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**Forms of Private Sector Participation
In Railways**

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FORMS OF PRIVATE SECTOR PARTICIPATION IN RAILWAYS

Rail transportation has often been wrongly viewed as a natural monopoly which should be provided by the government and for which private provision is not appropriate.^{1/} In recent years, however, it has become clear that many activities traditionally reserved for the public sector can be carried out more efficiently by the private sector in accord, of course, with appropriate government policies and guidance. In fact, during the 1980s, the failure of government interventions to achieve improved market performance, along with the large budgetary drain imposed by many railways, led to a shift from concern with potential market failure to concern about actual government failure. Furthermore, "privatization" has come to be seen as a spectrum of possibilities rather than as a single either/or decision. The term should be "private sector development" (PSD), and the aim, in most cases, is not so much to sell assets to the private sector as it is to increase the role of the private sector and promote competition.

One of the keys to private sector participation in railways is the potential for separating or "unbundling" the activities that together make up the provision of rail transport. "Unbundling" of railway activities can mean divestiture of non-railway activities, such as restaurants and hotels, manufacture of railway equipment, or real estate development; contracting out of railway-related activities, such as maintenance of tracks or locomotives; or separation of operations regionally and/or functionally into cost centers or "lines of business," carried out either by the railway or by third parties.

One major form of "unbundling" for railways is the separation of the ownership of fixed facilities (rails) from the operation of railway services.^{2/} While such separation does not require privatization--it can also be an effective way to make public operations more efficient--it does facilitate private sector participation. It relieves the railway of its base of fixed assets and long term debt, freeing it to function commercially; permits the establishment of profit and cost centers for improved financial information and accountability; makes the railway structurally more like competing modes; and enhances the opportunities for intramodal or intermodal competition. In Europe, an EC directive (91-440) calls for the accounting separation of rail infrastructure and services, along with free access to the network for international services, with an aim of replacing railway monopolies with independent entities operating in a free market. Other examples of separation will be found in a number of the categories below.

Another way to break up the railway monolith is to decentralize its operations. This is particularly appropriate for localized passenger (i.e. suburban or rural) services, which rarely cover costs, but which serve primarily local needs and which local governments may wish to subsidize. While decentralization does not necessarily lead to private sector involvement, it does promote greater accountability and sensitivity to local needs, and provides opportunities for private participation via contract operation. The U.S. short line railroads (branches that have been sold off by large railroads) are owned privately or, in some cases, by local governments; in the latter case they are often operated under contract by private entities. Divestiture in this case enabled the new

^{1/} This perception has persisted despite the fact that most railway activity in the US and Canada has always been provided by the private sector.

^{2/} See Moyer and Thompson (1992) for a description of this and other options for reorganizing railways.

entities to escape the burdensome regulations which apply only to the larger railroads. Brazil's rail commuter agency, CBTU, was created to get the intercity railways out of the commuter business, and the Rio and Sao Paulo services are now being transferred from the federal to the state governments.^{3/} In Argentina, while most inter-city passenger services were closed, a few lines are being transferred to the provincial governments, which are in a better position to judge whether the services they provide are worth the cost. The suburban services, formerly operated by the national railway, are being transferred to private sector concessionaires.

A recent discussion paper (Kessides, 1993) analyzed the conditions under which public provision of infrastructure may be necessary and those under which private provision is more suitable, and suggested a strategy for determining the appropriate mix of public and private roles.^{4/} It also outlined the various types of institutional arrangements that can be used in the provision of infrastructure. This paper applies the framework to railways, using examples from around the world, beginning with the more traditional forms of provision, and then showing how different institutional arrangements have been tried in an effort to facilitate private participation and improve performance.

Government Department

More common in roads, government departments have also traditionally been responsible for railways in many developing countries, for example in Bangladesh, India, China, Egypt, and many of the former socialist economies. Ownership and operations are fully public and are financed out of budgetary transfers. While such a structure can under certain circumstances function more or less acceptably, it is handicapped by the often complete lack of transparency, accountability or incentives for efficient performance. This handicap is especially severe where the railway must cross-subsidize some of its services (e.g. passenger) from others (freight), but must also compete with private sector carriers, particularly trucks and buses.

