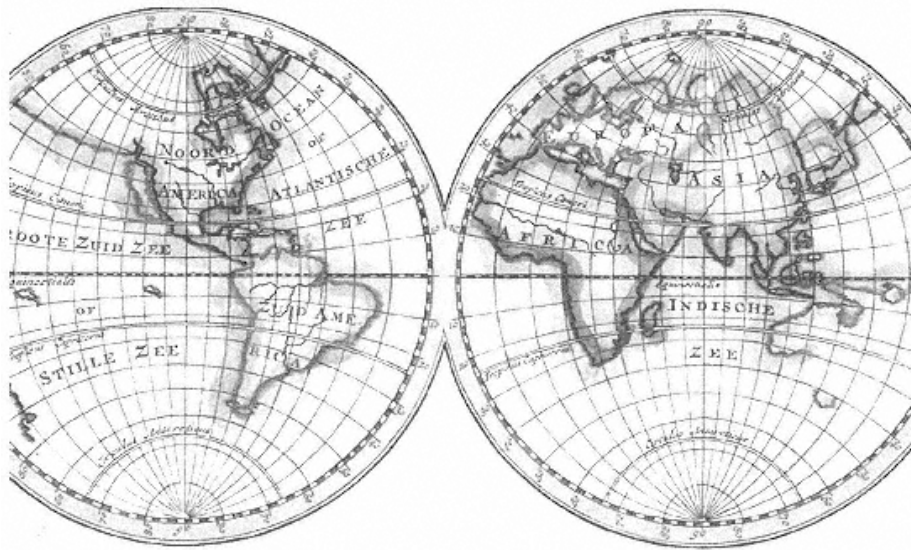


# Attracting Foreign Direct Investment Into Infrastructure

# Attracting Foreign Direct Investment Into Infrastructure

Why Is It So Difficult?

by Frank Sader



Foreign Investment Advisory Service  
Occasional Paper 12

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## Attracting Foreign Direct Investment Into Infrastructure

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### **Abstract**

During the 1990s, the developing world witnessed a massive increase in private sector involvement in infrastructure investments. Driven by foreign direct investment, areas that had traditionally been defined as public

sector responsibilities benefited from substantial commitments of capital and resources. The World Bank PPI Project Database indicates that an estimated total of 1,707 private infrastructure projects worth US\$458.2 billion were concluded from 1990 to end-1998. A dataset compiled by FIAS shows that foreign direct investment was the engine behind this development, with foreign investors involved in over 80 percent of transactions. During this period developing countries received an estimated US\$138.3 billion in foreign direct investment from these infrastructure investments.

However, despite this rapid growth, this new industry has been beset with difficulties. Delays in project start-ups, contract cancellations, and legal disputes have frequently overshadowed success stories and efficiency gains. Governments have tended to find it difficult to structure and design these new types of investments, being unfamiliar with the complicated nature of project finance

transactions. Nonetheless, it remains true that, supported by a strong policy framework, private sector financing and operation of infrastructure facilities can result in significant efficiency gains while alleviating budgetary pressures.

### **Preface**

The Foreign Investment Advisory Service (FIAS), a joint facility of the World Bank and the International Finance Corporation (IFC), helps developing and transition-economy governments design initiatives to attract foreign direct investors. Since its founding in 1985, FIAS has assisted over 110 countries, many of them on a continuing basis over the years, on a wide range of policy reform issues designed to create a more attractive environment for foreign direct investment.

During the early 1990s, FIAS found growing concern and frustration among governments and foreign investors alike about the difficulties in successfully implementing private infrastructure projects. Governments complained about the lack of success in getting such projects off the ground and lengthy project preparation phases, despite repeated expressions of interest by senior officials to allow private investors into their various infrastructure sectors. Foreign investors, on the other hand, expressed their dissatisfaction with bureaucratic and non-transparent procedures, a lack of understanding by civil servants of project finance transactions, and excessively high project development costs due to resulting delays.

These difficulties result primarily from a lack of preparation by governments, trying to attract these new types of investment without having put in place an appropriate policy framework. Institutional structures are not available that could effectively resolve impediments and provide clear guidelines for the award of such large-scale project finance transactions. Legal frameworks tend to address traditional public sector responsibilities and do not accommodate many investor concerns. Regulatory environments either do not exist or are unsatisfactory in ensuring investors that their future operating environment will be sufficiently reliable.

Consequently, FIAS has been advising many governments in the developing world on how best to establish a policy framework attractive to foreign investors. FIAS typically combines its review of the institutional, legal and regulatory environment with a combination of investor roundtables and workshops for senior government to ensure that all major concerns of both the government and the private sector are taken into account. Although each country has unique policy problems, FIAS has encountered common features in key areas that pose stumbling blocks for private infrastructure investments. This study synthesizes this experience and derives lessons for facilitating and encouraging foreign direct investment in infrastructure.

## Acknowledgment

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## Abbreviations and Acronyms

AADB	Asian Development Bank
AfDB	African Development Bank
EBRD	European Bank for Reconstruction and Development
ECA	export credit agency
FDI	foreign direct investment
FIAS	Foreign Investment Advisory Service
GSM	Global Systems Mobile
IBRD	International Bank for Reconstruction and Development
ICSID	International Centre for the Settlement of Investment Disputes
IDB	Inter-American Development Bank
IFC	International Finance Corporation
IPO	initial public offering
IPP	independent power producer
LoI	letter of intent
MIGA	Multilateral Investment Guarantee Agency
MoU	memorandum of understanding
OECD	Organization for Economic Cooperation and Development
OPIC	Overseas Private Investment Corporation (U.S.)
PFI	Private Finance Initiative (United Kingdom)
PPI	private participation in infrastructure
Uncitral	United Nations Commission on International Trade Law



## Types of Infrastructure Projects

BLO	build–lease–operate
BLT	build–lease–transfer
BOO	build–operate–own
BOOT	build–operate–own–transfer
BOT	build–operate–transfer
BTO	build–transfer–operate
CAO	contract–add–operate
DBOM	design–build–operate–maintain
DOT	develop–operate–transfer
O&M	operation and management
PPP	public–private partnership
ROL	rehabilitate–operate–lease
ROO	rehabilitate–operate–own
ROT	rehabilitate–operate–transfer

## Executive Summary

During the 1990s the developing world witnessed a virtual revolution in the form of a new type of investment in infrastructure. In the past, infrastructure services such as electricity, telecommunications, transport facilities, and water and waste treatment were generally believed to be public goods, with governments being responsible for providing them. But insufficient investments, growing pressures on government budgets, and a general concern about inefficient service provision resulted in a complete turnaround of this situation in many developing countries. Over the last decade, the private sector has become a key player in providing financing as well as operational expertise in the various infrastructure areas.

The World Bank PPI Project Database records an estimated total of 1,707 private sector infrastructure investments worth US\$458.2 billion in the developing world during 1990–98. Private sector involvement has come either through private companies taking control of existing assets via privatization sales, concessions, leases, and other contractual arrangements, or through the creation of new capacity via build–operate–transfer (BOT)–type investments.

The driving force behind this development has been foreign direct investment (FDI). Although domestic investors participated

in many of the investor consortia involved, the consortia tended to be dominated by large multinational investors. In fact, based on a dataset of 542 transactions compiled by FIAS, foreign investors were involved in over 80 percent of all private infrastructure transactions recorded. This presence was particularly strong in large transactions with significant financing requirements as well as in projects requiring particular technical and managerial expertise, such as airport terminals, wastewater treatment plants, and telecom networks.

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During 1990–1998 developing countries received an estimated US\$138.3 billion in FDI inflows directly through private infrastructure investments, representing over 17 percent of total FDI to the developing world. However, FDI in infrastructure has been concentrated in a select number of countries, where the share of infrastructure FDI in total inflows has been substantially higher. Brazil, as the largest recipient of infrastructure FDI flows worldwide, recorded 33 percent of its total FDI inflows in infrastructure projects.

Indeed, from a regional standpoint, Latin America dominated the picture. Because of strong privatization activities in most of the region's large economies, it received US\$78.7 billion in FDI, more than half of infrastructure FDI inflows to the developing world as a whole. East Asia was also very active in attracting private infrastructure investments during this period. Unlike Latin America, however, the emphasis here was almost exclusively on new greenfield investments rather than privatizations, resulting in only US\$18.9 billion of FDI inflows. Regarding the sectoral distribution, infrastructure FDI flows were concentrated in the electricity and telecom sectors due to the particular size of the major privatization transactions in those sectors. But in terms of number of transactions, concessions and greenfield investments in the water and transport sectors accounted for almost one-third of all transactions.

Sectoral specialization also largely determined where the investors came from. Overall, U.S. companies dominated the private infrastructure market, accounting for about one-third of infrastructure FDI inflows. Especially in the electricity industry, U.S. com-

panies clearly had the strongest market share. In transport and water, on the other hand, French companies were the most important investors, representing about half of all FDI inflows in both sectors. Interestingly, foreign investors coming from developing countries also had a significant impact. Overall, these investors—primarily companies located in Chile and Malaysia—generated about 9 percent of infrastructure FDI, with a particularly strong showing in the electricity sector.

However, this massive expansion in investment flows masks the serious difficulties that have haunted individual projects. In fact, the number of potential projects is a multiple of those successfully implemented. Nightmare stories abound of investors experiencing lengthy delays or project cancellations because of political, administrative, and legal impediments. Investors were blocked by

- \_\_\_ Existing state-owned service providers,
- \_\_\_ Conflicting government authorities,
- \_\_\_ Government biases in favor of official funding or local investor participation,
- \_\_\_ Political and social protests against individual projects,
- \_\_\_ Unclear award procedures,
- \_\_\_ Corruption,
- \_\_\_ Governments renegeing on contracts signed by previous administrations,
- \_\_\_ Existing legislation impeding effective private sector participation, and
- \_\_\_ A lack of overall sectoral liberalization.

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In addition, potential investment projects became stalled in political debates. After millions of dollars spent in project preparation, taking recourse to legal means of dispute resolution was often the only way out, leaving unfulfilled the potential of large-scale investments from the private sector.

The core of the problem lies in the lack of overall sectoral reform in developing country infrastructure markets, combined with the complicated nature of project finance transactions unfamiliar

to the typical civil servant. Virtually every country experiences resistance from special interest groups and existing state-owned enterprises to introduce competition by opening markets to private service providers. This slows down or even stops privatization efforts. At the same time, market entrants through greenfield investments tend to encounter a myriad of hurdles—political, administrative and legal—that stall project implementation and often lead to the cancellation of planned investments.

New investments on a BOT-type basis especially experience difficulties during implementation, even if a government seemed committed to the introduction of private sector competition. Coordination of the roles of the numerous government agencies involved in the process typically is weak or non-existent. Civil servants, experienced in standard techniques of public procurement, are unfamiliar with investor and lender requirements in project finance transactions. Lack of funds and expertise frequently prevents governments from developing well-designed tender procedures. This results in direct negotiations with individual investors, but without the necessary expertise on the government side to arrive at an attractive and mutually beneficial agreement. Existing laws and regulations have often been drafted to define public sector responsibilities, and do not appropriately address private sector participation. Finally, regulatory frameworks, if they exist at all, tend to be politically dependent on line ministries, and do not provide investors with sufficient comfort regarding the predictability of their future operating environment.

Countries that have managed to attract substantial amounts of FDI into their infrastructure sectors have done so by instituting basic reform measures. They recognized the need to install a policy framework that allows for an effective implementation of private infrastructure projects in a way that meets investor needs as well as the social and political objectives of governments. However, this does typically require a significant reform effort by the government, an effort that cannot be replaced by *ad hoc* measures whenever problems arise in the preparation of individual projects.

To overcome the lack of coordination and inject the necessary expertise, governments can develop a streamlined administrative process in conjunction with a facilitating unit designed to manage private infrastructure projects throughout the implementation process. Project finance specialists in such a unit can assist the responsible line ministries and sectoral authorities across the various infrastructure sectors in the preparation of individual projects for private sector participation. This may encompass assistance in

- \_\_\_ Identifying potential private investment projects;
- \_\_\_ Preparing and evaluating detailed technical, legal, and financial feasibility studies;
- \_\_\_ Developing tender documentation and the bidding process;
- \_\_\_ Evaluating bids received; and
- \_\_\_ Negotiating with preferred bidders.

The existing legal framework needs to be reviewed in detail to identify beforehand potential stumbling blocks for private infrastructure investments. General and sectoral laws and regulations need to appropriately address the specific requirements of both equity investors and lenders to make project finance transactions feasible. For example, rather than amending and rewriting multiple pieces of legislation, a number of countries have opted to adopt specific concession legislation so as to provide one comprehensive and overarching legal framework. This has typically reduced investor risk substantially by improving the transparency of the implementation and award process, while providing a coherent presentation of all the key elements relevant to such projects.

A good basis for establishing private infrastructure service providers is not enough. Governments also need to design a regulatory framework that can determine the future operating environment of any service provider in a market—private as well as public—based on technical criteria, independent of political interference. This requires that regulatory agencies be politically independent and equipped with the necessary technical expertise to

consistently balance the interests of governments, investors, and consumers in a neutral manner.

The recent Asian crisis further underlines the importance of these reform measures. The massive devaluations of some of the major currencies in the region have brought a number of private infrastructure projects to the brink of bankruptcy. As a result, many lenders and investors have scaled down their activities in infrastructure substantially, recognizing the high-risk nature of these investments. For the upcoming years, this implies that private investors and lenders will be more selective in their decision on whether to provide financing to individual projects. Countries where legal challenges, administrative delays, and unsettled regulatory environments persist will find it even more difficult to attract foreign investors to their infrastructure sectors.

### 1— Introduction

During the 1990s the world witnessed a revolution in the provision of infrastructure. Traditionally, services such as telecommunications, the supply and distribution of electricity or water, and the construction of roads, airports, ports, and railways had been defined as public sector responsibilities. In light of the largescale, up-front nature of the investments, the socially sensitive nature of the services, and the monopoly position of the service providers, infrastructure areas were generally considered unsuitable for private sector involvement.

During the past decade, however, a large number of industrial and developing countries have opted to open these sectors to private investors. To some extent this trend was facilitated by technological innovation. In telephony, for example, the emergence of cellular networks created a viable alternative to fixed-wire telephony without the technical need for monopolistic market structures. But at the forefront of this turnaround was an increasing dissatisfaction with the quality and quantity of service provision by the existing state-owned enterprises, while the gap between unsatisfied demand and available public sector funds kept widening.

There are several reasons for the disappointing performance of public utilities and service providers. First, public sector compa-

nies generally lack the necessary incentives to act as commercial entities. Cost-effectiveness and profit generation tend to be relatively low priorities. Excess staffing and low-quality service provision often are the result. In addition, sociopolitical objectives frequently create pressures on service providers to charge consumers highly subsidized rates that do not cover the actual cost of service provision. The resulting insufficient cashflow leads to a lack of funds to undertake the needed expansion and rehabilitation investments, and often even maintenance

suffers. For final consumers, this translates into a serious shortage of reliable public services. Shortages in potable water, electricity brownouts, traffic congestions, frequent breakdowns of telephone mainlines, and insufficient transport capacity for reliable trade are common features in most developing countries.

While public utilities struggle to maintain already inadequate systems, demand pressures continue to build through economic growth and population expansion. Unable to generate the necessary investment capital through their own operations, these companies tend to turn to the central government for allocations from the general budget; increasing budgetary pressures, however, make it impossible for most governments to satisfy these demands.

Consequently, starting in the 1980s a number of governments began to actively explore other means to provide infrastructure services in a more economical and efficient manner. The private sector presented itself as a logical alternative, and the 1990s saw a virtual explosion of private sector involvement in the provision of infrastructure services. Private lenders and equity investors became involved in providing infrastructure services around the world through full-scale privatization of public sector entities, the construction of new facilities with private capital on the basis of build operate-transfer (BOT)-type investments, lease arrangements, and operation and management (O&M) contracts (see Box 1).

In fact, during this time an entirely new industry developed. Prior to the 1990s, most major multinationals active in the infrastructure areas supplied equipment, machinery, or construction

### **Box 1. What Is a "BOT-Type" Project?**

The label "BOT" is typically being used for a wide variety of investment projects, and there tends to be some degree of confusion about the appropriate terminology. Because BOTs were initially the most common form of private greenfield investments in infrastructure, the term tends to be used as the generic label for privately owned and operated infrastructure projects financed on a non-recourse basis under a concession-type arrangement. Under such an arrangement, a private company or consortium typically forms a project company based on the right to build or rebuild a facility and to operate it for a fixed time period. The company recoups the investment and operating costs as well as an annual rate of return exclusively from the revenue stream generated by the project through charges levied on the service user(s), without any recourse to the balance sheets of sponsors or the host government. On the basis of these commonalities, a number of contractual arrangements have emerged. The most common ones are as follows:

**\_\_ Build-operate-transfer (BOT) or build-operate-own-transfer (BOOT):** A project company finances the building of an infrastructure facility and operates it for a fixed period, after which the ownership over the asset is transferred to the host government.

**\_\_ Build-operate-own (BOO):** Similar to a BOT, except that the asset is not transferred to the host government. However, operating concessions typically are on a fixed-term basis, after which the operating rights can be transferred to other private service providers.

**\_\_ Build-transfer-operate (BTO):** A new facility is built on a turnkey basis with private capital, and the ownership title is transferred to the host

government after construction completion. The private contractor operates the facility for a fixed term under a separate agreement.

**Build–lease–transfer (BLT):** A new facility is built with private capital and transferred to the host government after construction completion under a leasing agreement. Following the end of the lease term, the ownership of the asset and operational responsibility are transferred to the host government.

(Box continues on the following page.)

### **Box1 (continued)**

**Build–lease–operate (BLO):** The same arrangement as a BLT, but without the requirement to transfer ownership to the host government at the end of the lease contract.

**Design–build–operate–maintain (DBOM):** Similar to a BOT or BOO, with or without a transfer of ownership at the end. The emphasis here is on the project company's responsibility for the design of the project.

**Develop–operate–transfer (DOT):** In addition to the BOT arrangement, the project company receives development rights for adjoining property.

**Rehabilitate–operate–transfer (ROT):** The same contractual arrangement as a BOT, but for the rehabilitation of an existing facility rather than the construction of a new one.

**Rehabilitate–operate–own (ROO):** The same contractual arrangement as a BOO, but for the rehabilitation of an existing facility rather than the construction of a new one.

**Rehabilitate–operate–lease (ROL):** After rehabilitation, the project company operates the asset on a lease basis.

**Contract–add–operate (CAO):** A project company adds to an existing facility which it operates on a rental basis for the host government.

**Public–private partnership (PPP):** The host government provides capital, typically in exchange for an equity position, to support the commercial viability of a project.

services to their public sector clients. With privatization and liberalization came the need to make long-term commitments to individual projects, and to take significant equity shares in these ventures. Some companies proved more flexible and willing to take on these additional risks, resulting in a new level of competition among the market leaders as well as the emergence of new challengers in the industry.

Although these industry changes and their developmental impact have been remarkable, it has not been a smooth process. For most governments, privatization and sectoral liberalization have posed a political challenge, and social concerns have often delayed reform. Furthermore, creating an environment acceptable to private investors has proven more difficult than most governments expected. The East Asian crisis further complicated the situation by revealing the high-risk nature of these investments. Investment projects—especially greenfield investments through concessions and BOT-type arrangements—have frequently suffered from drawnout negotiations,

implementation delays, contract cancellations, and costly legal disputes, and many projects have failed outright. In a number of countries, the process has been equally frustrating for investors and governments alike.

In reviewing this experience, this paper provides a statistical analysis of private infrastructure investments during 1990–98. Chapter 2 emphasizes the contribution of private infrastructure investments to foreign direct investment flows to developing countries, a process that has been driven primarily by foreign investors. The paper then discusses the nature of concessions and BOT–type investments, which have been particularly plagued by implementation difficulties. A description of the most common institutional, legal and regulatory shortcomings is followed by a discussion of reform measures governments can apply to facilitate the implementation of private infrastructure projects. The paper concludes by reviewing the impact of the East Asian crisis on private infrastructure financing, focusing on the additional steps governments can take to accommodate this elevated risk perception in international financial markets.

## 2—

### **Foreign Direct Investment—The Engine Behind the Private Infrastructure Revolution**

The increase in the private financing and management of infrastructure facilities during the 1990s has been dramatic. The World Bank compiles statistics on completed private infrastructure projects in energy, water, transport and telecommunications in the developing world.<sup>1</sup> This Private Participation in Infrastructure (PPI) Project Database records a total of 1,707 transactions worth US\$458.2 billion in project costs for the period 1990–98.<sup>2</sup> Figure 1 shows the rapid increase in the number of transactions worldwide during the 1990s, starting from just 66 projects worth US\$11.8 billion during 1990, and reaching a peak of 318 projects worth US\$117.6 billion in 1997.

Primarily because of a large volume of privatization transactions, Latin American countries dominated this growth in private infrastructure activity in the developing world. The region represents about one–third of all transactions, and in terms of project costs accounts for 45 percent. East Asian economies recorded 428 transactions during this period, i.e., about one–quarter of the develop–

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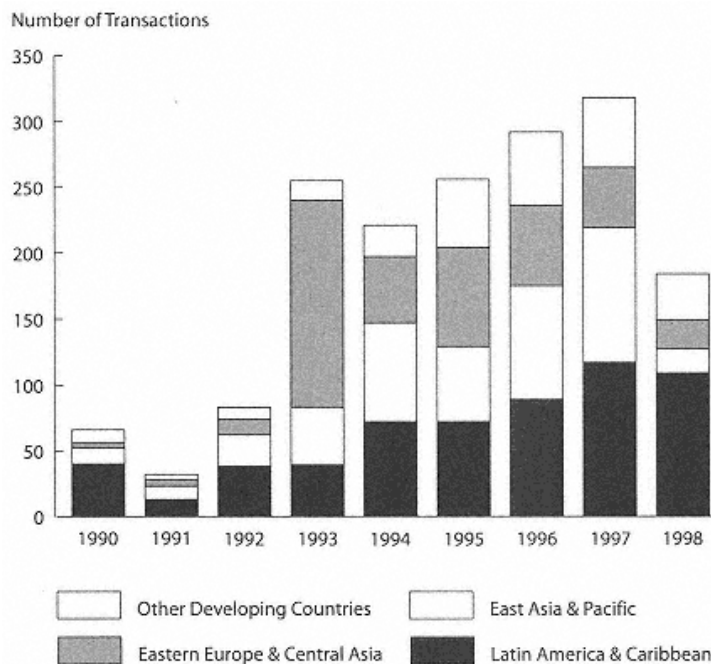


Figure 1.

Number of Private Infrastructure Transactions in Developing Countries (Number of projects, 1990–98) Notes: 1998 data are estimates. Other Developing Countries includes South Asia, SubSaharan Africa, and Middle East and Northern Africa. See Annex II for data table. Source: World Bank, PPI Project Database.

ing world, amounting to US\$141.7 billion or 31 percent of the total. In comparison. Eastern and Central Europe actually had a slightly larger number of transactions; but in terms of project cost volume, these transactions amounted to only about US\$50 billion. The other regions—South Asia, Sub–Saharan Africa, and Middle East and Northern Africa—show significantly less activity in private infrastructure projects. But here also the transaction volume

has grown rapidly during the 1990s with a peak volume of US\$22.8 billion in 1997, starting from a mere US\$575 million in 1990.<sup>3</sup>

The data show a substantial decline in the transactions concluded during 1998, reaching only 184 compared to 318 the year before. In terms of project cost, investment activity declined by over one-fifth to an estimated US\$91.8 billion. Only Latin America avoided such a decline, based on sizable privatization transactions in Brazil during that year; the sale of a series of large fixed–wire and cellular telecom operations in Brazil during the year alone generated about US\$20 billion. All other regions were to some extent affected by this contraction, but the East and South Asian economies took the brunt of it. In these two regions, the investment volume in terms of project cost fell from US\$8.5 billion in 1997 to an estimated US\$3.1 billion in 1998.

The main reason behind this drastic decline has been the reluctance of foreign equity investors and commercial lenders to provide additional financing. Massive devaluations in East Asia brought a number of projects to the brink of bankruptcy. The increased volatility in exchange rates worldwide also caused investors to shy away from committing large amounts of hard currency to projects that primarily rely on cashflow generation in domestic currencies. Finally, the struggle of independent power producers (IPPs) with the newly elected Government of Pakistan over a potential renegotiation of contract terms, agreed to by the previous administration, added to the market jitters. In general, 1998 brought a substantial rise in the perceived risk by investors and lenders to



## Attracting Foreign Direct Investment Into Infrastructure

infrastructure projects, with macroeconomic developments threatening project viability and the reliability of long-term governmental commitments becoming more questionable.

Overall, however, the growth of private infrastructure activity in the developing world remains impressive. The primary engine behind this rapid expansion during the 1990s clearly has been foreign direct investment. To develop a better understanding of the role of foreign investors in private infrastructure, FIAS compiled a dataset of 542 transactions across sectors and regions in the devel-

**Table 1. FDI is Key in Private Infrastructure in the Developing World**

(Aggregate data, 1990–98)

<i>Sector</i>	<i>Number of Transactions</i>			<i>Project Cost in US\$ Billion</i>		
	<i>Total</i>	<i>With Foreign Sponsor</i>	<i>% Share of Foreign</i>	<i>Total</i>	<i>With Foreign Sponsor</i>	<i>% Share of Foreign</i>
Electricity	230	208	90.4	102.6	88.6	86.3
Telecom	116	111	95.7	68.7	61.4	89.4
Water/Waste	52	43	82.7	20.8	20.4	98.0
Transport	144	89	61.8	50.4	31.5	62.4
Airports	13	13	100.0	8.6	8.6	100.0
Seaports	26	19	73.1	3.6	2.2	61.8
Rail	39	29	74.4	12.7	11.1	88.1
Roads	66	28	42.4	25.6	9.5	37.1
TOTAL	542	451	83.2	242.5	201.8	83.2

Note: This information is based on the FIAS dataset. A project is considered "foreign" if it includes at least one foreign entity as member of the project company, involving operational responsibilities and equity participation.

Source: Foreign Investment Advisory Service.

oping world.<sup>4</sup> Table 1, which is based on this dataset, shows that foreign equity investors participated in over 80 percent of all projects, whether measured by number of transactions or total project costs. The extent of foreign investor participation differs depending on the particular sector, but remains very high in all cases. In areas where technical skills were available within the country, such as road construction, governments tended to rely on domestic investors, frequently even excluding foreign participation. But in areas of high technical skill requirements—such as telecommunications, airport operations or electric and water utilities—foreign partners were crucial. As these types of services were typically provided by public sector monopolies, no expertise existed within the country to undertake such projects, requiring strong involvement of strategic foreign partners.

This strong involvement of foreign investors implies that the trend of increased private sector involvement in infrastructure has

a significant impact on developing country balance-of-payments through foreign direct investment (FDI)

## Attracting Foreign Direct Investment Into Infrastructure

inflows. As these data are not easily available, estimates were made based on the existing project-specific information contained in the FIAS dataset and then extrapolated on the universe of developing country activity as captured by the *PPI Project Database* (Annex I provides a detailed discussion of the estimation techniques applied).

Based on these data, private infrastructure projects generated an estimated US\$138 billion in FDI inflows during the period 1990 to 1998, accounting for over 17 percent of total FDI inflows to the developing world. Following the trend of rapidly growing transaction activity during this time period, FDI inflows from infrastructure projects rose from US\$2 billion in 1990, or about 11 percent of total FDI, to US\$33 billion in 1998, representing almost 23 percent of total FDI. This share is even higher in those countries that relied particularly on the participation of the private sector in infrastructure development. In Brazil, for example, one-third of total FDI flows resulted from infrastructure investments during this period, and in the Philippines this share was 20 percent. In Mexico and China, on the other hand, these shares were only 5 and 1 percent respectively, despite significant foreign participation in infrastructure investments. In these latter cases, infrastructure was dwarfed by stronger overall FDI activity.

But infrastructure FDI inflows in 1998 were also affected by the Asian crisis, declining by about 9 percent from the 1997 peak of US\$36.3 billion (see Figure 2). Only Latin America escaped this contraction, primarily due to sizable privatizations in the Brazilian electricity and telecommunications market. In fact, excluding Latin America, FDI flows dropped by 44 percent. South and East Asian economies were not the only ones to suffer from the crisis; Eastern Europe, Africa and the Middle East, all of which had experienced substantial increases in private infrastructure investment, recorded a drastic drop in infrastructure FDI inflows during 1998.

A breakdown of these foreign investments by the different infrastructure sectors shows that telecommunications and electricity

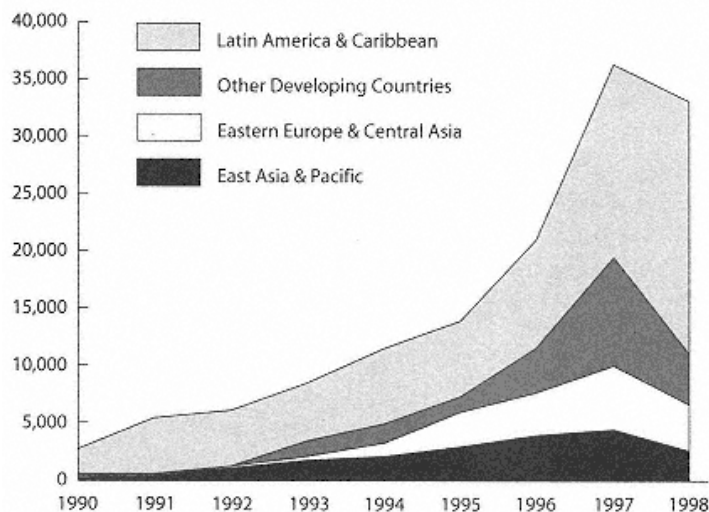


Figure 2.

FDI Inflows to Developing Countries from Infrastructure Projects (US\$ millions, 1990–98) Note: FDI data estimated based on project-specific information (see Annex I for details); detailed data tables are provided in Annex II. Source: Foreign Investment Advisory Service.

clearly dominate (see Figure 3). In terms of FDI inflows, the two sectors combined account for almost 95 percent. But when measured by number of transactions, the transport and water and waste sectors represent almost

one-third of all concluded projects. This discrepancy points to the importance of the size of individual deals. Transactions in fixed-wired telecommunications typically take the form of a privatization of sizable state-owned monopolies to strategic investors from abroad. Investments in water and waste or transport facilities, on the other hand, typically are through smaller greenfield and rehabilitation investments.

This importance of the size of individual transactions is also reflected in the particular type of transaction used. Privatization clearly

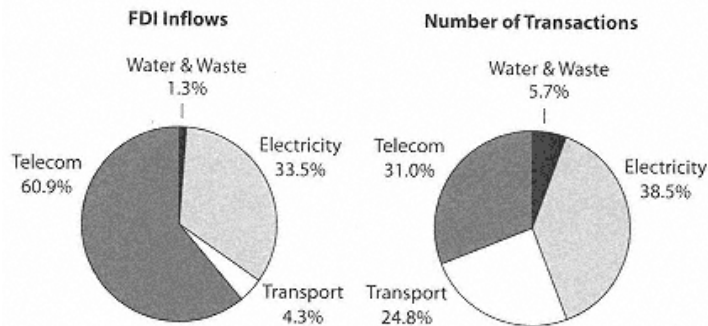


Figure 3.

