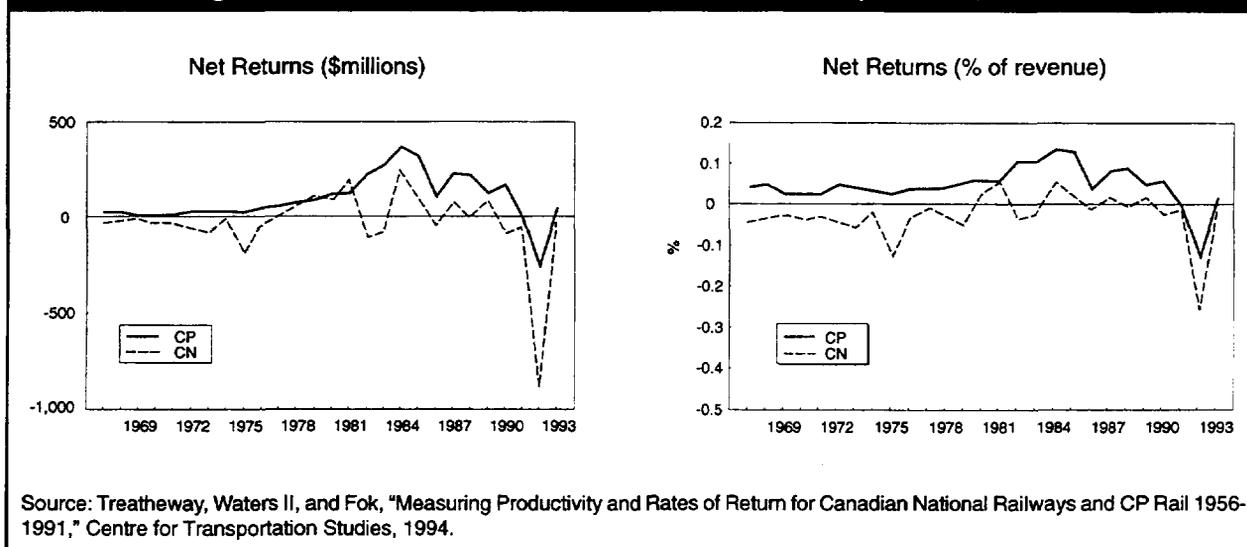
Year	CN	CP
1950	(3,245,458)	47,867,011
1951	(16,676,360)	43,307,470
1952	394,310	39,078,545
1953	(132,115)	31,450,462
1954	(24,938,666)	29,826,248
1955	10,466,012	44,032,465
1956	25,840,719	55,639,534
1957	(22,558,020)	46,768,138
1958	(58,801,131)	33,121,132
1959	(44,502,649)	31,487,023
1960	(67,955,133)	29,168,488
1961	(67,864,553)	32,668,436
1962	(51,134,799)	32,552,503
1963	(39,630,241)	40,411,118
1964	(36,787,802)	58,608,395
1965	(30,260,702)	61,727,915
1966	(14,448,360)	68,574,382
1967	(39,331,631)	55,076,537
1968	(28,31,964)	61,563,418
1969	(23,587,425)	53,493,805
1970	(30,347,998)	52,360,180
1971	(21,560,458)	61,862,026
1972	(13,700,581)	69,223,559
1973	(20,072,245)	71,584,881
1974	(37,025,125)	94,138,619
1975	(160,581,022)	82,363,657
1976	11,757,300	86,863,783
1977	30,755,974	107,731,759
1978	135,753,015	122,614,284
1979	211,168,014	211,606,697
1980	186,185,945	241,901,952
1981	191,216,872	265,731,076
1982	(103,403,000)	117,873,000
1983	201,131,000	183,970,000
1984	246,203,000	185,544,000
1986	36,356,000	119,90,000
1987	77,707,000	228,877,000
1988	(12,609,000)	223,518,000
1989	90,867,000	126,842,000
1990	(77,294,000)	164,120,000
1991	(34,268,000)	6,872,000
1992 ²	(908,394,000)	(193,190,000)
1993	(67,187,000)	(77,091,000)

¹This represents corporate net income and is not exclusive to rail.

²In 1992, CN and CP paid out \$1.1 billion and \$470 million in employee benefits, three to four times the amount paid in previous years.

Source: Statistics Canada.

Figure 11.5 - Financial Performance of Canadian Rail Operations, 1967-93



during the postwar period CN was unable to renew infrastructure and convert from steam to diesel power until the federal government relieved some of its debt burden via the CN Act of 1952. Although successive rounds of poor performance followed, CN's debt was not substantially relieved again until 1978. In that year the CN Recapitalization Act reduced the company's debt burden by \$808 million. This debt was subsequently converted into equity with dividend guarantees. By 1986, CN had again reduced its capital base by \$4 billion.

One significant reason for this disappointing performance has been the carrier's failure to realize an adequate economic return on investment. A consulting company, Capital Canada, reported that from 60 to 70 percent of CN's capital investments had been screened according to rigorous rate of return criteria. The consultant concluded that the rate of return on CN's assets was below its cost of borrowing. It was their belief that CN's financial problems derived in part from politicized management decisions.

1. Financial Performance of VIA Rail

From a public policy perspective, the VIA experience demonstrated only marginal positive benefits (see Table 11.6). Over the period 1979-93, VIA Rail's growing deficits were absorbed by the federal government and capital funding continued without realizing adequate productivity gains. Moreover, the institutional arrangements for the transfer of assets and operational responsibilities from railways to VIA Rail did not allow for contestability, and the government probably paid a premium to initially capitalize the company.

Little effort has been made to evaluate the social value

of different passenger services (for example, intercity, remote, and transcontinental) provided by VIA Rail and to evaluate the need for these services in the context of alternative (bus or air) options. The government has not created a public dialogue in which to debate service options or to explicitly assess social and economic trade-offs. A strong tendency still persists within VIA Rail to resist radical change and to maintain existing services without regard to their cost-benefit consequences.

The financial results generated by VIA Rail have in general been disappointing. When VIA Rail was established in 1979, its operating ratio was 30 percent, its volume was 6.5 million annual passengers, and the level of direct government funding was in the order of \$300 million. By 1985, VIA Rail's passenger volume had increased to 7 million, and its public funding to \$630 million (operating and capital combined). By 1988 the operating deficit alone had reached \$570 million and its volume had declined to 6.4 million passengers.

In that year the government responded with major service cutbacks. By 1993 government funding requirements had declined to \$350 million. However, by 1993 VIA was carrying only 3.5 million passengers.

2. Financial Performance of Canadian Freight Carriers

Since the 1940s CN has demonstrated consistently weaker financial results than CP (see Figure 11.5). Throughout the 1950s, the 1960s, and the early 1970s, CN earned positive income from rail operations but consistently generated net losses after interest charges. CP's performance through the same period was consistently profitable, with

net profits after interest charges fluctuating in the range of 4 to 7 percent of total revenue until to 1981.

The NTA 1967 appeared to have little impact on either CP's or CN's financial performance. For 10 years following the passage of the NTA, CP had experienced steady profits while CN had experienced a series of weak performing years. Complicating the picture were a number of unforeseen events, including a recession in the Canadian economy, elimination of losses from grain movements under statutory rates, and increased competition from U.S. railroads in transborder markets.

CN achieved a break-even position only in 1977, followed by four consecutive years of profitable performance. Three factors explain the carrier's marked improvement during the late 1970s. First, the spin-off of VIA Rail relieved the railways of their residual financial burden for passenger operations. Second, with the passage of the CN Recapitalization Act of 1978, CN's debt was converted to equity. Third, an internal reorganization created individual profit centers within the company and isolated loss-making operations.

For CP, the late 1970s and early 1980s signaled a sharply improved profit performance. Over a six-year period (1979-85), CP posted strong earnings with net profits from rail operations approaching \$1.5 billion.¹⁰ During the best years of this period (1984 and 1985) profit margins ranged from

13 to 15 percent of total revenue, or 20 percent of the net assets value. Although CN's results were less impressive, between 1979 and 1985 the carrier generate an overall profit of approximately \$500 million from rail operations.

In the mid-1980s the competition between CP and CN remained stable. CP continued to generate modest profits while CN improved its profit performance only marginally. Given that this was a period of robust growth in the Canadian economy, the NTA 1987 appears to have somewhat moderated rail profitability.

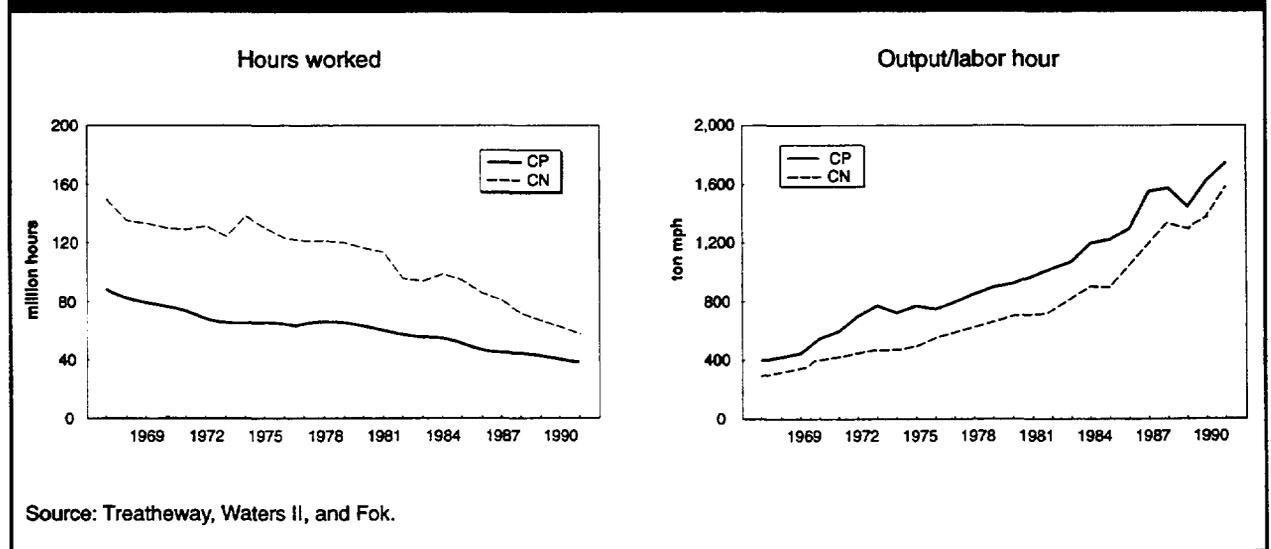
The recession that followed in the early 1990s had a profound and adverse effect on railroad financial performance. In 1991 CP barely broke even, and in 1992 it experienced a large loss for the first time in many years. CN encountered serious financial problems with modest losses in 1990 and 1991, losses that approached \$1 billion in 1992.