Public "Enterprise"

Still fully public, this is another common organizational form for owning and operating railways in developing countries. Traditional public enterprises generally still have little managerial or financial autonomy. The Polish State Railways (PKP), for example, were transformed from a ministry to a state-owned enterprise in 1987, but the traditionally strong ties with the government have limited the change in management style.

The need for greater autonomy for railway management, as well as for better clarity of goals and responsibilities on the part of both railways and government led to the development of performance agreements, more or less formal "contracts" between the government and the enterprise which specify the objectives, authority and obligations of each. The earliest example of such an agreement for a railway is the "contrat-plan" developed in 1971 between the French government and

^{3/} CBTU is now being dismantled. Although CBTU did get the railways out of commuter activities, it turned out to be overly centralized at the national level.

^{4/} This strategy is outlined briefly in the Annex.

the railway, SNCF. While ultimately relatively successful in France, where a series of contrat-plans led to a commercial orientation of the railway, these agreements have proven less effective in many developing countries, such as Senegal, Mexico (where they were called convenios), and Kenya (Memorandum of Understanding), either because they do not specify clearly enough the objectives and responsibilities of each party, or because no matter how good they look on paper, one or the other of the parties does not fully understand or support them, and they are not legally enforceable contracts (Galenson and Thompson, 1993).^{5/} The real value of performance agreements often lies in the process of reaching an agreement, and the information and understanding that result, rather than in the details of that agreement. Their success is closely linked to the degree to which the railway is required to act like a profit seeking entity.

Public enterprises still often lack precise information as to their profitability and the magnitude of cross-subsidies. They tend to be production-oriented, with little concern for market requirements, particularly with regard to quality of service (e.g. reliability). As a consequence, many of them require large subsidies and have become major drains on the government budget. The response has been to search for other institutional forms that will increase the commercial orientation of the railways. Often the first step is to transform them into what we have labeled the "reformed" public enterprise.

Reformed Public Enterprise

The "reformed" public enterprise has been corporatized (made into a shareholding company), commercialized (made financially and managerially autonomous), and made subject to the country's company law. It has only limited access to budgetary financing (e.g. to compensate for noncommercial public service obligations), but its investment and price policies are still heavily determined by the state as majority owner. One important feature is that regulation (if any) is put at "arm's length," carried out by an agency independent of the parastatal it oversees.

Developed countries offer numerous examples of railways that fit the category of "reformed," even though still public. In the United States, Amtrak is organized and managed as a private corporation, whose stock happens to be owned by the federal government. It receives capital and operating payments from federal and state governments to operate services mandated by law, but in most other respects it operates as a private corporation (Galenson and Thompson). VIA, in Canada, is a crown corporation which provides intercity passenger services in a manner similar to Amtrak.

British Rail (BR) was commercialized through the creation of five profit centers, of which freight, intercity passenger and parcel service are self-sufficient and unregulated. The two commuter services, which cannot be commercially self-sufficient, are subsidized and regulated. BR manages its business independently, with the stipulation that it meet certain targets in the reduction of public funding requirements (Reid, 1989). Japanese National Railways (JNR) created one freight and six passenger companies. The underlying objectives were to make the enterprise respond to the needs of the markets, to get rid of services not economically justified, and to isolate and deal separately with problems (debt, excess labor, uneconomic services) created by past mistakes; the latter objective

^{5/} For a discussion of the benefits of and problems with performance agreements, including the Senegalese experience, see Nellis (1988).

was accomplished by the establishment of the Settlements Corporation, which assumed the liabilities and surplus workers of the old JNR (Fukui, 1992 and Tanahashi, 1992). The JNR reorganization was carried out as a precursor to eventual privatization, and the British government has also announced plans to privatize BR.

Spain's RENFE, reorganized in 1990, has structured its lines of business in a different way. "Market" business units plan, market, coordinate and are financially accountable for the various services, and "functional" business units carry out operations and maintenance according to "profit performance criteria" agreed with the market business units. Because RENFE's matrix of functional and market business units is quite innovative, it is worth watching the results as they begin to emerge (Moyer and Thompson).