FDI in Infrastructure, by Sector (Percentage shares based on FDI inflows and number of transactions, 1990–98) Note: FDI data estimated based on project-specific information. See Annex I for details. Sources: Foreign Investment Advisory Service and PPI Project Database.

is the largest generator of FDI. It represents two-thirds of total FDI inflows, but is used in only 22 percent of all concluded transactions. BOT-type investments and concessions, on the other hand, represent only about 30 percent of infrastructure FDI inflows, while they are the project vehicle of choice in over three-quarters of all transactions.

The different transaction types reflect substantial differences in overall strategy. Latin American countries are typically heralded as having a broader approach to sectoral liberalization, combining private sector involvement in the creation of new capacity with the privatization of existing assets. Their East Asian counterparts, on the other hand, are known for relying strongly on the creation of new capacity without parallel sectoral reforms. Figure 4 supports this general perception by directly comparing the use of different transaction types in the two regions.

Latin American economies clearly generated the vast majority of their infrastructure FDI inflows of US\$78.7 billion through

## Attracting Foreign Direct Investment Into Infrastructure

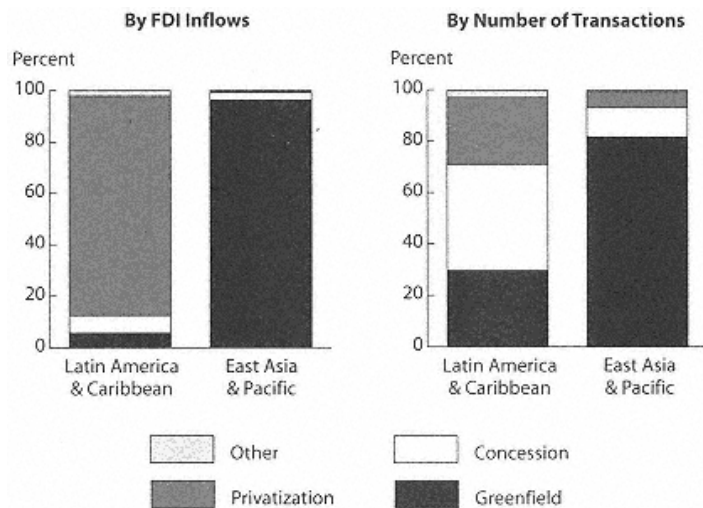


Figure 4.

Different Strategies: Latin America and East Asia Compared (Based on US\$ in FDI and number of transactions, 1990–98) Note: FDI data estimated based on project-specific information. See Annex I for details. Source: Foreign Investment Advisory Service.

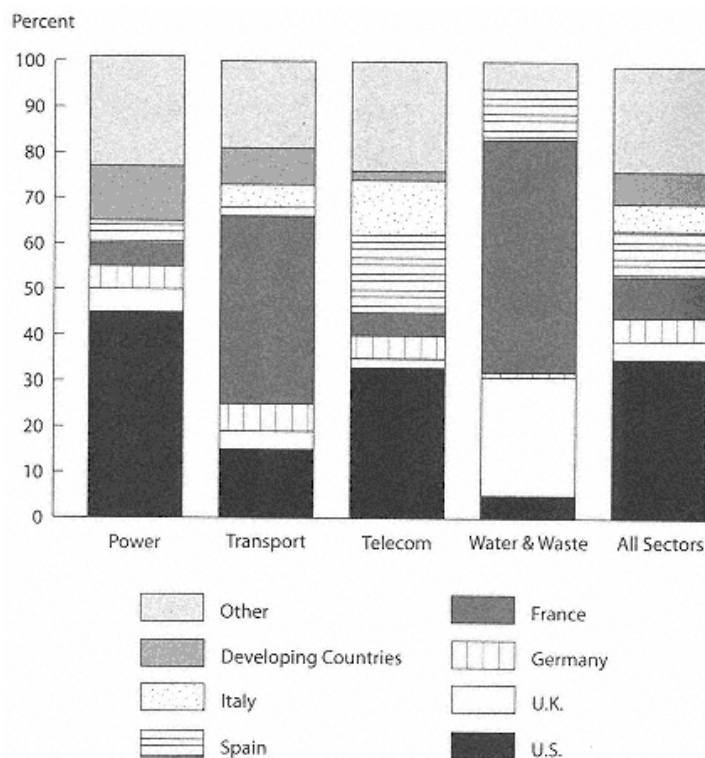
privatization. Greenfield and concession arrangements account for only about 12 percent of total inflows. A breakdown by number of transactions, however, suggests a far more balanced approach with various forms of private sector involvement used. In fact, only about one-quarter of all transactions stemmed from privatization, while concessions accounted for 42 percent and greenfield investments for another 30 percent. In East Asia, on the other hand, governments relied almost exclusively on greenfield investments. Virtually all of the region's estimated FDI inflows from infrastructure projects of US\$18.9 billion came through BOT-type arrangements, and more than 80 percent of the recorded transactions represent greenfield investments.

Regarding the origin of foreign investors, U.S. companies dominated, being responsible for about one-third of the FDI inflows to developing countries through infrastructure investments. However, a number of European companies played a vital role—especially Spain, France, and Germany. Particularly noteworthy was the increased presence of developing country companies—primarily from Chile and Malaysia—which accounted for an estimated 9 percent of total infrastructure FDI inflows.

In terms of regional distribution, investors tended to follow the pattern encountered in FDI flows in general. United States investors tended to concentrate on Latin America as their preferred region, which received about two-thirds of U.S. infrastructure investment abroad. Similarly, Spain focused almost entirely on the Latin America region. In fact, a number of Spanish telecom and electricity companies explicitly made the region their focal point for international expansion and diversification strategies. Germany, on the other hand, concentrated on Eastern European countries, which absorbed about half of German infrastructure investment abroad.

But besides the standard general determinants of FDI flows, such as geographic proximity or cultural affinity, infrastructure investments show strong sector concentrations by individual investor home countries, reflecting a particular industrial specialization in the various infrastructure activities. As Figure 5 shows, U.S. companies clearly dominate the electricity industry, accounting for about 45 percent of total FDI inflows in this sector. The large U.S. telecommunications companies also play a crucial role, with about one-third of total FDI in this sector. But competition from the various European telecoms is strong, as they together provided about 40 percent of FDI in this sector during the period. Striking is the dominance of French companies in the transport and water and

waste sectors. Because of the long tradition in domestic concession arrangements, the large construction and service companies in France seem to have a distinct advantage in these markets, resulting in FDI shares of around 50 percent in both sectors. But



Figures 5.  
Investor Origin, by Sector (Percentage shares based on FDI inflows, 1990–98 aggregate) Note: FDI data estimated based on project-specific information. See Annex I for details. Source: Foreign Investment Advisory Service.

British water companies also have pursued international opportunities following their creation during the privatization of the U.K.'s water industry in 1989. Those companies seem to make inroads in this market and account for about one-quarter of all FDI inflows to developing countries.

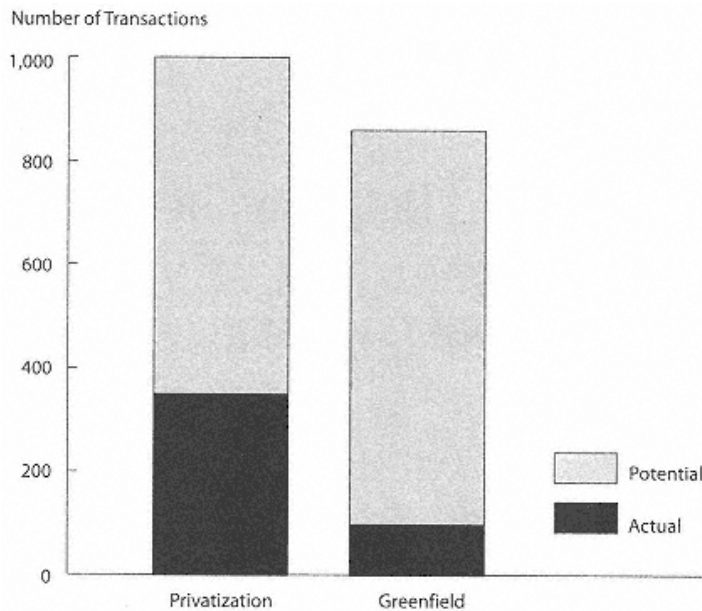
A final word of caution is in order for those trying to assess the importance of private infrastructure projects solely on the basis of their direct contribution to FDI inflows. Because infrastructure is the backbone of any economic system, investments in the expansion or improvement of infrastructure capacity will result in a strong multiplier effect on economic development and growth in general. But even for FDI inflows themselves, the impact is most likely not limited to these individual, project-specific investments. First and foremost, infrastructure projects tend to be particularly large and visible. Foreign investors will carefully watch the process to see how the government handles these investments, and a successful implementation of such large-ticket items can help significantly to improve the perception among all types of investors of the country as an investment location. Furthermore, weak and unreliable infrastructure services present one of the most debilitating impediments to a successful business operation in most developing countries. The prospects of increased capacity and efficiency in service delivery therefore promises future investors that these bottlenecks will be eliminated in the near future.

It is therefore safe to assume that the successful involvement of foreign investors in infrastructure projects will also have a strong impact on FDI inflows through secondary effects. In fact, one study estimates this impact to be quite substantial.<sup>6</sup> Based on a regression analysis of a cross-section of 36 developing countries during 1988–93, the study shows that privatization in general has a statistically significant, positive impact on FDI inflows. Most important, the study indicates that this impact is strongest for privatization in in revenue is estimated to result in almost 2.5 dollars in additional FDI inflows.

### 3— The Complex Nature of Greenfield Investments in Infrastructure: Incentives and Risks

Behind the large volume of transactions that have been completed, with projects under construction or in operation, is a virtual avalanche of potential projects that have not yet come to fruition. Databases that track actual as well as potential private infrastructure projects worldwide<sup>7</sup> tend to show a significantly higher number of "potentials," defined as some form of serious negotiation underway between government entities and private sector sponsors. While this might, at first sight, indicate a future potential, a more careful analysis shows that a large number of these projects have been in this "potential" category for many years. Hence, in many cases this category reflects projects stuck in the implementation process, rather than projects approaching completion.

This massive discrepancy between actual and potential investments applies primarily to greenfield investments made on a BOTtype basis, and far less so to privatization transactions. During 1998, for example, *Privatisation International* recorded about 1,000 privatization transactions worldwide, 350 of which were concluded.



Source: Privatisation International.

Figure 6.  
Actual Versus Potential Private Infrastructure Projects (1998 transactions worldwide)  
Source: Privatisation International.

But of the 860 potential greenfield investments, only 98, or about 11 percent, were concluded (see Figure 6). *Public Works Financing*, another source of potential and actual private infrastructure projects, records a significantly higher implementation record of about 30 percent for the period since 1985. However, this is only because the company makes a deliberate effort of cleansing its database of old greenfield investments that have been in the pipeline for a long time without reaching closure.

This discrepancy between privatizations and greenfield investments in infrastructure is not that surprising, as privatizations—

once they are politically accepted—are relatively easier to get done. It certainly takes a long time to prepare large state utilities for privatization. First and foremost, governments have to establish the political commitment, accommodate concerns and criticisms by special interest groups as well as the general public, commercialize the state utility in preparation for sale, develop appropriate institutional arrangements and procedures, and draft and pass relevant legislation. This process can easily take years and is littered with political landmines. However, when this preparation phase is completed, and the state utility is officially announced for privatization—at which point it also would be considered as a "potential" investment—the danger that the actual sale will be aborted and canceled is comparatively small. It certainly does happen that privatization sales do get canceled, especially when offers are deemed unsatisfactory. But in general, governments find it difficult to change course after having politically committed to the sell-off, and most privatization sales therefore tend to go through.

### **3.1 The Contractual Web of a BOT-Type Project**

New infrastructure facilities based on BOT-type arrangements typically are considered "potential" projects when a Memorandum of Understanding (MoU) is signed between a government and a project developer that gives one company the exclusive right to negotiate a project. But a number of crucial steps need to be completed before such an MoU turns into an actual investment, and a number of things can go wrong in the process. Hence, in the case of BOT-type investments the large discrepancy between "potentials" and "actuals" is primarily a reflection of a tremendous backlog of projects stalled at some point of the implementation process.

The primary reason for difficulties with BOTs is their complicated structure. Figure 7 presents a standardized version of the contractual web typically encountered in such an arrangement. It is significantly more complex than the standard turnkey contract where a government contracts a private company to build a spe—

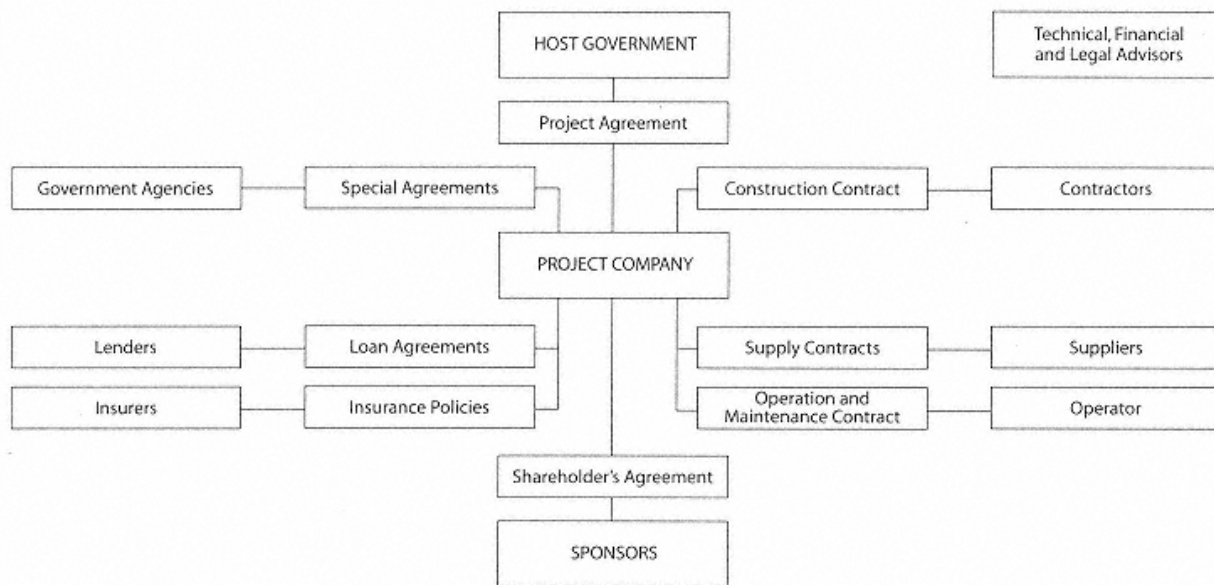


Figure 7.

Structure of a BOT–Type Project Source: UNIDO, "BOT Guidelines," Vienna 1996, p.9.

cific infrastructure facility for which the contracting company is being paid by the government upon completion of the construction. In the case of a BOT–type project, the arrangements for construction and repayment are very different. Here private companies reach an agreement with the government to build a certain facility as well as to operate it for a pre–determined time period, frequently up to 30 years. Rather than being repaid directly by the government, the investors are reimbursed during the operating period through the receipt of user charges paid by the consumers of the service provided.

Initially, a project developer reaches a preliminary agreement with a government, either through direct negotiations or through the award of a competitive tender, giving him the exclusive right to establish a particular infrastructure project. The developer then typically approaches other private companies as partners to form a project company through a shareholder's agreement. Generally, the only purpose of this project company is to carry out the specific project at hand. These sponsors then negotiate with the government the project or concession contract that specifies the contractual details of the project. The sponsors also have to obtain all the other relevant licenses, clearances and approvals from other government entities involved, such as land titles, supply and takeoff agreements with state–owned enterprises, immigration permits, construction licenses, tax agreements, import permits, foreign exchange convertibility and transferability agreements, environmental clearances or specific government guarantees to the project.

In addition, the project company must reach contractual agreements with other private sector parties responsible for specific elements of the project. The construction of the project is typically negotiated with a specific contractor on a fixed–price, turnkey basis. Suppliers need to agree to provide the required equipment and machinery at a specific point in time during the construction process. Finally, an operator will have to be found who agrees to handle the operation and maintenance of the facility following construction completion according to clearly specified performance targets.



After all the key contracts are in place, the project sponsors have to reach financial closure in order to get the project construction started.<sup>8</sup> To put together the financing package, the sponsors need to attract other investors and commercial lenders who are willing to provide debt and equity to the project. The sponsors themselves typically take a major share of the project's equity, but are frequently joined by local and international institutional investors who take minority equity stakes in the company. But as infrastructure projects tend to be sizable, requiring the long-term commitment of large amounts of capital, sponsors tend to rely on commercial lenders for most of the financing. On average, about three-quarters of the costs of a typical BOT-type project are covered by debt. Bankers therefore play a crucial role in determining the contractual structure of a project. As they do not have any direct management control, they tend to be particularly risk-averse, trying to ensure that all major project risks are accounted for and minimized. Revisions of individual contracts often become necessary at this point, and insurance policies need to be concluded to mitigate risks. One particularly important type of insurance frequently is the involvement of multilateral and bilateral agencies. As many of the project risks are of a political nature, the involvement of multilaterals can help to reduce fears of damaging government actions in the future. In addition, guarantee and insurance facilities can provide essential political risk cover (see Box 38, on pages 142–143). Bilateral export credit agencies can also provide political risk insurance through guarantees on major parts of the debt package.

These complex contractual structures involve many different players, including national, regional, and municipal governments, construction companies, operating companies, equity providers, commercial lenders, multilateral and bilateral agencies, etc. The key to successful completion is devising an arrangement that is acceptable to all parties by meeting the different objectives and incentives. This is certainly not an easy task, as objectives and incentives of these various players will differ. At the most general level, the key players whose interests have to match are governments, sponsors and lenders.

### **Governments: Balancing Domestic Interests and Multiple Objectives**

Mixed signals from different constituencies. Many diverse groups with varying levels of influence on government policymaking have a stake in the political process that shapes the environment for private infrastructure operations. Consumers benefiting from subsidized services may resent price increases associated with privatization. However, those on waiting lists may welcome the prospect of being connected to the service sooner. Managers and employees of public utilities are understandably concerned about their jobs. Domestic banks who have loaned money to state-owned infrastructure enterprises based on implicit government guarantees for repayment, and suppliers with long-term government contracts, may have an interest in maintaining the status quo of government ownership. Local government officials may resent central government interference. Achieving and implementing a clear strategy in the face of these diverse interests constitute a difficult task.

*Subsidized prices.* In most developing countries, infrastructure services are priced below the costs of supply. Such subsidies may be hidden by increasing arrears to the banking system or through reduced payments to the government, such as exemption from certain taxes or social security payments, or simply not collecting outstanding bills. Similarly, subsidies may be financed through depletion of the existing capital stock and deferring new investment. At the same time, weak incentives for managers mean that the costs of providing services are often higher than international norms. Although most governments are committed to gradually raising infrastructure tariffs and reducing costs, these measures are often politically unpopular, particularly among low-income consumers, and the adjustment of existing tariffs to market-price levels is a slow process at best.

*Loss of Control.* Governments are reluctant to abdicate control over key sectors of the economy by privatizing parts of their infrastructure. This is even more of a concern where foreign ownership is involved. Foreign-owned utilities are a highly visible target for political discontent. Most governments do not have a strong record

of regulating private industries, because the public sector has been so dominant. Thus, there is insufficient awareness that regulation can be as effective as direct ownership for control purposes while also producing gains in efficiency. This government concern manifests itself in several ways, such as rules prohibiting private entry into certain sectors, limiting it to minority stakes, or imposing restrictions on foreign ownership.

*Involving domestic investors.* Governments often prefer to involve domestic investors in developing the private sector. Because most infrastructure sectors have been dominated by state-owned enterprises, however, private entrepreneurs have been prevented from developing technical and managerial skills. Thus, qualified domestic investors are rare. At the same time, however, local capital is the cheapest form of equity capital (as it eliminates the foreign exchange risk), and the development of domestic capital markets can greatly facilitate the successful implementation of infrastructure projects.

*Misunderstanding what private involvement can offer and what investors require.* Many government officials view potential private infrastructure investors simply as an extra source of funding. Although private sector involvement does offer extra financing and the willingness to manage some risks (e.g., those associated with construction and operation), private companies are generally not willing to bear risks that they cannot control (e.g., political or regulatory risk). Thus, additional financing will emerge only if the investors retain control over the asset. Limitations on this ability to control will most likely result in investors' being unwilling to make serious financial commitments.

### **3.3 Sponsors: Creating a Viable Project Structure**

*Operating profitably.* The main sponsors of private sector infrastructure projects are typically large foreign companies with strong experience in the operation of such projects. Their primary goal is to establish an infrastructure operation that will allow them to profit by providing services in a reasonably predictable environment.

Under such conditions, they are quite willing to invest. Driven by commercial principles, they have a strong incentive to provide the agreed-upon services as efficiently as possible.

*Finding reliable partners.* Infrastructure projects tend to be too big to be financed by one investing firm alone. In addition, because of the unique political nature and technical complexity of such projects, investors typically want to share the risk rather than carry it alone. The main sponsor will have to identify partners who can furnish additional technical expertise and support for financing, construction and maintenance. Project completion and future operation are critically dependent on the reliability of all partners involved. Rules that impose limitations on the types of potential partners, such as a requirement to find a domestic partner or to integrate a state-owned enterprise, often are a matter of concern to sponsors and can damage the viability of the project.

*Diversifying risk.* Infrastructure projects present unusual risks. Commercial risks include the timely construction and technical performance of the facilities, as well as the quantity and quality of the service provided. Political risks may result from decisions taken by public authorities that shape the business environment. Sponsors are keen on distributing these risks to the parties best equipped to deal with them. Sponsors want to insulate themselves from risks that are independent of their own performance and beyond their control.

*Reducing uncertainty.* The profitability of a project is critically dependent upon the future environment for the private enterprise. Uncertainty about entry or market rights will affect sponsor expectations about profitability. In some cases, investors will want specific exclusivity periods that will allow them to recoup their initial investment, and the government will have to determine whether such an extraordinary measure is warranted. Similarly, the pricing of services is a key issue, particularly when service provisions involve retail customers or where direct competition is not feasible. Investors are looking for a clear and sensible regulatory and contractual framework,

with specific rules on adjusting tariff rates.

*Existence of a stable legal framework.* Private infrastructure projects are contract-intensive, and the long time horizon of most of these projects increases the danger of contractual disputes. Sponsors want to be reasonably confident that any such dispute can be solved fairly, whether through the domestic judicial system or by means of arbitration.

*Avoiding contingent liabilities.* In certain sectors, such as power generation, investors may be concerned about contingent environmental liabilities from existing plants if they are buying an asset. Similarly, in sectors where over-manning may be a problem (such as railroads), investors may not consider a project attractive until some downsizing has taken place. Also, requirements to purchase supplies from noncompetitive sources (e.g., from a local coal mine for power generation) may discourage investors.

### **3.4 Commercial Lenders—The Market Test of Bankability**

*Being cautious and selective.* Commercial lenders tend to be the most risk-averse members of an investor group. Their caution is understandable. Unlike the main equity providers, they do not exercise managerial control over infrastructure projects and do not share in the profits arising from improved management and performance. They share all the downside risks, however, because their financial return is entirely dependent on debt repayments generated by the project's cash flow.

*Providing the ultimate market test.* Having no direct involvement in project operations, lenders are more careful than sponsors in judging the viability of a project. They want to be reasonably certain that the projected cash flow will be sufficient to support debt service. Hence, lenders provide a valuable service to sponsors and to governments by evaluating the overall structure of the project. It is in the lenders' interest that the project is perceived as fair by the government and consumers. Popular resentment against foreign-owned and financed infrastructure projects can easily lead to regulatory changes that reduce the future cash flow and hence

the company's ability to service the loans, and thus raise the risks to lenders.

*Optimizing risk allocation.* Because they are not involved in project operations, lenders are keen on making sure that risks are distributed among the partners so that none of them is subject to risks they cannot control. They therefore insist that responsibilities be allocated so that each party involved has a strong incentive to perform according to its best ability. But beyond the risks associated with a particular project, commercial lenders are concerned with country risks, such as nationalization, unilateral changes in rules or refusal to honor agreements, foreign exchange conversion, and others. The riskier the lenders deem a country to be, the higher will be the risk premium they demand, inflating the costs of a project. Country risk may even be so high that lenders do not consider projects bankable at all, i.e., the country is perceived as too risky to support projects through commercial lending.

## **4— Risks Investors Face**

Because of the large number of different players and the complicated contractual structure of BOT-type projects, it is not surprising to find that implementation takes a great deal of time and is hindered by a wide variety of factors. The nature of these projects makes them difficult to conclude in most places of the world, and this is not limited to developing countries alone. Industrial countries have had their share of failures as well; the construction

of one of the first privately financed tollroads in the United States is an interesting example for the difficulties frequently encountered (see Box 2). But the most prominent failure in this respect certainly is Britain's Channel Tunnel, a 31-mile, twin tunnel forming a rail link between France and Great Britain under the English Channel. The US\$15.5 billion project experienced huge cost overruns due to construction difficulties, while a traffic volume far below initial expectations led to major revenue shortfalls. Despite an extension of the original concession period from 65 to 99 years, the project still required major financial restructurings with strong government involvement.

Overall, however, the past experience has shown that such projects can be implemented quite rapidly—even within several months—if the environment is sufficiently conducive. But in these

### **Box 2. The Trouble With Traffic Forecasts: The Dulles Greenway**

With the Dulles Greenway, the State of Virginia hosted one of the first private tollroads in the United States. The 14.7-mile, four-lane highway connects Washington, D.C.'s Dulles International Airport with the northwestern town of Leesburg. Financing for the \$430 million project closed in September 1993, and operations began two years later. In March 1996, however, tolls had to be reduced from \$1.75 to \$1 in order to attract more users. Based on overly optimistic growth projections for residential and office space, an average daily traffic flow of 34,000 vehicles was estimated. But actual traffic volume fell short by over one-third. In addition, the Virginia Department of Transportation announced plans to spend US\$30 million on widening the parallel Route 7, further jeopardizing future traffic flow. By late 1997, a major refinancing and debt restructuring of the project was unavoidable.

cases, governments have gone through careful preparation and reform exercises, geared to streamlining a process that facilitates the implementation of individual projects. Many developing country governments found out that it takes more than formal policy statements welcoming private sector investment in infrastructure combined with a few promotion missions to OECD countries. Instead it requires detailed preparation by putting in place an effective institutional, legal and regulatory framework, supported by strong political commitment to sectoral reform and liberalization.

It is when there is a disconnect between political statements and administrative actions that projects run into difficulties. It is often primarily because of pressing financial constraints that governments express their interest in private sector investment in areas previously reserved for the public sector. Private sector involvement seems to promise additional financial resources to provide additional capacity in infrastructure services. However, not much attention is paid to the conditions under which these investments

are to take place. Overall sectoral liberalization and efficiency gains resulting from private sector participation tend to feature far lower on government priority lists.

This frequently translates into insufficient preparatory efforts by governments that are trying to attract these types of investment. Rather than engaging in a full-fledged reform effort to develop an appropriate environment for private investors, governments often take a hesitant and stepwise approach, hoping to make necessary adjustments to the implementation process when problems emerge with the first projects. Practice shows, however, that this often leads to serious breakdowns, as the necessary policy measures required turn out to be far more than simple adjustments.

**Box 3. Project Preparation Is an Expensive Business**

Project developers are the first on the scene when it comes to turning potential infrastructure projects into actual investments. They are the ones who must

- \_\_ Establish whether and under what circumstances a project has potential;
- \_\_ Identify the relevant decisionmakers and the applicable procedures to shepherd a project through the approval process;
- \_\_ Conduct economic, legal, financial, and engineering studies;
- \_\_ Prepare bidding documents and proposals;
- \_\_ Obtain all the relevant approvals, permits, and licenses;
- \_\_ Assemble the consortium; and
- \_\_ Negotiate with lenders, insurers, and contractors.

Project developers typically are major companies interested in constructing and operating the project, and tend to hold a major equity stake in the venture.

But these project development activities are anything but cheap. High-quality feasibility studies already are costly. More important,

*(text box Continued on next page)*

Projects get stuck, and investors as well as governments become frustrated, while expectations of major investments through private capital remain unfulfilled.

The difficulties encountered by BOT-type projects are not just a mere inconvenience. They imply direct costs for investors as well as governments, and can jeopardize entire reform programs. For investors, project preparation implies substantial costs, and any delay and complication adds to the bill (see Box 3). The U.K.-based consultancy firm Merchant International Group published a report in early 1999 estimating that multinational companies lost about US\$24 billion during 1998 in their foreign investment activities because of specific emerging market country risks. Based

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though, the preparation of infrastructure projects tends to absorb tremendous amounts of human resources. The time needed for the development of concessions and BOT-type projects is typically counted in years, during which the developer is actively trying to push the project through the process. Depending on the complexity of the process, the development phase of private infrastructure projects typically absorbs somewhere between 2 and 5 percent of total project costs. In extreme cases, however, this can reach up to 10 or 12 percent. While larger projects tend to require more preparatory efforts, these increased costs are associated less with project size but rather with the lack of a streamlined and effective implementation and approval process.

Project developers clearly run high risks. Not infrequently they find themselves with a canceled project after millions of dollars have been spent in preparatory efforts. However, when a project is successfully implemented and reaches financial closure, it is important to recognize that these project development costs will form part of total project costs, implying that the final customer will be paying for this work through tariffs and user charges. Hence, a complicated and laborious approval process will result in more expensive projects at the end.

on a sample of 7,500 multinationals, the report claims that underestimating corruption, bureaucratic delays, organized crime and other non-conventional risks on average erode expected returns on FDI by 8 to 10 percent. The report also estimates that 84 percent of operations initiated over the last three years in emerging markets did not meet financial targets, and that 26 percent of these projects failed.<sup>9</sup>

For governments this implies that investors might leave disappointed, while new ones will be hesitant to enter. At the same time, projects have not been forthcoming, and a government's overall reform policy might increasingly be questioned by the public.

### 4.1 Conflicting Opinions Within Government

In most developing countries, investors quickly come to the realization that a general invitation by senior government officials to participate in infrastructure projects does not at all reflect the opinion of many parts of government. In fact, governments tend to be a blend of numerous interest groups with different motivations and ambitions. Their views about private participation in infrastructure are shaped less by the overall political objectives for the country as a whole than by the narrower objectives of their particular responsibilities.

At the ministerial level, there is often a noticeable difference in opinion between central ministries and line ministries. Ministries of Finance or Economy tend to be positively inclined toward private sector investment in infrastructure based on their concerns about the country's macroeconomic and financial performance. They tend to view private involvement as a potentially valuable tool in boosting foreign exchange reserves, limiting budgetary pressures through large-scale public investments, and enhancing the overall competitiveness of the economy through the injection of new capital and managerial skills.

Infrastructure line ministries, on the other hand, are primarily concerned with the management and supervision of service provi-

sion in the country. They frequently equate their political mandate and strength with ownership and control of the assets. In such cases, privatization is considered a threat more than anything else. Only after it becomes clear that service demands cannot be met through the standard sector approach, might private sector competition be acceptable. But even then, line ministries often want to keep a tight grip on the market by limiting private sector access and retaining control over the regulation of private sector competitors.