3. Productivity Measures

It is instructive to examine railway productivity by relating carrier inputs to their output. Labor costs are extremely important to the Canadian rail industry since they represent a large share of operating expenditures (53 percent for CN and CP combined in 1992). Over a 25-year period CN and CP have reduced their work forces by 57 percent and 51 percent, respectively. In 1992 the two carriers employed a total of 31,000 and 21,000 workers, respectively. The rate at which work forces were downsizing was steady over this period (see Figure 11.6). In the five years following the NTA 1967, CP accelerated its reduction in forces. The rate of downsizing slowed through the 1970s and picked up again in the early 1980s. CN, on the other hand, began to downsize in the 1970s, continued work force re-

¹⁰ The net profits quoted here are from rail operations only and were gathered from Tretheway, Waters II, and Fok (1994). Although the results are generally mirrored by the corporate net income data gathered from Statistics Canada, they do not correspond precisely.

Figure 11.6 - Canada: Railway Employment and Labor Productivity, 1967-91



duction through the late 1970s and early 1980s, and became more aggressive only in the late 1980s.

Over this same period the railways' output expanded steadily (see Figure 11.7). In 1967, CN and CP had an output-to-labor ratio of about 1.6; over the next 25 years this ratio increased threefold to about 6.3.

In the rail industry asset utilization is as important as labor productivity. As was discussed above, a fundamental challenge facing Canadian railways is infrastructure rationalization. From 1967 to 1992, CN reduced its main lines and branch lines by 15 percent while CP achieved a reduction of 21 percent (see Figure 11.8). Rationalization accel-

erated toward the mid-1980s. Following the advent of NTA 1987, the annual rate of abandonment increased 2.2 percent and 1.9 percent, respectively, for CN and CP, which was still well below the statutory limit of 4 percent per year. In total, approximately 3,300 miles of track were abandoned between 1987 and 1992, or about 10 percent of the combined networks of CN and CP. Over this same period freight traffic increased considerably. CN and CP traffic densities improved steadily as a result (see Figure 11.9).

When all the inputs (labor, infrastructure, equipment, fuel, and others) are combined, total factor productivity more than doubled for both CN and CP between 1967

Figure 11.7 - Canada: Railway Productivity Measures, 1967-91

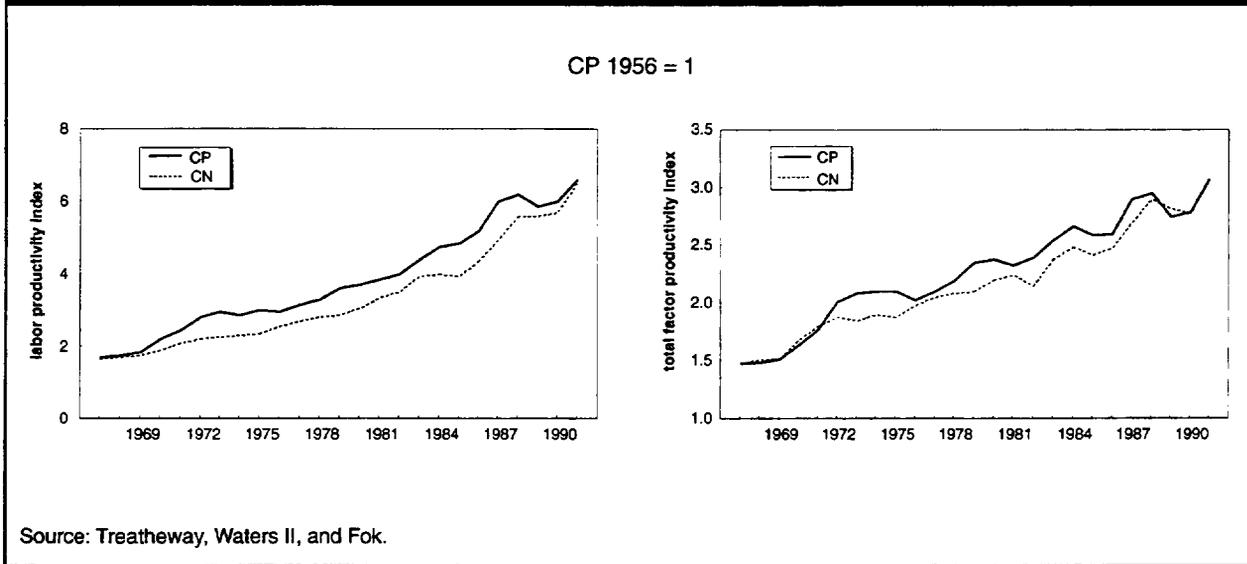


Figure 11.8 - Canada: Network Size and Utilization, 1956-93

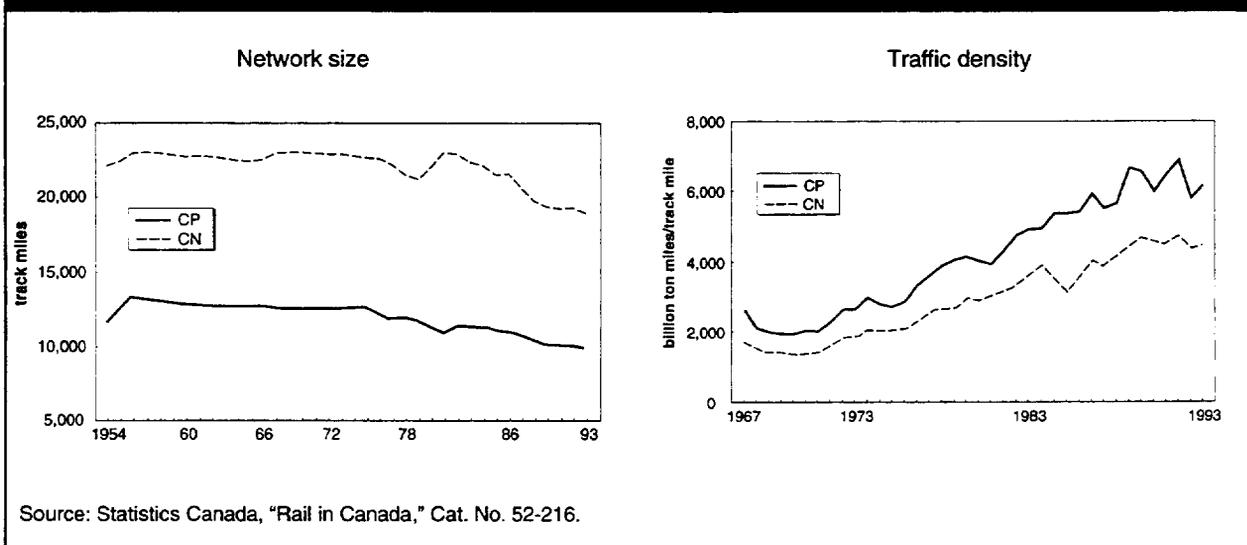
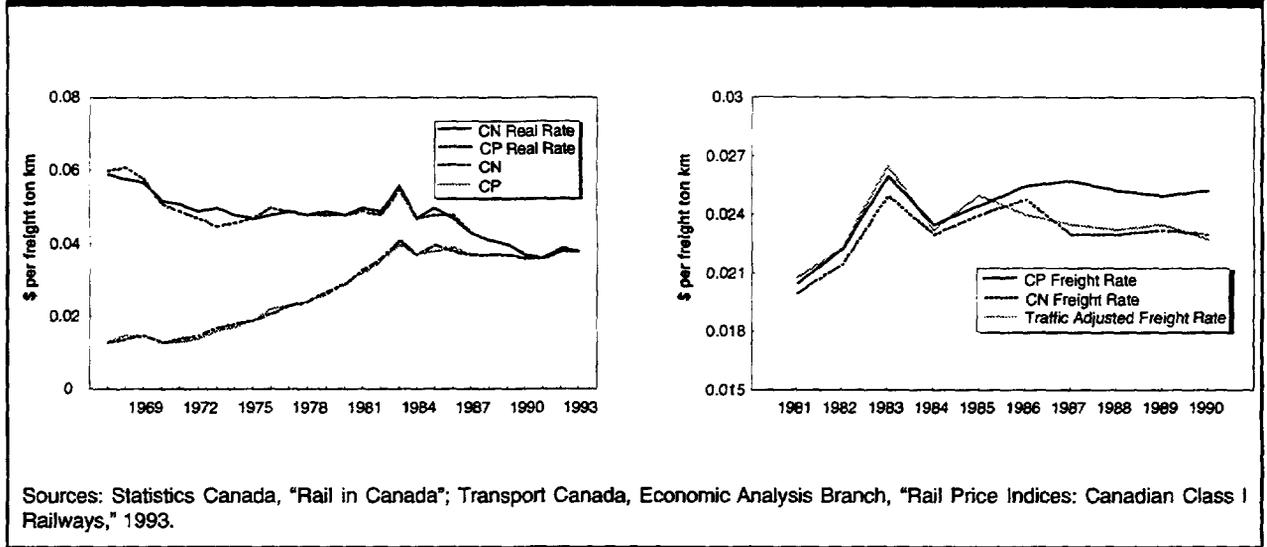


Figure 11.9 - Canada: Rail Freight Rate Comparisons, 1967-93



and 1991. The average annual productivity increase before 1987 was 2.8 percent for CN and 3.1 percent for CP. Since 1987, CP appears to have maintained about the same annual improvement (3.2 percent) while CN has improved to 4.1 percent annually.