Swedish railways provide a good example of how the separation of track ownership from operations facilitates commercial operation. In 1988 the government restructured the railways in response to their relatively poor financial performance, perceived inequities in the financing of infrastructure as between highways and railways, a desire for improved evaluation of the environmental benefits of railways in urban areas, and a belief that the monopolistic railways structure was constraining market oriented operating activities. Swedish State Railways (SJ), organized along lines of business, operates all commercial freight and passenger services, as well as subsidized noncommercial services. The entire fixed facility (track, signals, communications, electrification, etc.) is owned and maintained by the state-owned Banverket. This system allows for the possibility of competition in the provision of services, although the only such case in Sweden is that of a service contract in one region which SJ lost to a small private operator. While there is no actual competition *in* this market, there was competition *for* the market. SJ appears to have upgraded its productivity and financial performance since the restructuring took place, and the Banverket is looking into the possibility of introducing further competition into the rail sector.^{6/} There is, however, friction between Banverket and SJ as to track maintenance cost and scheduling; SJ at least would prefer to manage maintenance on all the track it uses.

New Zealand Railways was transformed in 1982 from a government department to a statutory corporation, with commercially oriented business groups representing the separate railway functions, and the land transport sector was deregulated in order to permit competition between road and rail on an equal footing. By the early 1990s, staff had been reduced by 60 percent and labor productivity had more than doubled. The railway was able to maintain most of its traffic in the face of road competition by reducing rates (by over 50 percent in real terms), improving the quality and range of its services, and eliminating or contracting out some of its non-rail activities (Hyde, 1989 and Small, 1993). By 1992 the railway had become financially stable and profitable, and ready for sale to the private sector, and in the summer of 1993 it was actually sold in its entirety to the private sector.

In developing country examples, Colombia liquidated its railway company and created two companies: one, fully state owned, to provide track infrastructure services, including maintenance, renewal, expansion, regulation and coordination of traffic; and the other, 51 percent state owned (representing the fleet and equipment of the company under liquidation) to provide freight transport,

^{6/} See the list of references for Sweden in Moyer and Thompson.

subject to private law regulations. Entry will be open to private investors (Flouret, 1991). Remaining property was used to establish a fund responsible for all obligations toward the former employees of the state railway. Uruguay eliminated passenger services and redefined the railway, AFE, as a profit-oriented corporation, concentrating exclusively on freight. Freight tariffs were deregulated, and the size of the network and work force was reduced (Kohon and Thompson, 1989). The reform has only been partially successful, however, because the railway failed to establish clear objectives. Although passenger services were in fact eliminated, a coherent approach to freight services has yet to emerge. The railway is not yet profitable and may never be so absent further changes in tariffs, network size, and labor force.

The reform under consideration in Nigeria would, if successful, provide a good example of railway restructuring under difficult conditions. The reform calls for the creation of a private rail operating company; a track authority to own and develop rail-related infrastructure, excluding involvement in day-to-day maintenance; an engineering company, preferably in a joint venture with foreign technical partners, to service the needs of the railway on a commercial basis; and an Inspectorate Board to establish and monitor compliance with safety and environmental standards. The economic role of the railway is clearly defined as primarily for freight and long-distance passenger services, and the railway would be given managerial and operational autonomy to set tariffs and determine the level and quality of services, with a goal of full cost recovery and profitability. The objective is to transfer control over freight services to a private sector concession as soon as possible. The Government will compensate the railway under contract for any public service obligations deemed to be socially desirable, but commercially unattractive.

The reformed public enterprise offers a good model to countries where full privatization is not an immediate possibility. Recommendations for railway reform in the central and eastern European economies, for example, focus on the development of a strategic plan; creation of a joint stock or limited liability company, subject to commercial laws and practices; explicit acknowledgement of the railways' commercial orientation, whether through a performance agreement or other means, and including government compensation for public service obligations; acceptance of the need for only minimal regulation; limiting government support to equity investment and loans (on commercial terms) to the railway; establishment of a settlements agency, or the equivalent, to take responsibility for redundant labor, retraining needs, excessive existing debt, and non-rail activities and assets; organization according to lines of business or cost centers and implementation of a reporting system for allocating costs and revenues among the lines of business; and divestiture of non-rail activities (Blackshaw and Thompson, 1993). The Hungarian State Railway (MAV) was in fact recently converted into a joint stock company under commercial law. The Bank and MAV are working together to implement the restructuring process.