Furthermore, in many cases the state-owned enterprises responsible for service provision have obtained a higher degree of autonomy in the recent past in order to improve their commercial viability. Even when line ministries are in support of private sector entry into the sector, the management of these enterprises can be adamantly opposed. Rather than facing direct competition with private operators, they tend to prefer joint venture arrangements under their leadership, and they may try to stifle the development of other private projects (see Box 4).

## 4.2 Insufficient Coordination

Insufficient coordination among the multiple government agencies involved—even if not the result of political disagreements—has derailed numerous projects. Lacking a strong institutional framework, individual government agencies and authorities are often tempted to initiate and negotiate such projects on their own. Soon, however, they find out that approvals and clearances are required from a range of other authorities, who by now are not particularly willing to assist, not having been involved in the initial preparations.

In numerous cases, line ministries have taken it upon themselves to prepare BOT-type projects with individual investors. Often they even agreed to the signature of Memoranda of Understanding (MoUs) or Letters of Intent (LoIs), giving the particular investors exclusive rights to negotiate. But during the preparation process, issues will arise such as the need for an environmental clearance.

### **Box 4. Fighting State Monopolies: The Story of Econet**

As in most developing countries, Zimbabwe's telecommunications sector had been dominated for decades by a state-owned monopolist. The services provided by PTC were clearly unsatisfactory, with only slightly more than one line per 100 inhabitants and a network characterized by unreliability and frequent mainline failures.

In 1993, a local businessman, Mr. Strive Masiyiwa, decided to set up the first cellular network in the country, and initiated discussions with PTC for a joint venture. PTC did not see the need for cellular telephony and, fearing competition, refused to grant the required license to Mr. Masiyiwa's company, Econet. Mr. Masiyiwa in turn challenged the constitutionality of PTC's monopoly. In 1995, the Supreme Court ruled in his favor, and Econet began setting up base stations around Harare together with its Swedish partner, Ericsson. In February 1996, however, a presidential decree declared private cellular operations illegal, with a two-year jail term for offenders. Econet had to appeal again to the Supreme Court, which eventually declared the decree unconstitutional. In the meantime, PTC established its own cellular network. Also, a tender was held for a private cellular license, awarded to the Zairian company Telecel, which was backed by relatives of the President as well as the telecommunications minister. After Mr. Masiyiwa demanded to see the technical details of the bid and after extensive public criticism, the Telecel license was canceled and a license was officially granted to Econet. (Telecel also was eventually granted a license).

In July 1998, Econet could finally start operating, about five years after initial project preparations. One week later, the company already counted 10,000 customers, and by the end of 1998 it had a market share of about 50 percent.

Lenders might demand certain government support arrangements and guarantees that will require the approval of the Minister of Finance. While government officials often are unaware of these requirements, private developers frequently hope that the line min-

ister can arrange these issues through some political channel. But almost invariably, these projects get stuck in political debates without anybody in sight within government capable of resolving these problems.

This lack of coordination tends to pose a particular problem in the relationship between the central government and state, provincial or municipal authorities. Sub-sovereign authorities are always keen to ensure that their autonomy is not being infringed upon by central government agencies, and they are often hesitant toward policy prescriptions and interventions by line ministries. Having the responsibility for certain infrastructure areas within their domain, they tend to take it upon themselves to start these projects independently. When needs arise for approvals and clearances from the central level, central government authorities often want to impose certain conditions or limitations which sub-sovereigns consider an interference with their independent decisionmaking authority. The result often is a political stalemate, with a potential infrastructure project stalled in the middle (see Box 5).

In China and India, for example, a large number of potential projects have stalled in recent years simply because a coordinated decisionmaking structure between the central and state authorities did not exist. Both cases are infamous examples of investors wondering how many approvals they will need and where the appropriate authority might be located in each case. Similarly, a strong decentralization move in most Central and Eastern European countries has provided municipalities with increased autonomy. With it came responsibility in various infrastructure areas, but without the necessary funding sources to fulfill these obligations. Despite pressing needs, however, not one of these countries has yet managed to successfully complete a series of municipal projects, partly because of political and legal conflicts among authorities.

From an investor's perspective, such a lack of overall strategy inevitably results in frustrating delays. Investors face conflicting signals and decisions by different authorities. Interest groups within the country often try to undermine projects by trying to build

### **Box 5. Conflicting Authorities: The Subic Bay Container Terminal**

In 1992, the Philippine government converted the U.S. naval base at Subic Bay into a freeport and charged the Subic Bay Metropolitan Authority (SBMA) with its economic development. Under SBMA's chairman Richard Gordon, businesses brought over US\$1 billion to establish businesses in the port area.

In mid-1996, SBMA held a tender for the development of a container terminal under a 25-year BOT contract. The Philippine company International Container Services Terminal (ICTSI) submitted the highest bid with US\$57.8 per container. However, one competing bidder demanded a disqualification of ICTSI's bid on the grounds that SBMA's "Competition Circular" had, on the basis of the country's monopoly laws, specified that no bidder could control more than 20 percent of a rival port in the country. Because ICTSI already operated the country's largest container terminal in Manila and was responsible for about 70 percent of container traffic in the country, SBMA awarded the contract to Hong Kong's Hutchison Whampoa, which only bid \$20.5 per container. After an appeal by ICTSI, President Ramos demanded that SBMA reevaluate the bids. Hutchison was again declared the preferred bidder, however, because SBMA claimed that Hutchison's larger investment volume and container throughput made it a more attractive offer.

Nonetheless, President Ramos again overruled this decision after the government's chief legal counsel declared that the country's monopoly laws were not applicable to the autonomous freeport. In January 1997 President Ramos ordered SBMA to reopen the bidding. Hutchison



protested this decision, claiming preferential treatment for domestic investors by the government. Hutchison initially threatened to withdraw from the rebidding and initiated legal proceedings in Philippine courts in July 1997. The rebidding in September 1997 resulted in the pre-qualification of five investors, including Hutchison and ICTSI. However, the tender was halted in December 1997 through a Supreme Court injunction resulting from the Hutchison lawsuit.

political alliances against the private sector entrant. Experiences like these cause many investors to remove this country from their list of potential investment locations for a long time.

### 4.3 Insufficient Expertise

Even if all these issues of coordination and cooperation can be overcome, most governments face a serious shortfall in the institutional capacity and expertise necessary to implement private infrastructure projects. Civil servants, used to straightforward turnkey contracts, lack familiarity with project finance transactions. They tend to be skilled in the engineering aspects of infrastructure projects, but the complex legal and financial aspects of a convoluted contractual structure such as a BOT-type investment tend to be beyond their expertise. In fact, although investors tend to be quite satisfied with the technical expertise of their government counterparts, they are extremely frustrated by those counterparts' lack of knowledge in the basic legal and financial aspects of private infrastructure projects. At worst, this lack of expertise results in the faulty design of an entire strategy of private sector involvement. This can quickly lead to reform programs stalling under public criticism while projects run into serious difficulties (see Box 6).

Furthermore, a lack of expertise can have serious repercussions for the project implementation process and the availability of infrastructure projects for private investment. When confronted with a highly specialized team of legal and financial experts during project negotiations, government officials often are hesitant to make decisions. Instead they tend to pass on the decision to their superiors, recognizing that they are on unfamiliar territory when confronted with demands by investors regarding changes to specific contract clauses, the need for government support arrangements, or the legal and financial specifics of feasibility studies. Frequently investors find themselves having to negotiate most key elements of the project with senior government ministers, who are less often avail-

#### **Box 6. How Not to Do It: Mexican Tollroads**

In February 1989 the Mexican government, then under President Carlos Salinas, introduced the Mexican Highway Program with the goal of constructing about 6,000 kilometers of tollroads. By end-1994, the government had granted a total of 52 concessions worth about \$14 billion. Thirty of these concessions went to the private sector on a BOT basis for the construction of a total of about 3,500 kilometers. However, the majority of these road projects experienced serious difficulties and required substantial restructuring.

For political reasons, the government decided to tender these concession projects on the basis of the shortest concession period rather than the lowest toll rate, with the objective of taking control of these assets as fast as possible. The tender documents were based on government specifications for the design of the road, including cost estimates, as well as government traffic projections. The result was that all concessions

were awarded to domestic construction companies, which were primarily interested in the construction project and less in the operational viability of the tollroads. When completed, these roads showed an average cost overrun of 50 percent. At the same time, tolls were so high that users preferred the parallel free roads even at the

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able. Initially technical discussions become political in nature, and substantial delays result.

Similarly, when government agencies try to prepare individual projects for a tender process—rather than to engage in direct negotiations—they frequently run into substantial difficulties. Investors often find themselves confronted with feasibility studies and tender documentation that are primarily motivated by detailed engineering concepts without much regard for the financial and legal requirements of a BOT-type investment. But insufficient and inappropriate preparation can easily spell the end for a potential project or can result in unsustainable projects with high costs attached for the government (see Box 7).

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expense of longer travel time, and most project companies suffered serious revenue shortfalls. Their financial situation worsened further with the peso devaluation in 1994, resulting in a drastic increase in debt service on foreign currency loans.

In the following years, many of these projects were redesigned by lengthening the concession periods from the original 8–14 years to 30 years, by restructuring the debt, and, in a few cases, by injecting public funds. In 1997, the government eventually had to design a rescue package to avoid bankruptcy for the worst cases. It took over 23 of the private concessions and assumed about US\$7.7 billion in debt, including US\$2.6 billion in outstanding fees to the construction companies. Overall, construction companies seem to have suffered the least from this program, as their returns on the construction alone are estimated to lie between 35 and 45 percent, compared to an average equity contribution of about 25 percent. The government intends to privatize these roads again, following a lowering of the toll structure, on the basis of operation and maintenance contracts. Plans for the second phase of tollroad construction have been postponed indefinitely.

For many government officials of countries eligible for concessional foreign aid, private sector participation plays only a secondary role, and is often considered a last resort when no other source of funding is available. In one Southeast Asian nation, for example, a bridge was urgently needed to alleviate congestion from a well-known tourist resort to the regional airport. Judging from traffic flow projections, this project represented an excellent candidate for a BOT-type investment. But political contacts of the provincial governor with a bilateral aid agency resulted in this project being financed through concessional aid funds instead. The regional office of the government agency in charge of road construction experienced a massive increase in its budget, but with

### **Box 7. Good Preparation is Key: Airport Projects in Eastern Europe**

With the breakup of the former eastern bloc, new trade and investment flows placed a strain on the existing transport infrastructure in most East European countries. Air traffic increased massively in importance, and new investments were, and are still, urgently needed to improve and expand existing airport capacity. However, at present not a single airport operation in the region has involved major private sector investments. During the mid-1990s, two major airports—Budapest's Ferihegy and Prague's Ruzyně airports—were being seriously considered for BOT investments. However, both projects fell apart and the investments were eventually undertaken by the public sector.

In Hungary, the government selected a Canadian construction company to build and operate a new terminal for US\$100 million to triple the capacity of the country's largest airport. However, the initial selection process focused less on the consortium's project finance experience than on its engineering expertise. When trying to come to a final agreement on the project, the government found the proposal so reliant on government guarantees that the project turned out more expensive than under traditional public procurement.

In the Czech Republic, a new international terminal needed to be constructed for about US\$130 million to double the capacity of Prague's airport. The Czech Airport Administration formed a joint venture with four international companies to undertake this project on a BOT basis. However, the government had failed to check the financial credentials of the consortium members. As negotiations reached financial closure, significant delays resulted when one consortium member turned out to be under bankruptcy procedures in its home country. Consequently the government canceled the award and decided to proceed with the terminal construction under a turnkey arrangement. In compensation for the restructuring of the project, the government had to pay an undisclosed sum to two of the consortium members, while the third member of the consortium was awarded the turnkey construction contract.

these funds dedicated to the bridge construction, funds available were not sufficient to cover even the standard maintenance of the province's rural roads. Thus scarce concessional funds were used for a commercially viable project instead of for socially desirable, but commercially non-viable, investments. The agency did not feel responsible for this apparent misallocation of funds because it had not received any explicit indications from headquarters to develop the bridge as a BOT project.

Hence, even in cases where governments are interested in attracting private capital into their infrastructure sectors, investors face significant difficulties. Potential projects disappear from the list when public sources of funds can be tapped; they tend to be inappropriately prepared, resulting in lengthy renegotiations; and the lack of decisionmaking ability causes frequent delays.

#### **4.4 Direct Negotiations versus Competitive Tenders**

The general lack of expertise among government officials, combined with insufficient financial and human resources, frequently leads countries to accept, or even encourage, unsolicited proposals. The preparation of sufficiently detailed and sophisticated feasibility studies and tender documents is often simply beyond the capabilities of the civil servants in charge. This makes direct proposals by investors, including the offer of

undertaking all the necessary technical studies, very attractive.

But such unsolicited proposals can have substantial drawbacks. Detailed feasibility studies do not come cheap, and investors will provide them only when they are reasonably certain that their efforts and expenses will be rewarded with a concrete investment project. For this reason they will combine their offer with the signing of an MoU giving them exclusive rights to negotiate and prepare the project. Hence, governments almost automatically will find themselves involved in direct negotiations with only one in-

vestor, and the political and economic costs of such a strategy can be substantial (see Box 8).

There tends not to be a general agreement on whether competitive tenders are preferable to direct negotiations. In fact, many investors defend direct negotiations as a faster and more direct

### **Box 8. Dabhol: The Dangers of Direct Negotiation**

Facing a major shortage in the country's future electricity supply, the Government of India introduced policy reforms in October 1991, allowing for 100 percent foreign ownership in private power generating plants. But projects were slow to make headway due to a convoluted administrative approval process, as the Indian constitution provides the central government and state authorities with shared responsibility for the sector. In response, the government introduced a "fast-track" program to facilitate the implementation of the most urgent projects.

In June 1992, the U.S. company Enron approached the State Government of Maharashtra with an offer to build a 2,015 Megawatt power plant at a cost of US\$2.84 billion on a BOO basis. An MoU was signed between the company and the State Electricity Board to develop this project. In December 1993, a 20-year Power Purchase Agreement (PPA) was signed with the State Electricity Board, specifying a tariff of 7.5 U.S. cents per kilowatt-hour. The now-formed Dhabol Power Corporation (DPC), including Enron with an 80 percent equity holding and both GE Capital and Bechtel with 10 percent each, reached financial closure in February 1995 and started construction on the project.

State elections in March 1995 brought to power a new government that had been critical of this project throughout the election campaign. After review of the contract, the government unilaterally canceled the project, citing excessive costs and potential corruption as the main reasons. DPC stopped construction and initiated arbitration proceedings. After intense discussions and diplomatic pressures through the U.S. Government, the state government agreed in November 1995 to renegotiate the project. In April 1996 the government announced that a renegotiated project had been approved, and DPC restarted construction in December 1996. Enron estimates the costs of the 16-month delay at US\$175 million.

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route to developing individual projects because they avoid the potentially lengthy administrative procedures of the tender process. In particular cases, unsolicited proposals by investors also might provide technically and

financially unique solutions that would not have been revealed in a narrowly defined and standardized tender.

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The renegotiation resulted in a reduction of total project costs to US\$2.51 billion, an expansion of capacity to 2,184 Megawatts, and a reduction in tariffs by about 22 percent to 5.9 U.S.cents. These substantial reductions were achieved following a more careful analysis of the costs for comparable projects done by Enron in other countries after adjustment for country—and project—specific risks. DPC accepted these cost reductions, citing lower costs for independent power producers (IPPs) in the global markets since the initial offer in mid-1992. The state government dropped all accusations of potential illegitimacies in the original transaction, which seem to have been driven primarily by the secrecy surrounding the initial contractual arrangements.

This high-profile dispute posed a serious public relations problem for the country, with many investors expressing concerns about becoming involved in the market. At the same time, the renegotiation resulted in significantly better terms for the country. In retrospect, however, many government officials questioned the choice of pursuing a direct negotiation strategy with the goal of speeding up project implementation. One member of the state negotiating committee concluded: "Finally, one question is left. Did we do the best that was possible? This is impossible to answer."\* And M.P. Abraham, Secretary of the Indian Ministry of Power, stated: "If competitive bidding had been used from the beginning it may have resulted in some delays. Yet that would have caused less damage to the power policy than the criticism over the lack of transparency."\*\*

\*Kirit S. Parikh, "The Enron story and its lessons," *The Journal of International Trade and Economic Development* 6:2, 209–230.

\*\*Cited in *Infrastructure Finance*, October 1996, pp. 46–47.

Finally, direct negotiations are often simply unavoidable. In tenders where only one bidder participates, the alternative could only be not to pursue a particular privatization or project development at all.

In general, however, competitive tendering mechanisms have proven to be a valuable tool for governments. Sitting across the table from a highly specialized private sector team of lawyers and financiers, government officials find it often impossible to overcome the expertise and information gap. A competitive tender, on the other hand, eliminates this need to a large extent, as most of the relevant information is revealed through the bidding of equally experienced companies among each other. Hence, a clean tender is likely to generate a more attractive outcome for the country.

Secondly, a tender also tends to enhance the transparency of the award process significantly because most details of a project will become public information. During direct negotiations, on the other hand, most information remains confidential, partly because the investors insist on not revealing any details, and partly because governments do not want to open themselves to criticisms that they did not achieve an optimal outcome during negotiations. But transparency is of crucial importance for governments and investors alike in order to avoid legal challenges and a backlash of public criticism.

Practically all privatizations or private sector involvements in infrastructure tend to raise some criticism. Environmental groups, labor unions, consumer groups, and competing investors might try to stop or delay a particular project that they deem not to be in their interest. Investors frequently face legal challenges to the award of a project, which can cause massive delays on the start of a project. From a government's perspective, nothing is more debilitating than a groundswell of public opinion turning against the government following the award of a project. Voters frequently interpret a lack of information as a sign of irregularities and possibly corruption. If governments cannot quickly prove this not to be true, public sentiment can jeopardize not only the award of an individual project,

but an entire liberalization and privatization process. In a competitive tender, on the other hand, all information will be available to the public, and the government can point to the bidding result as the best outcome the market could provide, independent of the negotiating prowess and integrity of individual civil servants.

### 4.5 Unclear Tendering Rules

Unfortunately, simply introducing competitive tendering procedures is no panacea against breakdowns in the process. It is a means of improving transparency, but certainly no guarantee. In many cases, governments have failed to design the bidding conditions and rules clearly, leaving grey areas open for interpretation and misperceptions (see Box 9).

One common problem is that tender rules, while apparently designed to enhance competition, are *de facto* so restrictive that they grant preferential treatment and unfair advantages to individual investors at the expense of their competitors. In cases where governments have received an unsolicited proposal but have to abide by the legal requirement for a tender, the technical project specifications are often defined so narrowly, based on the proposal, that virtually none but the original proponent qualifies. While drawing criticism from other investors and the public, such practices also limit the pool of bidders, most likely to the detriment of the country.

Similarly, if the technical criteria of the project are not sufficiently specified, governments tend to receive bids that are substantively different and cannot be easily compared. In one Central American country, for example, the award of a highway rehabilitation project was stalled for years due to legal challenges. The primary problem was that the bidding documents did not specify the type of road surface to be used. The offers proposed by two competing consortia therefore showed extreme differences in the projected costs and tariffs, but with the higher-cost project offering significantly reduced maintenance costs in the future, even

#### **Box 9. Privatization, Russian Style**

During the mid-1990s, the Russian government came under increasing pressure from creditors and multilaterals to strengthen its privatization program, as additional sources of revenue were urgently needed. In addition, previous transactions lacked transparency, causing suspicion that they were insider deals involving sales to politically well-connected individuals or groups at comparatively low prices. The government hoped to put privatization back on track through the sale of stakes in the country's two major long-distance telecom operators, Svyazinvest and Rostelekom.

The first attempt to sell 25 percent in Svyazinvest in 1995 turned out to be an embarrassing failure. The Italian state telephone company Stet, which had won the bid, finally abandoned the project after failing to

reach agreements on payment terms as well as access to Russia's longdistance market. Early in 1997, the government decided to merge Rostelekom with Svyazinvest, creating a massive holding company with majority stakes in most regional operating companies.

In July 1997, a 25 percent stake in Svyazinvest was sold for US\$1.875 billion to a consortium comprising the country's third largest bank, Oneximbank, as well as Deutsche Morgan Grenfell and George Soros. Despite the bid being 59 percent over the minimum price, the transaction was subject to heavy public criticism. Members of the only other

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after the end of the contract period. After several years of legal injunctions, the Supreme Court eventually ruled to rebid the project.

Finally, administrative mistakes and oversights can also wreak havoc with a tender. Last-minute changes in evaluation criteria and weights or prequalification criteria invariably result in the dropout of potential bidders and potential legal challenges by losing bidders. A number of other irregularities can also occur, with disastrous effects on the bidding process. For example, during the tender

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competing bidding consortium claimed political corruption, and the Russian Parliament called for a probe of the transaction. International observers were equally unhappy with the result, suggesting that the government could have obtained a substantially higher price if it had developed a more competitive and transparent bidding process. Although the process was formally open to foreign as well as domestic investors, its structure appears to have favored domestic investment banks. Requirements to provide a \$400 million cash bond up front without repayment guarantee, plus stringent requirements of improving the collection of outstanding bills, practically required the involvement of domestic banks with extensive domestic branch networks. In addition, interested investors had less than one month to evaluate the company, causing several major global telecom operators to abstain from the bidding.

Unlike most large telecom privatizations, the winning consortium did not include an experienced operator. Although it acquired veto power with two seats at the company board, its ability to shape the company's destiny is uncertain. Given that the consortium members have the right to sell their stakes after 75 days, observers are concerned that this might be a speculative investment only, not resulting in the needed efficiency improvements.

for a power plant in Sri Lanka in 1996, the bidding documents of one well-known multinational company mysteriously disappeared from the government safe. Because this bidder claimed to have had the winning bid, the award was challenged. In the rebid two years later, the project was eventually awarded to this investor in a more transparent process.

As the case of the Brazilian privatization of telecommunications projects shows, even the most professional bidding process can suffer (see Box 10). Any deviation from the standards of neutrality

### **Box 10. Privatizing Brazil's Telecommunications Sector**

As with most developing countries, Brazil recently faced the challenge of what to do with a highly inefficient, massive state monopoly in its telecommunications sector. The state-owned Telebras had a record of inadequate quantity and quality of service provision. Despite Brazil's status as one of the largest emerging market economies, only 9.5 percent of the population had phone connections by 1998, and the waiting period for a new line was two years. Even the existing lines were in terrible shape, with frequent mainline faults making it a challenge to complete a phone call even within the major cities.

The decision by Congress in 1995 to end the state's monopoly on telecom services formed the basis for market liberalization and the entry of private investors. In mid-1996 another law was passed which opened the cellular telephony market for private service providers, and a regulatory agency was created. The substantial interest among foreign investors to enter this lucrative market was reflected in a surging stock price for Telebras during 1996. First sales of fixed-wire and cellular services not directly under Telebras during 1996 and 1997 were successful test cases for the large-scale privatization of the entire industry.

Prior to the sale, however, the government decided to break Telebras up into 12 separate companies—the so-called "Baby-Bras." The auctioning of these "Baby-Bras" in July 1998 was extremely successful, with strong investor interest evident despite the jitters in global financial markets following the East Asian crisis. Overall, the government generated about US\$24 billion in revenues from the sale of cellular and fixed-wire licenses and operations.

The picture was marred by the resignation of several key government officials involved in the process following allegations of favoritism. Taped phone conversations revealed an apparent preference for certain bidders in the auction. However, as these specific bidders did not end up as preferred bidders in the transactions in question, a challenge of the privatization results did not occur.

and objectivity in the process of project award will draw immediate criticism.

### **4.6 Political Interference**

Attempts to mix political objectives and influence with project finance transactions almost never fare well. There are a few infamous countries where investors know that they need to have influential "business partners" on their side if they want to stand a chance of winning a project award. However, most investors want to be judged on the basis of the technical criteria of their bids, rather than their political connections and knack for influence peddling. Hence, in such countries the number of competing bidders is reduced drastically, with those remaining being the ones who believe they have the inside track through the political leverage of their partners. In one Middle Eastern country, for example, a consortium felt assured of winning a civil engineering project with a son of the country's



ruler on their side. But when the prince suddenly died in a car crash, the consortium saw no other course than to withdraw its offer.

The difficulty with this approach is primarily that the negotiated deal is not to the benefit of the country as a whole (see Box 11), but to that of a few well-connected individuals. Experienced investors also know that the potential costs associated with such inappropriate business relations can be substantial. In Indonesia, for example, two European utilities had won management contracts in early 1998 for the operation of the Jakarta water system. After the ousting of President Suharto, however, the new government quickly rescinded these contracts and reinstated them only after both consortia managed to sever their links with Indonesian partners closely associated with Suharto. Similarly, in one African country the award of a cellular license was canceled after the public protested against the fact that the consortium included family members of the country's president as well as its telecommunications minister.

### **Box 11. Zimbabwe's Hwange: Politics and Business**

In 1996, the government of Zimbabwe decided to involve private investors in the Hwange coal-fired power plant, one of the largest electricity generators in the country. The intention was to have an investor take over the existing six generator blocks and to construct two more of 300 Megawatts each. With an investment volume of up to US\$1 billion, this would have been the largest tender in the country since independence in 1980. Under the leadership of the state utility ZESA, a tender process was initiated which resulted in the shortlisting of six well-known international companies.

Following a visit by Malaysian Prime Minister Mahatir during October 1996, President Mugabe suddenly declared the Malaysian company YTL as the preferred bidder for the Hwange project. This announcement effectively shortcircuited the formal tender process despite vigorous complaints by the international investor community. ZESA initially refused to accept this approach because YTL was not considered the most qualified bidder. In response, the ZESA Board was dissolved and replaced by new Board members, and negotiations started with YTL. A formal Letter of Award was issued in October 1998, but negotiations are still ongoing. Present proposals seem to indicate that the project would be quite expensive for Zimbabwe in that it would include substantial government guarantees, high construction costs, and significant tariff increases.

### **4.7 Unclear Market Entry Conditions**

One obstacle investors encounter frequently is a lack of clarity in the rules governing their entry and operation in a particular sector. This is the result of insufficient preparation by governments when trying to open infrastructure sectors. Many governments tend to treat BOT-type investments, concessions, or license agreements as a substitute for privatization and liberalization rather than as a complementary process. Frequently, governments tend to favor

the creation of new facilities and capacity, while trying to avoid the necessary restructuring, and possibly privatization, of the existing state-owned operator (see Box 12).

This type of confusion is particularly prevalent in the telecommunications industry, where cellular operations can compete in a newly created market segment. But they also have to rely on access to facilities owned by the state-owned fixed-wire operator such as international gateways. As the state operator tends to view these cellular operators as competitors, the access to these systems can be highly contentious. Every country that introduces private telephony operations needs to find a way to even out the playing field between the new market entrants and the old, typically still dominant, state-owned operator through fair interconnectivity agreements. Where this is not the case, investors will struggle. In Zambia, for example, two private cellular operators have entered the market. But the state-owned operator Zamtel also operates an analog network that has free access to all gateways, while the private operators are charged significant fees.

This problem is not limited to telecoms. In fact, state-owned service providers can seriously distort the market structure in any other sector if that sector is not privatized or at least firmly regulated. In one Central European country, for example, the government intended to offer a hydroelectric generation project for private investment because the public sector simply did not have the funds. During the tender, however, it emerged that one of the strongest bidders was a consortium including a state-owned generating company that had been commercialized but not privatized. The tender was consequently put on hold pending a resolution of the question of whether state-owned companies should be allowed to participate.

Finally, the question always arises of whether market entry arrangements and promises made by previous governments will be honored by their successors. As Poland's case of the GSM licenses shows, this can easily create problems for investors and governments alike (see Box 13).

### **Box 12. China's Telephones: The Power of State Monopolies**

Most foreign investors would agree that China is a difficult market. At the same time, its size often makes it irresistible. This certainly is true in the rapidly growing telecommunications market, which is dominated by two state-owned operators, China Telecom and Unicom.

In fact, foreign ownership of telecommunications operations is illegal, and not a single concession has yet been granted to private operators. All the major international operators and manufacturers are represented in China, but rely on equipment supplies as their main form of business. The Ministry of Post and Telecommunications seems keen to maintain the very lucrative and rapidly growing business for itself, pursuing self-sufficiency as its primary goal. This, in fact, has been achieved with a decreasing need for foreign equipment and capital.

But the market has continued to outpace the rapid economic growth rates, and foreign investors have pursued opportunities to enter the market, resulting in investments of roughly \$1.4 billion by 46 foreign companies. This optimism seemed justified. In late 1996, the government announced that it intended to liberalize the entry to its telecommunications sector in line with requirements for entry to the World Trade Organization. In mid-1997, Britain's Cable & Wireless arranged an exclusive cooperation deal with China Telecom in exchange for part of its shares in Hong Kong Telecom. During early fall of the same year, a series of frank newspaper articles in Beijing openly criticized the ministry for holding back the country's economic growth by maintaining its monopoly position over telecommunications.

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#### 4.8 Lack of an Adequate Legal Framework

A country's laws often pose the greatest challenge to the successful conclusion of private infrastructure projects. Most legal frameworks have been drafted with the understanding that the provision of infrastructure services is the business of the public sector. The core function of sectoral laws has therefore been to define the authority

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In late 1998, however, the government seemed ready to create further hurdles for foreign investors in the sector. The Minister of Post and Telecommunications announced that many foreign ventures in the sector were marred by irregularities, and promised to "clean them up one by one."\* This comment referred to joint venture arrangements between foreigners and the smaller state carrier Unicom through which investors received shares of the operational profit through a mix of leasing arrangements, consultancy fees and management contracts. No clear rules existed regarding the formation of such joint ventures, but they were sanctioned by senior government officials in the past. An interpretation of these arrangements as violations of the prohibition of equity investments by private investors in telecom operations could have resulted in most investments being declared invalid, further limiting the involvement of foreign investors in this market. To avoid major contract disputes, the government therefore apparently chose to retreat from challenging existing contracts, and instead took closer control over China Unicom through personnel changes and restructurings in order to enforce a "buy local" policy. Unicom in turn offered to buy out its foreign partners. Investors felt coerced into settling for a reduced compensation, as Unicom withheld revenues due in March 1999 under the profit-sharing agreements.

\*"China warns its telecoms partner," *Financial Times*, 30 September 1998.

and mandate of specific public-sector entities—with little, if any, attention to potential private sector participation. References to private involvement are often limited to the contracting out of support functions; the actual operation tends to be reserved for a state-owned monopoly, with concession-type arrangements not being addressed at all.

##### **Box 13. The Value of Old Promises: Poland's Cellular Licenses**

France Télécom and the U.S. company Ameritech were the first major international investors to enter Poland's telecommunications market in 1991. Centertel, a joint venture company with the state utility Telekomunicja Polska SA (TPSA), where the two investors jointly hold 49 percent, was licensed to run an analog cellular system. Operations began in 1993, and by end-1996 the company had 120,000 subscribers, making it a lucrative operation. However, a future introduction of the technically superior Global Systems Mobile (GSM) technology would have posed a serious challenge to the profitability of the analog

system. Centertel therefore obtained a letter of intent from the Ministry of Telecommunications promising the award of a license in case GSM technology were to be introduced in the future.

In February 1996 the government held a tender for two GSM licenses, which were awarded to two consortia headed by large foreign telecom service providers. Although during the preparation of the tender Ameritech and France Télécom reminded the government of the 1991 letter of intent, the government contended that the letter had been issued by the previous administration and was therefore not binding on the current government. In addition, Centertel's majority shareholder TPSA decided to withdraw the company's GSM bid from the tender without consulting its foreign partners. In response, both companies separately initiated arbitration procedures at the International Court in The Hague, demanding compensation for the lost GSM business.