4. Productivity Comparisons with the United States

The productivity of Canadian railways is substantially lower than that of their U.S. counterparts. CN's labor productivity, measured by revenue ton miles by employee hour, is 45 percent lower than that of the Class I industry in the United States, while the labor productivity of CP is 33 percent lower than that of its U.S. counterparts (based on 1992 figures). By another measure of capital productivity, revenue ton miles per track mile, CN is 17 percent less productive than the U.S. industry, while CP is 15 percent less productive than its U.S. counterparts (based on 1992 figures).

The most significant factor in this disparity is the existence of an excess of unproductive track in Canada in comparison with that in the United States. The measure of revenue ton miles per track mile, discussed above, reflects this situation. It results at least in part from the relatively slow pace of line rationalization in Canada. Light density also has a major impact on labor productivity, since lightly used lines require significant labor to be maintained. Labor relations also substantially affect the labor productivity comparison. In general, government in the United States has been more willing to allow the collective bargaining process to work without intervention in the form of back-to-work orders and government-appointed arbitration. This may well reflect the fact that the United States is far less

dependent on long-haul rail transport of low-value high-density commodities than is Canada, and that, in general, rail shippers in the United States tend to have more competitive alternatives because of river and intercoastal transport systems, highway transport (a more effective competitor in the United States because of closer proximity to markets), and the availability of more rail carriers. Thus, railway labor is considerably less powerful in the United States than it is in Canada.

Finally, two tax conditions also affect labor productivity. First, capital tax write-offs take place more rapidly in the United States than in Canada, which, other things being equal, reduces the cost of capital to U.S. carriers and encourages the substitution of capital for labor. Second, U.S. governments impose a higher tax load on labor in comparison with Canada. As a result, the overall employee benefit rate in the United States in 1991 (including employee taxes) was 38 percent of direct labor, whereas the comparable rate for CN was 25 percent. Again, this encourages capital substitution and enhances labor productivity in the United States.

PART IV: LESSONS LEARNED

Over the past 25 years, railway restructuring in Canada has been constrained by federal government regulations that were aimed at improving the financial viability of rail service and, at the same time, enhancing its competition. The tensions and conflicts inherent in this double-edged policy have slowed the restructuring of Canadian carriers. The NTA 1967 strove for a financially viable railway industry by providing a framework for compensatory pricing. With the WGTA, the government replaced statutory

rates with direct subsidies paid to the railways. With the NTA 1987, abandonment of uneconomic branch lines was made easier. At the same time, competition was encouraged among rail carriers, and shippers were given the right to achieve competitive access. None of this legislation, however, squarely addressed the need of the industry to reorganize its assets, work forces, and strategies or to realize fundamental gains in productivity.

The main issue currently confronting Canadian railways is infrastructure rationalization. The public policy challenge is to achieve radical restructuring and rationalization, which will improve the competitiveness of the industry. Competitive circumstances have brought these issues to the fore. Over the next decade, Canadian policymakers will be forced to make some difficult decisions regarding trade-offs between efficiency and competitiveness.

Nation building, regional development, and bailouts were reasons for the initial creation and continued existence of CN. According to the National Transportation Act Review Commission, set up in 1992 to study Canada's transport system, these concerns no longer exist. The Commission found that "the government's ownership of CN is no longer justifiable [and that] the company is no longer performing a public policy mandate."¹¹

CN's continued existence as a Crown corporation can be explained in part by:

1. Strong institutional and political inertia
2. The size of the company itself.

The Commission had the following explanation:

Total divestment of such a large entity may not be easily accomplished. It is doubtful that a single buyer could be found, and imaginative strategies may have to be sought. There are numerous possibilities, including the sale of parts of the system. There might also be innovations such as the cooperative use of trackage by one railway. Divestment strategies should be examined in order to find those most beneficial to the taxpayers.¹²

Consistent with the country's traditional market orientation, strategic rail restructuring in Canada is likely to be "bottom up." Public policy is likely to respond to private sector initiatives — probably those of CP — rather than to initiate any strategic reorganization and ad hoc privatization of CN.

The lessons learned from the experiences to date of

Canadian policymakers and railway managers can provide useful directions for privatization and restructuring in countries faced with similar challenges.

- *Railway enterprises are most efficient when they focus on the achievement of simple profit-making goals.* Railways are not effective instruments of public policy. Their managements are most effective when they focus on simple, single objectives. These include: maximizing profits to the exclusion of other public interest objectives, such as promoting the economic development of new territories; equalizing rates among regions or shippers; delivering non-compensatory services at "adequate" service levels as part of a public service obligation, etc.

- *Competitive equities between shippers and carriers or between regions are difficult for government to adjust in a dynamic market environment. Rather, clarity and stability in economic regulation are essential if private railways are to make sound, farsighted investment and disinvestment decisions.* In this context, the role of government should be to define the rules for competition and the role of management should be to play by these rules, with the objective of realizing the full profit potential of the assets they manage. The competitive rules should allow management full discretion over free entry and exit. Managements that do not or cannot adjust portfolios of assets, which they manage from time to time to respond to emerging market opportunities, are not protecting their shareholders' value.

- *Cross-subsidies distort incentives to manage assets for maximum productivity and profit.* The Canadian experience demonstrates clearly that both cross-subsidies and direct subsidies diminish incentives for downsizing and restructuring, particularly when subsidies have attached conditionalities that restrain the ability of management to exit markets or to freely dispose of assets.

- *Statutory restrictions that limit the ability of management to renegotiate labor contracts after the sale or reorganization of railway assets also diminish incentives for restructuring.* The Canadian rail experience is particularly instructive in this area. Restrictive labor conditions have clearly inhibited the development of a small railway segment in Canada, where all of the other prerequisites for small railway startups appear to exist.

- *Management incentives and transparent asset buyer/seller relationships are important when organizing a passenger service line of business.* In retrospect, the creation of VIA Rail appears to have been the appropriate structural remedy for the problems of passenger transport in Canada. However, in spite of a new corporate structure, the financial performance of the passenger line of business has continued to disappoint its original sponsors. Against this background, it is useful to reflect on passenger service restruc-

¹¹ National Transportation Act Review Commission, *Competition in Transportation: Policy and Legislation in Review*, Vol. I (Ottawa: 1993), p. 165.

¹² *Ibid.*

turing from the perspective of the parties interested in VIA Rail's startup: the railways, the federal government, and VIA Rail itself. With the creation of VIA Rail, the railways were given an opportunity to transfer otherwise redundant personnel without a severance burden. Thus, VIA Rail staffing came entirely from the ranks of predecessor railways. The railways also generated substantial revenue from operating contracts with VIA Rail without having to negotiate their terms or to compete for contract awards with carriers that operated parallel routes. This "uncontested" revenue source diminished as VIA Rail took on more of the operating functions itself. Still, at each stage in the buyout the railways that furnished operating assets were given the opportunity to transfer resources (including both labor and facilities) under favorable terms. With hindsight, a more

open and contestable framework for the transfer of assets and work forces might have improved the financial performance of the new line of business.

- *Government policy with regard to strategic reorganization of state-owned rail carriers — in a two-carrier environment — must be opportunistic and flexible, as well as clear with regard to long-term social and economic objectives.* As the circumstances that justified the original nationalization of CN have changed, so too must supporting government policy be reassessed from a zero base and from the point of view of current and future competitive realities. In an environment such as that in Canada, it is also important to contemplate the future 10- to 20- year effects of government divestment policy — not only on the state carrier, but on the entire rail sector. ■

CHAPTER TWELVE

THE FRONTIER OF RAILWAY RESTRUCTURING

1. Introduction

Two approaches have been employed in this report to explain railway restructuring. Chapters One through Four discuss broad principles of corporate reorganization in a market context to provide a general view of the ways in which railways respond and adapt to market forces and the ways in which these market forces shape railway reorganization and restructuring. Chapters Five through Eleven describe a series of cases which display some, but not necessarily all, of the problems of applying the broader principles discussed in the earlier chapters. The purpose of the case studies is to show the degrees of freedom and local improvisation existing within a general process framework. The challenge now is to pull together both broad and specific lessons so that they can be applied in new cases — cases that may not precisely match the cases presented but that pose their own set of problems.

Among railway managers there persists a tendency to believe that each railway is unique and that experience gained elsewhere has limited relevance to local circumstances. An experienced railway observer must acknowledge that this argument has some force. Even within a single national market, for example the United States, not all railways are identical or pose analogous restructuring challenges. Variations exist, for example, in size, topography, traffic mix, and markets served. Restructuring techniques that fit one of the larger U.S. railways would probably not fit one of the smaller railways such as the short lines discussed in Chapter Ten. Even though they are similar in size and operate in roughly similar markets, the railways of Canada have adopted quite different models for restructuring from those adopted by U.S. railways. Clearly, in the process of transferring “best restructuring methods” from one railway to another, many of the lessons learned are reinvented to fit local circumstances and thus are “domesticated.”

This said, a number of key issues, faced in virtually all railway restructurings, cut across institutions, albeit in different forms and combinations. These factors, of course, are subject more or less to the local redefinition phenomena described above. As has been discussed in this report, these broad issues affect both the pace and the viable forms that structural change can take within the rail sector of a

specific national economy. These factors include: (1) the role of market forces in determining the competitive dynamics of economies and the role played by transport in the economy; (2) the possible range of shipper and passenger sophistication, service differentiation, and level of service demand discrimination within national transport markets; (3) the changing paradigm within countries as to the role played by governments (at various levels) vis-à-vis the private sector; (4) the role of the private sector in providing assets and services that would in the past have been the exclusive domain of the public sector; and (5) the priority and sequence assigned to specific economic reforms. Using these parameters to measure the forces compelling change, we can compare the restructuring approaches taken in various countries and the alignment of these underlying forces with specific railway restructuring schemes designed to bring railways into better fit with their economy's needs.