Service Contract with the Private Sector

While retaining full ownership of the railway, governments or public enterprises can contract for almost any activity to be performed by a private sector entity. This is commonly done for janitorial services, food catering, and medical services. Also open to contracting, though less common, are maintenance of right-of-way (which may lead to issues of safety and coordination) and of wagons and locomotives. Service contracts, when properly designed, can be subject to competition and can incorporate incentives for good performance.

Pakistan Railways contracts out ticket sales and inspection and on-board services for two lines out of Lahore. The contractor pays a fixed rate to the railway and therefore has an incentive to collect as much as possible. This arrangement has reduced the previously high level of ticketless travel. Other services which are contracted to the private sector in Pakistan include luggage handling and parcel service.

In Japan, the Shinkansen (bullet train) right-of-way is entirely maintained under contract with the private sector, and the maintenance is done more efficiently than that on JNR's conventional lines. In a number of U.S. railways, locomotives are maintained by private contractors at a lower cost than could be achieved by the railway; examples include the Burlington Northern and Santa Fe railroads, which have locomotive service contracts with General Electric and General Motors. British Rail privatized British Rail Engineering Ltd., now BREL Ltd., which manufactures and maintains rolling stock in competition with other companies (Richardson, 1991).

Developing country examples include Senegal, where the suburban railway has a contract with a locomotive builder to maintain locomotives for its "Petit Train Bleu;" the proposed Nigerian reform, which calls for locomotive maintenance under contract; the Bolivian Red Oriental railway, for which heavy locomotive repairs are performed in Brazil by General Electric do Brasil, the locomotive builder; and Kenya and Sudan, which have contracted with BREL Ltd. to oversee the rehabilitation and overhaul of locomotives. Current loan discussions in Kenya call for the contracting of all locomotive maintenance to the private sector. The arrangement in Senegal, although relatively expensive, has been so successful in raising reliability and availability of locomotives that the government is considering extending it to the entire national fleet. A joint venture to maintain rolling stock in Cote d'Ivoire, although technically adequate, resulted in very high prices as a result of the absence of competition and was canceled.

Management Contract with the Private Sector

As is the case with service contracts, many activities can be managed under contract by private entities. Management contracts range from what is essentially a form of technical assistance, when the management contractor takes no financial risk, to more interesting cases where the management contract provides compensation based at least partly on results, thereby incorporating performance incentives. This is more comprehensive than a service contract, with the contractor assuming responsibility for operations and maintenance of a particular activity, or even an entire railway. Competition arises from the possibility of several firms bidding for the contract. Management contracts can be useful as interim arrangements that allow private firms to test the waters prior to committing themselves to more comprehensive and risky lease contracts, or while an adequate regulatory and institutional framework for the sector is being developed. One drawback is that although it is often an explicit goal to turn over management to local staff at the end of the contract, it has proven difficult to incorporate incentives and mechanisms for local staff development in management contracts; this stems from the conflict between the short-term nature of the contracts (generally two to five years) and the long-term nature of staff development.

In 1980, Nigeria contracted the management of its railway to RITES, the consulting arm of Indian Railways. While technical performance improved, the experiment was not a success, perhaps

because the performance goals (other than physical performance targets) were poorly defined. In particular, training of local staff was not successful.

In the U.S. several companies manage short line railways, usually for industrial clients or local governments. Amtrak provides commuter services in Boston, Los Angeles and elsewhere, under contracts that provide for full cost reimbursement plus profit. As mentioned earlier, in Argentina the government has now awarded concessions (which have many of the aspects of management contracts) to manage the Buenos Aires Metro and suburban services for FA.

