

Private sector

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The Benefits of Separating Rail Infrastructure from Operations

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Why separate infrastructure from operations?

Today there are thousands of kilometers of freight trackage in the United States over which two—and often more—railways operate regularly and safely. Tracks in Argentina, Canada, Chile, and Japan also have multiple users. Thus there is no question that rail infrastructure can be separated from operations. The question is when it should be, and what are the costs, benefits, and challenges of doing so.¹

There are several reasons for separation. The first is to reduce unit costs. The more traffic a rail line carries, the lower is the unit cost. A railway can often allow a new operator on a line at a charge higher than its added costs, but far lower than the cost to the tenant operator of providing its own facilities. This was the impetus for the voluntary, private trackage rights agreements that arose in the United States.

The second reason is to create intrarail competition. The U.S. Interstate Commerce Commission often gave one railway the right to operate over another in order to create competition between the two (although the competition is often vitiated by the fact that an unwilling owner can make life difficult for the tenant despite the tenant's apparent "rights"). The European Commission (EC), through its Directive 91-440, also envisions such competition. In fact, because of a fear that the publicly owned infrastructure agency would create problems for the tenant railway (particularly when the tenant competes with the owner's services or is another government railway), the European Commission and most European railways are moving toward institutional rather

than accounting separation in order to ensure the neutrality of the infrastructure provider. In Mexico, to create rail competition at least in major markets, the new railway concessions mandated trackage rights over critical track segments. U.S. railway mergers have prompted many observers to suggest creating a national railway infrastructure corporation that would give all operators equal access. The U.S. debate may become urgent if the four largest railways propose more mergers among themselves or with smaller railways.

The third reason is to improve the focus on services provided. In 1971 the U.S. government—with the avid agreement of most of the U.S. private freight railway industry, then barely surviving the competition with (federally subsidized) trucks and barges—concluded that the freight railways had lost the interest and the ability to provide (unprofitable) passenger services. The only hope for sustaining national passenger services seemed to be to create a separate company (Amtrak) focused entirely on providing such services. At the time it was thought that since Amtrak would need continuing budgetary support from the government, a publicly owned company would be a better vehicle.

The fourth reason is to clarify public policy. In Sweden, for example, the government wanted to pinpoint its support for social objectives and to ensure competitive balance in public support for transport. By separating rail infrastructure from operations, the government could target its support in a way that compensated railways for the support to highways and allowed it to cover the social costs of the environmental impact of different transport modes. The





government can now tell what it is paying for and support only what it intends to.

Infrastructure separation can also help improve the balance between the public and private sectors. Defensible arguments can be made that the public sector should plan and ensure the provision of essential transport infrastructure. But as long as the dogma of the monolithic railway prevails, public agencies—supported by the public treasury—also must conduct rail operations. Separating infrastructure allows the conundrum to be broken: critical infrastructure can continue to be publicly planned and provided, but rail services can be divvied up between public and private agencies. Mixed solutions become possible, with the public sector operating some services (urban transport) and the private sector operating others (freight).

Privatization clearly does not need to be an objective. But recent experience with negative concessions (in which the private sector provides public services in return for compensation) has added another dimension to the public versus private debate. Infrastructure separation thus permits new approaches to meeting public responsibilities. The burden of proof now lies where it should—what works best?

Recent examples

Sweden, the United Kingdom, and Argentina show the broad alternatives in rail infrastructure separation. In 1988 Sweden split its state railway into two state agencies—Banverket, which owns and maintains the infrastructure, and Swedish State Railways (SJ), which provides operating services. Judged by the objectives—balancing state support for railways and highways and internalizing various external costs in the rail user's calculus—the separation has been successful. SJ has increased its efficiency (Banverket has done less well) and improved its financial performance even though Swedish freight rates are among the lowest in the world. Banverket has undertaken deferred track maintenance as well as many mandated projects.

The main problem has been coordination between SJ and Banverket. SJ believes that it should determine which track work is needed and when, while Banverket necessarily follows politically determined funding orders. In effect, the market-driven agent does not fully control one of the most important parts of its production function. But all parties seem to agree that the new arrangement is an improvement over the old one.

In the United Kingdom the government split British Rail into four broad groups: twenty-five or so rail passenger franchises, six freight operators (quickly merged into two), three companies (Roscos) to own rolling stock for lease to the passenger franchises, and Railtrack, the agency that owns, maintains, and dispatches the infrastructure. During the process the government sold its stock in Railtrack to the public and sold the freight operating businesses and Roscos in their entirety. The passenger franchises were awarded to private operators on the basis of the lowest subsidy or highest franchise fee offered (only one franchise had a positive offer in the first year, with many offering payments in the out-years).

If, as some have argued, the government's main objective was ideological—privatization—then it succeeded. If the objective was to reduce budgetary outlays, it may be too soon to judge—though subsidies to freight have ended and, of course, the government pocketed roughly £5 billion from the sale of Railtrack equity, rail freight, and the Roscos. The complexity of the new institutional setup makes before-and-after comparisons difficult, but rough productivity measures suggest that the new arrangement should be more efficient. If the objective was to improve rail service, again there remains room for argument. There are many complaints about lack of coordination among the many passenger operating companies, and disagreement between the regulator and Railtrack (and some of the operators) about the amount of investment needed. Yet freight service demand appears to be growing, and there is at least anecdotal evidence that the

passenger franchises are moving as quickly as they can through a complex transition.