2. The Role of Market Forces in Railway Restructuring

The fundamental drivers for railway structural change are market forces. Market forces become more intense as the macro-economy itself moves across the reform spectrum from a planned to a fully empowered market economy in which economic decisionmaking is relegated to the level of the individual firm. During this transition period railways tend to lag behind other enterprises in their reform fervor. Railways are frequently “nations within nations,” and these large inert organizations typically have a very large turning radius. Railways in planned economies enjoy the luxury of focusing almost solely on production activities, whereas market-oriented railways must live within the constantly shifting niche constraints set for them by competition from trucks and barges for freight, and from automobiles, buses, and airlines for passenger travel. Competition in an open transport market requires continuous and intensive strategic adjustment. In such environments, railways are continually challenged with new entrants, new technology, and more cost-effective competitors.

An example of the dynamic effects of market forces can be seen in Figures 12.1 and 12.2, which show the dramatic market share declines experienced by U.S. railroads in both freight and passenger service beginning in the 1930s and

Figure 12.1 - U.S. Railroads: Freight Market Share, 1935-94

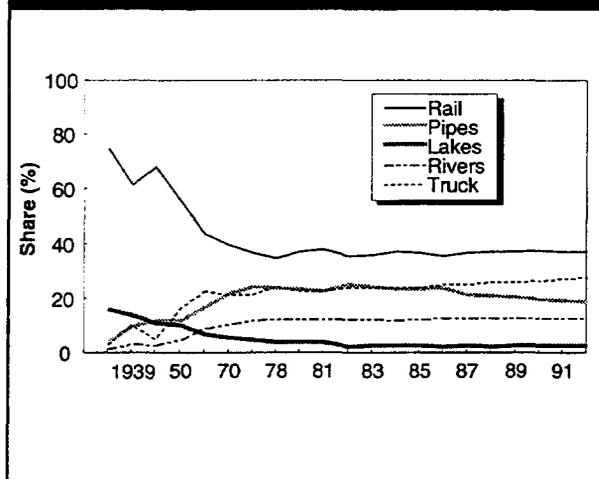
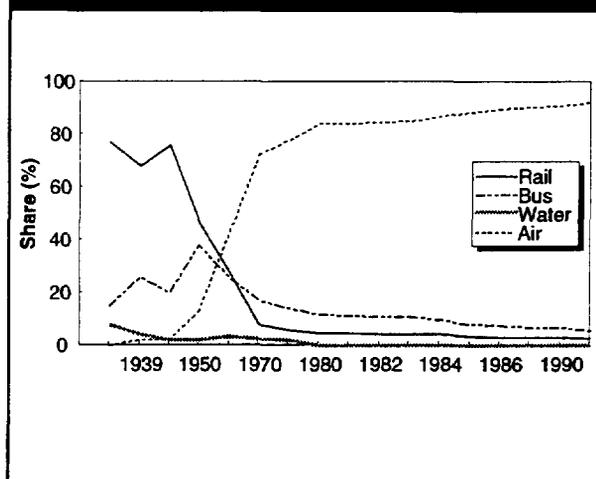


Figure 12.2 - U.S. Railroads: Passenger Market Share, 1935-94



continuing through World War II, the advent of airlines, the Interstate Highway System, and the ultimate deregulation of all modes of transport. These figures highlight the degree of market shifts caused by new competing technology and continuous service innovations — shifts that occurred in many cases despite the best efforts of the private rail operators, as well as government policymakers who attempted to reverse the process. An almost identical process of declining share can be seen in Western Europe and Japan.

However, in many cases, railways begin their restructuring in advance of basic market shifts. In many centrally planned economies, for example, the process begins from a starting point of market dominance based on pre-existing policies that designate railways as the premier carriers of intercity traffic, passengers, and freight. The reasons for these policy choices are complex and varied. However, they are frequently related to these factors: (1) the high production of rail-dependent basic commodities, (2) the lack of logistics cost elasticity in transport planning, and (3) of imposed controls over the ownership of automobiles and trucks.

The result for many planned economies, as shown in Figure 12.3, is a distorted use of transport measured in terms of freight ton km per dollar of GDP.¹ Most centrally planned economies are transportation intensive. As Figure 12.4 shows, rail share of traffic for the same length of haul is larger in the formerly socialist countries than in market

economies. A directed policy of using rail for long haul freight combined with suppressing personal travel has led, in the former socialist economies, to an economically unsustainable level of rail service demand. In the liberalized environment that has followed central economic control, rail market share appears to be following the same decline as that experienced in the United States, Western Europe, and Japan.

Unfortunately, the adjustment to an economically sustainable market share is frequently catastrophic in transition economies when economic controls are lifted — a situation that makes rail restructuring all the more necessary and all the more difficult. Figures 12.5 and 12.6 show that the transition has begun with a vengeance in the former planned economies of Central and Eastern European and the CIS countries. It should be noted that the shrinkage in freight share is much more severe than in passenger traffic in these economies for reasons which are not yet entirely clear.

In two large developing economies, India and China, rail traffic has continued to grow, although over the last few years freight traffic has leveled off in India. In the case of China, rail traffic is still growing, primarily because the economy is constrained by limited factor inputs including transport capacity available from alternative modes. Moreover, transport demand has not yet felt the shift to a liberalized socialist market. In India, access to alternative transport modes also remains restricted. In addition, rail passenger tariffs are suppressed so that Indian Railways continues to enjoy an advantage over competing modes that is only now being challenged.

In other borrowing countries that the World Bank serves, the rail traffic picture is mixed. A few railways continue to

¹ See Philip W. Blackshaw and Louis S. Thompson, *Railway Reform in the Central and Eastern European Economies*, World Bank, WPS 1137, May 1993, for a detailed discussion of these issues. GDP is purchasing power parity adjusted.

expand their traffic bases; most, however, are experiencing shrinking markets. All railways face an impending competitive threat, however, as highway systems are improved and airlines privatized and modernized. Intensified intermodal competition is the inexorable result of quantum increases in vehicle unit carrying capacity made possible by modern truck and airplane design. In particular, through the 1970s and 1980s long and heavy truck designs

have significantly narrowed the “cargo capacity gap” between rail cars and motor carrier vehicles. As fuel-efficient heavy truck technology has become widely disseminated in the 1990s, the defensible market niche of railways has correspondingly shrunk in most national transport markets. Clearly, no developing railway can contemplate an open market future that is as assured and as comfortable as its closed market past. All developing country railways face

Figure 12.3 - Transport Use in Planned Economies

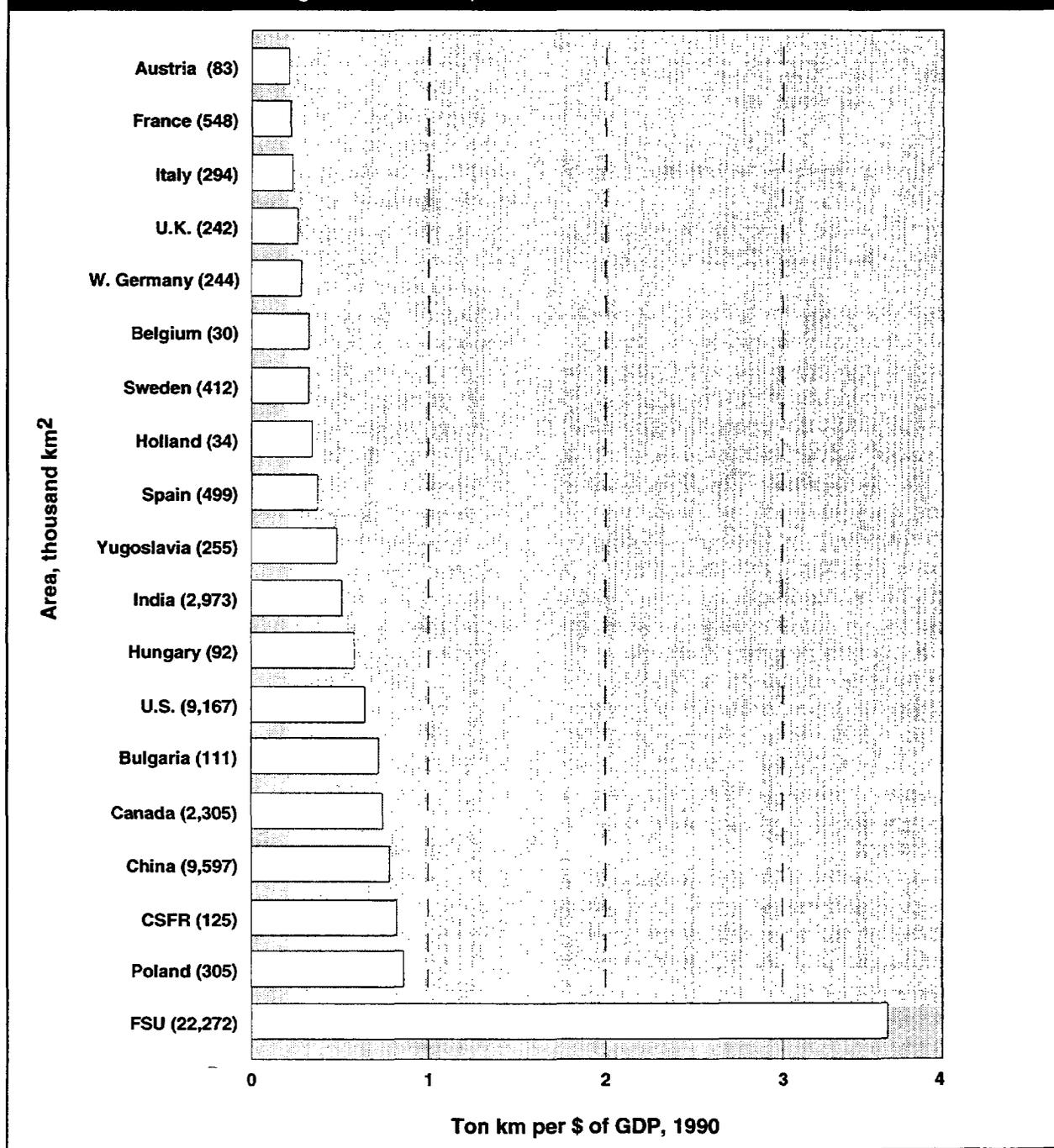
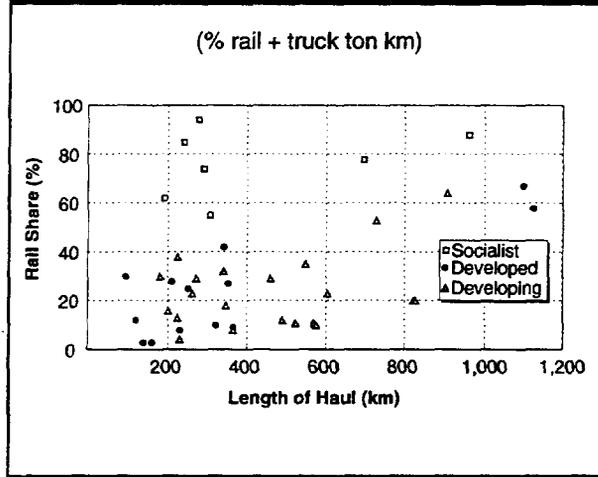


Figure 12.4 - Rail Share of Different Economies, by Length of Haul



the need to review from a zero base their technology base, their management methods, and their intermodal competitiveness.