Pieces of railway operations can also be managed under contract. This is the case for some of the smaller stations in India, with the contractor running the station, selling tickets and providing customer services, in return for a share of the revenues collected.

Leasing to the Private Sector

Leasing can be similar to contracting, but in this case the contractor pays a fee for the use of the fixed assets. The lease contractor assumes more risk than a management contractor because it must typically finance working capital and replacement of some assets. The owner remains responsible for investment and debt service. In return for assuming more risk, the lease contractor has more autonomy, in particular, control over working capital and all aspects of staffing and management.

Leasing has long been used in railways. Wagons Lits Cooks in Europe began as a lease operator of sleeping and dining coaches, as did the Pullman Co. for sleeping car services in the U.S. In another form, Amtrak (U.S.), VIA (Canada) and the Japan Freight Railway Co. all operate their services over the tracks of another entity in return for a fee. The parcel and baggage traffic on Cameroon Railways is operated by a private domestic enterprise that was established by former railway employees and which pays a fee to the railway for the use of its traffic routing equipment; this service, which ran at a heavy loss when operated by the railway, is now earning a modest profit while providing an improved quality of service.

In 1985, the State Railways of Thailand (SRT), a parastatal, contracted out through a lease agreement to private operators the provision of long-distance express passenger services on three lines. The government's objectives were to shrink the public sector, improve management of parastatals, increase the role of the railway in transport, and reduce its operating costs. The contracts were for six years. SRT provided, for a fee, the railsets, crew, tracks, and stations, as well as locomotive maintenance. Tariffs were not controlled, although the government was to be notified in advance of any changes. Six companies bid for each of two lines, and four for the third line. The new operators emphasized service quality (e.g. air conditioning) as well as efficiency, and were able to attract former road users, mainly high income customers traveling long distances. After two years under lease contract, all three lines were able to cover operating costs and earn substantial profits; all three had previously run deficits.⁷¹

⁷¹ In fact, the operations became so profitable that the government decided to renationalize them, ending the experiment before it had time to develop fully (Levy and Menendez, 1990).

In the CEE and CIS countries, leasing to the private sector may serve the purpose of creating adequate private capacity to serve railways needs. Under current circumstances, few investors could, or would, afford to build major shops. Competitive lease of a railway shop would be helpful in surmounting this risk barrier.

Leasing from the Private Sector

In the U.S. most railway wagons and locomotives are mortgaged to non-railway lenders. In many cases, a private company, often specialized in leasing, buys a piece of equipment and leases it to the railway. For the Burlington Northern and Santa Fe Railroads, the locomotive lessor also provides maintenance, and the railway pays by usage unit (megawatt-hour of tractive effort or locomotive-km). Such opportunities are particularly favorable for specialized or limited use equipment; for example, U.S. railways do not own tank wagons--they are all owned by private lessors or users. In most cases, the unit train wagons used to transport coal to electric utilities are owned by the utilities because their cost of capital is less than the railway's, because they want total control over the use of the wagons, and because the railway has no other use for them. Overall, about 40 percent of U.S. rail freight wagons are owned by shippers or lessors. Maintenance may be done by the railway, for a fee, or by the utility.

Indian Railways recently created a subsidiary, the Indian Railways Finance Corp., which is intended to issue bonds to private individuals and entities, buy equipment, and lease it to the railway; however, there has been no interest in the bonds at the offered rate of interest. Leasing arrangements are also common in francophone Africa, where private French companies own, maintain and lease rolling stock to the railways.

Concessions

Concessions are a broader form of lease in which the contractor also agrees to make certain fixed investments and retains the use of the assets for a longer contract period. Uruguay, for example, turned over the operation of its parcel services and station restaurants to the private sector through concessions. A recent example of railway concessions on a large scale is found in Argentina, where the railway, Ferrocarriles Argentinos (FA), was broken up into six cargo lines, as well as separate suburban and metro passenger lines. (Intercity passenger services and some smaller freight lines will be closed or operated by state and local governments.) Local companies wishing to bid for the cargo lines had to be associated with an experienced foreign railway operator, and selection criteria included the level of proposed investment and the fees to be paid for the use of FA's track and equipment.