Legal restrictions sometimes go so far as the constitution itself, which might expressly forbid the privatization of specific enterprises as well as the participation of private companies in the provision of services. Turkey's experience is one of the most telling examples of the legal complications such constitutional limitations can create (see Box 14), but it certainly is not the only case. Costa Rica's constitution, for example, includes an article that prohibits the private ownership of any infrastructure asset. This excludes vir-

### **Box 14. The Costs of a Shaky Legal Framework: Turkey**

During the early 1980s, the Turkish Government recognized that private capital would be essential to meet rapidly growing investment needs in all its infrastructure sectors. In electricity especially, investment requirements were pressing, with an estimated tripling of generating capacity needed by 2010 to avoid brownouts. In 1984, the government passed legislation to allow for BOT-type investments in infrastructure, making Turkey the originator of this investment concept. In practice, however, the country has been particularly unsuccessful in making BOTs work. At present, only four major power generation projects have been implemented.

The primary reason for this disappointing result is the high degree of legal uncertainty for BOT-type projects in the country. According to Turkey's constitution, all concession arrangements for public services fall under the responsibility of the country's Supreme Administrative Council (the Danistay), which retains the right to review any such contracts, approve them, supervise them for the length of the concession, and modify and cancel them without any possibility of resort to international arbitration. When the Ministry of Energy and Natural Resources (MENR) tried to award a number of generation projects based on the 1984 legislation, protracted negotiations and legal challenges derailed most projects. Political opposition, combined with the lack of a singular entity designated to implement projects, resulted in civil servants not being willing to authorize projects, fearing to be held personally liable for their decisions.

In 1991, the Danistay formally declared its responsibility for all such projects, defining them as concessions not subject to commercial law. In

practice this meant a protracted project review process, during which the Danistay tended to renegotiate agreements between the sponsor, ministries, and public utilities in favor of the government, resulting in most projects becoming non-bankable. In addition, the Danistay defined its authority as excluding any form of international arbitration, despite the existence of numerous bilateral investment treaties explicitly providing for arbitration in international forums. In 1996, the Turk-

*(Box continues on the following page.)*

### **Box 14 (continued)**

ish Supreme Court upheld this ruling, resulting in a stalling of all BOT projects. Attempts by the MENR to evade the concession issue by introducing legislation for a BOO-type alternative, with less government support and a stronger commercial basis for projects, met a series of legal challenges, and a final decision is still pending. This legal uncertainty led to more than 160 potential projects being stalled. The few projects that made it through the implementation process were considerably delayed and turned out expensive for the government.

The 672-Megawatt Birecik hydropower plant was the first project in the country to be implemented as a BOT investment. The consortium, led by Germany's Holzmann Anlagen, reached financial closure of the US\$1.3 billion project in November 1995, and construction started in April 1996. However, initial discussions had already started in 1985, and a formal memorandum of understanding was signed in 1989. To allow this project to go ahead, the Ministry of Finance had to provide substantial guarantees, despite the fact that 75 percent of the lending came from export credit agencies and that the state electric utility TEAS holds one-third of the company's equity. Besides full guarantees on the power purchase agreement, resettlement costs, and debt service on subordinate as well as senior debt, the government provided a buyout option to the sponsors, guaranteeing double the equity in case of force majeure or payment default, and reimbursement of the equity in case of company default. Hence, the investors have effectively shed all commercial risks in the project at the expense of the Turkish government.

tually any form of privatization or BOT-type investment in these sectors. Hesitant to take on the political challenges of constitutional reform, the government is now trying to find alternative solutions such as BLTs or BTOs to attract private capital without violating the constitutional ownership restrictions.

In all too many cases, investors simply walk away. Recognizing the tremendous amount of time and effort required to get legisia-

tion changed and adopted during the preparation of a particular project, developers often do not find it profitable to get involved. Even if ways are found to involve private investment, the increased legal uncertainty is invariably reflected in higher project costs.

Some governments are tempted to overcome shortcomings in the legal framework by developing pilot programs where the drafting of new legislation runs paralled to the implementation of individual projects. At first sight this appears like a very reasonable approach: the new legislation can incorporate the experiences made at the project

level. In practice, however, this process frequently gets stuck, with neither projects nor legislation coming through. China's experience certainly is a point in case here (see Box 15).

### 4.9 Difficulties During Operation

For many investors, troubles are far from over after a project has been awarded and implemented. In fact, a number of projects have run into difficulties during the operation phase, primarily because the initially agreed-upon terms did not hold up. For that reason, investors, and commercial lenders in particular, carefully evaluate the strengths or weaknesses of a country's regulatory framework before becoming involved.

The key contractual agreements underlying any BOT-type investment or privatization transaction determine the project company's costs and revenues, including adjustments over time and in case of extraordinary events such as price increases in core inputs. The actual review and determination of such adjustments should lie with regulatory authorities, whose only objective should be to supervise the operations in one or more industries based on technical merits. But in many instances, governments tend to be very hesitant to grant these newly established regulators sufficient autonomy to become a truly technical authority. Instead, political objectives are frequently introduced, resulting in the imposition of criteria and conditions that do not accommodate investor concerns. In the case of Hungary's electricity industry, for example, a rushed

#### **Box 15. BOTs in China: A Slow Road to Progress**

Driven by high growth rates, China's infrastructure needs are staggering. Besides intensified efforts by the public sector to expand capacity, the government has a keen interest in attracting foreign investors. But developing BOTs has been a slow evolutionary process. The original concept of BOTs was driven by the intention to substitute private sector investment capital for public funds to undertake infrastructure projects. The idea was that private investors would be responsible for all risks associated with the project, would have a limited rate of return on their investment (unofficially not more than 15 percent), and would return the assets to the government after their investment costs had been recouped.

Despite strong general interest by investors, the restrictions imposed made it almost impossible to actually complete projects. The lack of a legal and administrative framework for BOTs was of particular concern to commercial lenders. Project sponsors therefore tended to pursue direct negotiations with Chinese partners to develop joint-venture development agreements. But after preliminary agreements with a partner had been reached, the need to collect numerous approvals and clearances from authorities at the central and provincial government typically stalled the process. In addition, both the partner and the responsible provincial government were mostly not creditworthy, while the central government was unwilling to extend any guarantees. This generally resulted in project development taking four years or more, with many projects never reaching implementation.

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privatization process resulted in the government not being able to maintain its commitment to tariff increases. The investors who stayed away from the tenders because of the perceived regulatory risk felt vindicated, while those who won the tenders experienced significant losses during the initial years of operation (see Box 16).

A strong regulatory framework is important not only to private investors. Regulatory authorities need to balance the needs of con-

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To facilitate the BOT process, the government under the leadership of the State Planning Commission (SPC) decided to develop a BOT decree as well as an institutional support entity. In conjunction, a pilot program would be initiated for four projects which would be implemented under special, fast-track procedures, relying on competitive bidding for user charges and independent of rate-of-return considerations. Based on this experience, the BOT decree should be finalized.

Under this pilot program, the 700-Megawatt Laibin B coal-fired power plant was the first project to be completed. Following the tender in May 1996, Electricite de France together with GEC Alsthom was declared the winning consortium. Financial closure was reached in August 1997. The project received comfort and support letters from the SPC as well as other government agencies, but was arranged without any government counterguarantees to secure the offtake agreement. This was mainly possible because of strong bilateral support to this project by export credit agencies.

Investors remain concerned that this initial success might not result in a general streamlining of the process. The lack of government support arrangements still leaves many lenders unwilling to commit substantial funds, especially in light of the recent crisis in Asia, while the government seems hesitant to introduce bolder liberalization reforms. Furthermore, although a reasonably effective implementation process now seems to be in place, the BOT decree still has not been passed, and legal uncertainty remains a key issue.

sumers and investors, and sudden changes in the business environment can also have serious repercussions for governments. The United Kingdom, as the industrial country with the broadest experience in sector liberalization and regulation, certainly has learned how hard it is to get the regulatory setup right from the start. Following the privatization of the country's water utilities in 1989, the government soon found itself embroiled in public criticism of

### **Box 16. The Question of Government Reliability: Hungary's Electricity Privatization**

In the fall of 1994, the newly elected socialist government in Hungary announced radical plans for the liberalization of the country's electricity sector. Urgent needs for rehabilitation investments, combined with severe budgetary pressures, translated into the need to introduce foreign investment by privatizing the country's generation and distribution assets. During 1995, however, disputes within the government and pressure by various interest groups resulted in continuous delays of the privatization program. Nonetheless, the need to generate privatization revenues to

bolster the general budget forced the government to move ahead with the privatization.

In October 1995, the government announced tenders for 14 electricity generation and distribution companies, with a bidding deadline in mid-December. However, this short timeframe did not allow the government to address key regulatory issues, in particular the development of a long-term pricing formula. At the same time, potential bidders, who had only 45 days to assess the individual companies for sale, complained of having received unclear and incomplete tender documentation. The government therefore was forced to make last-minute changes in the tender procedures and requirements just days before the deadline. In order to compensate for the lack of a long-term pricing formula, the government guaranteed investors price adjustments in line

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the significant profit margins sustained by these private utilities. The newly elected Labor government announced that it would charge the industry a windfall profit tax to recoup some of the money lost through the apparently inappropriately priced privatization sales.

Independent of public pressures, a regulator must also be able to enforce performance standards when new private operators fail to perform according to their obligations. The U.K. rail industry

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with an 8 percent return on their investment to be implemented in January 1996. But despite these assurances, a number of investors withdrew from the bidding process or chose to make substantially lower offers. As a result, only eight of the 14 companies received bids the government found acceptable, and the sale for the other companies was suspended.

The pricing uncertainty needed to be resolved after the privatization sale through detailed studies by the regulatory authority. In August 1996, however, the Cabinet rejected a 39 percent price increase as proposed by the electricity regulator, yielding to protests by consumers and inflation concerns. Instead of relying on the regulator, the government established a separate commission to reinvestigate the tariff question. The review resulted in a tariff increase of only 22 percent, which investors claimed fell far short of the promised 8 percent return. During the next election campaign in 1998, the new government threatened a possible renegotiation of all electricity tariffs, and when in power announced possible further limitations to tariff increases. By December 1998, the dispute had finally been settled following a series of tariff adjustments that eventually brought the electricity price to a level acceptable to the market. However, during the years immediately following privatization, investors had to absorb substantial initial losses.

provides an excellent example in which the regulator has come under increasing pressure in recent years to impose penalties to ensure a better service delivery by the private sector (see Box 17).



#### 4.10 Social Concerns After the Fact

The social impact of the private operation of infrastructure projects certainly must be a primary concern for any government. Building

##### **Box 17. Full-Scale Privatization: British Rail**

For the longest time, British Rail (BR) was a state-owned company famous for inefficient and unreliable services, requiring substantial annual subsidies from the general budget. The government therefore passed a new Railways Act to reorganize the operation and to prepare the company for privatization. By mid-1997, the old monopoly had been broken up into about 75 separate companies and sold to the private sector. At the center of the new market structure is Railtrack, which is responsible for the maintenance and operation of all tracks, signaling systems, communications, and physical structures such as stations and bridges, and which was privatized through an initial public offering (IPO) in May 1996 for US\$3.2 billion. The bulk freight services were sold primarily to English, Welsh & Scottish Railway, a subsidiary of Wisconsin Central Transportation, which obtained four of the five concessions for US\$360 million. Passenger transport services were sold in 25 separate 7–15-year franchises, primarily to British bus companies. These franchises were bid out based on minimum subsidy required, with subsidies to be phased out over the franchise period. Overall, initial subsidy payments by the government increased from an estimated £700 million to £2 billion, but with the expectation that service efficiency would improve drastically through substantial additional investments.

Bulk freight transport has expanded rapidly in recent years, with significant improvements in efficiency. The performance of Railtrack and many of the passenger franchises, however, was criticized by the government's rail regulator. Railtrack faced potential penalties for not fulfilling its investment commitments. Some passenger franchises failed to meet minimum reliability and punctuality requirements, primarily because of a lack of experience by the new owners in rail operations. The government therefore announced that it would impose fines and is contemplating license changes, even including the rescinding of franchises.

a sound and sustainable infrastructure investment requires that the objectives and concerns of all major interest groups be incorporated early on. All too often, this is forgotten or overlooked by governments and investors, who focus on the technical and finan-

cial details of closing the deal. However, such social issues can pose a serious threat to infrastructure projects. Examples abound—be it striking port employees in India and Brazil, protests in the Philippines and Chile over the resettlement of people occupying project land, environmental objections by nongovernmental organizations in Hungary and Indonesia, or user strikes against increased tariffs and fees in Malaysia and Thailand.

Although some of these criticisms might be motivated by political interests, most of them reflect serious concerns. If not accommodated within the project structure or through other measures designed to soften the impact of

negative externalities, projects are likely to run into trouble. Protests and legal challenges spell delays and additional costs for investors, and can possibly lead to the cancellation of projects after lengthy preparation efforts. For governments, public criticism over social issues can quickly derail not only individual projects but also overall reform programs, while investors tend to shy away from future investment projects in the country.

But besides political costs, governments can easily face substantial future liabilities if social concerns are addressed too late in the process. Once a government has contractually committed itself to a specific tariff and revenue stream for a project, it is legally bound to uphold these agreements and faces legal claims in case of contract violation. Hence, if a government decides after the fact that user fees ought to be lower, its only option (besides contract renegotiation) is to take financial responsibility for this subsidy and to compensate the investors for the resulting loss in revenue (see Box 18).

### 4.11 Political Commitment of Successor Governments

Numerous examples exist where political change has resulted in challenges to contractual agreements reached with political predecessors (see Box 19).

Because infrastructure projects are long-term investments, bound to endure through several different political leaderships, a potential lack of political commitment is one of the greatest concerns for

#### **Box 18. Who Pays the Toll? Portugal's Vasco da Gama Bridge**

To relieve daily congestion in Lisbon, the Portuguese government decided to have private investors build a second bridge across the Tagus estuary on a BOT basis. In April 1994, the construction and operation of an 18-kilometer Vasco da Gama bridge was awarded for US\$1.1 billion to a consortium led by the United Kingdom's Trafalgar House and France's Campeon Bernard. The contract specified that the consortium would operate this bridge for 33 years together with the "April 25" Bridge 20 kilometers downstream. The revenue from the operation of the "April 25" Bridge would facilitate financing of the new construction, while tolling would have to be equalized between the bridges to US\$2 per crossing to ensure an efficient congestion relief.

In June 1994, however, a violent commuter revolt erupted upon the announcement by the government that tolls would rise from 60 US cents to 90 US cents as a first adjustment. The government therefore decided to revise the contract to avoid toll increases, while compensating the private consortium for the revenue shortfall. In practice this reduced the BOT project to a standard public sector investment, where taxpayers rather than users pay the bill.

any investor. In fact, it is not unusual for opposition parties to include in their election campaign platforms harsh criticism of high-profile projects. This is exactly what happened in the case of Pakistan's private power generation program, which by now is one of the most infamous cases of political turnarounds, sending shock waves of distrust through the international investor community (see Box 20).

The underlying investor concern here is that governments might not recognize the sanctity of contract, believing that they can renege at will on contractual agreements reached with previous administrations. In fact, political sovereignty does not imply the right to breach of contract, and compensation will typically result following international arbitration. But this is a lengthy and costly

### **Box 19. The Risk of Politics: Venezuela's CANTV**

In 1991, the Venezuelan government privatized 51 percent of its state-owned telecommunications carrier CANTV for US\$1.9 billion. The sale, to a consortium led by GTE and AT & T, represented the largest single foreign investment in the country's history. The consortium received a 35-year concession with a 9-year exclusivity period on fixed-wire operations. In return, the company was required to provide 3 million new lines by the year 2000, improve the service, install 53,000 new payphones, and pay 5.5 percent of revenues as an annual concession fee. The company was also allowed to raise tariffs with inflation, while periodic tariff changes would be determined based on price cap regulations.

The next election, however, brought to power a new government that was highly critical of the previous government's privatization policies, and life for CANTV soon became difficult. Despite the fact that efficiency had increased significantly and that consumer satisfaction had risen from 30 percent under state ownership to about 80 percent in just four years, the government refused or delayed automatic adjustments of tariffs to inflation. In 1994, the government imposed exchange controls, preventing the company from buying hard currency to service its debt and thereby requiring a debt restructuring with about 40 foreign creditors. This led the company to reduce its capital expenditure program by 40 percent, after \$2.4 billion had been invested in the first four years following privatization. In 1998, the government threatened to license new competitors prior to the end of the nine-year exclusivity period, and it appeared that a dispute settlement by the Supreme Court might become necessary. In March 1999, the government furthermore imposed a three-month freeze on basic residential tariffs, despite existing contractual arrangements stipulating that tariffs are allowed to rise with inflation.

process, and it is not what serious investors have in mind when trying to get a project off the ground.

Experience shows that the risk of contract violations by successor governments is quite real. In Argentina, for example, the Menem government privatized the operation and maintenance of 33 air-

### **Box 20. Pakistan's IPPs: How Reliable Are Sovereign Guarantees?**

In March 1994, The Government of Pakistan announced a new policy regarding private infrastructure investment in order to boost the country's electricity generation capacity. Prior to this policy, attempts to introduce IPPs failed primarily because of a rigid cap on the rate of return imposed on every potential project. According to the new policy, sponsors were invited to propose individual projects with their own choice of technology, location, and fuel type for a set tariff of 6.5 US cents per kWh. In addition, the government established a Private Power Board to facilitate the implementation of IPPs. The government provided guarantee packages for political, force majeure, change-in-law and currency convertibility risk as well as for fuel supply and take-off agreements. Foreign content requirements were eliminated, and a series

of tax incentives was granted. In response, the government received proposals for 7,000 MW of generating capacity, and 21 projects have since been approved and were under construction or operational by end-1998. Under this policy, the 1,292 MW Hub River project was the first project to be implemented. It was also the largest IPP in the country with project cost of US\$1.545 billion, and stood out through substantial involvement of the World Bank Group with a \$225 million loan as well as a \$240 million guarantee facility.

A new government, elected in February 1997, immediately started a  
*(text box continued on next page)*

ports through a 30-year concession agreement to a private consortium in January 1998. However, this contract is based on a special decree issued by the President after Congress failed to pass the intended law, while several previous decrees had been subjected to legal challenges. The winning bidder now faces the risk that a new administration might challenge the concession, as presidents can by law veto and revoke decrees issued by their predecessors. Investors clearly need to take this risk into account when structuring their transaction, resulting in higher risk premiums and financing charges.

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review of these IPP contracts. The government came under severe balance-of-payment pressures, while the state-run Water and Power Development Authority (WAPDA) ran rapidly growing losses, making it increasingly difficult to meet the take-or-pay arrangements with the IPPs coming on line. WAPDA could not complete transmission lines to get some projects connected, and failed to make the contractual penalty payments. All projects not yet fully approved were immediately placed under review, and the government claimed fraudulent practices and corruption were involved in the negotiations. The previous Managing Director of WAPDA was temporarily jailed, charges were filed against several executives, a special review committee was put in place, and the military took control of WAPDA. The Prime Minister demanded a 30 percent cut in tariffs by all IPPs, refusing to pass on these costs to consumers through tariff increases. In October 1998, a termination notice was sent to HUBCO, the Hub power project company, and the government claimed that the company had received excess payments worth US\$370 million. HUBCO in response claimed breach of contract by the government and initiated international arbitration proceedings at the International Chamber of Commerce in London. At present, the government and HUBCO have a standstill agreement in an attempt to sort out their difficulties.

This issue of political reliability is a particular concern for projects at the sub-sovereign level. Municipal, provincial and state authorities have their own election cycles, with the potential for change in political leadership. As barely any infrastructure projects can be designed independently of central government politics, these projects therefore carry a multiple political risk compared to an investment project with a sovereign entity. This can make the implementation of a project especially challenging.

The European Bank for Reconstruction and Development (EBRD) has advised the municipality of Maribor in Slovenia to

develop the construction of a new wastewater treatment plant on a BOT basis. The process has taken several years, especially delayed because of a municipal election that brought in an entirely new team on the public sector side. This required major efforts in educating the new authorities on the project specifics, resulting in the advisory team having to start practically from scratch. The experience in the Argentine province of Tucuman shows that these problems remain even when a project is operational (see Box 21).

### **Box 21. Trouble with Sub–Sovereign Authorities: Tucuman Water**

In December 1994, the French water company Vivendi (formerly Cie. Generate des Eaux) won a 30–year concession worth US\$80 million to operate the water distribution system in Tucuman in northwestern Argentina. During the tender process, the four other contenders dropped out, partly because of concerns over the stability of the future operating environment. In the following year, the opposition party, which had been opposed to the concession, won the governorship of the province. When the company announced a 100–percent tariff increase to finance a US\$380 million investment program, the new government criticized the company for not meeting its contractual commitments, claimed serious water quality problems, and demanded renegotiation of the contract. In 1996, an agreement was finally reached which included a 20–percent reduction of tariffs. But the provincial legislature rejected the revised contract and passed a law in 1997 which effectively resulted in significant changes to the original concession agreement. In August 1997, Vivendi then made use of its contractual right to abandon the concession by rescinding the contract with the province. But the governor decreed that the company must continue to provide service for another 18 months. In the meantime, over 80 percent of customers had stopped paying their bills, translating into monthly losses of about US\$2.8 million. An arbitration procedure has been initiated.

## 5—

### **Handling the Risks**

The potential stumbling blocks outlined in Chapter 4 pose serious risks for project developers, equity investors, and lenders, and in most cases result in higher costs for governments and the public. The ultimate danger is, of course, that any of these issues becomes reality and derails a specific project. As a result, investors spend a substantial amount of their time and resources carefully developing a comprehensive risk matrix with a thorough evaluation of the probability that certain events will occur. This analysis will determine whether a project is feasible and, if so, what the appropriate risk premium would be. While the actual process is not a coordinated effort among all interested parties, the reaction of equity investors and lenders is based on their risk assessments, and their eventual bids to provide funding to a project constitute the market test regarding the perceived riskiness of a project.

During the preparation and negotiation of a project, the terms "risk allocation" and "risk mitigation" seem ever present. The key issues in this process are how specific risks can be minimized and who is in the best position to

take certain risks. Because of the complicated nature of BOT-type investments, in terms of both project size and contractual structure, this is not at all easy.

The sheer number of types of risk that need to be addressed is striking. Box 22 attempts to list the most common risk factors that emerge during the preparation, construction, and operation phases of private infrastructure projects. Certainly not all of them apply invariably with the same weight for all projects, but most need to be taken into account to ensure a sound structuring of the investment.

The actual mitigation of these risks requires that one or more of the parties involved take responsibility for these events. Typically this should be the party best suited—because of its role in the project—to prevent these specific circumstances. For example, to avoid construction delays, inadequate performance, or cost overruns, the turnkey contract between the project company and the contractor typically addresses these issues in detail, with stiff penalty clauses attached. Similarly, the project agreement specifies performance criteria the project company needs to meet in order to avoid compensatory payments to the government in case operating performance does not meet the predetermined target.

Unfortunately, not all these types of risk can be handled in such a relatively straightforward manner. Many risks are not of a commercial nature, but are instead dependent on policy choices by the host government. Political risks—such as changes in the laws and regulations governing the project, default or breach-of-contract by government entities or the future price setting of user charges—typically cannot be absorbed by any of the private consortium members. Hence, investors will demand support arrangements by the host government to provide assurances against these particular risks.

### **5.1 The Role of Government Support Arrangements**

Government support for private infrastructure projects tends to be a hotly debated topic. The immediate reaction of most governments on this subject is negative: they expect private projects to be financed entirely from private sources on a purely commercial ba-

sis. In fact, one of the central reasons for a government's interest in involving the private sector is a lack of financial resources in the first place. But investors invariably raise this issue during the project preparation and negotiation phase, and in many cases the question becomes the ultimate dealmaker or -breaker.

Governments are right to approach this issue with care. Because any form of support arrangement represents a liability, overinsuring any project can be a costly mistake. The investors on the other side of the negotiating table clearly are not altruists and will try to obtain as much support as possible. After all, anything that increases the reliability of the future revenue stream improves a project's bottom line. The difficulty for the government is that some support mechanisms might be unavoidable in order for a private infrastructure project to be commercially viable and to attract private debt and equity.

The main reason for investor insistence on support arrangements is the fact that most infrastructure projects cannot be placed in an entirely commercial environment. As the table in Box 22 indicates, there exists a whole series of risks that are partly or entirely determined by political factors. This implies that key components of the contractual arrangement that will determine the success (or failure) of a particular project during construction and operation are beyond the control of the investors, depending on political decisions instead.

Imagine, for example, a power generation or bulk water supply project in which private investors agree to construct the facilities and to provide the service for a specified period of time. In most countries, the investors will face a monopsony situation, where a state-owned utility is responsible for the distribution of electricity or

water to final consumers. The investors will therefore negotiate a long-term offtake agreement through which the utility commits itself to purchasing a pre-determined quantity at a given price. A central question for any investor will be whether the state utility is in a long-term position to meet these contractual obligations. In all too many cases, tariffs are artificially low and government min-

**Box 22. Country and Project Risks**

Private infrastructure projects tend to be littered with specific risks. Any sound project preparation requires a careful evaluation of all risk components and a mitigation of these risks to the maximum extent possible. Given the public-sector nature of infrastructure projects, the government plays a key role in many aspects of the project, and is also the entity best suited to take on many of the political risks involved. The following table lists the most common and frequent project risks in private infrastructure projects, identifies their sources, and highlights the mitigation measures that are typically used. Many of these political risks can be alleviated by developing a strong and reliable legal, institutional, and regulatory framework. Other risks result primarily from an insufficient liberalization of the particular infrastructure sector. Public sector monopolies become key contractual partners for the project, while their creditworthiness and future ability to fulfill contractual obligations will depend on government policies. Under those circumstances, only government guarantees can fill this gap. But guarantees do not come cheaply, representing potentially sizable contingent liabilities for the government.

Type of Risk	Source of Risk			Primary Risk Mitigation Technique
	Comm- ercial	Pol- itical		
<b>1. PROJECT PREPARATION</b>				
— lack of decision-making authority		X		strong institutional implementation framework
— conflicting authorities		X		strong institutional implementation framework
— change in authorities/elections		X		strong institutional implementation framework
— failure to obtain all permits, approvals and licences	X	X		strong institutional implementation framework
— delays in approvals		X		strong institutional implementation framework
— public sector monopolies		X		sector liberalization
— inappropriate legal structure for project finance		X		legal reform
— resistance/protests by interest groups (unions, NGOs, etc.)	X	X		cooperation and integration of all involved
— bidding risks	X			interests should be maximized, not mitigated
—		X		

## Attracting Foreign Direct Investment Into Infrastructure

	legal challenges to project award			transparent award procedures
—	financial closure delays	X	X	closure deadlines need to be realistic

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		<i>Source of Risk</i>		
<i>Type of Risk</i>		<i>Com– mercial</i>	<i>Pol– itical</i>	<i>Primary Risk Mitigation Technique</i>
<b>II. PROJECT CONSTRUCTION</b>				
—	cost overruns	X		turnkey contract
—	completion delays	X		turnkey contract
—	failure to meet performance specifications	X		turnkey contract
—	changes to renew all approvals		X	negotiation/arbitration
—	failure to renew all approvals, permits and licenses	X	X	strong institutional implementation framework
—	failure to complete supporting public infrastructure		X	strong coordination with ministries/penalty clauses (feeder roads, transmission lines, etc.)
—	unforeseen delays (archaeological, environmental, etc.)	X	X	project agreement
—	force majeure	X	X	project agreement
—	default by contractors or equity holders	X		shareholder's agreement/step-in rights
—	liability risks	X		private insurance
—	strikes, demonstrations	X	X	private/multilateral insurance
—	war, sabotage	X	X	private/multilateral insurance
—	expropriation, nationalization		X	compensation; private/multilateral insurance
—	change-of-law		X	government guarantees
—	exchange rate, interest rate and inflation movements	X	X	user charge indexation, hedging, contract extension



## Attracting Foreign Direct Investment Into Infrastructure

—	foreign exchange availability and convertibility		X	government guarantees
<b>III. PROJECT OPERATION</b>				
—	cost overruns	X		project agreement
—	failure to meet performance standards	X		project agreement
—	demand risk	X		offtake contract in absence of competitive market
—	supply risk	X		supply contract in absence of competitive market
—	payment risk	X	X	private enforcement capability by law
—	breach of contract by public sector partner		X	government guarantees; international arbitration
—	government guarantee withdrawal		X	international arbitration
—	cost escalation/price adjustment mechanism		X	independent regulation
—	changes to contract		X	independent regulation, international arbitration
—	creeping expropriation		X	independent regulation, international arbitration
—	liability risks	X		private insurance
—	strikes, demonstrations	X		private/multilateral insurance
—	war, sabotage	X	X	private/multilateral insurance
—	expropriation, nationalization		X	compensation, private/multilateral insurance
—	change-of-law		X	government guarantees
—	exchange rate, interest rate and inflation movements	X	X	user charge indexation, hedging, contract extension
—	foreign exchange availability and convertibility		X	government guarantees
—	force majeure	X	X	project agreement

istries are the ultimate authority over the setting of tariffs because the price of basic infrastructure services is considered a socially sensitive issue. This, however, implies that the utility's revenue stream, and therefore its creditworthiness, depends on political decisions. Investors will therefore demand a counterguarantee from the government through which it commits itself to stepping in and making the contractually agreed-upon payments in

case the utility might not find itself able to do so.

Similarly, investors will depend on a number of political and administrative functions that can affect the future operating environment of a project. For example, any facility built under existing environmental and social regulations might require significant upgrading investments in case of future changes to these laws. Hence, investors will want to make sure that they are either exempt from such changes or are being compensated either directly through the government or by being able to pass these costs on to the service user through increased prices. Investors also want to make sure that they can convert and transfer any local currency earnings into currencies of their choice in order to make debt service and dividend payments. In all such cases, the political body is the crucial determinant, based on a decisionmaking process that is not driven primarily by concerns regarding the commercial viability of projects.

In all these areas, the government is in the best position to take on the associated risks, just as the various members of the investing consortium are best suited to take on the commercial risks associated with their respective responsibilities. Government support arrangements can take a variety of forms, depending on the particular needs of a project and the concrete risks to be addressed (see Box 23).

The actual cash–flow impact on a government differs among these various types of government support. Support can range from direct cash contributions to no direct monetary outlays, as in the form of concession term extensions or exemptions from changes in laws and regulations. But in between these two extremes lies a

spectrum of instruments that translates into contingent liabilities, i.e., where an actual monetary liability depends on the occurrence of particular, pre–specified events.

For BOT–type investments, government counterguarantees are frequently used to insure investors and lenders against default by public sector parties. Guarantees on change–of–law and foreign exchange convertibility and transferability are equally common. But other forms of government support are also applied, depending on the particular circumstances of a project. The Chilean government, for example, tended to provide minimum traffic guarantees for all of its tollroad projects. Based on fully developed designs by the government itself, the tender documents for these roads did not give investors any freedom to make adjustments or modifications to lower construction costs in line with traffic projections or to enhance expected traffic flow. Hence, investors felt uncomfortable with taking the entire market risk in these projects. The government therefore agreed to an arrangement where it would compensate the project company if traffic fell below a minimum target, typically linked to making sure that the revenue stream would at least be sufficient to meet the annual debt service. In exchange, the project company would agree to a profit–sharing formula in case traffic was higher than expected, i.e., above a pre–defined threshold.