A key related issue is the strategic role that railways play in the transport system of their country — a role designated and reinforced through public policy. Many of the world's railways are predominantly passenger carriers. A tendency exists in North America to overlook this fact and to think of railways as predominantly carriers of freight. In many countries passenger tariffs are politically imposed and railways are consequently dependent on government support to maintain their asset bases and to provide adequate services as a matter of national public policy. Figure 12.7 ranks the world's railways according to their share of freight versus passenger service. A related issue is whether rail passenger service is primarily intercity or suburban in nature. Intercity passenger service is more susceptible to commercial competition than is suburban service, which is typically not economically viable without public assistance. The degrees of pricing freedom available to the railway and the government to generate profits from operations and thus to improve passenger services are directly affected by the type of services offered.

In this context, it is useful to mention the role that the size of a particular country and the size of its rail system play in determining the options available for restructuring. A small railway in a large country (for example, the Tubaron Railway in Brazil), or even a large railway that plays a small role in the transport system of a country (for example, Ferrocarriles Argentinos), offers a greater degree of freedom in testing restructuring options simply because the risk of failure is not as large as for a railway that plays an essential role in a country's transport sector (as in Russia, for example).

In addition, a small railway (as in Malawi, for example), or a larger railway broken up into pieces (as in Peru, for example), can be offered for sale, or lease, or contracted out to smaller companies.² When large railways are offered in large pieces (as, for example, in Mexico), only larger companies are able to make offers, and the competition for asset control may be less intense. As was discussed above, a key objective underlying most restructuring efforts is to design intramodal competition into the industry's new structure. Restructuring involves, among other objectives, carving out a competitive market.

Concentrated economic power in the rail sector creates two problems which could be avoided through prudent restructuring. The first problem is the inability of the railway to organize itself along market lines. This problem becomes increasingly serious as the supporting economy itself becomes more market-oriented. Experience demonstrates that monolithic railways, even privately owned ones, are seriously handicapped by their size and distance from their customers vis-à-vis privately owned trucking, airline, bus, and automobile competition. Thus, one objective underlying restructuring is to adjust railway assets and organizations to match the strengths of their competitors as well as the needs of their markets.

The second problem confronting monolithic railways is that they require corresponding central governmental monoliths to keep them in check. Single system national railways arose as an artifact of the centralization of political power and of resource management at the national level — a circumstance characteristic not only of centrally planned economies. However, the need for centralized government control and counterpart central railway control is obviated increasingly by modern telecommunications and information technology and by a shift of decisionmaking power to local authorities. Local authorities are closer to local problems, and local regulation of local transport naturally complements the transfer of economic decisionmaking to the market, particularly when rail assets are restructured along geographical lines.

3. Changing the Government Role

Railway restructuring entails changes in the role of government in this area which are no less fundamental than changes in the railway itself. The traditional railway model in all but a few countries (notably the United States and Canada) is a government owned and controlled monolith. The single system railway owns or controls all operating assets, manufactures most or all of its own supplies and rolling stock, and provides all of the country's rail service.

² See Alice Galenson and Louis S. Thompson, *The Evolution of the World Bank's Railway Lending*, World Bank Discussion Paper 269, 1994.

Figure 12.5 - Transition Economies: Freight Market Share, 1980-93

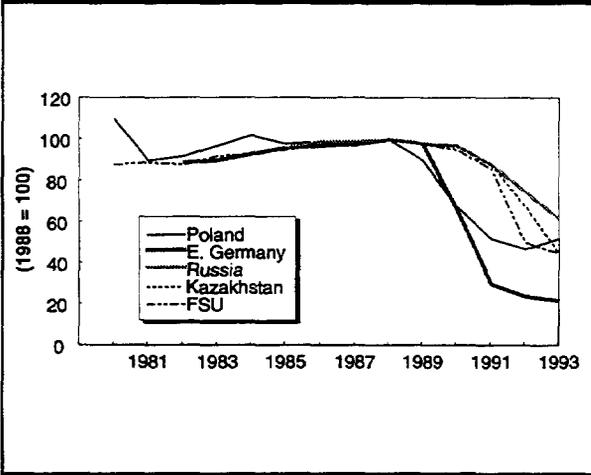
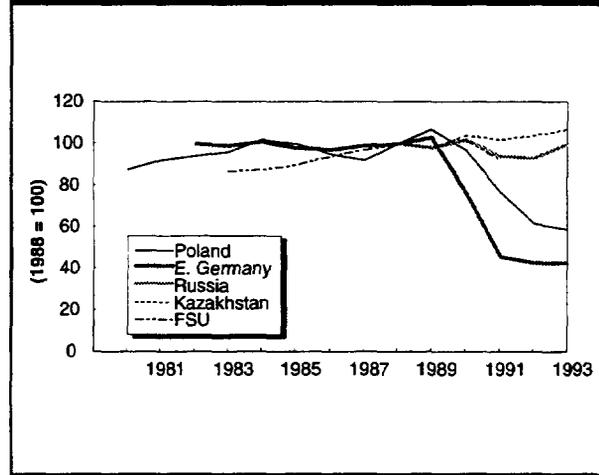


Figure 12.6 - Transition Economies: Passenger Market Share, 1980-93



Under this model the railway is typically organized as a single government agency. No profit centers exist within the railway below the level of general manager. Whether the railway is a “ministry,” as in China or India, or a state-owned enterprise, as was the case in most of the Latin American countries, governments systematically used railways as instruments of social policy. In areas such as passenger subsidies, regional tariff subsidies, and surplus labor absorption, political objectives frequently outweigh economic ones. Because the railway is often an integral part of the government’s budget, railway investment programs are often swept into the domestic pork barrel. Under these circumstances, rail investments are not managed to yield an optimal return to the railway, but are sacrificed to the exigencies of year-to-year fiscal juggling. It is important to note that in many economies the railway’s major shippers are also government agencies and that a high percentage of the railway’s riders are government employees or retirees with “free pass” entitlements. Government to government service transactions provide none of the incentives for service quality enhancement that are essential to competing in an open market. Vertically integrated railway monopolies are not able to change their culture and to respond quickly to emerging market forces. Price signals are distorted through controls, entitlements, and cross-subsidies. Incentives for efficient resource allocation are muted by bureaucratic inertia and political intervention. Ultimately, the needs of private sector shippers and passengers are by default better served by private truckers, barge operators, or airlines. These modes, supported by private investment, are motivated to grow and make a profit and also are unconstrained by the need to balance conflicting public policy objectives with profit-making objectives. The level of sophistication of private sector purchasers of transport ser-

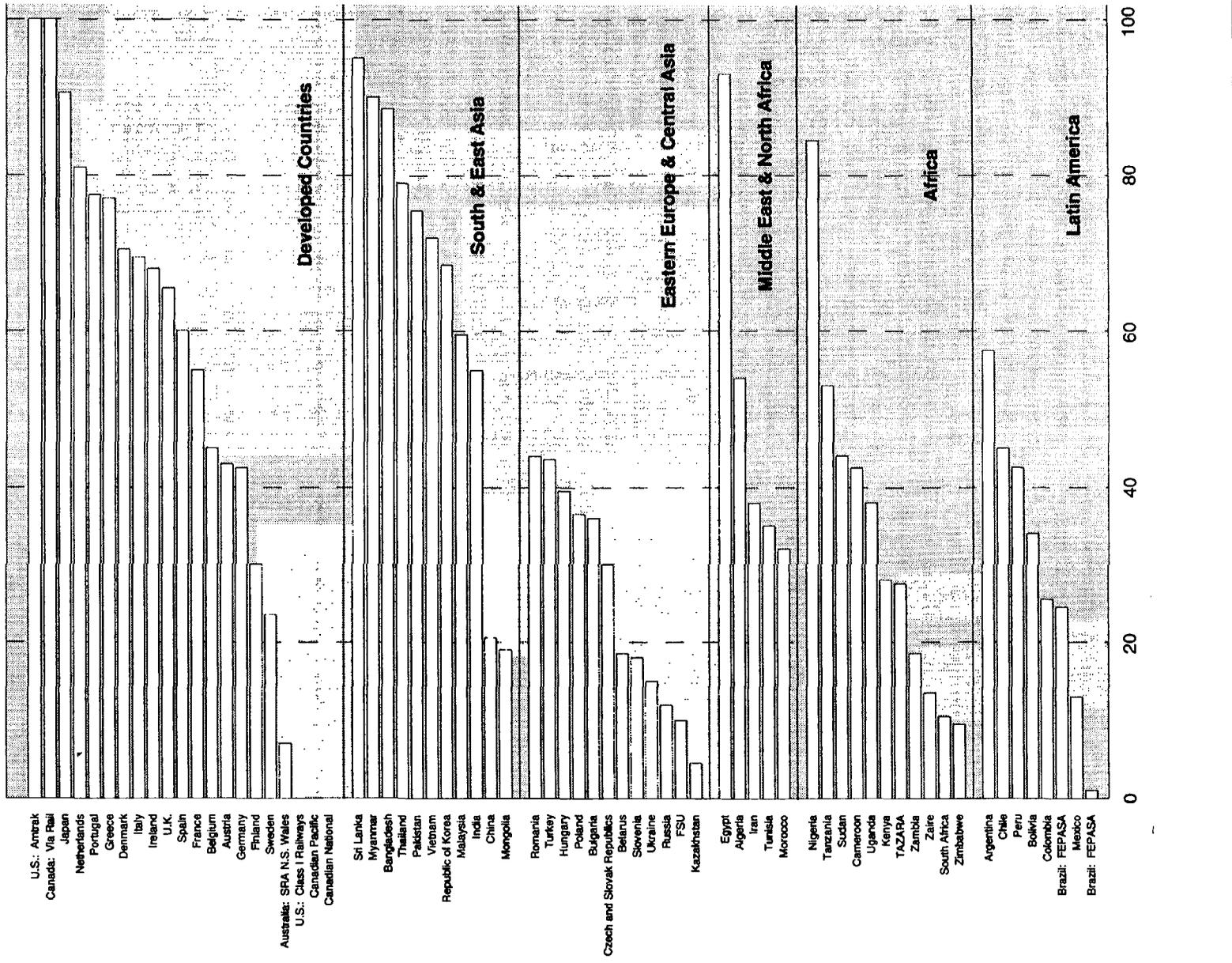
vice typically precedes that of rail carriers and defines the standards that rail services must meet in order to survive in an open market.