Concessions of 30 years (with options for a 10 year extension) have been granted to the cargo line operators, who will be responsible for all maintenance and investment. FA has retained a 15-20 percent share of the equity in the operating companies. Concessions for the Buenos Aires commuter system were offered for 10 years (20 years for the segment which includes the underground system), with interested consortia bidding for the lowest subsidy on operations and investment (these are essentially hybrids somewhere between concessions and management contracts). The government is setting up a regional authority to set policy and regulate the transport companies.

Three of the new private railways have been operating for any length of time, and the results so far are favorable. In the case of one new company, FEPSA, initial investments went into radio communications and rehabilitation of locomotives--locomotive availability rose to 85 percent--followed by track upgrading. Operating on a line which had little or no traffic under FA, FEPSA, with a major emphasis on marketing and worker motivation, was able to compete effectively with trucks in moving grain to the port of Rosario.^{8/}

Another interesting proposal for introducing the private sector into railway operations can be found in Cote d'Ivoire and Burkina Faso for the former Regie des chemins de fer Abidjan/Niger (RAN). The two national governments plan to establish public enterprises which will retain ownership of the infrastructure, and to create a private (mixed) enterprise, notionally called the Societe d'exploitation de transports internationaux ferroviaires (SETIF) to operate the railway and maintain the infrastructure in both countries, paying a fee to the two government enterprises for the use of the tracks and, at least initially, for the rental of equipment. Bids are being evaluated for a 15 year concession. The governments will each retain a 15 percent share, but will have no control over management decisions; SETIF will be free to set passenger and freight rates (except for public service obligations, which will be subsidized) and to decide on the level of staffing (the governments will be responsible for severance pay for staff not retained). If this plan proves successful, it might influence Senegal and Mali to coordinate their railways in a similar fashion.

In Brazil, a private group has been granted a license for the construction and operation of several discrete lines for the transport of agricultural products to the nearest ports. Similarly, the national railway of Honduras, FCN, has licensed a private company to operate 305 km of line (Flouret). In Bamako, Mali, freight forwarders have created a company to manage and operate a container terminal, which they are now building under a 15 year concession.

Joint Ventures

Union Station in Washington, D.C. is a typical joint venture, in which private (or mixed) partners contribute development capital and planning and management expertise to develop land or other real estate owned by a railway. Similarly, British Rail created a Property Board to develop station space in concert with the private sector, and the Canadian National Railway created CN Real Estate to manage and develop CN's large landholdings with private participation. The various Japanese railways have long been active in real estate development. Argentina is now planning to develop the real estate made available by its railway restructuring.

Another kind of joint venture is the use of a railway right-of-way by a utility for placing telecommunications cables. The simplest form of this, the "pipe and wire" lease, lets a utility take advantage of the rail right-of-way for access to a strip of land to lay its pipes or wires between major population centers, in return for a fee. In its more elaborate form, found in the U.S., Europe and Japan, telecommunications companies have used the right-of-way for fiber optic cables in a joint venture with the railway. The railway gets its return through a fee for use of its right of way, better communications services, and revenue- or profit-sharing arrangements.

^{8/} See Garibotto (1993), pp. 15-17 and "A Special Report--Privatization in Argentina: The Rebuilding of a National Railroad," 1993.

Private Ownership

Despite the traditionally public nature of railways, a number of examples can be found of private ownership (which may include some public participation, as long as it is not a controlling interest). New Zealand recently sold its railway, including the infrastructure on which it operates, to the private sector through a process of competitive bidding. Both Canada and the United States have private freight service; all U.S. Class I freight railways are now private, and in the case of Canada, the Canadian Pacific (CP) Railway competes with the publicly owned Canadian National (CN) Railway. Conrail, in the U.S., was created from seven bankrupt railways and nationalized in 1974, but returned to the private sector in 1987 via a public stock offering, following the deregulation of railway and trucking freight traffic. Privatization led to increased revenues, lower rates, lower costs, higher productivity, and a better safety record (Beshers, 1989). Also in the U.S., the more than 500 privately owned short line railroads have demonstrated that smaller entrepreneurs, unburdened by restrictive labor conditions, can succeed by cutting costs and through aggressive marketing.