Governments might also find it necessary to contribute directly to a project to make it attractive for private investors. In a number of cases, governments have agreed to build connecting infrastructure facilities such as transmission lines for power plants, feeder roads for tollroads, or road and rail links for port or airport facilities. As with a turnkey contractor, governments are then generally also liable for any delays in start–up resulting from failure to complete these facilities on time. In some cases, governments have even had to contribute directly to a project, particularly in cases where feasibility studies indicated that the project would not be viable on a purely private basis. Governments have typically contributed by taking on financial responsibility for particular elements of the over–

### **Box 23. Types of Government Support Arrangements**

There exists a wide array of mechanisms through which a government can give support to individual projects. The degree of government involvement will depend on the need for risk mitigation as well as the government's interest in enhancing a project's commercial viability. Support can represent direct financial costs or be in the form of contingent liabilities, coming through only in case specifically defined circumstances arise. The most common types of support arrangements are as follows:

— *Grants, subordinated loans or equity participations.* In such cases the government has a substantial up-front exposure by providing a direct cash injection to the project. These mechanisms tend to be applied for public-private partnerships (PPPs), where the government supports an otherwise commercially non-viable project.

— *Debt or equity guarantees.* Governments can also provide direct guarantees for the annual debt service or a minimum return on equity. The guarantees can be general or limited to specific risk categories. Generally, the government would be responsible to maintain the project's debt service or exercise a buyout option at a pre-determined return. This option tends to be a high-risk contingent liability and is rarely used.

— *Exchange rate guarantees.* They can range from full guarantees against movements in the exchange rate to guarantees on convertibility and transferability of domestic currency earnings. While the latter are common, full volatility guarantees present potentially substantial contingent liabilities.

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all construction, such as the boring of tunnels or construction of runways, to reduce private costs. In such cases, the government often receives a non-voting equity share in the company to benefit from potential financial gains in the future.

But in all these cases, these projects impose costs on governments, even if significantly less than if they had been undertaken by the public sector alone. As Box 24 elaborates, governments

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— *Cash-flow guarantees.* Guarantees for government support in case minimum revenue or consumption targets are not being reached. Frequently used in tollroad projects in the form of minimum traffic guarantees.

— *Government counter-guarantees.* Generally the most talked-about form of guarantee, here the host government promises to assume liabilities in case a public sector contractual party fails to meet its financial obligations toward the project company.

— *Revenue enhancements.* Enhancements can take the form of direct government expenditures, such as the construction of complementary and

adjacent facilities (transmission lines, feeder roads, etc.), or give investors the right to develop ancillary facilities and other services (i.e., land development rights). They can also be in the form of guarantees, such as limitations on the construction of new, or usage of existing competing facilities.

— *Concession term extensions.* Many governments allow for the possibility of extending the concession term in order to lengthen the investment recovery period in case unforeseen events affect a project's revenue stream.

— *Change-of-law guarantees.* General guarantees can be issued by the host government against any changes in legislation, regulation and administrative practices that might result in changes to the operating environment. These guarantees either exempt the project company from such future changes, or the government commits to compensatory payments.

tend to have a preference for contingent over direct liabilities. But this is a tricky strategy.

As contingent liabilities do not automatically show up in the official budget, they can be used to hide future expenditures. This is a shortsighted strategy, however, and can turn out to be a costly choice. In fact, conditions that trigger contingent liabilities often come jointly with overall macroeconomic pressures—as was the

### **Box 24. Managing Contingent Liabilities**

It is important to recognize that government guarantees do not come free. In fact, they represent a contingent liability, with the government legally committing itself to providing financial support in case particular events occur. Depending on the extent of the guarantee, such contingent liabilities can impose a significant budgetary burden in case these guarantees are called. Still, many governments (in industrial as well as in developing countries) frequently seem to prefer the use of contingent liabilities to alternative measures. Compared to direct commitments of funds in support of public sector investment projects, contingent liabilities typically are off-budget programs that are not included in the official budgetary statistics. Hence they give the short-term illusion of no liabilities by effectively hiding potential future liabilities. The granting of guarantees also tends to be politically easier compared to undertaking a full-fledged sectoral liberalization and privatization of the existing state-owned enterprises. Although this would eliminate the need for any government guarantees, as the creditworthiness risk of suppliers and off-takers now is entirely of a commercial nature, this process requires time-consuming and politically sensitive reform efforts.

The main difficulty with government guarantees is not their use *per se*, but rather the way in which they frequently are applied. Motivated by short-term fiscal adjustment measures, governments frequently do not account for the potential future costs associated with such guarantees. Because of their hidden nature, these costs also tend not to enter into the policy debate on privatization, sectoral reform, and private sector

involvement in a country's infrastructure sectors. Hence, while short-term liabilities are minimized through this approach, the long-term impact can be highly destabilizing by generating unaccounted-for fiscal pressures. In order for governments to be able to make logical and sustainable decisions, they need to (1) account appropriately for the cost of contingent liabilities and (2) develop the skills and expertise necessary to properly assess and control the risks inherent in government guarantees.

case for several East Asian economies during the recent crisis—resulting in even further pressure. In addition, the accumulation of such hidden liabilities will increase a country's risk profile, resulting in higher lending costs for future projects as well as other commercial lending operations.

Rather than hiding such contingent liabilities, governments would be well advised to carefully account for them. Few countries—industrial or developing—are particularly successful in this area. The New Zealand Treasury, for example, includes a separate list of contingent liabilities in its accounts, and the U.S. government requires contingent liabilities to be reported if they are quantifiable, and to be calculated as full liabilities in case their probability of being called is above 50 percent. The most appropriate approach, albeit a difficult one to implement in practice, would be to conduct a thorough risk analysis for each project from the government's perspective and to account for these potential losses on the basis of the imputed probabilities for certain events to occur. This would ensure that sufficient reserves are maintained for contingent liabilities in case they come true. In addition, it would also put the government in a better position to decide whether to use guarantees or to provide upfront grant or loan contributions to individual projects.

However, no matter how necessary such support arrangements might be for the successful implementation of individual projects, any government would gladly try to avoid them if at all possible. In this respect it is important to recognize that most of these guarantees are a direct result of the non-commercial nature of the business environment within which these private projects are forced to operate.

### **5.2 The Importance of Overall Sectoral Liberalization**

From a governmental perspective, one of the most costly and dangerous forms of support arrangements consists of the

counterguarantees on long-term off-take and supply agreements with public sector utilities. The easiest way to remove the need for any assurances from the government would be to eliminate the dependence of the utility's future revenue stream and creditworthiness from the political decisionmaking process. This, in fact, would require a privatization of these state-owned entities combined with the creation of a pricing mechanism that primarily relies on market forces rather than on political concerns.

Let us return to the previous example of a private power generator or bulk water supplier, imagining that the utilities have been privatized, while service pricing is based on full cost recovery. Should the utility still be a monopoly, the private investors will certainly still want to negotiate a long-term off-take agreement. But in this case, the risks the investors are facing are completely commercial by nature, without any political risks involved regarding the utility's ability to meet its contractual obligations. Hence, the only thing investors can (and must) do is to carefully assess the creditworthiness of their business partner.

However, whenever possible, privatizations should go further than just the creation of a private sector monopoly. In fact, through the unbundling of public sector monopolies and privatization of its different units, entirely new and competitive market structures can be created. Here long-term, fixed-price contracts are generally replaced by

competitive market arrangements where supply and demand determine the pricing of an infrastructure "commodity".

A number of countries have had positive experiences with this approach. The United Kingdom certainly has been the pioneer in this respect, having privatized its electricity, water, telecommunications, and rail sectors almost in their entirety. Certainly not everything has worked out picture perfect, as in the rail industry, where service provision by the new private operators has fallen behind expectations. Also, new regulatory structures had to be developed and are continuously being refined in those market segments where regional monopolies or market-dominating positions remained. Overall, however, the experience has been positive and

is generally associated with a decline in user charges, improved service, and the elimination of previous government subsidies. Developing countries such as Chile and Argentina have begun to use similar approaches in the electricity sector, where pool markets effectively establish the pricing for generated power. As the Argentine example indicates (see Box 25), although the dangers of excess investment are quite real, it is important to realize that they are now entirely of a commercial nature. Chile had a similar experience after opening its telecommunications sector fully to competitive pressures. A massive price war between operators temporarily resulted in Chile having the lowest long-distance phone rates worldwide.

Quite the opposite result tends to occur in situations where a broad sectoral liberalization is not pursued. Rather than experiencing excess capacity, countries face underinvestments because investors are hesitant to enter the market under existing conditions. India's electricity sector certainly is a glaring example of this: the government seems incapable of undertaking substantial sectoral reforms, and at the same time is unwilling to carry the costs associated with this policy choice in the form of guarantees. This situation makes it impossible for private investors to close deals (see Box 26).

But not only investment volume matters. In fact, one of the key benefits of introducing competitive pressure is a rapid expansion of service provision while prices tend to drop. In cases where user charges are subsidized for political or social reasons, these charges will certainly have to increase to market price levels. This is not the result of private sector involvement, but rather a recognition that prices have to be set at an economic level, allowing for the construction, maintenance and operation of these facilities. In the case of India, as in many other countries, the government actually makes the implicit choice of keeping prices artificially low at the expense of the quantity and quality of the service provided.

Such sectoral reforms and restructurings are not painless. Preparation tends to be lengthy; initial hiccups in the relationship be-

### **Box 25. Excess Capacity Through Private Competition: Argentina's Electricity Reform**

The electricity sector in Argentina relied heavily on hydropower generation despite the existence of large natural gas reserves. With growing demand, this increasingly raised the danger of brownouts during the summer months. Furthermore, electricity rates were comparatively high, and theft through illegal connections or non-payment was high. In 1991, the government therefore initiated a major reform to liberalize the sector. The electric industry was separated into generation, transmission, and distribution enterprises with the intention of introducing a maximum amount of competition, thereby increasing efficiency and reducing costs.

The key feature of the new sectoral structure was the creation of a power pool in which generators compete for the sale of generating capacity. The bulk of electricity is sold into this pool market, which is overseen by Camesa, a non-profit operating agency. Camesa reviews the rate offers obtained from all generating companies and dispatches the cheapest electricity first. A fixed fee is charged for the transmission, and distribution companies are regulated through a fixed cap on consumer rates, which are adjustable every 5 to 8 years. Because final tariffs are fixed, distributors have a strong interest in reducing their costs

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tween operators, regulators, and the government are likely; and privatization tends to come with often substantial retrenchments in the labor forces of bloated state-owned monopolies. Furthermore, social concerns need to be taken into account for the disadvantaged segments of society. Finally, not all parts of a sector might be commercially feasible, and the government will have to make tough decisions on how to deal with those areas. In the case of Argentina's railroad privatization, for example (see Box 27), the

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to increase their profitability, with the majority of their costs resulting from the purchase of electricity from the pool.

The liberalization was accompanied by a broad privatization of state-owned assets in the sector. Distribution and generation companies were especially attractive investment opportunities for U.S. investors, and generated almost US\$2 billion in revenue. In addition, new capacity was created through BOT-type investments in the amount of about US\$ 1.5 billion. However, this rapid liberalization appears to have led to excess capacity through the creation of more than 30 independent power producers. Whereas distribution companies became highly profitable, electricity generators found themselves engulfed in a massive price war during the mid-1990s. Wholesale electricity prices fell by about 40 percent relative to pre-liberalization, and at one point generators even offered electricity for free to gain market share. For many investors in generation, this proved an expensive experience. British Gas, for example, had to sell an old coal-fired power plant for just US\$1.3 million, just three years after the initial purchase for US\$24.5 million. The U.S. company AES was forced to convert its 700-Megawatt, coal-fired San Nicolas plant to natural gas at a cost of \$110 million in order to stay competitive.

government decided to close down most intercity passenger lines because the required subsidies were deemed uneconomical by the central as well as provincial governments. The commuter rail lines in Buenos Aires, on the other hand, were considered socially too important to be shut down. Following the privatization model of the British urban rail links, the government therefore offered these lines in bids on the minimum subsidy required for the operation and maintenance of these services.

### **Box 26. Indian Electricity: The Lack of Sectoral Reform**

India's electricity sector is by now infamous for the difficulties it presents to those interested in developing private power generation projects. Facing the need for an estimated 44,000 Megawatts in new generating capacity by the year 2002, the government introduced policy reforms during 1991 and 1992, opening the sector for private, including foreign, investment. By end-1998, however, only five projects had been implemented, adding only 2,069 Megawatts in capacity, despite the use of a so-called "fast-track" system to simplify the notoriously difficult approval process.

One concern certainly is the convoluted administrative process. India's constitution specifies electricity as one sector for which the central and state governments share authority and responsibility. This appears justified because the Ministry of Power in Delhi is responsible for overall sectoral policies, while the states have the responsibility to supply electricity through their State Electricity Boards (SEBs). In practice, however, this translates into a virtual maze of necessary approvals and permits from a wide variety of central, state, and municipal authorities. In some instances, developers needed to obtain almost 100 clearances before being able to approach lenders for financing.

However, one particular stumbling block is the need for government counter-guarantees on the off-take agreements signed by the SEBs with project sponsors. The central government can ill afford the potentially  
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massive contingent liabilities resulting from such guarantees. At the same time, developers cannot possibly accept the risk of relying on the SEB's ability to fulfill their contractual obligations over a 20-to-30-year horizon. This requires extremely time-consuming and difficult negotiations between the central government and state authorities on the granting of such guarantees. At present, the central government has generally agreed to provide such guarantees for "fast-track" projects only, and most other potential IPPs appear stranded because of this issue.

The main reason underlying this problem is a lack of reform initiatives in the Indian electricity sector. For political reasons, state governments have in the past favored a high degree of subsidization on electricity tariffs. Especially for agricultural users, subsidies are high, with an average tariff of about 0.5 US cent per kilowatt-hour. During 1996-97, India's 19 SEBs incurred combined losses of US\$2.3 billion, with another US\$2.7 billion in accumulated arrears to state utilities and public-sector companies. The result is that the SEBs are not creditworthy for any investor. As long as state governments resist a substantial tariff adjustment, the only way for India to attract private investment for the creation of additional capacity will be through the provision of guarantees as compensation for the policy choice of subsidized electricity rates.



**Box 27. Dealing With the Entire Network: Argentinean Rail Concessions**

During the early 1990s, Argentina managed to restructure its entire railway sector through the concessioning of operations to private investors. By 1990, the state-owned railroad company Ferrocarriles Argentinos (FA) operated about 35,000 kilometers of track with 92,000 employees and made annual losses of about \$1.4 billion. A lack of regular maintenance and rehabilitation investments furthermore led to deteriorating technical conditions of tracks and rolling stock, resulting in a steady decline of all types of rail transportation—freight transport and intercity passenger services as well as commuter rail operations. The government found itself in no position to continue funding these operations, never mind undertaking the urgently needed new investments. It therefore decided to split FA into a series of independent operating units, and to invite private investors for the operation and maintenance wherever possible.

Roughly 27,000 kilometers of freight rail lines were partitioned into six packages and concessioned to private investors during 1991–93. All of the winning consortia included operating companies from North America and substantial participation by foreign investors. Investors received a 30-year concession with an optional 10-year extension to operate freight services as well the maintenance and rehabilitation of rolling stock and tracks in exchange for the payment of an annual fee to the government. Since then, freight traffic has grown, but not as

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strongly as projected, resulting in revenue shortfalls in several lines. Competition from trucking was stronger than expected despite substantial reductions in user fees charged.

Commuter rail lines in the Buenos Aires metropolitan area were judged not to be commercially viable, but socially too important as a means of commuter transport to be closed down. The government therefore decided to offer seven lines plus the city subway system to private operators on a concession basis, with the minimum subsidy required as the deciding criterion for the award. All concessions were awarded, again dominated by foreign operators and investors, resulting in an expected annual subsidy requirement of \$150 million.

The intercity passenger services were also determined to be economically not viable, and the government opted to offer these services to the provinces, which could enter into a concession agreement with the central government if they decided to provide the required subsidies to maintain the service. Most provinces declined the option, and most intercity services have since been shut down. The necessary labor retrenchment in all rail services was supported by the government through severance payments with the help of World Bank loans. Overall, employment was

reduced by over 80 percent, with the new private operating companies maintaining about 17,000 of the original employees.

### 6— **Designing an Effective Policy Framework**

The appropriate assessment and mitigation of risk certainly are key for any successful project finance transaction. Failure to carry it out can easily result in financial closure remaining elusive for the investor consortia, with potential projects eventually falling apart. But many potential projects never even get so far as to seriously consider financial closure, with project developers getting bogged down in a convoluted and inappropriate implementation process. In fact, a closer look at the risk matrix in Box 22 reveals that the project preparation phase carries a number of risks that need to be addressed in order to get a project off the ground.

Under the right conditions, however, and with appropriate preparation by the government, private infrastructure projects are possible even under quite difficult circumstances. The successful implementation of the N4—highway between Mozambique and South Africa is an excellent example (see Box 28). Despite double country risk, even a traditionally more difficult project such as a tollroad was judged economically attractive and bankable. The key ingredients for this success were determination and commitment

by both governments involved, good project preparation, and a strong institutional framework supporting implementation.

Consequently, when considering the involvement of private investors in a country's infrastructure, governments are well advised to build a strong policy framework that takes into account investor needs. Because project finance investments are very different from traditional investment techniques used by governments, existing frameworks tend not to be sufficiently accommodating for investors. Governments can therefore benefit from a detailed review of their overall investment environment that allows for a clear understanding of what investors will be confronted with when trying to develop projects in their country. Based on this recognition, as well as alternative mechanisms through which specific problems can be addressed, governments can then develop targeted reform initiatives to streamline the project implementation and award process. In general, each government should

1. Review the existing institutional structure responsible for such projects,
2. Review the country's legal framework to see whether it addresses investor requirements appropriately, and
3. Evaluate the effectiveness of the existing regulatory environment.

#### **6.1 The Usefulness of an Institutional Support Structure**

Governments need an institutional mechanism to facilitate the selection of individual projects, evaluate technical and financial proposals, and decide on a winning proposal. Most governments have found the development of such a framework much more difficult than anticipated, and in many countries investors have been disappointed by bureaucratic and convoluted procedures that have resulted in long delays in project implementation.

The main difficulty typically lies in incorporating a new process into the existing institutional framework related to public invest—

**Box 28. The N–4 Tollroad: A First Success in Africa**

Following the end of the apartheid regime in April 1994, the governments of South Africa and Mozambique initiated a major development program labeled the "Maputo Corridor" to revive the commercial links between the port of Maputo and the northeastern provinces of South Africa. To increase commercial traffic flow through Maputo and to relieve congestion in the port of Durban, a number of investments were undertaken, including a major rehabilitation of the existing rail link, as well as improvements in the notoriously inefficient port of Maputo. At the heart of the corridor was the need for a strong road link over a distance of 440 km, connecting Maputo with Johannesburg. Both governments agreed to rely on private capital for all these projects.

The signing of all financial agreements for the N–4 project in December 1997 established the first private tollroad built on a BOT basis in Africa. The US\$410 million project is based on a concession contract to the private consortium TRAC to build, rehabilitate, operate, and maintain the entire road for a period of 30 years, at which time the assets will be transferred back to the two governments. The project sponsors—the French Bouygues and its South African subsidiary Basil Read, South Africa's construction company Stocks & Stocks, and the South Africa Infrastructure Fund—provide 20 percent of total project cost in equity, with the remainder of the financing in commercial debt. In the initial

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ment. Traditionally, governments have financed infrastructure projects through public funding. Different layers of civil servants are responsible for the selection of specific projects, their technical design, and their implementation. At the same time, financing is determined at the ministerial level, depending on the availability of funds. When deciding to involve private capital to finance some of these projects, the government faces the challenge of developing the human skills and the administrative process—in brief, the institutional capacity—necessary to select and then prepare appropri-

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phase, TRAC will build 36 kilometers of new road and upgrade other sections; further rehabilitation work is dependent on future traffic flow. By contract the initial toll is set at 59.50 rand for the entire road, or about 3 US cents per kilometer, with tariff increases indexed to the CPI.

The project faced unique challenges because of its cross-border nature and corresponding double country risk, as well as future traffic flows dependent on improvements at the Maputo port. Despite these difficulties, the project was implemented just 20 months after the tender launch in April 1996. A central reason underlying this efficient process of project preparation was the creation of a binational Implementation Authority, bestowed with all the decision-making authority necessary to develop the financially and technically most attractive investment alternative. This also helped in facilitating the solving of unique project-specific problems, such as the passing of a decree to supplement

unaccommodating legislation in Mozambique and the coordination of customs procedures. The financing difficulties posed by the double-country risk could be overcome by relying primarily on the South African market for revenue generation. While 35 percent of total project costs will fall due in Mozambique, tolls in the country are expected to generate only 4 percent of total revenue, such that the project could financially survive based on South African toll collection alone.

ate investments for private sector operation, and to evaluate the different proposals received. This involves a new set of skills different from the tasks traditionally performed by the government agencies involved.

### **A. The Key Ingredients for an Effective Institutional Framework**

There exists no single, unique blueprint for an institutional framework that can serve as an effective mechanism to implement these

types of investments. Each country must develop the individual solution best suited to its particular economic and political circumstances. Invariably, however, effectiveness is determined by the extent to which private sector requirements are being met, and how attractive the investors judge the operating environment to be. Thus, all these programs have certain commonalities that explain their success in attracting private infrastructure investments.

First and foremost, investors will want to know that a good project has a good chance for actual implementation. Too many governments around the world consider it a success when a memorandum of understanding has been signed with an investor. However, the number of MoUs signed each year is a large multiple of the number of projects actually implemented, and many potential projects with MoUs are abandoned after lengthy negotiations. Successful implementation means

- \_\_\_ A BOT or concession contract has been signed,
- \_\_\_ The financing package has been closed,
- \_\_\_ All licenses and permits have been obtained, and
- \_\_\_ The project is under construction or operation.

Investors also want to see an efficient framework that promises that a government decision regarding a specific project will be reached in a timely manner. The professional preparation of a project proposal is a very costly undertaking. The longer a project remains in the preparation stage because of an inefficient government decisionmaking process, the higher the costs for the investor in terms of human and financial resources. Hence, investors will prefer to get involved in countries where the implementation process is based on a clear procedural structure, allowing the investor to develop a reliable estimate of the time needed for project implementation. To the extent that investors go along with an inefficient process, they will try to pass on the costs to their clients.

The institutional structuring of this decisionmaking authority is not straightforward, mainly because of the complexity of imple-

menting private infrastructure projects. From a government's perspective, each project must go through several

stages before it can become operational. First, individual projects have to be selected for possible private sector involvement. Secondly, feasibility studies must be conducted to prepare the tendering documents, and the tender itself will have to be arranged. The preferred bid then will have to be evaluated to determine how attractive the proposed project is from the perspective of the government. Finally, the government will have to decide formally whether to approve the project and award the contract.

The skills required from the civil servants involved evolve throughout the project, moving from technical expertise increasingly toward experience in financial engineering analysis and allocation of risk, and overall government planning. To bring the appropriate skills to bear, and also to facilitate the involvement of various parts of the government that have responsibilities relevant to the subject, it is usually preferable to have different government agencies involved at different stages in the process. The challenge for the government is to develop an overarching institutional framework, based on cooperation and a clear delineation of responsibilities among agencies, that allows for the efficient implementation of individual projects.

### **B. Decentralized Selection and Preparation of Private Infrastructure Projects**

The process typically starts with line ministries or sectoral agencies, which identify specific investment needs and try to address them through engineering studies and attempts to find financing sources, typically through budgetary allocations. These entities usually are experienced in judging the technical investment requirements as well as the engineering skills needed to develop a technically sound and appropriate project. Consequently, these agencies will always play a key role in the process of project development, including projects for private sector investment. Experience shows, however, that their involvement tends to be far from sufficient in

developing commercially viable infrastructure investments on a project finance basis.

Infrastructure investments with private participation require careful project preparation to develop a structure attractive to the private sector. This preparatory work includes pre-feasibility studies to determine the anticipated scope of the project as well as its potential commercial viability. Detailed legal, financial, and technical feasibility studies will then have to be carried out as the background for the tender documents made available to potential investors. All these tasks will present sectorial agencies with unfamiliar tasks and additional expenditures, resulting in the need to hire external consultants to conduct these studies. Thus, it must be recognized that BLOT-type investments impose an additional burden on these agencies.

The Government of the Philippines, for example, found it surprisingly difficult to initiate private investment projects in the transport and water sectors, despite its previous success in developing a large number of independent power projects. One major problem was that the agencies in charge of these sectoral investments were simply unable to take on the challenge of BOTs and concessions for lack of human and financial resources. The civil servants affected simply did not find the time to develop the necessary basic expertise, and financial resources to conduct feasibility studies had to be solicited on a case-by-case basis from bilateral or multilateral donors.

Similarly, one of the major start-up problems in Britain's Private Finance Initiative (PFI) (see Box 29) was the efficient development of projects under the responsibility of smaller public-sector bodies. The main line ministries quickly climbed up the learning curve, resulting in most of the larger projects being completed in a relatively efficient manner. In most of the smaller, local projects, on the other hand, private developers complained about the waste of resources due to the insufficient skill level of the local authorities involved. In order to streamline the process, the PFI has undergone several major reforms.

### **C. Centralized Project Evaluation and Approval**

The involvement of the central government is a crucial element in an effective implementation framework. In many countries, investors have had disappointing experiences with projects that did not receive all the necessary approvals after much time spent in negotiating an agreement with a particular government agency, line ministry, or municipal authority. Cooperation among agencies is a crucial element of effective implementation, especially for projects with financial or performance guarantees, or projects that require environmental clearances or various licenses and permits for construction and operation.

Most countries that have developed an approval process based on interministerial cooperation have proven more successful in attracting private investment into their infrastructure.. In Thailand, for example, the Cabinet must approve individual projects prepared by a special committee under the leadership of the relevant line ministry. Similarly, the Investment Coordination Committee of the Philippines, representing the country's Cabinet, is responsible for the approval of all major capital investment projects. In Colombia, a somewhat more flexible Interinstitutional Committee plays the central role in the approval process. While the core members of the committee remain fixed (such as the Minister of Finance, the head of the Department of National Planning, and the Minister of Environment), the particular type of project dictates the other members, typically the line minister and the head of the responsible public sector agency.

However, any interministerial body can make an educated and well-balanced decision only if it possesses an objective analysis of the project at hand, including a detailed evaluation of its costs and benefits from the perspective of the host government. This requires an entity responsible for and experienced in conducting these tasks. A number of countries have chosen to establish special project committees responsible for preparing and evaluating individual projects before formally proposing them to the decisionmaking body. Other

### **Box 29. Developing a Procurement Process: Britain's Private Finance Initiative**

Since the 1980s, the United Kingdom has been at the forefront of efforts to develop new ways to involve the private sector in what are traditionally considered public services. Initially these efforts concentrated on the privatization of existing assets such as British Telecom, electricity, and the water industry, and the water industry, followed by the privatization of the country's rail industry. During this process, the government became increasingly interested in attracting private financing for new investment projects which traditionally would have been conducted by the public sector.

In November 1992 the Chancellor of the Exchequer officially announced the creation of the Private Finance Initiative program with the goal of providing better-managed and more-cost-efficient public services by involving the private sector. The program was initially designed to establish an alternative procurement procedure for public investment projects by incorporating project financing techniques and other means of obtaining the necessary financial resources. All government ministries were required to carefully explore any private financing options prior to using public funds on any major capital project. Although this rigid requirement was abandoned in recent years to avoid bureaucratic backlog, the PFI created a new mentality within government involving substantially greater interest in involving the private sector. Each major ministry and public sector authority established a unit with sole responsibility for private sector project financing. In addition, a PFI task

force was established in the Treasury to assist other authorities in the review of projects and procedures as well as to establish standard bidding procedures for the implementation of PFI projects.

The process was slow to take off, with investors and observers complaining about excessive bureaucracy and a lack of transparency, which required lengthy negotiations for each potential project. Under the lead-

*(box continued on next page)*

countries have institutionalized this function by establishing a specific entity within the administration for this purpose.

The choice of the appropriate arrangement depends on the existing public sector administrative capacities. Some governments,

*(box continued from previous page)*

ership of the Treasury, the government continued to make adjustments to the process and to introduce standardized documentation as much as possible. By end-1998, deals worth about US\$11 billion had been signed since 1992, and the task force expects the same volume of transactions in the following three years. In the early years, projects focused primarily on major transport projects, such as tollroads, bridges and urban rail projects. In recent years, however, focus has shifted toward social sectors and efficiency gains in service provision, including the construction of prisons, hospitals, and schools, real estate development, as well as the provision of public services such as flight simulation training for the Ministry of Defense.

One particular area of concern throughout the development of the PFI was the lack of expertise among civil servants in developing and evaluating project finance transactions. The Treasury therefore considered it as one of its main priorities to develop a stronger network of PFI specialists throughout the bureaucracy capable of handling such projects. Local governments found this to be of particular concern. While a number of municipal projects promised to be excellent candidates for private sector involvement, projects moved ahead at a snail's pace. The lack of PFI specialists is worse at the local level than at the central government level, while the limited number of potential PFI projects in each local council would make it inefficient to train such specialists. Local government councils have therefore created the Public Private Partnerships Programme (4Ps), through grant financing from the central government, to provide a coordinated approach and expertise across the several hundred local authorities in the country. By end-1998, 14 local authority PFI deals had been signed, and another 66 were in the pipeline.

such as that of Thailand or of Australia's State of Victoria, rely on specialized committees that carry the project from the selection phase up to evaluation for final approval by the responsible authorities. These committees are typically composed of individuals

possessing the best investment planning and financing acumen available in the government. Some countries already have in place commissions or ministries with very similar capabilities for the purpose of planning and financing public investment programs. The policy of introducing private financing to enhance the development of a country's infrastructure requires a careful coordination of public and private financing options in the overall development strategy. Such agencies can therefore play a helpful role in the implementation process.

In Colombia, for example, the Department of National Planning is primarily responsible for drawing up and monitoring implementation of the country's five-year development plan. It has a special division entirely devoted to private infrastructure projects. A group of ten professionals is responsible for promoting private investment in infrastructure, and supervises project selection, preparation, and evaluation prior to the award decision by the Interinstitutional Committee. In the Philippines, the National Economic and Development Authority (NEDA) fulfills a similar function, and has also taken on a central role in the implementation of BOT-type investments. NEDA serves as secretariat to the interministerial Investment Coordination Committee, which has the ultimate authority to approve individual BOT projects. NEDA first clears potential projects during the selection phase on the basis of whether private sector involvement in a particular project is in line with the government's overall development plan. Second, it conducts an evaluation of individual proposals regarding the benefits and overall attractiveness of a particular project.

The danger of institutionalizing this process, however, is that it can become too bureaucratic, turning into a bottleneck rather than a facilitator. NEDA, for example, has frequently been criticized for this by investors, with project developers as well as state-owned enterprises trying to avoid the formal BOT process. Hence, for such entities to be effective, they should be small and dynamic units rather than large administrations.