All of the case study railways in this report encountered the need to change railway strategy and government policy at the same time. The change process typically begins with the separation and clarification of distinct roles for the government as regulator and for the railway as operator. In the process of separation, certain essential steps take place: (1) the government typically reconstitutes the railway as a state-owned enterprise operating under commercial law and the government accordingly circumscribes its own policy role in the process, substituting indirect regulation and guidance through an independent board for direct management intervention; (2) the railway is allowed greater commercial freedom to own and dispose of assets, to set tariffs, to hire and fire personnel, to sign contracts, and to sue and be sued, while the government regulates the railway as it would any other commercial enterprise. Where public service objectives exist that the railway cannot meet from its own revenues, the government contracts with the railway to provide service.³

The process of restructuring continues in multiple steps as the railway, now acting as a commercially driven enterprise, reshapes itself to meet the needs of its particular market. This process typically begins with the creation of internal profit centers (for example, freight versus inter-city passenger versus suburban passenger, but sometimes also extending to freight sub-markets such as coal, grains, or containers, or also to specific city pairs, or to individual cities in the case of suburban services). The reshaping of

³ See Lee W. Huff and Louis S. Thompson, *Techniques for Railway Restructuring*, World Bank, WPS 380, March 1990.

Figure 12.7 - World Railway Shares of Freight versus Passenger Service (percent)



the railway often progresses beyond internal line of business reorganization to include multiple competing rail operators on the same line — through trackage rights or haulage agreements; institutional separation of multiple train services over the same tracks through payment of tolls or build-operate-transfer (BOT) payments; and payment by various “retailers” to the railway for the provision of “wholesale” rail services which the retailers market directly to the beneficial owners of the cargo.⁴ Each of these transformations has appeared in one or more of the cases presented.

Underlying the process of railway restructuring are the axioms that railways do not operate as natural monopolies; that economies of scale in the industry are overwhelmed by the competitive requirements of flexibility, quick response, and attention to customer needs; and, consequently, that many of the railway’s “value adding” functions can be unbundled and parceled out to separate, even competing, operators if due care is given to the issues of operational coordination and safety. The structural implication is a diversity of enterprises, each narrowly focused on a particular service or market and none burdened by the difficult multifunctional juggling act that railway managers of vertically integrated enterprises are required to perform in a competitive market environment. The operative principles here are specialized market focuses and progressive refinement of core competencies.

Unbundling facilitates the separation of public service obligation (PSO) driven activities from market driven services. Suburban services, for example, can be separated from freight services, with each being effectively managed by different authorities or business groups for very different strategic agendas. Freight customers have the opportunity to work with an enterprise that lives or dies by its performance in solving logistics problems of particular customers. Public sector decisionmakers that oversee suburban services, on the other hand, receive relevant information about what is being done to increase public mobility, and how much it costs. The transparency that results can be politically painful in the beginning when fundamental premises are subject to daylight review. Over the longer term, however, transparency improves decisionmaking and resource allocation by permitting decisionmakers to decide what they actually need, and by controlling directly the quality and cost of what they purchase.

Railway restructuring entails the zero based redefinition of the role of government in the sector. In general, that role shifts from “rowing” to “steering” operations. Private sector control and/or ownership of rail assets requires

⁴ See Neil E. Moyer and Louis S. Thompson, *Options for Reshaping the Railway*, World Bank, WPS 926, June 1992.

that the public sector develop a regulatory framework which creates incentives for private management to consider social as well as financial costs. In particular, restructuring implies the need for rule-setting mechanisms that are open and that allow for fair and objective deliberation and for regulatory enforcement regimes in the areas of labor-management contract negotiations, operating safety, environmental protection, and the enforcement of shipper and passenger rights.

4. A Role for Local Governments in Railway Services

A critical issue that often surfaces as part of the railway restructuring process is the need to redefine the role of the national government vis-à-vis provincial or local governments. The overriding objective of railway restructuring is to assure that the services that are provided are appropriately matched to market needs. In markets that are fully compensatory, this objective is best accomplished through private ownership or asset control. In PSO markets, however, this objective it is best achieved by decentralizing or de-federalizing planning, funding, contracting out, and service quality management under the aegis of local government. The same reorganization principle applies as in unbundling for-profit services: closer proximity to customers and exclusive focus on narrowly defined markets lead to higher service quality.

The devolution of power to local authorities, however, poses a particular challenge for railways because some carrier functions are inherently national in scope and provide critical support to a national transport network. At the same time, many railway services are clearly local and require minimal attention from the national network. Moreover, as several of the case studies indicate, some of the political resistance to change comes from the fact that railway restructuring often highlights services which existed primarily because they were buried within an amorphous national railway entity that could not directly compare revenues generated from these “buried” services and other direct benefits with the costs of providing them. Examples include overmanned functions (railcar building, track maintenance, signal maintenance, etc.) and light density regional lines.

A corollary of private sector involvement is that it renders cross-subsidies untenable. The private sector will not provide services, even socially beneficial services, unless it is adequately compensated. Shifts from public to private control are quickly followed by the identification and separation of commuter services and by direct comparison of the revenues from these services with the costs of providing them. In some cases customers are willing to pay more (sometimes much more) for quality services that meet their

needs — a choice effectively denied them by the predecessor railway/national government entente. In other cases local governments may agree that a combination of enhanced farebox revenues, subsidies, and cost regulations meets a genuine public need for service. In these cases, PSO payments may be designed to close the gap between direct revenues and costs and to provide adequate incentives for continuous service improvement. In nearly every restructuring case another situation has arisen — the elimination of services which either did not fit public mobility needs or did not justify the funds expended on them. The case studies provide the following critical insight — that the roles of governments at all levels can be productively redefined in ways that improve public administration and complement a market-based delivery of services even as the railway itself is unbundled and assets are recombined.

5. Recent Trends in Railway Restructuring

Trends and fashions exist in railway restructuring just as they do in other areas of human endeavor that fall somewhere between art and science. Figure 12.8 illustrates key functions that must be performed by railways in order to serve their markets well. The figure suggests the direction in which many railways are evolving as the economies that they serve adopt market-driven forms. The figure is not intended to suggest that any single formula or universal pattern exists for railway restructuring. Indeed, the case studies clearly indicate that a country-by-country approach is necessary both as to the timetable and as to the substance of any specific restructuring program. Moreover, as was discussed in Chapter Four, the restructuring management process itself is inherently context specific: it is a learning process. Consequently, significant flexibility in form as well as in process must be reserved for the intermediary agency which drives the restructuring. The process result must ultimately meet the needs of particular markets and must work within the imperatives of each nation's unique political constraints. If experience is a guide, however, no matter how the railway's restructuring plan is initially formulated, it will eventually converge with and evolve toward the requirements of the economy being served. Figure 12.8 supports this general finding with a number of important observations.

One distinct recent trend in railway restructuring is the separation of ownership and operations. It is entirely possible, for example, to have rail facilities which are owned by national or local governments or, indeed, by private entities which simultaneously support the train operations of multiple parties. In fact, situations exist in the United States in which ownership of track and operations is concurrently shared among private operators and public op-

erators at the national, state, and local levels.⁵ In situations in which public infrastructure ownership is separated from private train operations, the government can focus on planning and ownership of common use fixed facilities, whereas ownership of sole use facilities can be left to private companies or locally owned public enterprises or authorities. Under such circumstances, the national public carrier may remain a public enterprise (as in France and Sweden) or it may be conveyed partially or totally to the private sector (as in New Zealand and Japan). Alternatively, the right to operate over specific trackage segments or specific services may be concessioned to the private sector (as in Argentina). Under special controlled circumstances,⁶ competing concessions may be awarded.

Figure 12.8 also underscores the fact that in situations characterized by common use of a public infrastructure no "best" solution exists to the issue of which authority should schedule and control (dispatch) track usage. From the case study experience, however, a commonsense solution emerges — that scheduling and dispatching should be under the authority of the predominant user of the track. In the United States, for example, the predominant user is the controlling freight railway. All other users, including other freight railways, typically work within the schedules and under the dispatch rules set by the predominant carrier, subject to the negotiation of scheduling and dispatching priorities and an appropriate mechanism for enforcing these rules. Circumstances differ from country to country. For example, on most of the trackage in Great Britain intercity passenger carriers are the predominant users and under the Railtrack mechanism may have first right to set schedules and dispatch trains. Other cases exist. For example, within the Bombay suburban passenger zone, suburban services are predominant and have the primary authority in setting schedules and controlling track use. Where there is no clearly dominant user, as in jointly owned facilities, ample precedents exist for jointly owned and controlled

⁵ In fact, the policy of the European Union under the European Community's Commission Order 91-440 is to require that all nationally owned railway facilities be available for use by suitably qualified operators under non-discriminatory terms. This means that, for example, German railways (DB) have the right to provide through service from Berlin to Paris, and the trackage usage fee they pay is to be the same as that paid by the French National Railway (SNCF) for the same type of track use. Further, if a private company wishes to provide international rail service in the European Union, it also has the legal right to operate wherever it has a market to serve.