The main criticism of the U.K. process is that the costs of the transition were high, especially the interim and start-up disruption and the need for expensive contractual arrangements among the players. In addition, the initially poor coordination among the franchise owners has shown that twenty-five passenger franchises are too many, and some formal or informal mergers are in prospect (there are only thirteen owners for the twenty-five franchises). And six freight companies immediately became two. How well Railtrack and the Roscos interact with their users remains to be seen.

The Argentine experience deserves mention because it was the first in a developing country (though it actually preceded the U.K. program) and because it showed that infrastructure can remain in public hands while the private sector provides both profitable and social services. It also demonstrated that separation and concessioning can work, while benefiting both the nation as a whole and rail service customers. Experience in Bolivia, Brazil, Chile, and Côte d'Ivoire and Burkina Faso has confirmed this conclusion.

Critical issues

It would be nice to conclude that infrastructure separation always works and that all a government needs to do is get out the cookbook. But infrastructure separation is never that straightforward, even in a single country with relatively simple operating patterns. And multicountry situations such as the European Union add further complexity to questions that have not been fully resolved in Sweden or the United Kingdom alone.

Capacity management

Capacity management is an obvious challenge. In monolithic railways this problem is suppressed by fiat. The executive simply decides (more or less arbitrarily, taking into account de-

partmental conflict, operational arguments and advice, and political imperatives) which services get which priority. In Europe the challenge is far greater. A national railway may resolve the problem within its borders, but the lack of knowledge and unified control of what happens elsewhere can dramatically reduce the ability to manage capacity. When connecting systems have different dispatching priorities and different amounts or qualities of information (or decisions are perverse), it is nearly impossible for a railway operator to plan and manage integrated services across several systems. This is a problem with which U.S. rail systems, dealing with many company boundaries, are very familiar.

The solution is clear in concept: operators must be able to approach infrastructure providers as a seamless system for time slot availability (both in advance and from day to day) and real-time information on train locations. In principle, given cooperation among the infrastructure agencies, adequate investment, and compatible technology (conditions about as likely in the rail sector as elsewhere), there is no reason that this challenge cannot be met. If it is not met, rail freight will have a hard time living up to its potential.

Infrastructure pricing

Equally challenging is pricing rail infrastructure capacity in a transparent, efficient, and nondiscriminatory way. On this score neither the EC directives nor Swedish or U.K. (or U.S.) practice offer much help for a multicountry market. International transparency would require developing and implementing all infrastructure tariffs publicly, a test that Banverket meets (and the German infrastructure company, DB Infrastructure, will meet) but Railtrack does not. It would also require making the results of access price negotiations held in private available to other operators.

More theoretically challenging is the question of economic efficiency and discrimination. The Ramsey pricing principle—that the departure of prices from marginal cost should be greatest where price elasticity of demand is the smallest



(charging what the market will bear)—is well established in the rail sector. Theory shows that this is the most efficient way to recover fixed costs, but a century of U.S. regulatory politics shows that users object to being considered “price-inelastic,” particularly when they think a competitor gets better treatment. Dealing with the politics of price discrimination has been difficult in the United States. It will be even more difficult in an international setting.

Who does the discriminating is even more important. At least in principle, the agent doing Ramsey pricing should be the one that best knows the customer—the operating companies, not the infrastructure agency. Infrastructure agencies should generally pursue a relatively simple, open, utility model of capacity pricing, while the operators carry out the confidential, market-based price discrimination. On this principle, Banverket, Railtrack, and DB Infrastructure will have to review their approaches carefully, as will all new infrastructure entities. The European Commission will have to examine (and perhaps harmonize) pricing strategies to make sure that even simple pricing structures are not being twisted to serve local objectives—for example, by trying to load essentially domestic suburban infrastructure costs onto international operators.

Implementing such a scheme across borders will be difficult, especially in real time. Operators need to buy slots from origin to destination, not just border to border, and they may need to do so quickly. Thus operators will need to be able to interrogate infrastructure agencies’ databases to determine where and when slots are available. And they will need to access prices quickly and to purchase and reserve slots reliably. The information systems needed are possible with today’s technology, but may far exceed what some infrastructure agencies are willing to accept.

Economists take the easy way out, proposing minute-by-minute slot auction schemes that are impossible to implement. A simpler idea is to develop a secondary market in slots. Infrastruc-

ture agencies would market a share of their capacity to operators that can buy and pay for capacity scheduled far in advance (such as suburban trains and international passenger expresses). The capacity left over could be sold to bulk purchasers, which could then resell real-time bits and pieces to retail purchasers.

Infrastructure separation—compared with what?

The problem with threatening futures is that they tend to be compared with a past that never existed or a present that will not continue (often both). It is true that infrastructure separation is messy and expensive. Operating companies will have to scramble to find customers at the right balance of prices, quality, and costs, competing with other transport modes aggressively and defending and expanding their market shares in a business climate that demands high-quality, seamless service. Infrastructure agencies will have to offer track capacity in a way that permits their only customers—the operating companies—to survive and prosper in a transport market that would happily extinguish rail service. But in the final analysis, only one kind of efficiency matters: offering the customer the right combination of price and quality. If fragmentation offers a better fit for customers, that will be a small price to pay for survival. Infrastructure separation is no panacea, of course, and it may offer little to small, simple railways with limited services. But for more complex railways in countries with market-driven transport sectors, infrastructure separation may be the only alternative.

¹ Infrastructure separation means that the operators of transport services work at arm’s length from the provider of the fixed facilities. In railways separation can begin with merely keeping the accounts for infrastructure and operations separate, but it can extend to having different entities to own, provide, and control the infrastructure, and an entirely independent set of operators.

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