### **D. The Role Of Private Sector Specialists**

These facilitating units must develop a strong expertise in project finance transactions, as well as in the practices and possibilities involved in private sector infrastructure investments. In addition, they need to establish the evaluation methodologies and techniques necessary to conduct cost-benefit analyses of individual projects to determine a project's attractiveness from the government's perspective. In most cases, this requires governments to rely on assistance from external specialists. Especially in the beginning, most governments encounter difficulties when developing a process for project implementation. No matter how qualified civil servants might be, the absence of specific private sector knowledge and experience frequently poses an impediment.

Expertise in project finance transactions and BOT-type investments is especially important in the phases of project selection, preparation, and evaluation. Although public sector officials are familiar with conducting technical feasibility studies, they typically have no expertise in determining the viability of specific projects for private sector involvement or in conducting the appropriate legal and financial feasibility studies. Similarly, the preparation of tender documents, the arrangement of a tender, and negotiations with individual investors usually are relatively unknown territories for government officials. Finally, private sector specialists can assist in developing an appropriate evaluation methodology to make sure that individual project proposals are assessed accurately.

In order to maximize the transfer of knowledge and expertise, it appears preferable to employ such specialists directly rather than hire individual consultants on a project-by-project basis. In the latter case, the expert assistance for any particular project might be excellent, but with the conclusion of the project this expertise would disappear, interrupting the process of capacity building. The option of developing a stable institutional structure through the creation of a facilitating unit lends itself particularly well to the incorporating of private sector expertise. A few private sector spe-



cialists could be hired directly into this unit to advise it on every aspect of the implementation process.

It is important to recognize that such specialist assistance will not come cheap. In order to obtain high-caliber assistance from the private sector, governments will have to offer a competitive salary. This implies that serious experts can be attracted only if they are being offered a salary off the standard public wage scale. Financial support for this purpose might be obtainable from bilateral and multilateral donors. Alternatively, if a sufficiently large pipeline of attractive projects can be developed, it might be possible to finance these expenses by adding them to the overall project costs, requiring the winning bidders to cover the costs incurred by the government in preparing projects. However, in the latter case care must be taken to price these services efficiently. If bidders feel they are being overcharged, they will not compete seriously for projects. Moreover, they will pass all such costs, in one form or another, on to the final consumer.

### **E. Centralized Implementation Versus Sub-Sovereign Autonomy**

In general, the aforementioned centralized structure would try to balance the interests represented by all government agencies involved: while the awarding agency is responsible for identifying and preparing each project, the central government's influence is guaranteed through the coordinated evaluation and approval of projects. Hence, this administrative structure should work well for any projects under the responsibility of the central government.

With respect to sub-sovereign projects, however, this process might be less attractive for political reasons. Because political decentralization provides sub-sovereign authorities with increasing responsibilities and authorities in many countries, the concept of a centralized approval process clashes with the rights of provincial or municipal autonomy. Governors or mayors will not find it particularly attractive that some agency in the capital should decide the fate of particular investment projects in their areas of responsibility.

ity. After all, the conditions under which certain services such as electricity, water, or waste management are provided are considered crucial by elected officials.

The danger lies in sub-sovereigns' trying to avoid the private sector approach because of the perception that their autonomy would be restricted excessively by central government interference. Mitigating this perception is the fact that municipalities derive significant benefits from the creation of a facilitating unit at the central government level. Even more than agencies at the central government, municipalities and provinces lack the staff and skills necessary to identify, prepare, and negotiate private infrastructure projects. The availability of specialized assistance from the central government would certainly be welcome to sub-sovereign governments that do want to elicit private sector investment. When evaluating the option for such a project relative to the standard public procurement process, a central source of information regarding standard features of such projects like tariffs, construction costs, or legal arrangements clearly would be helpful. Finally, because of the severe financial constraints at the local level, subsovereigns will frequently find themselves in a position where they have to interact with the central government directly. Frequently, lenders to municipal infrastructure projects require central government support to mitigate the limited creditworthiness of local authorities. In general, such facilitating units can be of crucial importance in designing a contractual structure acceptable to all government entities.

The key to a successful strategy for private participation in subsovereign infrastructure is to strike a politically acceptable balance between support and supervision by the central government. The central government certainly should not be involved in the awarding of every single concession contract for minor activities such as waste collection or landfill operations. On the contrary: sub-sovereigns should maintain their right to award private infrastructure projects that do not require material commitments by the central government, under the sole condition that they follow the proce-

dures laid out in the general legislation. However, for sizable projects that result in liabilities or contributions by the central government, close cooperation is essential.

Sub-sovereigns should also have the right to request technical assistance from the central government and the facilitating unit during the identification and preparation of any project, independent of the project's size or the potential need for material contributions by the government. Such a free service would certainly be attractive to the municipalities, and it could pay off handsomely for a government in the long run by avoiding lengthy delays on individual projects. In all too many cases, the need for government support arrangements becomes clear only during feasibility work or negotiations. In such a situation, the process must start all over again if the facilitating unit has not been involved. To avoid this outcome, sub-sovereigns should be encouraged to involve the unit, at least informally, at all crucial stages of the process.

### 6.2 Designing an Overarching Legal Framework

Weaknesses and gaps in existing laws and regulations often pose the most difficult hurdle for foreign investors. Many legal frameworks are antiquated and designed to define public sector responsibilities, with private sector participation frequently addressed in a cursory fashion only. Developers and lenders often find particular investor concerns not, or insufficiently, addressed, which simply prevents the consortium from reaching financial closure. The legal framework may also have explicit impediments: for example, sectoral legislation might severely limit, or even prohibit, any foreign or private investment, while general legislation on procurement rules or foreign exchange policy may simply fail to meet investor requirements.

In some instances, the existing legal framework might already be in reasonably good shape, and only minor amendments to individual laws might suffice to create a reasonably attractive legal environment. In rare cases, no major legal changes may be necessary.

It was possible to base the British Private Finance Initiative simply on administrative regulations and guidelines, for example, because the existing sectoral and procurement laws were able to accommodate these types of investment.

However, these clearly are exceptions. Detailed reviews of the existing legal framework in most countries reveal that a series of modifications and amendments are required in order to eliminate potential legal impediments. To avoid dealing with a multiplicity of changes, many governments have decided to put in place entirely new legislation geared toward establishing the framework especially for concession and BOT-type investments across infrastructure sectors. Countries such as Brazil, Chile, Hungary, and the Philippines, all of which have established such new concession legislation, found it to be an extremely helpful tool in facilitating the implementation of individual projects.

From an overall policy perspective, a general concession law permits a government to formally stress its emphasis on private sector participation in infrastructure as a key developmental priority. The fact that a country has a concession law with a strong emphasis on competition conveys a government's commitment to this policy. The preamble to the concession law is a natural place for the government to clearly define its policy objective. The Philippines' BOT law<sup>10</sup> together with its Implementing Rules and Regulations, for example, clearly states that the Government views the private sector as an important engine for national growth and toward that end provides a number of incentives to encourage private sector participation. Based on this strong political commitment, the Philippines has been one of the most successful countries in attracting BOT-type investments worldwide.

A well-written concession law also sends a clear signal to the international investment community that it is welcome and encouraged to participate in infrastructure development. Countries with a cross-sectoral concession law, and therefore more predictable rules of the game, increase their attractiveness to foreign investors who are

willing to compete for a concession. Hungary<sup>11</sup>

has devoted considerable energy and thought to its competitive bidding process to insure that its procedures are transparent and that the country benefits from unfettered competition. Investors have gained confidence in the law and the procurement process it establishes. As a result, the country has witnessed the successful financing of 5 projects worth approximately US\$784 million, and another 11 projects worth US\$7.4 billion are currently in the planning stage. Another example is Chile, whose concession law<sup>12</sup> gives the country a high standing in the international infrastructure business community. Today, Chile has 45 concessions projects, worth approximately US\$6.2 billion, that have reached financial closure or are under preparation.

In all these countries, it is clear that a balanced concession law and its thoughtful implementation send a message of dedication and commitment and play an important role in attracting private investors. In addition, a general concession law tends to provide strong comfort to investors as it allows for a consistent and transparent approach across projects and sectors. In fact, such a law is the prerequisite for a consistent policy implementation, even if individual projects remain the responsibility of different conceding bodies within a country, rather than a centralized national body of experts. Because every agency or authority has to apply the same law, consistent implementation of the concession rules is ensured for each case. Countries have found various mechanisms in trying to ensure a consistent and transparent application of their concession laws. In Chile, for example, it is the Ministry of Public Works that is responsible for ensuring that all awarded concession contracts comply with the concession law. The Brazilian concession law<sup>13</sup> gives the conceding body the obligation to regulate and supervise the service provision based on concession agreements.

Finally, an overarching concession law enables investors, lenders, and other interested parties to find the most significant information on concession project requirements. In short, it serves as a framework and guide, and defines the rules of the game for infrastructure projects in a country. The statute should also identify

those sector specific requirements that are covered in separate sectoral laws. For example, the Hungarian concession law conveys only the most necessary common rules on concessions and refers to the sectoral by-laws whenever detailed sector-specific regulation is necessary. The Philippines has a short law of 13 paragraphs defining the scope of the law and defining the general principles ruling BOT projects but leaving the details to implementing regulations. This approach identifies the matters the government of the Philippines considers most important in a law that is not overloaded with technical details.

### **A. General Issues**

*Coverage.* A law can either cover all types of concession arrangements or restrict itself to certain types of projects. The Philippines and Vietnam, for example, have established central laws that apply to BOT-type investments only.<sup>14</sup> Similarly, China has a draft BOT law together with a pilot program for a select number of projects under this framework.

However, this limitation has typically created difficulties for the process. In the Philippines, for example, certain developers have managed to avoid the BOT law by relying on existing franchising rights of parastatals to obtain concessions that are clearly not within the purpose and intent of the BOT law. Parastatals have often preferred to negotiate with interested investors directly rather than channeling the demand into the procedures provided by the BOT law. Similarly, in China a vast number of directly negotiated joint venture arrangements have been concluded in various sectors, whereas to date only two actual BOTs have been completed.

These more limited legal frameworks often result in less transparency and competition and therefore potentially less favorable conditions for the government and consumers. A broader and more general concession law can help

eliminate these difficulties. But it is important to recognize that the tendency of investors

and state-owned enterprises to avoid the formal BOT process might be motivated by their dissatisfaction with an overly complicated and lengthy approval process. This implies that a legal unification of different forms of private sector involvement by itself will not solve the problem. To be effective, the legal framework needs to be accompanied by a streamlined and investorfriendly approval process.

*The Use of Laws, Regulations and Administrative Procedures.* Various legal instruments exist through which a concession framework can be defined—namely, laws, regulations, and administrative rules. Each has its particular role. Laws tend to give the greatest security and predictability. They are published and usually less susceptible to precipitous change. On the other hand, they can be relatively time-consuming to pass or repeal. Thus, an overarching concession statute should focus only on matters of consequence and avoid unnecessary complexity and detail. Preferably, it will contain principles and directions that are intended to endure over time.

Although regulations can usually be changed more quickly than laws, they have the benefit of being formally published and readily available. Ordinarily, they are better suited than laws for spelling out the details of concession arrangements and the associated approval process. At the same time, however, investors will feel less secure if the central principles are spelled out in regulations, because they can be changed so easily.

Administrative rules, used internally to guide government officials, offer the most flexibility and opportunity to react quickly to changing conditions in a particular sector. The downside is that they are often difficult to locate, can lack transparency, and are subject to rapid change, thereby threatening the stability and predictability of the legal regime. Hence, they are best suited for defining in detail the procedural steps to be followed by a government agency during implementation, but not the rules or criteria under which the procedures operate.

### **B. Outline of a Typical Concession Law**

The role of a concession law and related implementing regulations is to provide the legal and regulatory framework that governs the relationship between the government body granting the concession and the concessionaire. A concession law contains the general rules under which concessions may be allocated and negotiated, and under which a project may be designed, constructed, operated and maintained and then transferred or terminated at the end of the concession period.

Three general principles are important to a successful concession law:

1. The law must be broad and flexible. Private participation in infrastructure projects has increased substantially in the last 10 years, as have the types of project structures. Thus, laws intended to govern concessions generally—as opposed to sector-specific laws—must be sufficiently flexible to accommodate new developments in infrastructure design, management, and financing across sectors. Detailed entitlements or limitations specific to particular sectors should be contained in implementing regulations or separate sectoral laws.
2. It must embody the internationally recognized principle of freedom of contract, but at the same time provide certain basic protections and assurances for the government. It is particularly important that the law provide for (a) a transparent, stable, and predictable process under which infrastructure projects may be awarded and (b) a framework under which the rights of the conceding bodies and the concessionaires will be protected.
3. A concession law should avoid the pitfall of over-regulating the relationship between the conceding body and the concessionaire. Excessively narrow rules can eliminate the needed flexibility for the relevant government authority to structure a contractual arrangement attractive to all parties involved. In addition, they can also stifle

competition and discourage private investors from proposing creative solutions to a government's needs.

Certainly no two concession laws are alike, and there is no blueprint that can be applied equally to different countries. Most important, the exact nature and form of such a concession law will be determined to a large extent by the surrounding legislation and legal traditions. In fact, for any concession law to function effectively, it must be incorporated into the existing legal framework. International legal experts working closely with host country lawyers are needed for the appropriate drafting of such a law. However, the following common features exist that make concession laws effective legal tools for the implementation of private infrastructure projects:

- \_\_ A preamble,
- \_\_ Definitions,
- \_\_ A broad scope,
- \_\_ Definition of responsible bodies,
- \_\_ Acceptance of the principle of competitive bidding,
- \_\_ Mechanisms for integrating unsolicited proposals,
- \_\_ Deadlines,
- \_\_ Rules for publication of the tender,
- \_\_ Publication of the evaluation criteria,
- \_\_ Publication of the proposed terms of the concession contract,
- \_\_ Award criteria,
- \_\_ Concession contract requirements,
- \_\_ Substantive (non–negotiable) terms,
- \_\_ Required negotiable terms,
- \_\_ Rights and obligations of the contracting parties,
- \_\_ Conditions for termination,
- \_\_ Recourse to arbitration, and
- \_\_ Miscellaneous transitional dispositions.

### **Preamble**

Concession laws often include a preamble, which is essentially a policy statement of the purpose the law is intended to serve, such

as improvement in infrastructure services through participation of the private sector. A preamble generally does not contain enforceable rights or obligations. It can and should define the government's policy and commitment to private sector participation in infrastructure. Moreover, the preamble serves an important function by providing the context within which the concession law and related rules are to be interpreted.

Peru's legislative decree, for example, states that it exists "in order to create conditions required for private investment growth" and calls concessions "an important mechanism for the expansion of public utilities and the development of infrastructure within the country."<sup>15</sup> The Philippines' BOT law contains a policy statement in which the state recognizes the indispensable role of the private sector as a main engine for national growth and development.

### Definitions

A concession law should define the main legal terms and other references it contains. The purpose of the definition section is to clarify what key terms mean in relation to the types of contractual arrangements included by the law. Key concepts should be defined as specifically as possible. For example, Peru's concession law gives an exact definition of the meaning of the word "concession." The Philippines defines in its BOT law only the terms "build–operate–and–transfer" scheme and "build–and–transfer" scheme, while the Implementing Rules and Regulations contain four pages of elaborate definitions of such terms as *act*, *agency*, *contractual arrangements*, *BT*, *BLT*, *BOT*, *BOO*, *construction*, *constructor*, and much more.

Other definitions are preferably kept broad, such as in areas in which flexibility is advantageous. Peru defines *public works* by giving examples in the applicable sectors, e.g., "the scope of public works includes, among others, public works for transportation, sewage, power and electricity, health, education, fishing, telecommunications, tourism, leisure and urban infrastructure." Care

should be taken when defining terms so that the definitions do not conflict with those in other laws or create ambiguities. Cross–references may be useful to guard against this risk. For example, Thailand's concession law<sup>16</sup> defines *state enterprise* solely by a reference to the Budgetary Procedures Law as the original source for the definition.

### Broad Scope

In order to achieve maximum administrative efficiency and a consistent concession policy in all infrastructure sectors, it is advisable to keep the scope of the concession law as broad as possible. Thus, the law should contain basic principles applicable to (i) all *sectors* of infrastructure to which the concession law applies and (ii) all *types* of investment structures that can be used in various sectors (e.g., *BOT*, *BOO*, *BTO*, *concessions*, etc.). As mentioned above, a broad scope is necessary in order to accommodate all types of investment structures, including creative structures that may evolve in the future.

### Definition of Responsible Bodies

An effective legal framework for concessions should define the agencies in charge of each stage of the concession process. Responsible government bodies should be specifically identified at all levels, and it should be specified whether national, local, and/or municipal agencies will be involved in the process and, if so, to what extent. Given the sector–specific nature of granting concessions, this information may be better placed in implementing regulations. An example is found in the Philippines, which gives in its Implementing Rules and Regulations the names of the agencies in charge of each step of the award process and supervision. In addition, it describes the composition of a Prequalification, Bids and Awards Committee.

### Terms of the Bidding Process

The general terms of the bidding process are preferably found in the concession law rather than in implementing regulations, because this demonstrates that the rules will apply across all sectors. With the general principles in the concession law, the implementing regulations should address in greater detail particular aspects of the bidding process. As will be described later in detail, the law itself, should include terms relating to competitive bidding, applicable deadlines, and publication of the tender and evaluation criteria, as well as publication of the proposed terms of the concession award and special conditions.

### Acceptance of the Principle of Competitive Bidding

Competitive bidding, either by public tender or auction, is probably the most important underlying principle of any concessiongranting process. Brazil and Peru allow only public auctions, Colombia<sup>17</sup> permits only competitive bidding, and the Philippines, Chile, and Hungary strongly favor public tenders. All these countries have in common that one-on-one negotiations either are prohibited or are allowed only when just one bidder is available, making a public tender ineffective. Virtually all countries declare competitive bidding to be the fundamental vehicle for transparency and fairness among bidders, as it grants an equal opportunity for bidders to submit proposals. The benefits of competitive bidding extend to both government and private participants in the concession process. If the integrity of the bidding process is maintained, investors will perceive this as a reduced risk for doing business in the country. Competitive bidding also reduces challenges to winning bids on the grounds of lack of transparency. Challenges to bids not only diminish the government's credibility but often halt or delay the granting of the concession itself, thereby undermining the larger goal of the concession process.

While competitive bidding is an important principle for any concession regime, exceptions to the principle may be warranted under special circumstances. These might include situations where time is critical, when there is only one source for the product or service, or when only one investor participates in the tender. In the event exceptions are anticipated, these should be reflected in the law, as this disclosure will protect the government from accusations when competitive bidding is not used. These exceptions are best kept to an absolute minimum.

### Mechanisms for Integrating Unsolicited Proposals

The reliance on competitive bidding as the primary means of awarding individual projects does not necessarily have to imply that unsolicited proposals directly from individual investors cannot be used. In fact, a number of countries have recognized the benefits of such proposals and tried to integrate them into the existing legal and administrative framework. But this requires that such unsolicited proposals are converted into a formal tender process, rather than lead to direct negotiations. Under such circumstances, it is crucial that the interests of the original proponents are appropriately taken into account by reimbursing them for the costs incurred and by protecting their intellectual property rights in the particular project proposal.

Several countries have developed mechanisms to integrate unsolicited proposals. Chile's concession law, for example, specifies in detail how the government must handle such proposals. On receipt of a preliminary proposal by a developer, the Ministry of Public Works has 30 days to express whether or not the government is interested in principle in the proposed project. The developer then has 90 days, extendable up to 180 days, to submit a "Proposal for Project Construction and Concession Operations," which should include, among other things, the identification of the applicant, a technical and social cost-benefit feasibility analysis, a financial feasibility study, an environmental impact study, and a

description of the need for government support arrangements. Should the Ministry reject the proposal, the project idea is considered an intellectual property of the company for three years. Otherwise, the project must be put out to bid. In the latter case, the proponent either will be reimbursed for the proposal or will receive a bid bonus of



10–20 percent of the total points obtainable in the bid evaluation.<sup>18</sup>

Britain's PFI emphasizes the importance of competitive tendering on a solicited basis in its administrative framework, but unsolicited proposals are considered to be perfectly legitimate. While monetary compensation for the intellectual property rights embodied in the proposal is one alternative, the government might also decide to advertise the project generally for alternative development proposals without revealing the details of the initial proposal received. Australia's State of Victoria encourages direct proposals of projects by the private sector. While such projects could be awarded through direct negotiations, competitive tendering is considered the norm. In the latter case, the proponent can be compensated or will be considered the preferred developer of the particular project.

### **Deadlines**

A statement that deadlines will be imposed and respected as part of the bidding process is essential for fostering investor confidence in the overall concession process. Given the variety of types of concessions and conditions under which concessions are granted, it would be impractical to include specific deadlines in the law. However, the law can, and should, require that bid announcements contain deadlines. For example, the Brazilian law requires that the bid announcement contain deadlines for the receipt of proposals, judgment of proposals, and execution of the concession contract. Deadlines aid investors in their financial and strategic planning by helping to reduce the opportunity costs incurred in pursuing particular investments at the expense of others. Deadlines also impose

discipline on the government and reduce the chance of unexplained delays, which reduce investor confidence. Furthermore, the law should ensure that the administration leaves the competitors enough time to submit the bidding documents. The Peruvian concession law, for example, requires 30 calendar days between the last publication and the last date for the submission of the necessary documents. The Hungarian law requires that tenders be announced at least 60 days prior to closure.

### **Rules for Publication of the Tender**

Rules relating to publication of the tender for the concession are also important for transparency, and aid in increasing competition. The tender rules should set out guidelines for the tender publicity, including the minimum number of days prior to a bid the announcement must be made, and in what types of publications the tender should be announced, e.g., at least one international financial or trade publication, and a local paper. The Peruvian law provides, for example, that a notice of public auction shall be published for two consecutive days in the official gazette. This ensures that viable candidates will receive sufficient notice to submit bids if they choose, thus both widening and deepening the pool of bidders. Other minimal information relating to the initial stage of the tender should also be required, such as a description of the concession, the concession period, deadlines, and contact names and addresses.

### **Publication of the Evaluation Criteria**

Publication of the criteria for pre-qualification and award serves as a check on the bidding process and levels the playing field for investors. Award criteria set out the terms by which concession proposals will be judged. For example, the Brazilian law identifies tariff rates of the concession service and the price offered for the concession to be two important considerations in awarding a con-

cession to a winning bidder. The Peruvian law considers these terms, as well as the proposed duration of the concession term, the risks assumed by the concessionaire relating to costs, tariff adjustment formulae, and additional services to be provided by the concessionaire. The concession law may require that tender offers



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establish certain benchmark criteria for evaluating bidders. These may include (i) a required level of experience by the bidder (or the bidding consortium) with the type of infrastructure project, (ii) a requirement that the bidder (or consortium) demonstrate minimum financial capability to execute the project, and (iii) a requirement that the bidder post some form of bid security (the details of which may be established by regulations or in the tender documents provided by the applicable government agency). These prequalification criteria reduce the government's administrative burden by eliminating unqualified bidders. They also help bidders assess their prospects of success.

### **Publication of the Proposed Terms of the Concession Contract**

In aid of transparency and efficiency in the bidding process, it may be beneficial for certain proposed terms of the concession contract to be published in the bidding documents. The purpose of publishing these terms is to inform prospective bidders early in the process as to certain non-negotiable terms that will be required to be elements of the concession contract. This increases efficiency on the government's part by narrowing the pool of serious bidders to those who are comfortable with the mandatory contractual terms. Proposed terms also act as a pricing factor in the preparation of bids. In other words, bidders can factor into their proposals the value of a concession contract that includes certain specified terms (in contrast to the value of the same contract without such terms). All investors, for example, price "risk" in deciding whether and what to bid. By defining certain terms that allocate risk, the government aids bidders and is more assured of receiving comparable offers.

### **Award Criteria**

Stipulation of the award criteria also enhances transparency in the bidding process. It helps insure more uniform bid packages, which allow for easier evaluation on the part of the conceding body. It also reduces the opportunity for bidders to hide costs and submit overly low bids. Inclusion of the award criteria in the concession law or its implementing regulations establishes the basic standard by which all infrastructure projects will be evaluated.

Award criteria for the bid evaluation can consist of a combination of factors such as the lowest tariff value; the highest offer to the conceding body for the concession; the lowest construction costs; and the lowest operation and maintenance costs based on the prescribed minimum design and performance standards, plans, and specifications defined in the notice of tender. The award criteria should be performance-based and should be phrased in terms of minimal standards rather than set limits. Although multiple criteria provide some flexibility in selecting the preferred investor, governments have often found it difficult to publicly justify their award decisions based on a mix of qualitative and quantitative variables. Even where a point scale is used to weigh these variables, questions often arise regarding the selection of specific weights. Some countries, such as Argentina and Peru, therefore decided to make the award dependent on one criterion only, such as the tariff rate or concession price. The Chilean concession law, on the other hand, leaves the choice to the conceding body as to whether to use one or multiple criteria. It states that the evaluation of all offers shall be executed by using one or more of eight named factors such as tariff structure, period of the concession, or required subsidy to the bidder. To ensure that the required minimum technical standards are adhered to, these criteria are elements of the prequalification process or incorporated in the draft contract prior to the tender.

Criteria and other prerequisites defined in the concession law should not be overspecified, because this potentially restricts bid-

ders in their pricing structures and creative proposals. Therefore, conceding bodies should avoid trying to function as experts in the area of design, construction, operation, and maintenance of infrastructure projects by imposing overly detailed technical specifications in concession laws or regulations. Rather, the conceding bodies should rely on market mechanisms to set the standard for the most appropriate proposal. Further, the concession award

criteria set out in the law and regulations, including technological standards, must be sufficiently broad in order to be applicable to a wide range of infrastructure projects. Otherwise, complications may result from attempting to apply inappropriate criteria to particular sectors. Reference to certain criteria, however, is unavoidable. For example, a country with existing and well-defined standards for building certain classes of roads should probably reference them in their roads concession statute or implementing regulations.

### **Concession Contract Requirements**

Many existing concession laws include requirements as to the content of the concession contract itself. By ensuring that certain terms are included in the concession contract, the concession law serves as a drafting guideline. This protects the government's interests, particularly in countries with little or no experience in such transactions.

### **Substantive (Non-Negotiable) Terms**

Concession laws may provide general principles that should be relied on in the design of concession contracts. These include rules relating to the exclusivity of the contract, references to existing laws that may be referred to in order to fill any gaps in concession contract provisions, and general rules regarding the relationship between the contracting parties. In addition to these concepts, some concession laws impose certain mandatory terms on concession contracts. One such common term is that the duration of the concession is not

to exceed a certain number of years (e.g., 35 in Hungary, 60 in Peru, and 50 in the Philippines and Chile). Another substantive provision could be on the concession fee. For example, Hungary's concession law requires that the contract must have a clause on the concession fee. The Peruvian concession law prohibits giving the concessionaire the contractual right to establish exemptions favoring specific users. The Chile concession decree states that the concessionaire must assume the entire construction risk.

### **Required Negotiable Terms**

The role of some conditions is to ensure that certain issues are addressed in the contract because their absence would materially jeopardize the contract. Many of these terms are less common in concession laws, primarily because they are sufficiently important that the parties will seek to include them automatically. For example, the Brazilian law requires that the concession contract address the objective of the contract, the period of the concession, the services to be provided and conditions related thereto, indicators of quality of service (performance standards), and the rights and obligations of the parties. The Hungarian law requires the concessionaire's fees to be stated in the contract. The Philippine law demands that the contract include a formula for compensation to the concessionaire in the event the contract is terminated by the government without fault of the contractor. Some laws explicitly deal with the tariff adjustment obligations. If assumptions relating to the operating environment or the cost structure change (particularly as a result of government action), such regulations provide a mechanism and standards for adjustment (e.g., hearing before a tariff board or regulatory authority).

### **Rights and Obligations of the Contracting Parties**

Defining the basic rights and obligations allows each party to evaluate and price its risks. Further, clearly specifying the rights

and obligations in the law reduces the occurrence of disputes between the parties as to their individual roles. It establishes a clear understanding of the relationship, which may be elaborated upon in the concession contract, to address rights and obligations that are investor- or sector-specific. Their specification in the law also serves as a

gap-filling mechanism, meaning that in the absence of such terms in the concession contract, the terms of the law will govern. However, the law should not overspecify the parties' relationship. The contracting parties should have the freedom to negotiate the assignment of specific rights and obligations to the various parties based on the nature of the individual contract.

Rights and obligations commonly assigned to the conceding body in existing laws include the right to supervise the operation of the concession and to intervene if necessary to set tariffs, to impose penalties, and to terminate the concession. Concessionaires, on the other hand, typically are required to provide proper service, to maintain the concession assets, and to publish financial accounts. They generally are allowed to operate the concession asset, to charge tariffs or tolls, and to transfer concession rights or subcontract specific activities. In addition, many concession laws require foreign concessionaires to form a subsidiary governed by domestic law.

### **Conditions for Termination**

It is important for a concession law to specify the conditions under which a concession contract may be terminated. These conditions usually include (i) expiration of the concession and (ii) cancellation because of violation of a material contract provision (i.e., not providing proper service), force majeure, or bankruptcy. These provisions must be drafted narrowly and precisely, as investors will hesitate to invest where the law provides broad or ambiguous termination powers to the government. More important, the section of the concession law addressing termination should include the general rights and obligations of the parties under each reason for

termination unless otherwise specified by the parties in the concession contract. According to the Chilean concession decree, for example, a serious breach of one party's obligations is reason for contract termination.

Furthermore, the law may address the payment obligations upon termination, the rights of the conceding body to seek a new concessionaire after termination, the rights of the parties to negotiate a new contract, or the right of the concessionaire consortium to seek new subconcessionaires. These rights and obligations should be elaborated upon in the concession contract to address the specifics of a particular infrastructure project. The broad guidelines as to the rights and obligations of the parties set the basis for resolution of disputes, even if a terminated contract were not to contain adequate termination clauses.

### **Recourse to Arbitration**

In case of disputes regarding the concession agreement, investors will have to rely on some arbitration mechanism as a last resort of conflict resolution. Investors are certainly not keen on using this option, but because of the length of the typical concession contract, the existence of such a legal safeguard is critical. Because most disputes will arise directly with the host government, investors will generally not consider the local judicial system to be an acceptable alternative, especially in cases where the political independence of courts is in question. Hence, governments will need to allow for some form of international arbitration considered neutral by investors, such as the World Bank's International Centre for the Settlement of Investment Disputes (ICSID), the United Nations Commission on International Trade Law (Uncitral), or the International Chamber of Commerce. In Turkey's BOT framework this has been one of the primary stumbling blocks for investors (see Box 14), whereas in many other cases the existence of international arbitration has proved highly effective in resolving disputes (see Box 30).

### **Box 30. The Power of International Arbitration: Grenada Electricity**

In 1994, the government of the eastern Caribbean island of Grenada sold a 50-percent stake in the island's electricity company to the U.S. company WRB Enterprises for US\$5.6 million. WRB received an

exclusive license to generate, transmit, and distribute electricity, as well as a waiver on outstanding tax debts prior to the sale and duty concessions for the import of machinery. The agreement was heavily criticized by the country's labor union and the political opposition. When the opposition party came to power in a subsequent election, the government refused to approve the privatization in Parliament, claiming that the deal had been unfair and that the company had been sold at half its value. In July 1997 the government finally threatened to renationalize the company by buying out WRB, but without any indication of the valuation method to be applied. WRB refused to renegotiate the agreement, maintaining that its 1994 agreement was legally binding, and brought the case for arbitration before the International Centre for the Settlement of Investment Disputes (ICSID) at the World Bank. MN hearing from its legal advisors that it had no legal basis for challenging the sales agreement, the government finally accepted the privatization in May 1998 and promised to pass the contentious bill.