⁶ Experience shows that at least some competition is possible over the same tracks; but railways are not like highways and unlimited competition is not possible.

Figure 12.8 - Functional Responsibility for Serving Various Railway Markets

Function	Freight		Passenger			
	General Commercial	Specialized Commercial	Intercity Commercial	Intercity PSO	Regional	Suburban
Fixed Facility						
Ownership and Improvement						
Common	■	■	■	■	■	■
Solely Related	□	□	□	■	□	□
Maintenance						
Common	□	□	□	□	□	□
Solely Related	□	□	□	□	□	□
Operational Control						
Common	?	?	?	?	?	?
Solely Related	□	□	□	□	□	□
Train Movement						
	□	□	□	□	□	□
Equipment Provision/Maintenance						
	□	□	□	□	■	■
Marketing and Sales						
	□	□	□	■	■	■
Financial Accountability						
	□	□	□	■	■	■
Regulation and Policy						
Safety	■	■	■	■	■	■
Economic	■	■	■	■	□	□
Anti-monopoly	■	■	■	■	□	□
Transport Policy	■	■	■	■	■	■

= National government responsibility
 = National & local government responsibility
 = Local government responsibility
 = Private sector responsibility

scheduling and dispatching centers. As a general rule, however, it is best if only one agency controls track use, even if this agency is jointly owned and managed. Moreover, the system of charges for track use and rules for track access should be rational, transparent, and easily enforceable. Although some might contest the point, the case studies seem to indicate that the predominant user of the track should also control train scheduling, dispatching, and maintenance and that, except in unusual circumstances, track dispatching and track maintenance should not be institutionally separated from the predominant users.

One restructuring trend is the growing importance of concessioning lines or services to the private sector. As is noted in the figure, concessioning is increasing in several developing country contexts. Concessioning as it has developed in Argentina and several other Latin American

countries means that the owner of a rail facility, usually a public authority, awards the concessioning right to a private enterprise to operate train services over a specific segment. For its part, the operator is granted tariff freedom, some degree of exclusivity in the use of the infrastructure, and a time period in which to plan, operate for-profit services, and recover its investment. The operator may also lease for a fee some or all of the rolling stock from the public owner(s). If the concession is expected to generate a positive cash flow, the concessionaire will offer a payment to the owner (a positive concession); if, on the other hand, the concession is expected to generate a negative cash flow, or if it will not recover all of the investment that the owner considers necessary, the concessionaire will be paid by the owner (a negative concession).

In some cases, as in New Zealand, the concession is

total and exclusive. Under these circumstances the concessionaire will be allowed to operate essentially free of controls because the degree of competition from other modes is adequate to ensure reasonable rates. In other cases, concessionaires will operate in part over each other's tracks and in part over their own. Within their own territory they will enjoy full commercial freedom; on railways owned by others, they will be bound by the terms of operating agreements. This is effectively the case in both Argentina and Japan.⁷ In Britain virtually all possible combinations of operations and infrastructure use rights may occur, with either private or publicly owned concessionaires or operators operating over private or publicly owned track. It is contemplated that some British concessions will be negative and others positive.

6. Getting Started

The case studies suggest that there is a reasonable sequence of steps to be followed in the restructuring process: first, securing the political will and commitment to proceed, then planning the restructuring in detail, then implementing the change in ownership or control. Successful restructuring activities always require the clear and unambiguous devolution of responsibility for managing the transformation process from high-level political authorities to an intermediation agency. Publicly owned railways cannot be expected to restructure themselves. Restructuring normally requires preparation of a comprehensive plan and clarification of the new government/railway roles. The restructuring plan sets the ground rules and frames the terms of reference for private sector involvement. Without an officially sanctioned future vision of the railway and the role it is expected to play in both commercial and PSO terms, there can be no basis for carrying through all of the politically difficult tactical steps required for implementation. The restructuring

⁷In this regard, the combinations offered by the Japanese situation are particularly interesting. At some future point, three of the JRs (East, West, and Central) are expected to be controlled by private shareholders, although they will not fully own their track. Three other carriers (Shikoku, Kyushu, and Hokkaido) will almost certainly remain publicly owned, although some share of their ownership and funding responsibility could be transferred to local or provincial authorities. Another carrier, JR Freight, seems likely to remain in public hands (although it could be privatized since over 60 percent of its freight is controlled by a single shipper) but operates for a fee over the tracks of all of the others. Next, the system of Shinkansens, though owned and controlled by the three Honshu JRs, depends on close integration of schedules among all three. Finally, there is an entirely separate system of privately owned railways which interchange very little traffic with the JRs. Clearly, Japan has arrived at a mixed solution.

plan provides this future vision. Without a clearly defined future government role — for example, in financial support of PSO services, in capital investment (if any public funding is contemplated), and in regulation of rail operations (including safety, economic, and antitrust regulations) — and without a rebalanced policy toward the promotion of competing modes, no reasonable progress can be made toward attracting private investment or improving the quality of transport services.

The reorganization of assets, work forces, and organizational structure need not be completed before the railway is concessioned or otherwise divested. Indeed, much of the detailed restructuring, such as redefinition of residual liabilities and of labor buyout obligations, must be negotiated with the new private enterprise managers. However, government does have unique powers to correct fundamental structural problems, and these powers should be used to assure the viability of profitable private sector operation in advance of the conveyance of ownership control to private operators.

In any case, restructured railways are always more valuable than railways requiring fundamental reform. Thus, some amount of restructuring often precedes privatization or concessioning. For example, it is important that the basic architecture of the new organizations be set in advance, including all separations to be made between unbundled organizational units, and that the commercial terms of the new relationships among the new organizational units be defined in advance. In particular, decisions should be made as to: (1) the number and market scope of autonomous freight organizations; (2) the number and market scope of intercity passenger organizations; (3) the number of suburban operators (if any); (4) on the basis of operating plans and the expected traffic flows, the organization that will become the controlling user (dispatcher) over each track segment; (5) the terms of payment for track access by subsidiary users and the institutional basis for ensuring equality and fairness of access; and (6) the payments terms and conditions of PSO-supported operations.

In many developing nations the definition of commodity or service boundaries for concessioning is straightforward. In New Zealand, Côte d'Ivoire, or Burkina Faso a single system is appropriate. Since the existing railway is small, intermodal competition is strong enough so that the railway does not need to be subdivided. In other settings, those of Japan and Mexico, for example, restructuring and ultimately privatization require that the railway be broken up into segments or value-added functions that diminish the threat of a national monopoly and that, moreover, are small enough for the private economy to assess and absorb discrete business units. Breaking up a railway can be a dif-

ficult process. Labor unions frequently resist such break-ups (as was the case in Japan) because an organizational subdivision fragments their national power base.

Every concessioning or privatization process has been confronted by two challenges for which no easy solution exists. The first challenge is the issue of securing adequate competition for the market if a concession encompasses a geographic monopoly and if there is inadequate intermodal competition within the market. As has been suggested above, one step is to design concessions that are small enough to ensure that competition is possible. Another is to ensure that potential concessions are not encumbered with uneconomic lines or services to the extent that potential purchasers are discouraged from competing for concession rights. This problem sank the concession for the Belgrano line in Argentina. In the process of structuring-in adequate competition, some opportunity must be afforded private investors to serve markets of adequate size to ensure a profit. Thus, rail restructuring must steer a course between the desire for adequate competition and the need to provide sufficient profitability.

In most national transportation markets, sufficient competition from other modes exists so that the railway cannot charge unreasonable rates: thus the railway requires minimal economic regulation. A more difficult case exists when a railway enjoys effective monopoly power over specific movements either because the line in question is isolated and without competition or because the volume of the bulk commodity movements is so high that it makes effective intermodal competition impossible. Another difficult situation arises when a railway is divided up in such a way that a significant amount of traffic flows across railway boundaries and must be handled by two or more lines in coordination.⁸

One potential solution discussed in the case studies is to allow multiple operators to compete on the same track either through common ownership or through enforced trackage rights. If there are significant traffic flows between a station in Company A's territory and a station in Company B's territory, Company A could operate over Company B's tracks so that single line service is provided from origin station to destination station. In practice, Railway B

⁸ It is significant that the networks of the JRs in Japan were designed so that less than 6 percent of their passenger traffic requires interline handling. In contrast, the JR Freight services were sufficiently national in scope to make it better to retain a single carrier to promote integrated movement (and, in addition, there is so much truck and water competition that JR Freight has no monopoly power).

would be given rights to serve Railway A's stations as well, so that competition is designed into reciprocal concessions between large volume stations. The British Rail restructuring case applies this principle.

Under certain circumstances, as the case studies demonstrate, trackage rights can and do promote competition. However, they are not a panacea. The costs of operating coordination and the inevitable operating conflicts which arise as the number of distinct services increases over a single line cancel out the economic gains realized through managed competition. In addition, it is well established in railway economics that pricing based on elasticity of demand (so-called "Ramsay Pricing") is the only economically efficient way to recover fixed costs without external subsidy. Competition over a line, when it causes rates to fall significantly on otherwise profitable commodities, may undermine the economic viability of the line and, accordingly, its concession value. Thus, breaking up a single system railway into smaller companies may promote competition, but it also undermines the ability of the carriers to recover their fixed costs through Ramsay Pricing.

An important lesson that emerged from the Argentine experience is that the terms of the concession itself can serve to establish a regulatory regime. Unfortunately, the freight concessions in Argentina were developed before all of the regulatory issues were worked out. Redressing this situation after the fact will take more effort than would have been required had the problem been resolved at the outset. A parallel point is that an independent authority must be created, empowered, and adequately financed to monitor the concessioned operations with respect to fares and required service levels. There is a risk of underestimating the difficulty of this oversight and of trying to start up the process with an agency that does not have the requisite skills or resources.

On the basis of the case studies, it is still too early to state definitively whether private sector ownership and/or control of railways has proved successful. In measuring success, it is always important to specify a standard. If the standard applied here is whether the restructured railway is more efficient, productive, and customer-oriented than its state-owned predecessor, then this report contains a number of success stories. Another measurement of success is that none of the governments involved in the case study railways would choose to go back to the old system.