Canada provides an opportunity to compare the performance of public and private railways competing over the same network. A study covering the period 1956-1975 found that the two railways were equally efficient and concluded that the benefits from private participation in the sector come from the competition it introduced, rather than from the private ownership in itself (Caves and Christensen, 1980). It is also the case, however, that although publicly owned, the government role in CN is restricted to that of a shareholder; the railway was expected to operate on a commercial basis, and has competed not only with CP, but also with highway and water transport in a deregulated environment. (On the other hand, it has been argued that CN has an unfair advantage through its access to public sources of capital at lower cost.)

The U.K. government plans to privatize BR by dividing it into two component areas: a system of franchised railway operations owned by private companies and a track authority, responsible for track investment, maintenance, timetabling and signalling systems. While passenger services will be operated as concessions, freight services will actually be sold to the private sector. A rail regulator will be established to oversee arrangements for track access and rates, prevent abuse of monopoly power and promote competition.

In Senegal, a private sector railway company, the Societe d'Exploitation Ferroviaire des ICS (SEFICS), was established to transport the inputs and outputs of a fertilizer manufacturing plant (ICS). SEFICS operates in competition with the state-owned railway RCFS, which owns the tracks; SEFICS owns and maintains its locomotives and rolling stock, performs train manning with its own staff, and pays a toll to RCFS for the use of the infrastructure. In comparison with RCFS, SEFICS has maintained higher technical and financial standards of operation and maintenance, lower costs of transport, higher staff discipline and accountability, and a better safety record. For example, when studied in 1986, locomotive availability was 89%, compared to 67% for RCFS and the average cost of transport was 15.36 CFAF/t km, compared to 20.46 CFAF; the annual cost of maintaining a locomotive was 10 million CFAF for SEFICS, compared to 56 million for RCFS (World Bank,

1988).^{9/} The existence of SEFICS has also contributed to improving the management efficiency and staff productivity of RCFS as the latter tries to recapture ICS traffic and, through its demonstration of the benefits of de-linking operations and maintenance from track ownership, has opened the door to possible further private participation in Senegalese railways through the operation of container services between Dakar and Bamako.

Another private African railway, COMILOG, which carries manganese ore over the Gabon and Congo Railway, has also performed satisfactorily. In Chile, the Empresa de Ferrocarriles del Estado (EFE) planned to transform itself into up to four separate companies, of which the one to be responsible for cargo operations would be majority private (Flouret): now, however, the government has asked for proposals from potential franchisees wishing to operate freight service. In Russia, a shareholders' company has been created to build a high speed line between Moscow and St. Petersburg, and a private company will operate the Berkakit-Tommot line (Lukov, 1993).

Examples can also be found of privately owned services on publicly owned railways. One such case is food catering on Indian Railways. In Poland, various subsidiaries of the railways, such as manufacturing and repairs, are being transformed into private, joint stock, or independent state-owned enterprises. In the interim, they have been removed from the purview of the railway and placed in the Ministry of Transport.

Issues of Privatization

Increasing the role of the private sector in railways raises a number of important issues. While it is beyond the scope of this paper to deal with them in any detail, it is useful to summarize them here. First, very few state-owned railways currently possess the skills needed to identify, analyze and manage business ventures. It is vital that skills from outside the railway be brought to bear to analyze business opportunities and to protect the railway's interests vis a vis its private sector partners.

Second, it is usually difficult to sell assets or operations "as is." Most railway operations are currently inefficient and poorly marketed, and are thus essentially worthless. Much more value is realized when the obvious inefficiencies are eliminated and the activity operated on a more nearly commercial basis before involving the private sector. For example, redundant labor must be reduced or eliminated to the extent possible, with the government covering any necessary severance costs.

Sale or other transfer of public assets to the private sector has always been a contentious process. At one level, it touches the concern about corruption which arises in every country. At another level, it involves the question of whether a "fair" price is received--a point on which endless debate is possible. The same problem can arise when a public entity makes non-competitive contracts for services with a private sector entity. It is vital that the railway handle these issues in a fully transparent and professional way.