### Miscellaneous

The final sections of a concession law should include transitional dispositions. These sections should regulate how the concessions already awarded, as well as the bidding underway, will be affected by the new law. Brazil's law, for instance, holds that concessions whose periods have expired, and those that are in force for an unspecified period, will remain valid, whereas all concessions for public services warranted without auction during the validity of the 1988 Constitution are extinct. Chile rules that concessionaires of existing concessions can choose whether they want to apply the new decree or live under the old rules.

### 6.3 Regulating Private Infrastructure: Minimizing Risk and Abuse

A common assumption is that regulation is the last thing private investors want. This, however, is a misperception. Investors certainly do not favor an excessively rigid and intrusive regulatory structure that limits their ability to operate infrastructure assets in an efficient manner. However, they do want—and in fact need—a regulatory framework that provides transparency regarding the future operating environment and minimizes the risk of undue interference by the government during the operating phase. Should such a framework not exist, operators can only rely on promises and hopes that a cooperative working relationship will be maintained. This clearly is not sufficient for most lenders and equity investors in such long-term contractual arrangements as concession agreements. Hence, investors will require a clear set of rules and regulations that provide the basic guidelines under which a specific infrastructure service can be provided.

Effective regulation is not only important for investors, however. In cases where overall sectoral reform and privatization efforts cannot generate a sufficient degree of competition, the market will not be able to discipline the actors involved in service provision. In many areas of infrastructure, especially in network operations such as telecommunications or water and electricity distribution, local monopolies tend to be unavoidable. To ensure that these companies do not abuse their market dominance to the detriment of consumers, strong regulation clearly is essential (see Box 31).

Most governments do, however, find it difficult to establish an effective regulatory framework that gives investors sufficient confidence. Besides unclear rules governing the settlement of disagreements through appeals, investors tend to be most concerned with the lack of political independence of regulatory agencies. Governments often prefer to keep regulatory authority close to themselves and to responsible line ministries, hoping to ensure a better coordination of regulation with policy priorities that way.

**Box 31. The Role of a Strong Regulator: The Experiences of Argentina and Peru**

A comparison of the experiences of the Argentinean and Peruvian telecom sectors is telling. Argentina was one of the first countries in Latin America to privatize its main telecommunications utility. In 1989, the government realized about US\$3.3 billion, mainly from European investors, splitting the system into two separate operators with exclusivity rights for eight years. In 1990, only after the actual privatization, the agency CNT was established through an executive decree as the responsible regulatory entity. However, it had to share its responsibilities with the telecommunications ministry, which assumed increasing authority over time. While basic telephony services expanded rapidly, prices remained comparatively high, and the exclusivity period was extended for another three years.

In Peru, on the other hand, the government created formally by law an independent regulatory entity—Osiptel—which participated in the privatization decision and negotiations for the sale of the state-owned telephony monopoly Entel. Through two separate sales in 1994 and 1996, the government received US\$3.2 billion in a highly competitive bidding process, which made Entel relative to its size the most successful telecom privatization in the region. The relationship between Osiptel and all operators is judged as highly professional and amicable, without any major frictions emerging. After negotiations with the new private operator of the previous Entel, the five-year exclusivity period originally agreed upon was officially terminated in August 1998, allowing for the entry of private competitors one year earlier than expected.

One of these policy priorities is the pricing of the particular services provided: elected officials will always be susceptible to voter pressures to reduce these costs. These pressures might result in the artificial lowering of consumer prices below the level required by investors to meet all their costs.

**Box 32. Hungary's Energy Office: Autonomy without Authority**

The desirable degree of autonomy and authority of Hungary's Energy Office was the subject of intense debate when the relevant law was brought before Parliament in 1994. One side argued for the creation of a fully autonomous regulator with full decision-making authority, in accordance with international best practice. Others wanted to maintain political control over tariffs. The result was a compromise: the Energy Office was given most of the usual safeguards of autonomy, but had its power limited to making recommendations to the government.

The compromise concerned many potential private investors during the privatization of power distribution and generation companies in December 1995. These concerns were not without grounds. On privatization, the government promised investors that it would (1) move to cost-reflective energy tariffs (including a guaranteed 8 percent return) by January 1997 and (2) implement the necessary tariff increases in October 1996. The Energy Office recommended that the government adopt a tariff regime to honor this commitment. In August 1996,

however, the government announced that it would not accept this recommendation, mostly because of political concerns over the reaction of consumers, and that tariff increases would be delayed—raising considerable concerns among investors. Price increases finally went ahead in January 1997, when the final average consumer price of electricity increased by 24 percent. Thus distribution companies got a 4 percent return, compared with the 8 percent promised at the time of privatization.

Thus, when moving from ownership of assets to administrative supervision of these activities, the government must make sure that regulatory supervision operates at an arm's length from the political functions of the government. Only then can investors be reasonably sure that all issues are being addressed based on the relevant technical criteria. Designing such an independent regulatory entity is not an easy task (see Box 32).

First and foremost, the agency itself must be placed in an environment that allows it to function as an independent regulatory body. This implies that the agency and its management have a distinct legal mandate that is free from ministerial control. Regulators should be appointed for fixed terms, with restrictions on arbitrary removal; their terms should not coincide with election cycles. To avoid political interference through the budget allocation process, agency funding also should take place independent from budgetary allocations. Instead, the agency should receive its resources through earmarked levies on the regulated enterprises or the consumers.

Any official in a regulatory function also must be free of any conflict of interest. This means that he or she must be independent from any economic interests in the regulated enterprises, as well as politically independent from the government. As soon as a regulator can derive economic benefits from one particular side, his or her independence will be in question.

Regarding staffing, regulatory agencies require highly skilled and experienced personnel capable of assessing industries and individual enterprises. A skill mix comprising economics, law, finance, and engineering is essential. Although some activities can be contracted out to private firms, the agency will require in-house expertise to fulfill its mandate effectively. One danger is that these individuals will be hired by the private sector, which is usually able to pay higher salaries. To avoid such a brain drain and rapid staff turnover, it is helpful if the agency can pay salaries that are exempt from civil service salary rules, to allow for a better compensation when warranted. This would also reduce the danger of corruption and industry capture by making these individuals less susceptible to economic pressures.

One particular issue that tends to emerge is the question of how to structure and organize a regulatory agency. Most countries tend to prefer the creation of sector-specific regulatory agencies to handle the regulation of each specific sector separately. More recent experience—such as the creation of regulatory agencies at the state level

in the United States, Canada, Australia, and Brazil—shows, however, that a multi-sectoral approach might be more attractive under certain circumstances.

Single-sector agencies tend to be more easily acceptable politically and allow for a simpler coordination of sector-specific expertise. In many respects, however, the regulation of different infrastructure services has many commonalities. Although the engineering and technical elements will certainly differ, economic, financial, and legal analyses tend to be quite similar. Hence, the incorporation of the regulation of various sectors within one commission makes more effective use of scarce skills and resources and permits adaptation of regulatory tools and consistent application of regulatory policy across sectors. A multi-sectoral agency also tends to be more resilient to political interference and industry capture, thus making it easier to establish true independence.

The question of organizational structure and responsibility also applies to the role of the central government regarding sub-sovereign infrastructure services. In large or federal systems, the decentralization of regulation has a number of advantages—it permits regulatory approaches to be adapted to local conditions and preferences; by bringing regulatory authority closer to the regulated firms, it can assist in ameliorating the informational asymmetry between regulators and firms; by bringing regulatory authority closer to users, it can improve the responsiveness and accountability of the regulator; and it can foster experimentation with more innovative regulatory approaches.

However, decentralization of regulation also has a number of potential weaknesses, which are likely to become more marked the smaller the jurisdictions involved. These include possible impediments to competition between utilities in neighboring jurisdictions as well as a reduced capacity to deal with spillover effects between jurisdictions, take advantage of economies of scale in regulation (an argument similar to that for the creation of cross-sectoral regulatory agencies), and make the most of scarce regulatory skills.

Decisions about where regulatory powers should lie need to be sensitive to the sovereignty of local governments. But even if regulation remains the responsibility of sub-sovereign authorities, the central government can still play a helpful role. In fact, the government should encourage some form of informal involvement to ensure that national policy objectives are being pursued by all authorities and that regulatory measures and practices are implemented in a coherent manner. One way to achieve this would be for the central government to develop an assistance program for lower authorities to help them make informed decisions about the regulation of private participation in sub-sovereign infrastructure and to implement sound private sector arrangements. In particular:

\_\_ The responsible regulatory agency could carry out *benchmarking* of the comparative performance of sub-sovereign infrastructure providers, both public and private. This would make it easier for the responsible authorities and their citizens to assess the quality of service and decide among the best service delivery options.

\_\_ The government could create an agency at the national level to provide *advice and training for municipal regulators*. Training courses could be organized to develop a minimum level of expertise, possibly with the help of regulatory agencies in other countries. The agency could also run a "help desk" to advise on the implications of relevant national legislation and specific regulatory policies applied within the country to support a consistent industry regulation across states, provinces, and municipalities.

\_\_ The government could *help broker discussions among authorities* that may wish to join together to seek a private sector partner.

\_\_ Finally, the national regulator could also serve as a *venue of mediation and reconciliation* in case of disputes between sub-sovereign authorities and private service providers. Both the private operator and the municipal authorities might appreciate the option of using this resolution mechanism prior to a binding legal decision by local courts or international arbitration bodies.

In general, all these functions should take the form of assistance rather than interference with sub-sovereign autonomy. The central government would benefit from a consistent application of regulatory policies and practices throughout the country and, given the anticipated lack of skills and experience at the local level, technical support would help in the difficult process of capacity building without infringing upon local self-government rights.

### 6.4 The End Result: Expensive Potentials or Investment Booms

One thing is for certain: the process of developing an appropriate and effective policy framework is neither easy nor swift. This does not make it a particularly appealing option for governments under pressure to solve their countries' infrastructure bottlenecks. However, many governments are learning that a quick-fix approach rarely succeeds. In fact, if investors can be attracted at all, projects simply tend to get stuck with project preparation times amounting to several years rather than the expected months. And even if such projects actually do get implemented, they often do not present a particularly attractive solution from the government's perspective (see Box 33).

Hence, governments are well advised to undertake these reforms not because they result in a cleaner or politically more appropriate process, but because they result in more attractive investment projects. The hope that dealing with individual investors on a project-by-project basis will resolve a country's infrastructure problem is generally misplaced. In fact, the likelihood is high that such an approach will result in frustrated investors, unfulfilled investment expectations, uncomfortably high-priced arrangements in a few projects, and severe political criticism for the government.

On the other hand, countries that have developed a comprehensive policy framework for these types of investments have generally had positive experiences. Not every project turns out perfectly, and in some cases even entire programs either had to be abandoned or fell apart, as was the case with Pakistan's IPP framework

#### **Box 33. How to Make a BOT Really Expensive: The Example of an African Bridge**

In the case of one southern African country, the construction of a bridge on a BOT basis resulted in possibly one of the most expensive bridges in the world. Motivated by excessive traffic jams at an existing one-lane bridge border crossing, the government decided to replace the existing bridge using private capital. Because no institutional framework was in place to handle the preparation of such a BOT project, the government immediately engaged in direct negotiations with one developer—a Swiss-registered company with Lebanese management that was active in low-cost housing construction in South Africa. The existing legal framework did not allow for such an arrangement, forcing the government to pass a special decree for the project.

On signing the contracts, the developer acquired the 500-meter, two-lane steel construction through a debt swap arrangement from Bulgaria at a cost of approximately US\$7 million. The toll, set by the special decree, is US\$17 per truck per crossing, i.e., US\$34 per kilometer, indexed to the U.S. dollar. The developer defends this price by pointing to the shaky legal basis for this project: his contract could be annulled at any time simply by overturning the special decree. He therefore expects to recover his investment within two to three years, without attaching much value to the total length of the 30-year contract (as indicated by the lack of any indexation of the toll to inflation). Suspicions and rumors about corruption are rampant in the country, partly motivated by the secretive style of the negotiations. Worst of all, traffic jams did not decline substantially because of the new bridge: time-consuming customs procedures turned out to be the primary reason for the slow traffic flow.



in the electricity sector (see Box 20). However, sensible, comprehensive frameworks—especially when combined with overall sectoral liberalization and reform, as in the United Kingdom or various Latin American countries—have tended to generate a substantial

pipeline of private investment projects and strong interest among the foreign investment community.

The importance of a strong policy framework is particularly visible in the case of the Philippines' electricity sector (see Box 34). Relying exclusively on a BOT framework, the country managed to avoid looming brownouts by creating a virtual boom in electricity investments from the private sector. In doing so, the Philippines developed a high degree of credibility among investors and expertise within government. Electricity generation projects can now be implemented in about one-third of the time needed for the first project simply because the government officials have developed all the necessary skills such that practically no element of these complex contractual arrangements can take them by surprise. All the necessary steps for the approval and implementation have been developed into a well-trodden path without any major institutional frictions and legal stumbling blocks. In fact, shortly before the Asian crisis, several large multinational power companies indicated that they wanted to withdraw from the Filipino market because competitive pressures among investors were tending to result in razor-sharp margins.

Not everything is picture-perfect in the Philippines. The exclusive reliance on BOTs, without a parallel privatization strategy for the state-owned utility, has left the government with substantial contingent liabilities resulting from counterguarantees. These longterm contracts might also pose a liability during the privatization of the utility, which is currently under preparation, as a new owner would most likely have to accept and honor them in the future.

### **Box 34. The Philippines: Averting a Crisis Through Private Power**

In the late 1980s the Philippines began to experience shortfalls in electricity stemming from a lack of maintenance, rehabilitation, and new investments in previous years. Recognizing that public funds would be insufficient to finance the necessary expansion of generating capacity, the government passed new legislation (the so-called BOT Law) specifically designed to attract private investment into the sector. In late 1988, negotiations started with Hong Kong's Hopewell to construct and operate the 210-Megawatt Navotas 1 plant. Another two BOT projects were completed during 1990, while many enterprises installed generators for their own electricity requirements.

These measures did not meet the country's tremendous capacity needs, however. During 1992–93 the crisis reached its peak, with brownouts in Manila lasting up to 12 hours per day. In response, the government introduced a series of emergency measures, including extensive guarantee packages, fast-track negotiation authority for the newly created Department of Energy, and exemption of all generating equipment from import tariffs. As a result, by mid-1994 brownouts had been reduced by half, and now they are rare. Through the introduction of BOT investments, the government managed to add about 8,000 Megawatts through about 35 IPPs with an investment volume of around US\$10 billion.

Through this extensive experience the Philippine electricity sector quickly turned into a full-fledged, competitive market for private investments. Although the pathbreaking Navotas 1 project took 21 months until financial closure was reached, far larger projects, such as the Sual (1,320 Megawatts) and the Batangas (1,000 Megawatts) plants, have been implemented recently within 8 to 10 months on highly competitive terms. All recent IPPs include significantly less government counterguarantees, and some projects, such as the 440-Megawatt Quezon Power plant, managed to tap the international bond markets as part of the project financing.

### 7— The Impact of the Asian Crisis

The currency crisis that hit several Asian economies in mid-1997 had a devastating impact on private infrastructure projects. The number of private infrastructure projects completed in the developing world declined from 318 in 1997 to an estimated 184 in 1998, representing a drop of US\$25.8 billion in investments. FDI inflows resulting from infrastructure projects also fell by about US\$3 billion in 1998 from the previous year. However, this decline was comparatively low due to the massive telecommunications privatizations in Brazil. Excluding Latin America, infrastructure FDI actually fell by almost one-half in 1998.

The reason behind this significant drop-off is the havoc created at the project level by the exchange rate shock. Massive devaluations drove a wedge between domestic currency revenue streams and hard currency debt service requirements; dropping property values erased future income potential for projects relying on real estate development; and the general economic slowdown made demand projections and associated revenue forecasts questionable. Commercial lenders, who had found themselves in stiff competition immediately prior to the crisis with lending margins driven down to a minimum, abandoned the project finance market, and projects that had not yet reached financial closure suddenly faced a

lack of available commercial debt. Facing severe budgetary pressures, governments could not afford their planned involvement in intended projects. State-owned enterprises linked to these projects through off-take agreements experienced drastic increases in service costs, while parallel increases in end-user tariffs were politically unacceptable. As a result, the private infrastructure market came to a screeching halt, with projects being canceled, delayed, or brought to the brink of bankruptcy.

In Malaysia, the light rail transit system in Kuala Lumpur, which had just opened in December 1996, immediately experienced insufficient cashflow. But as in the case of various tollroad projects, the government resisted the pressure to increase tolls. The national electricity company, Tenaga Nasional, deferred 60 transmission and distribution projects worth almost US\$800 million, and the US\$5 billion Bakun Dam project, which was already struggling because of infighting among the sponsors, was canceled. But Tenaga still experienced difficulties because of increased costs from dollar-linked power purchase agreements with several IPPs, and it suspended payments for one month during mid-1998 to force a renegotiation of these contractual agreements. Eventually an amenable solution was found to facilitate the power payments without resorting to a full-blown renegotiation.

In Thailand, the planned mass transit system for Bangkok, BERTS, finally collapsed, with the government unilaterally canceling the contract; the project developer, Hopewell Holdings, has initiated arbitration proceedings (see Box 35). Furthermore, the government delayed a 12-mile rail link across the border to Laos, after having awarded the project to a private investor under a 60-year concession. The government had committed itself for US\$27 million in debt financing to support the construction of the project. In the electricity sector, several IPPs

had been awarded prior to the crisis. Because the devaluation hit prior to financial closure, the contractual arrangements for six major projects needed to be reviewed and modified in order to make them more attractive to commercial lenders.

### **Box 35. Thailand's BERTS Saga**

Bangkok is notorious for daily traffic jams and congestion. Since the 1970s, the Government of Thailand has been thinking about developing new mass transport alternatives to alleviate the problem. In the 1980s, a light rail project was awarded to Canada's Lavalin but later rescinded by the prime minister. In 1991, the government awarded Hong Kong's Hopewell Holdings a 30-year concession (plus an eight-year construction period) for the US\$3.2 billion Bangkok Elevated Road and Rail Transports System (BERTS). The project was designed as a 60-kilometer elevated structure with railway tracks on the bottom, a mass transit commuter rail system in the mid-level, and a six-lane tollroad on top. The intention was that the entire project would be completed in 1998, in time for the Asian Games in Bangkok.

However, from the start the project was riddled with difficulties and disputes between the developer and the state authorities. Hopewell complained about frequent design changes, not being able to obtain all the relevant approvals, and not having free access along the route for construction purposes. The government, on the other hand, criticized Hopewell for consistently failing to meet contractual deadlines for completing the financial package as well as construction phases. After obtaining another extension in mid-1996, Hopewell increased its equity share in the venture from 12 to 15 percent and began signing contracts with equipment suppliers and contractors, including Siemens, Daimler-Benz, ABB, and Balfour Betty. However, obtaining debt financing proved difficult because commercial lenders were unwilling to pro-

*(box continued on next page)*

Indonesia was hit hardest, with an 80-percent devaluation of the rupiah in one year combined with the political turmoil surrounding the end of the Suharto regime. In September 1997, the government declared an indefinite delay on 75 projects worth about US\$15.3 billion. This decision affected primarily power generation and transport projects that had not yet reached financial closure, as these projects tend to have a detrimental short-term effect

*(box continued from previous page)*

vide guarantees, given the uncertain political situation of the project. In addition, Hopewell itself experienced increasing financial difficulties that eventually forced it to sell 80 percent of its power generation subsidiary, CEPA, for \$1.4 billion.

Following the onset of the Asian crisis, Hopewell announced in mid-1997 that the project could not be completed as scheduled. Because of the devaluation of the baht and a collapse in the Thai property market,

projected revenue streams were not sufficient, and equity and debt financing could not be raised as expected. However, Hopewell indicated its interest in continuing the project, assuming changes to the contractual structure. In November 1997 the government decided to cancel the project. Threats of legal actions ensued, with Hopewell withholding US\$14 million in payments to the State Railway of Thailand (SRT) for not handing over promised lands, and SRT demanding US\$1.5 million in penalty because of delays. The government also barred Hopewell from access to project lands, which in turn initiated legal proceedings in compensation for the US\$650 million already spent on construction, now 20 percent complete.

In the meantime, the SkyTrain project, a 23.7-kilometer light rail system for downtown Bangkok, has moved ahead despite the crisis, primarily because of a large share of the debt being in baht. IFC provided support for \$100 million to the US\$1.2 billion project—including a 2 percent equity stake—and completion is expected in December 1999.

on the current account because of high import requirements. In addition, the government became increasingly concerned about the potential impact of contingent liabilities through government guarantees.

Despite this cancellation, however, the government still found itself in substantial difficulties with the state-owned electricity company, PLN, locked into long-term off-take contracts linked to hard

currencies, while end-user tariffs were collected in rupiah (see Box 36). Furthermore, the crisis resulted in an indefinite delay of the intended privatization of the state's national telecom operator, Telekomunikasi, because of disputes with foreign investors. Under already existing contracts, international telecom operators demanded a reduction in the annual fees paid to Telekomunikasi

### **Box 36. Fallout from the Currency Crisis: Indonesian IPPs**

During the mid-1990s, Indonesia awarded concessions for a series of private power generation plants to meet the rapidly increasing electricity demand in the country. Although liberalization is planned for the future, the government did not open the entire sector, leaving transmission and distribution as the responsibility of the state-owned PLN. The IPP developers negotiated power purchase agreements with PLN for the offtake of the electricity generated, with payments under these contracts tied to the US dollar or other hard currencies. However, with PLN being a state-owned company, developers had serious concerns regarding the creditworthiness of the company and its ability to fulfill its contractual obligations as consumer tariffs are set primarily based on political concerns. But government guarantees, which form the standard insurance for private investors in such a situation, were not available in the case of Indonesia. The government rejected the issuance of such guarantees and was only willing to provide soft "comfort letters" through the Ministry of Finance, stating that PLN is supposed to buy electricity from private power plants.

But when the devaluation started in mid-1997, these contracts quickly

turned sour. Within one year, the rupiah fell 80 percent against the US dollar. This resulted in consumer tariffs falling to an equivalent of 2.5 US cents, while PLN was obligated to buy electricity at rates in between 5.74–8.5 US cents from the operating IPPs. Facing massive losses, PLN was instructed by the Ministry of Mines and Energy to renegotiate tariffs. IPP investors, however, resisted any reopening of their power purchase agreements, as their debt service obligations and return projections were in US dollars. PLN therefore apparently sent let–

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because of the substantial drop in revenues resulting from the devaluation.

This crisis does not spell the end of private sector involvement in infrastructure. But it has clearly revealed that the risks involved in these projects are real, and the recent market exuberance has given way to a more careful assessment of risk mitigation mea–

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ters to the IPPs in January 1998, informing them of PLN's intention to make payments at the exchange rate prior to the devaluation. In addition, PLN apparently also threatened to unilaterally cancel the agreement with one IPP.

The government initially tried to assist in this situation. The Ministry of Mines and Energy expressed its intent to honor contractual obligations. An interministerial team was organized to study the situation, and the government made some funds available for PLN to settle outstanding debt obligations, but indicated that no further funds would be available. In line with an economic reform program previously agreed with the IMF, the government also introduced a sizable initial adjustment of electricity tariffs in April 1998. Following widespread social unrest and demonstrations, however, the government reintroduced the subsidies prior to the resignation of President Suharto.

In the meantime, credit agencies downgraded the debt of the four existing IPPs, indicating their concerns about impending defaults should additional support from the government and PLN not be forthcoming. The sponsors of another IPP suspended construction and were immediately sued by a contractor for non-payment. The United States' Overseas Private Investment Corporation (OPIC) also apparently advised the Indonesian authorities that it may seek to recover investments if U.S. investors successfully made claims under political risk insurance policies issued by OPIC in respect of canceled projects. At least two foreign operators have initiated arbitration proceedings, and the government is presently under pressure from bilateral agencies to fulfill the original contractual obligations.

tures. During the 1990s, project developers, investors, and commercial lenders consistently claimed that there was no shortage of funding in the international capital markets; rather, there was a shortage of good projects. Nothing has changed in this fundamental wisdom, but the definition of "good" has become more rigorous. For governments, this implies that private capital for infrastructure projects will be harder to come by in the coming years. Standards for project preparation will become tougher, and competition among countries to attract foreign direct investment into their infrastructure will become stiffer.

During the years immediately prior to the crisis, competition for projects among investors had grown rapidly, often at the expense of careful risk evaluation. The crisis has changed the market perception of investors, and infrastructure investments are now considered high-risk ventures. For this reason, new projects will be scrutinized extremely carefully regarding their overall risk structure. Even more so than before, investors will need to ensure that all risks are mitigated as much as possible and that governments are willing to take responsibility for risks outside the investors' control. In cases where governments do not pursue broad sectoral liberalization and privatization reforms, this will most likely also include guarantees and other support arrangements to facilitate financial closing.

In general, investors and lenders will expect a stronger government commitment to individual projects, be it through more extensive undertakings or through direct contributions to the project itself. In fact, the concept of "public-private partnerships," where the government directly participates through financial contributions in individual projects, has become increasingly popular in recent years. In some cases it might be out of necessity, as was the case in Hungary's M5 highway, where a project would not be commercially viable or bankable without this support (see Box 37).

In a number of other cases, however, governments have designed projects as partnerships from the outset. Frequently projects desired and designed by governments are not, in their entirety, just-

fied by existing market demand. Specific social objectives can result in tollroads being too long or too wide, water networks too extensive, or transport systems with excess capacity. In such cases, governments often step in by contributing financially to support the project costs through direct funding from the budget or through soft loans. For Hong Kong's new Chek Lap Kok Airport, for example, which included land reclamation and the building of roads, tunnels, and rail connections, the government provided about two-thirds of the total construction cost of about US\$20 billion. It is important to recognize, though, that such arrangements at the end allow governments to fund large-scale infrastructure projects at less cost than had it been undertaken as a standard public sector turnkey project.

But no matter how strong the government support is, one risk cannot be mitigated in a credible fashion. As the Asian crisis has shown, massive devaluations of currencies can destroy any contractual fundamentals, no matter how carefully a project has been prepared. Investors typically try to protect themselves against fluctuations in the future revenue stream resulting from exchange rate volatility by indexing the local-currency tariff charged to end users to those hard currencies in which equity and debt financings have been made. However, this only works for modest fluctuations, and not for the massive devaluations Thailand and Indonesia experienced recently. In such cases, the corresponding increases in tariffs can be so dramatic that the situation will simply become unsustainable, leaving no other choice but to renegotiate contracts and go through an elaborate debt restructuring.

There is little possibility of insuring against this fundamental risk in long-term contractual arrangements. One way of mitigating it would be to maximize the funding from local currency sources. Especially with respect to the large share of debt financing in each project, it would be highly desirable if local capital markets could provide some or all of the debt capital required. The main problem is, of course, that domestic capital markets in most countries are not deep enough with uncompetitively high interest rates

**Box 37. The Importance of Government Support: The Experience of Hungarian Tollroads**

In the early 1990s, the Hungarian government recognized that demands for new road transport capacity could not be met from budgetary resources. It therefore established the Bureau for Motorway Concessions under the Ministry of Transport, Communication and Water Management to find private financing solutions for over 500 kilometers of highways and bridges. It also passed a law especially for concessions to provide a strong legal framework for privately financed infrastructure projects. The experience to date suggests, however, that tollroads will require strong support arrangements to make projects commercially viable and affordable.

A first success was achieved with the financial closure on the M1/ M15 project in December 1993, following the initial procurement notice of September 1991. The winning consortium, which included the French Transroute and Austria's Strabag, was granted the right to build and operate for 35 years a 43-kilometer section of the M1, completing the highway link from Budapest to Austria, as well as a 15-kilometer link from the M1 to the Slovak border, for a total project cost of US\$366 million. The concession contract set the initial toll at 14.6 US cents per kilometer with indexation to the CPI as well as exchange rate changes to the French franc. When the M1 section opened in January 1996, protests arose concerning the high level of tolls, and traffic flow was only 55 percent of the initial estimates. A successful lawsuit against the project company threatened a cutting of tolls by one-half, and construction of the M15 was suspended for seven months until the Ministry of Finance agreed to provide loan guarantees for the outstanding work. During 1998, the company faced a revenue shortfall of about 30 percent and could not meet its debt service.

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and a lack of long-term lending capabilities. But especially for midsized, municipal projects, the development of a bond market along the lines of the U.S. municipal bond market can present good opportunities in this respect.

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In December 1995, financial closure was reached on the M5, a 157-kilometer highway linking Budapest with the Yugoslav border. A consortium consisting of France's Bouygues, Bau Holding of Austria and South Africa's Intertoll was granted a 35-year concession for the US\$634 million project. The contract specified an initial toll rate of 7.8 US cents per kilometer with an adjustment formula similar to the M1 project. In 1997, traffic flow on the first section of 97 kilometers fell only 3 percent short of initial projections, and some local protest was met by special discount arrangements for large-scale users in exchange for cash support from the state for potential revenue losses resulting from this discount for the first 6.5 years of operation. Financially the project company is performing as expected, and during 1998 only about one-quarter of the

operational subsidy from the state needed to be called.

The primary difference between the two projects results from a more flexible contractual arrangement combined with stronger government support in the case of the M5. The government accepted the building of the road in two phases, with the financing for the second section of 60 kilometers still needing to be arranged. Furthermore, the government also provided tolling rights on the already existing highway link to Budapest. In the MI/MI 5 project, the government only accepted financial commitments associated with land acquisition and archaeological exploration, amounting to about 5 percent of total project cost. For the M5 project, on the other hand, government commitments are estimated to be about one-third of total project costs. In exchange, the project company agreed to a profitsharing arrangement in which 28.6 percent of all dividends are distributed to the government.

For many of the larger infrastructure projects, however, other means need to be employed to provide sufficient comfort to investors and lenders. One important mechanism will be the increased involvement of bilateral and multilateral agencies, which can directly

### **Box 38. Multilateral Support for Private Infrastructure Projects**

In recent years bilateral and multilateral agencies have played an increasingly important role in the financing of private infrastructure projects. Their involvement represents a helpful mechanism to absorb some of the project risks, and a number of projects would have been unable to reach financial closure without it. Because of the increased risk perception in international financial markets following the recent currency crisis, such support mechanisms will probably play an even more important role in the near future.

All the major multilateral agencies have developed a range of financial instruments in support of private infrastructure projects. Within the World Bank Group, three member organizations are key players in this area:

— The **International Bank for Reconstruction and Development (IBRD)** is geared primarily toward providing financial assistance to the governments and public sector entities of its developing country members. At the same time, the agency is in a strong position to strengthen the role of the private sector in individual countries' infrastructure sectors. While it cannot by its Articles provide any direct equity to private project companies, it can provide funding to governments in support of a public-sector equity stake in a company. In addition, the IBRD can make project-specific loans to a government or to a company, if backed by a government counter-guarantee. Furthermore, it can provide project-specific guarantees, again in exchange for a counter-guarantee by the host government in favor of IBRD. The partial risk guarantee serves to insure against risks related to sovereign contractual obligations or force majeure issues. Partial credit guarantees cover risks of non-payment of parts of the loan financing.