If, on the other hand, the success standard is whether successor rail enterprises are financially healthy, stable, and profitable then a final judgment is more equivocal. The Governments of Argentina and Japan are clearly enormously better off financially under the new systems and their rail service has improved measurably. The same is true

of the Government of New Zealand. Still, some of the Argentine concessions have had, and continue to have, financial problems, and the future of the railways in New Zealand is by no means assured. Stiff highway competition continues to challenge the new management of New Zealand Railways.

At least two of the cases in this report, those of Great Britain and Canada, are still under way and a "success" judgment based on results in these contexts is years away. The British case represents a radical attempt at shattering the old vertically integrated railway paradigm and instituting a new system based on almost total separation of right of way from train operations. It creates a great deal of fragmentation and arm's length commercial dealing among separate operating entities. At this stage in the British process, the best that can be said is that risks have been undertaken for uncertain rewards. Only the future can tell whether this approach is the right one. By contrast, Canada has adopted an evolutionary approach which to some extent mirrors the U.S. experience. The fact that Canadian rail carriers are directly challenged by U.S. competitors has driven the restructuring process (to enable Canadian carriers to compete effectively with their southern neighbors) and has also established the competitive terms of reference for policy reform. Nevertheless, Canadian rail reform is being held back by the fact that, with only two major systems within Canada's borders, reform experimentation raises the specter of destabilizing equities between the two carriers and poses a threat to the independence of one or the other system. Moreover, it seems likely that the advent of NAFTA, the consequent realignment of North American freight markets along a north-south axis, and the continuing restructuring of the U.S. rail industry will ensure that Canada's railway system will evolve toward, and perhaps even enter into mergers with, the U.S. system.⁹

A final word about U.S. short lines is needed. Although the short lines are small on a U.S. rail industry scale, on an international scale they are as large in network size and traffic base as many national railways located in developing countries. It follows that many of the operating techniques that the U.S. short lines have developed and refined are directly applicable to these countries. Indeed, several U.S. short lines have been among the most active

⁹ In fact, both CP and CN already own significant amounts of trackage in the United States, and several U.S. railroads own trackage in Canada. While the political hurdle remains sizable, there is no particular physical or business barrier to wider scale mergers. The same possibility exists of much closer links (short of mergers) among U.S. and Mexican railways as the process of the concessioning of the Mexican railways proceeds.

in seeking to become partners in concessions in both Latin America and Africa. Several U.S. short lines have also been active in purchasing line segments in Canada and one such line already owns a short line in Mexico. If concrete proof is needed that railways need not be large in scale to thrive financially, the experience of U.S. short lines provides an answer. In organization, technology, and labor management methods the U.S. short lines offer a valuable model for smaller railways in developing countries that are searching for ways to survive in competitive markets without public support.

The experience of the U.S. short lines also shows that financial failure is possible if a railway's traffic base proves unstable, or if the railway is underfinanced and overburdened with uneconomic operations, or if connections with other carriers are not good. This, too, is a useful lesson. Potential concessions, asset sales, or contract use rights must be developed in ways that will avoid these pitfalls. The failure of numerous U.S. short lines also proves that markets and traffic flows exist for which a railway, no matter how efficiently operated, simply cannot be economic. This is a painful lesson for investors, to be sure, but it offers a valuable lesson for governments contemplating a major railway restructuring.

7. Recent Worldwide Developments in Railway Restructuring

When this project began, only a few railway restructuring activities had commenced. At the time of its completion, many more restructuring efforts are under way. As the writing of this report progressed, many railways and their governments took up the challenge of adapting to a changed world through restructuring, privatizing, or concessioning some or all of their rail operations. Figure 12.9 summarizes railway reform and restructuring efforts that are presently taking place in some of the countries in which the World Bank is working. The programs shown in the figure extend beyond those profiled in the case studies.

Figure 12.9 supports several conclusions. First, rail restructuring has apparently come of age. Over the past five years rail restructuring has become widely accepted both as a feasible undertaking and as an essential step in the overall economic reform process. Second, many, though not all, countries appear to be going through the three-step process of: (1) political agreement; (2) planning and negotiations; (3) and implementation of the concessions, asset sales, or contract use rights discussed above. In a number of cases, for example in China, India, and Russia (which are the largest of the developing railways), the railways and governments are still so intertwined as to limit the capability to respond effectively to the challenges posed

Figure 12.9 - Current Status of Railway Reform and Restructuring in Selected Countries

Region	Re-structure	Re-shape	PSD	Concession	Remarks
Latin America					
Argentina	X	X		X	Five freight and seven suburban concessions. All awarded and transferred.
Chile	X	X		X	One freight concession transferred. Government may concession passenger services.
Brazil	X	X		X	Government currently operates common lines and all passenger services. Two railways (RFFSA and FEPASA) to be concessioned in up to 10 pieces. Suburban passengers had already been separated and are now being localized.
Bolivia				X	Two concessions (Oriental and Andina) to be awarded.
Peru				X	Three or more concessions to be awarded.
Colombia		X		X	Earlier concessioning unsuccessful. Government now trying again.
Guatemala				X	One concession to be awarded.
Mexico			X	X	Three or more concessions to be awarded. Locomotive maintenance previously concessioned.
Africa					
Côte d'Ivoire/Burkina Faso				X	One bi-national concession awarded.
Cameroon				X	One concession under consideration.
Congo				X	One concession under consideration.
Gabon				X	One concession under consideration.
Zambia				X	One concession under consideration.
Zaire			X		Portion of railway being operated under contract.
Malawi				X	One concession under consideration.
Mozambique				X	Two concessions under consideration (N and S lines).
Kenya			X		Locomotive maintenance may be concessioned. Private carriers may operate over national lines.
Asia					
India			X		Specialized rail container partly privatized, manufacturing subsidies may be spun off. Separation of suburban services
China	C	X	X		Specialized container entities created, manufacturing may be spun off. Regional and local railways created, with some local and private investment in local lines.
Indonesia	C				Restructuring studies underway.
Japan	S	S	S		See case study.
CEE/CIS Countries					
Hungary	X	X	X		Major restructuring in public sector, manufacturing spun off.
Poland	X	X	X		Major restructuring in public sector, manufacturing spun off.
Bulgaria	X				Restructuring studies underway.
Romania	X				Restructuring studies underway.
Kazakhstan	X				Restructuring studies underway.
Middle East					
Turkey	X				Restructuring studies underway.
Jordan	X				Restructuring studies underway.
Europe					
Germany	X	X	X		Old DB and DR combined. New company and profit centers created. Some PSD contemplated eventually.
Netherlands			X		Considering concessioning freight services.
EC Order 91-440	X	X	X	?	Requires accounting separation of infrastructure from operations.
British Rail	X	X	X	X	See case study.
Sweden	X	X	X		See case study.
North America					
BN/Santa Fe	X	X			Merger approved.

by a transition to a market economy or by intensified competition which a cessation of active government control of the transport sector has unleashed. In both China and India railways are still constituted as government ministries. In this context the redefinition of railway/government relationships takes precedence over enterprise reform. At the same time, many railways, including those in China and India, are undertaking at least some degree of enterprise restructuring as distinct transport market segments (such as containers) emerge, as customers acquire a stronger voice in transport selection, and as competition from a nascent private sector trucking industry materializes. The railways and, to some extent, their governments, realize that entire market segments can be lost by default to highway operators unless the railways can reinvent themselves as market-driven suppliers of quality services.

Significantly, railway reshaping is frequently accompanied by some degree of private sector involvement, though typically short of concessioning or outright asset sales. Almost all railways realize that the days of autarky have ended and that they will no longer be able to manufacture all of their rolling stock, educate and house all of their employees, and close their culture to outside commercial intrusion. The increasing spin-offs and contracting out of services are becoming accepted practices, even in the least reformed of the former command economies.

Juxtaposed with these embryonic reforms is the fact that many governments have not been able to relax their control over railway employment or rail tariffs, especially in the passenger area. Although a few of the developing railways, notably China, have managed to avoid the politically popular policy of cross-subsidy from freight tariffs to passenger fares, others, most notably India, have not.¹⁰ The policy of cross-subsidy has two unfortunate results. The

¹⁰ See Julie M. Fraser and Louis S. Thompson, "Financial Success Hinges on Productivity," *Rail Business Report 1995*, *Railway Gazette Yearbook*, for a detailed discussion of the issue of comparison of average passenger fares with average freight tariffs. See also Robert Burns, *India Transport Sector: Long Term Issues*, World Bank Report No. 13192-IN, March 16, 1995.

first is that where passenger tariffs are too low, freight rates must be kept high in order to compensate. Evidence exists that rail freight rates in some countries in which cross-subsidies persist have been forced above levels at which the railways can compete effectively with trucks. The second such result is that subsidized passenger tariffs quickly become "rents" which are impossible to recover. For many of the world's railways, converting hidden cross-subsidies to explicit PSO payments represents a critical first step in the restructuring process.

Finally, restructuring modes appear to be influenced by several distinct trends, as has been noted above. Concessioning has emerged as a restructuring mechanism with surprising scope and rapidity. Historically, this is a logical development. After all, many railways in Latin America were originally built as private sector concessions and have only been under public sector control since the end of World War II. Several of the railways in Africa were built in the same way. For example, the Lobito Route in Angola is still legally subject to a 100-year concession awarded in 1902. Nevertheless, it would have been as difficult to predict the current international emulation of concessioning methods 10 years ago as it would have been to predict the breakup of the former Soviet Union (FSU) and the subsequent collapse of planning in many of the FSU countries.

8. The Outlook for Change

The most basic point that emerges from this report is that, even in railways, fundamental change is possible, though not necessarily predictable. Although railways are often the largest and most resistant to change of all industrial enterprises in developing countries, we have learned how to diagnose the "Railway Problem" and, albeit with difficulty and at considerable cost, we have learned how to transform the railway into a valuable asset for the country it serves. Most countries with the will to succeed at railway restructuring have done so, although they have learned painful lessons along the way and they have not adopted exactly the same approaches. It takes time and money and political capital to succeed, but the tools and techniques — and the financial help — are available for those who are determined to try. ■



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