— The **International Finance Corporation (IFC)**

has a mandate to provide financial support directly to the private sector without the need for any type of government guarantees. Besides acting in the role of a passive equity holder, the IFC typically provides direct loans on its own account (A–loan) and functions as a lender–of–record in the syndication of commercial debt (B–loan). Finally, IFC can also provide various forms of quasi–equity (C–loan) as well as specific project guarantees.

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— The **Multilateral Investment Guarantee Agency (MIGA)** is specialized in providing political risk coverage as a means of facilitating foreign direct investment in developing countries. MIGA can insure all types of private investment against currency convertibility and transfer risk, expropriation, war and civil disturbance, and breach of contract. At present, all guarantee instruments are limited to a project ceiling of \$50 million and a country ceiling of \$225 million.

Beside the various agencies of the World Bank Group, regional development banks can provide financial support to private infrastructure projects:

— The **Asian Development Bank (ADB)** has not yet developed into a major player in the private infrastructure area, but a range of support instruments exists that could be provided without any requirement for government counter–guarantees. It can contribute up to 25 percent of the share capital in equity, can provide direct and syndicated loans, and can design project–specific partial–risk or partial–credit guarantees.

— The **European Bank for Reconstruction and Development (EBRD)** can provide loans to public sector entities as well as private companies without the need for government counter–guarantees. It can participate in project companies through equity as well as quasiequity contributions. Finally, the EBRD can provide flexible guarantee packages designed to address the specific risks inherent to a project.

— The **Inter–American Development Bank (IDB)** represents the dominant multilateral agency providing financial support to private infrastructure projects in Central and South America. It can make use of partial risk and credit guarantees, direct project loans as well as loan cofinancing jointly with commercial lenders. Unlike other multilaterals, however, the IDB cannot currently provide equity to larger infrastructure projects.

— The **African Development Bank (AfDB)** is finally in the process of designing financing tools to support private infrastructure investments in its member countries.

provide funds to projects and provide an important political umbrella that allows investors to feel more safeguarded against damaging unilateral decisions by governments. In addition, most agencies can provide insurance on part or all of the capital committed to a project against a broad spectrum of political risks(see Box 38).

Bilateral export credit agencies (ECAs) typically become involved by providing financing and insurance for equipment supplies from their home countries. They typically can provide direct loans and guarantees that can cover up to 100 percent of the loan volume. Some bilaterals are even willing to insure against some specific commercial risk elements. But while investors and lenders benefit from this transfer of risk, it is important to remember that governments should expect to be held liable in case of politically generated breaches of contract, with ECAs having the ability to claim compensation from governments in case of default on their loans or when guarantees are being called. Hence, while these mechanisms cannot—and, in fact, should not—eliminate all risk factors, they can provide a level of comfort sufficient for investors and lenders to commit their own capital.

However, even with major efforts to address this heightened sense of risk among lenders and investors, the upcoming years certainly will bring a slowdown in investment activities in infrastructure compared to the years preceding the crisis. This means that governments will face a less vibrant market in which investors and lenders can be more selective in the individual projects they intend to pursue seriously. Hence, those countries in which major delays in project preparation are likely because the legal framework is unclear or the relevant institutional environment seems unprepared to handle these projects will find it difficult to attract investments. This puts even more pressure on governments to carry out the necessary reforms and to develop an effective policy framework before individual projects are offered to investors. Failure to do so will magnify the difficulties with delayed and canceled projects in the past, as reduced competitive pressure in the market will limit investors' willingness to wait patiently until individual impediments to specific projects can be removed.

## 8— Conclusion

Foreign direct investment in infrastructure is a relatively recent phenomenon that presents tremendous opportunities for investors and governments alike. Investment volume in the various infrastructure sectors in developing countries grew dramatically during the 1990s. This resulted in the creation of an entirely new industry of companies now willing not only to supply equipment and services, but to take the commercial risk involved with the operation of facilities for long time periods. Countries that have successfully attracted such investments have generally benefited from substantial efficiency gains and reductions in service charges, while the public budgets of developing country governments could alleviate financial pressures by tapping new sources of capital for major investment programs.

It would be a mistake, however, to think of FDI as just another funding source that governments can tap as part of the traditional public procurement process. Project finance transactions are complex contractual arrangements among a number of different parties with different objectives. Such transactions can work only if the needs of the private sector can be met in an appropriate manner. Lenders and investors will want to be reasonably sure that facilities can be built and owned without undue interference, and

that they can be operated in a reasonably predictable environment at a sufficiently attractive rate of return. Any element in a country's policy framework that jeopardizes these expectations will become a stumbling block for investor consortia, making projects either more expensive or simply impossible because of the increased risk involved.

In many developing countries, therefore, the successful implementation of foreign direct investments in infrastructure requires a careful review of the business environment for such investments and, if necessary, reform of the policy framework underlying it. New institutional structures often need to be designed, laws must be amended or new legislation created and adopted, and regulatory oversight functions must be established and strengthened. Most important, the organization of the existing service provision should be restructured to allow for effective participation and competition by private sector operators.

In short, involving the private sector in a country's infrastructure is not something that can be approached in an *ad hoc* manner. To allow their countries to benefit from new and more efficient investments, governments need to devote substantial effort in designing broad reforms that will sustain an investor–friendly environment. Failure to do so will almost invariably result in lengthy delays in project implementation, cancellation of projects, and frustrated investors abandoning potential projects after having devoted considerable resources to them.

### **Annex 1— Methodology for Estimating FDI Flow**

Data on FDI inflows resulting from private infrastructure transactions are not easy to come by. No single statistical source exists that actually breaks out the FDI component of infrastructure investments. The accuracy of information on FDI flows generated by private infrastructure projects therefore is dependent on available project–specific data.

The estimation conducted in this analysis relies on two different datasets. The World Bank's PPI Project Database tracks private infrastructure projects carried out in the developing world since 1984. The database relies on project–specific information to generate aggregate statistics on number of transactions and total project costs. However, the database does not provide any statistics on FDI flows resulting from these transactions.

To obtain the detailed information necessary to derive the FDI component of individual projects, FIAS compiled a dataset of 542 observations across all infrastructure sectors in the developing world. The compilation was not based on any particular criteria except the availability of project–specific information. Hence, the dataset should represent an unbiased sample of the entire set of

observations (with the possible exception of particularly small transactions, for which data tend to be harder to collect and verify).

On the basis of the information available in the FIAS dataset, the FDI component for each project was estimated and aggregated by sector and region. To derive FDI flows on private infrastructure projects in the developing world, these results were then applied to the PPI Project Database. The following short description of the methodology used is divided into two parts:

\_\_\_ Deriving FDI components on the basis of the FIAS dataset, and

\_\_\_ Deriving FDI flows from the PPI Project Database.

#### **A1.1 Deriving FDI Components Based on the FIAS Dataset**

The FIAS dataset contains information on 542 private infrastructure transactions conducted in the developing world since 1990. It contains information on the name and type of the project, its size, the host country, the year of implementation, debt–equity ratios, and ownership structure. Conceptually, the share of FDI can be determined

for each project based on this information.

Determining FDI flows generated from privatization transactions tends to be relatively unproblematic. The central piece of information needed is the shareholdings of foreign investors within the winning consortium. The actual flow of funds typically comes through in the year of the sale, as governments are generally keen on improving their budget and balance-of-payments position through the receipt of privatization revenues. Only in a few cases did information indicate that privatization payments were spread over two years, especially in transactions that happened close to the end of the calendar year. But in general the assumption can be made that the foreign share of the privatization revenue enters the host country as an FDI inflow during the year of the transaction.

The situation is more complicated in the case of greenfield investments through BOT-type transactions or concessions combined with the construction of new capacity. These transactions tend to

be highly leveraged, where equity tends to be significantly smaller than debt flows. It is important to recognize that debt can also qualify as FDI if it has been provided by the equity investors. This does not typically occur, however, because sponsors tend to rely on commercial lenders to provide the required debt financing. But in isolated circumstances sponsors have preferred, or were forced, to provide some of the required debt. Information on such transactions for a relatively large set of transactions is difficult, if not impossible, to obtain. Debt flows were therefore excluded entirely from the estimation of FDI flows. Nonetheless, it is important to recognize that the exclusion of debt flows in their entirety from the estimation of FDI inflows introduces a bias wherein FDI estimates are likely to be lower than actual inflows.

Furthermore, debt as well as equity are used to support the construction of the new facilities and are therefore typically distributed over time, in line with the financing requirements for the construction project as well as specific contractual agreements among the various investors and lenders. Hence, unlike privatization transactions, it would be wrong to assume that the entire FDI portion of such a project will enter the host country during the first year. Therefore a mechanism needed to be found to allow for a realistic spread of these inflows over time so as not to artificially inflate FDI inflow estimates in any particular year.

The information necessary to derive the resulting FDI commitments for each project are the total cost of the project; key dates such as financial closure, construction start, or project completion; the names and nationalities of the investors as well as their equity shares; and the debt-equity ratio. But the translation of commitments into flows depends on the particular disbursement profile applied by the investor consortium. Tracking individual disbursement profiles for a large number of transactions is practically impossible, and general assumptions have to be made regarding disbursement patterns.

The actual disbursement of equity in a project finance transactions is determined by the contractual agreements among the con-

sortia members and commercial lenders. The disbursement pattern is dependent primarily on the financing requirements during the various stages of the construction process, and thus dependent on technical criteria. But in addition, security and risk mitigation concerns, especially by lenders, often play an important role in determining when equity funds are being used relative to debt.

An analysis of the disbursement profile of IFC equity investments in 40 infrastructure projects since 1990 shows that the primary difference in actual equity disbursements appears to depend on the size of the project. Although stretched disbursement periods can also occur for relatively small projects, and although relatively large projects also, on occasion, receive the full equity injection up-front, on average the time period needed for the full disbursement of equity increased with project cost. On the basis of this information, a simple average was

calculated:

$$\text{Average Payout Period} = \frac{\sum(\text{no. of months for disbursement}/\text{total project cost})}{\text{no. of projects}}$$

This revealed that it takes, on average, 0.06125 month per million dollars of project cost to fully disburse the committed equity. Assuming that IFC's behavior is representative for all equity investors, this ratio was applied to all projects based on their total project costs, and disbursements were distributed among years accordingly. Because not one project in IFC's equity portfolio had disbursement periods longer than three years, the same was applied to the estimation process to avoid unrealistically lengthy disbursement profiles for particularly large projects.

These equity disbursements were assumed to start with the date of financial closure or construction start, both of which tend to be very close in project finance transactions. When these dates were not available, the project start date was estimated by using project completion dates and average construction periods for

**Table A1–1. Estimated Debt–Equity Ratios, by Project Type**

Sector	Debt/Equity Ratio	Number of Observations
Electricity	74/26	101
Water & Waste	77/23	20
Transport		
Airports	70/30	13
Seaports	67/33	11
Roads	78/22	27
Telecom		
Fixed–wire	46/54	5
Cellular	42/58	15

Note: FIAS estimates based on IFC transaction information.

different types of projects based on information from IFC and industry experts.

Finally, in cases where debt–equity ratios were not available for individual projects, estimated average ratios were used. These average ratios were calculated for each infrastructure sub–sector based on the observations included in the FIAS dataset with complete information. The following table shows the average ratios, weighted by project costs, that were applied to deduce project equity shares in cases of missing information.

Combining the information contained in the FIAS dataset with these estimation techniques, a resulting FDI flow could be imputed for each of the projects. By aggregating these results, FDI inflow statistics could be derived for private infrastructure transactions. But to obtain reliable information, the obtained results now needed to be applied to the universe of private infrastructure transactions. In this respect it is important to note that the FIAS set only represents a subset of this universe. Although sizable in terms of number of observations, it accounts for

only about one-third of the number of transactions and slightly over one-half of total project costs for the projects recorded in the PPI Project Database.

**Table A1–2. The Share of FDI in Total Project Costs**

(Aggregate shares, 1990–98)

	<i>Power</i>	<i>Airports</i>	<i>Seaports</i>	<i>Rail</i>	<i>Roads</i>	<i>Telecoms</i>	<i>Water</i>	<i>Total</i>
Latin America & Caribbean	0.4147	0.0515	0.1944	0.1373	0.0352	0.5088	0.1407	0.3594
East Asia & Pacific	0.1660	0.0785	0.0203	0.0903	0.0259	0.1825	0.0404	0.1235
South Asia	0.1619	–	0.3300	–	–	0.3387	–	0.1696
Europe and Central Asia	0.4047	–	0.1261	–	0.0518	0.3815	0.0386	0.3190
Sub-Saharan Africa	0.1902	0.5690	–	0.0750	0.2521	0.8320	0.1084	0.2378
Middle East & North Africa	0.3838	–	0.3268	–	–	0.8320	0.1084	0.2613
TOTAL	0.2763	0.0853	0.1360	0.1111	0.0352	0.4426	0.0777	0.2613

Note: FIAS estimates based on FIAS dataset.

## A1.2 Deriving FDI Flows from the PPI Project Database

In order to derive FDI flow statistics resulting from private infrastructure transactions in the developing world, the results obtained from the estimations on the FIAS dataset need to be applied to the PPI Project Database, which is assumed to be comprehensive, covering as it does the universe of private infrastructure transactions in developing countries. Assuming that the FIAS dataset is a representative sample of the universe, the same relationship between FDI components and total project cost should hold. This would imply that FDI flows could be estimated for the universe by imputing the same share of FDI in total project costs as obtained in the FIAS dataset estimations.

Overall, an average 26.13 percent of total project costs came through FDI inflows. However, using one general ratio would be overly simplistic, most likely resulting in a distortion of the estimates. The analysis of the FIAS dataset revealed significant differences in the share of FDI in total project costs among regions and sectors (see table AI–2). This was, in fact, to be expected because the share of equity in each transaction—and therefore the FDI component—is heavily influenced by whether the transaction was a privatization or a greenfield project finance deal. Latin America's FDI share is higher because it relied more on privatization transactions, especially in electricity projects. In addition, equity shares also tend to differ across sectors (see Table AI–1). Telecom transactions therefore show a larger FDI component, as equity shares tend to be higher in general, and because large-scale privatizations of fixed-wire networks dominate the transaction structure in financial terms.

This matrix of coefficients was therefore applied to the project cost information of the PPI Project Database to obtain the estimated FDI flows resulting from private infrastructure transactions. The resulting data appear in Annex II.

## Annex II— Summary Data Tables

## Attracting Foreign Direct Investment Into Infrastructure

**Table AII–1. Number of Private Infrastructure Projects, by Region**

(Number of transactions, 1990–98)

<i>Region</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>
Latin America & Caribbean	40	13	38	39	72	72	89	117	109
East Asia & Pacific	12	10	24	44	75	57	86	102	18
South Asia	5	2	3	4	10	38	31	20	8
Europe and Central Asia	4	5	12	157	50	75	61	46	22
Sub-Saharan Africa	2	2	5	7	8	12	19	23	16
Middle East & North Africa	3	0	1	4	6	2	6	10	11
<b>TOTAL</b>	<b>66</b>	<b>32</b>	<b>83</b>	<b>255</b>	<b>221</b>	<b>256</b>	<b>292</b>	<b>318</b>	<b>184</b>

*Note:* 1998 data are estimates.

*Source:* World Bank PPI Project Database.

**Table AII–2. Private Infrastructure Projects by Projects Costs, by Region**

(US\$ millions, 1990–98)

<i>Region</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>
Latin America & Caribbean	9,406.7	9,897.5	13,616.0	15,251.4	15,919.8	17,153.2	24,437.4	43,574.7	55,000.0
East Asia & Pacific	1,740.1	3,267.4	8,418.5	13,997.7	15,463.3	19,550.0	28,188.4	35,928.9	15,000.0
Europe and Central Asia	83.0	264.0	420.2	1,323.2	3,544.7	7,778.4	10,262.2	15,220.3	11,000.0
South Asia	267.0	639.5	51.5	1,097.2	3,971.0	3,816.2	10,884.5	13,459.2	4,300.0
Middle East & North Africa	268.0	104.0	10.0	2,947.0	649.5	150.0	375.0	5,969.3	4,200.0
Sub-Saharan Africa	39.6	0.0	43.2	32.3	642.7	915.8	1,926.2	3,417.0	1,700.0
<b>TOTAL</b>	<b>11,804.4</b>	<b>14,172.4</b>	<b>22,559.4</b>	<b>34,648.8</b>	<b>40,191.0</b>	<b>49,368.6</b>	<b>76,073.7</b>	<b>117,569.4</b>	<b>91,000.0</b>

*Note:* 1998 data are estimates.

*Source:* World Bank PPI Project Database.

## Attracting Foreign Direct Investment Into Infrastructure

**Table All–3. Infrastructure FDI Flows, by Region**

(US\$ millions, 1990–98)

<i>Region</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>
Latin America & Caribbean	2,210.1	4,735.3	4,868.1	5,194.9	6,668.7	6,602.8	9,441.9	16,844.1	22,100.0
East Asia & Pacific	244.8	286.2	1,029.8	1,637.0	2,041.8	2,855.4	3,866.9	4,401.9	2,560.0
Europe and Central Asia	33.2	100.7	166.0	353.1	1,165.9	2,977.6	3,683.2	5,593.8	3,990.0
South Asia	66.0	108.1	11.9	185.9	738.9	752.4	2,712.0	4,134.6	565.0
Middle East & North Africa	140.5	86.5	10.0	1,133.3	448.7	111.4	199.1	2,963.4	2,420.0
Sub-Saharan Africa	7.5	0.0	21.1	18.1	486.4	596.6	970.2	2,397.6	1,320.0
<b>TOTAL</b>	<b>2,702.1</b>	<b>5,316.8</b>	<b>6,106.8</b>	<b>8,522.3</b>	<b>11,550.4</b>	<b>13,896.1</b>	<b>20,873.3</b>	<b>36,335.3</b>	<b>33,000.0</b>

*Note:* 1998 data are estimates.

*Source:* Foreign Investment Advisory Service.

**Table All–4, Infrastructure FDI Inflows, by Sector: Entire Developing World**

(US\$ millions, 1990–98)

<i>All Developing Countries</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>
Power	402.6	162.2	2,892.7	3,494.2	3,807.7	6,147.2	9,202.0	15,086.7	5,100.0
Transport	244.9	95.8	312.2	486.4	303.4	634.8	581.2	1,533.8	1,700.0
Airports	0.0	0.0	78.5	22.4	40.5	125.9	21.5	38.4	98.0
Seaports	0.0	0.0	8.8	38.5	47.5	115.6	65.6	804.2	65.0
Railroads	39.4	31.6	113.7	332.2	448.1	312.0	272.0	379.9	61.0
Roads	205.5	64.2	111.3	93.3	167.4	81.3	222.1	311.3	34.0
Telecoms	2,054.6	5,048.3	2,838.8	3,862.0	7,366.0	6,944.5	10,999.2	19,214.3	25,000.0
Water & Waste	0.0	10.6	63.0	679.6	73.2	169.5	90.0	500.4	21.0
<b>TOTAL</b>	<b>2,702.1</b>	<b>5,316.8</b>	<b>6,106.8</b>	<b>8,522.3</b>	<b>11,550.4</b>	<b>13,896.1</b>	<b>20,873.3</b>	<b>36,335.3</b>	<b>33,000.0</b>

*Note:* 1998 data are estimates.

*Source:* Foreign Investment Advisory Service.



## Attracting Foreign Direct Investment Into Infrastructure

**Table All–5. Infrastructure FDI Inflows, by Sector: Latin America and the Caribbean**

(US\$ millions, 1990–98)

<i>Latin America &amp; Caribbean</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>
Power	267.8	0.0	2,098.4	1,272.5	1,649.1	2,561.6	4,258.6	9,684.4	2,300.0
Transport	186.9	45.6	215.4	158.6	131.6	190.1	335.3	571.6	1,100.0
Airports	0.0	0.0	0.0	4.6	0.0	7.9	5.4	2.1	4.4
Seaports	0.0	0.0	7.8	36.1	30.1	54.2	11.7	187.8	380.0
Railroads	0.0	31.6	113.7	87.3	48.1	71.7	221.3	264.9	540.0
Roads	186.9	13.9	93.9	30.6	53.4	56.3	96.8	116.8	220.0
Telecoms	1,755.4	4,679.2	2,554.3	3,179.4	4,826.9	3,685.2	4,826.4	6,359.4	18,000.0
Water & Waste	0.0	10.6	0.0	584.3	61.1	165.9	21.7	228.7	570.0
TOTAL	2,210.1	4,735.3	4,868.1	5,194.9	6,668.7	6,602.8	9,441.9	16,844.1	22,000.0

*Note:* 1998 data are estimates.

*Source:* Foreign Investment Advisory Service.

**Table All–6. Infrastructure FDI Inflows, by Sector: East Asia and Pacific**

(US\$ millions, 1990–98)

<i>East Asia &amp; Pacific</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>
Power	7.3	62.8	685.2	922.3	1,049.9	1,400.8	1,981.6	1,988.0	2,060.0
Transport	57.9	50.3	96.9	286.6	128.3	367.8	198.2	257.5	76.7
Airports	0.0	0.0	78.5	0.0	29.8	95.6	0.0	0.0	0.0
Seaports	0.0	0.0	1.0	2.4	17.3	6.9	22.6	57.0	0.0
Railroads	39.4	0.0	0.0	244.9	0.0	240.3	50.7	115.0	61.0
Roads	179.6	173.1	184.7	333.0	852.1	1,083.7	1,655.6	1,902.3	421.0
Telecoms	179.6	173.1	184.7	333.0	852.1	1,083.7	1,655.6	1,902.3	421.0
Water & Waste	0.0	0.0	63.0	95.1	11.5	3.1	31.6	254.1	6.7
TOTAL	244.8	286.2	1,029.8	1,637.0	2,041.8	2,855.4	3,866.9	4,401.9	2,560.0

*Note:* 1998 data are estimates.

*Source:* Foreign Investment Advisory Service.

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**Table All–7. Infrastructure FDI Inflows, by Sector: Europe and Central Asia**

(US\$ millions, 1990–98)

<i>Europe &amp; Central Asia</i>	1990	1991	1992	1993	1994	1995	1996	1997	1998
Power	27.5	0.0	99.6	0.0	489.7	1,630.8	1,791.3	1,216.7	619.6
Transport	0.0	0.0	0.0	23.7	32.8	22.5	0.1	36.3	47.1
Airports	0.0	0.0	0.0	0.3	0.0	22.5	0.1	36.3	0.0
Seaports	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Railroads	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Roads	5.7	100.7	66.5	329.3	642.7	1,323.7	1,854.2	4,323.3	3,330.5
Telecoms	5.7	100.7	66.5	329.3	642.7	1,323.7	1,854.2	4,323.3	3,330.5
Water & Waste	0.0	0.0	0.0	0.2	0.6	0.6	37.6	17.6	0.0
TOTAL	33.2	100.7	166.0	353.1	1,165.9	2,977.6	3,683.2	5,593.8	3,997.2

*Note:* 1998 data are estimates.

*Source:* Foreign Investment Advisory Service.

**Table All–8. Infrastructure FDI Inflows, by Sector: South Asia**

(US\$ millions, 1990–98)

<i>South Asia</i>	1990	1991	1992	1993	1994	1995	1996	1997	1998
Power	21.9	99.3	5.1	170.1	526.0	493.3	888.3	369.3	36.3
Transport	0.1	0.0	0.0	0.0	10.7	54.5	31.8	190.6	65.3
Airports	0.0	0.0	0.0	0.0	10.7	0.0	0.0	0.0	0.0
Seaports	0.0	0.0	0.0	0.0	0.0	54.5	31.4	188.9	65.3
Railroads	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Roads	0.1	0.0	0.0	0.0	0.0	0.0	0.4	1.8	0.0
Telecoms	44.0	8.8	6.7	15.7	202.2	204.6	1,791.9	3,574.2	463.7
Water & Waste	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	66.0	108.1	11.9	185.9	738.9	752.4	2,712.0	4,134.6	565.3

*Note:* 1998 data are estimates.

*Source:* Foreign Investment Advisory Service.

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**Table All–9. Infrastructure FDI Inflows, by Sector: Middle East and Northern Africa**

(US\$ millions, 1990–98)

<i>Middle East &amp; North Africa</i>	1990	1991	1992	1993	1994	1995	1996	1997	1998
Power	70.6	0.0	0.0	1,129.1	78.5	11.5	96.7	1,768.6	110.9
Transport	0.0	0.0	0.0	0.0	0.0	0.0	0.0	370.5	198.0
Airports	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Seaports	0.0	0.0	0.0	0.0	0.0	0.0	0.0	370.5	198.0
Railroads	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Roads	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Telecoms	69.9	86.5	10.0	4.2	370.2	99.8	102.3	824.3	1,968.5
Water & Waste	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	151.8
<b>TOTAL</b>	<b>140.5</b>	<b>86.5</b>	<b>10.0</b>	<b>1,133.3</b>	<b>448.7</b>	<b>111.4</b>	<b>199.1</b>	<b>2,963.4</b>	<b>2,429.2</b>

*Note:* 1998 data are estimates.

*Source:* Foreign Investment Advisory Service.

**Table All–10. Infrastructure FDI Inflows, by Sector: Sub-Saharan Africa**

(US\$ millions, 1990–98)

<i>Sub-Saharan Africa</i>	1990	1991	1992	1993	1994	1995	1996	1997	1998
Power	7.5	0.0	4.4	0.2	14.5	49.2	185.4	59.4	40.0
Transport	0.0	0.0	0.0	17.5	0.0	0.0	15.9	107.4	107.4
Airports	0.0	0.0	0.0	17.5	0.0	0.0	15.9	0.0	0.0
Seaports	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Railroads	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Roads	0.0	0.0	0.0	0.0	0.0	0.0	0.0	107.4	107.4
Telecoms	0.0	0.0	16.7	0.4	471.9	547.4	768.8	2,230.7	2,230.7
Water & Waste	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>	<b>7.5</b>	<b>0.0</b>	<b>21.1</b>	<b>18.1</b>	<b>486.4</b>	<b>596.6</b>	<b>970.2</b>	<b>2,397.6</b>	<b>2,397.6</b>

*Note:* 1998 data are estimates.

*Source:* Foreign Investment Advisory Service.

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**Table All–11. FDI Inflows by Type of Transaction, by Region**

(US\$ millions, aggregate 1990–98)

	<i>Privatization</i>	<i>Greenfield</i>	<i>Concession</i>	<i>Others</i>	<i>Total</i>
Latin America & Caribbean	67,178.1	4,444.0	5,338.4	1,720.4	78,680.8
East Asia & Pacific	79.8	18,213.5	567.3	68.1	18,928.7
South Asia	0.0	17,922.7	126.4	21.7	18,070.9
Europe and Central Asia	7,191.7	900.0	0.0	1,183.2	9,274.9
Sub Saharan Africa	6,294.3	581.8	192.1	453.9	7,522.1
Middle East & North Africa	78.6	3,840.7	1,417.0	490.7	5,827.0
TOTAL	91,816.6	383.0	7,481.3	4,623.4	138,304.4

*Source:* Foreign Investment Advisory Service.

**Table All–12. Foreign Investor Regional Focus**

(Percentage share based on estimated FDI flows, aggregate 1990–98)

<i>Region</i>	<i>Investor Origin</i>						<i>Developing Countries</i>	<i>Other</i>
	<i>U.S.</i>	<i>U.K.</i>	<i>Germany</i>	<i>France</i>	<i>Spain</i>	<i>Italy</i>		
Latin America & Caribbean	64.5	9.6	7.0	53.9	98.3	75.8	67.2	36.3
East Asia & Pacific	10.4	28.7	32.3	12.5	0.0	2.7	3.0	25.0
Europe and Central Asia	4.0	10.0	48.6	10.5	0.0	10.7	0.5	6.3
South Asia	11.5	35.8	8.3	0.0	0.0	0.0	8.5	26.3
Sub–Saharan Africa	5.9	0.9	0.9	13.1	0.0	10.7	20.7	0.6
Middle East & North Africa	3.7	15.0	3.1	10.0	1.7	0.0	0.0	5.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Source:* Foreign Investment Advisory Service.

**Table All–13. FDI Inflows by Investor Origin by Sector**

(US\$ millions, aggregate 1990–98)

<i>Sector</i>	<i>Investor Origin</i>						<i>Developing Countries</i>	<i>Other</i>
	<i>U.S.</i>	<i>U.K.</i>	<i>Germany</i>	<i>France</i>	<i>Spain</i>	<i>Italy</i>		
Electricity	15,568.6	1,346.5	2,934.9	2,539.7	3,018.8	145.2	6,857.5	13,101.7
Transport	1,230.0	413.7	681.1	336.7	207.8	357.8	1,351.7	1,230.0

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Airports	126.4	0.0	0.0	69.8	18.4	137.0	0.0	73.0
Seaports	145.9	181.6	351.1	3.2	0.0	0.0	522.0	52.0
Railroads	918.3	156.1	330.1	5.7	0.0	147.1	220.3	30.0
Roads	39.5	76.0	0.0	258.0	189.4	73.7	609.4	30.0
Telecoms	24,385.4	1,448.0	5,802.2	5,032.8	17,794.9	6,730.8	2,440.0	20.0
Water & Waste	102.7	367.5	22.3	904.8	244.2	0.0	0.0	10.0
TOTAL	41,286.8	3,575.7	9,440.6	8,814.0	21,265.6	7,233.8	10,649.1	30.0

*Source:* Foreign Investment Advisory Service.

## Notes

1. To be included, projects must have reached financial closure, with projects operational or under construction.

2. 1998 data are estimated.

3. See Annex II for data tables.

4. The dataset was compiled based on the amount of information available for each project as the primary criterion. Compared to the *PPI Project Database*, the dataset captures 53 percent in terms of project cost and 32 percent in terms of number of transactions.

5. For the purpose of this paper, pure concessions are defined as the contractual right of use over existing assets with the requirement to maintain and, potentially, improve this asset.

6. See Frank Sader, "Privatizing Public Enterprises and Foreign Investment in Developing Countries, 1988–93", FIAS Occasional Paper 5, pp. 26ff.

7. See, for example, *Privatisation International* or the "International Major Projects Survey" by *Public Works Financing*.

8. In some cases, construction actually started before financial close was reached. This does, however, represent a gamble by the project sponsors who use their equity contributions prior to being sure that all the relevant capital needed to complete the project is actually available.

9. See "Emerging markets pose hidden risk", *Financial Times*, March 11, 1999.

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10. An Act Authorizing the Financing, Construction, Operation and Maintenance of Infrastructure Projects by the Private Sector and for other Purposes R.A. 6957 (1989) and the Implementing Rules and Regulations.
11. See, for example, Act XVI of 1991 on Concessions.
12. Decree No. 900, October 31, 1996, Reformulation Public Works Concession Law MOP No. 164.
13. Public Services Concessions Law of February 13, 1995.
14. Decree on Build–Operate–Transfer Contracts, No. 87–CP, and Implementing Rules No. 333UB/LXT.
15. Law for the Promotion of Private Investments in Public Works and Utilities, Legislative Decree 758, November 8, 1991.
16. Royal Act on Private Participation in State Affairs (BE 2535) 1992 and Guidelines for Reviewing Private Sector Participation Projects.
17. Law 80 of 1993.
18. In Chile, an evaluation committee makes its award decision on the basis of a pre–specified set of variables weighted according to their relative importance.

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