^{9/} These data may well overestimate the benefits from privatization, since the SEFICS locomotives are probably newer and therefore require less maintenance.

Regulation or deregulation may be necessary to ensure competitive (or contestable) markets, to prevent abuses of monopoly power, or to ensure safety. For example, the railway may have labored for years under a regulatory system which was intended to impose cross subsidies; this must change if it is to be privately operated. In a related matter, the way in which a railway privatizes its activities or engages in competition with the private sector can give rise to a number of important competitive issues. For example, use of the railway workshop to do maintenance for outside customers can easily represent unfair competition with a nascent private sector outside the railway, because the competitor did not get its facility free and does not have access to public capital. Rules are needed to ensure that the railway activity allocates its costs properly. Similarly, if a railway facility is sold or leased to the private sector, a "sweetheart" deal on price or financing terms with a purchaser, especially if the purchaser is a joint venture partner, can give the new venture an unfair competitive advantage over others in the sector.

Finally, private sector companies under competition cannot absorb the deficits of socially imposed activities. While it is entirely possible, even desirable, to contract with the private sector to provide services for the public sector for a fee, payments must be clear and adequate.

ANNEX: CHOOSING APPROPRIATE INSTITUTIONAL FORMS

Kessides (1993) outlined a framework for choosing the most appropriate institutional forms for the supply of infrastructure activities. It is based on the objectives of efficiency, equity and accountability and starts from the premise that the private sector, as represented by the competitive market model, is the most efficient and accountable means of supply. The burden of proof is then on the decision-maker to explain the reasons (i.e., public goods, natural monopolies, asymmetric information, externalities or social objectives) for departing from this model. This process does not necessarily lead to a unique institutional solution for any activity in all contexts. Any framework for choice needs to be flexible and to take into account practical considerations and political circumstances. For example, if a market solution is clearly preferable, but no private suppliers come forward (e.g., to provide minimal transport service to a remote area), it may be justified for government to step in, at least temporarily. The framework simply attempts to narrow the range of reasonable choices and to encourage the decision-maker to aim for those options within this range which are the most conducive to efficiency, equity and accountability in the particular social context. (The likelihood of successful implementation should also be considered.)

In general terms, a four-part strategy can be followed to find the appropriate mix of public and private roles:

- For activities involving public goods, natural monopoly or high sunk costs, there is always a case for public planning, policy making, financing and ownership, or, alternatively, for private sector ownership under public regulation. If ownership remains public, it may be most efficient to transfer ownership to a public corporate entity whose primary interest is to pursue a reasonable return on its assets.
- Wherever possible, the operation of monopoly assets should be subject to competition. The scope for competition can be exploited through competitive concessions, with regulation to ensure fair access to users, a reasonable return on the state's assets, satisfactory quality of service, and protection of the public against monopoly pricing abuses. In cases where the concession option is not practicable, the monopoly assets should be operated by the public corporation itself along commercial principles, with the same regulatory objectives, pursued by an authority which is independent from the corporation.
- For activities which have no structural impediments to contestability (trucking, for example), full competition and privatization should be the objective. Competition and privatization should be encouraged by removal of regulatory barriers to entry, and government should ensure that fair competition prevails. However, even where there are no sunk costs, if economies of integration or scope are present within the other activities of the dominant provider, this may impede the ability of newcomers to compete on an equal cost basis, and regulation would be needed. This regulation might be avoidable in such cases if there is a competitive restructuring of the monopolist, i.e. horizontal and vertical separation of the contestable activities from those involving large sunk costs.

- Other characteristics of railway services, such as externalities, social service objectives, and certain features of user demand (e.g., peak and off-peak periods), may justify public intervention through investment planning, regulation or fiscal transfers, but rarely require public ownership or direct public execution of investment or service operation.

BIBLIOGRAPHY

"A Special Report--Privatization in Argentina: The Rebuilding of A National Railroad." 1993. *Progressive Railroading*. February. pp. 43-77.

Beshers, Eric. 1989. "Conrail: Government Creation and Privatization of an American Railroad." World Bank, INU (TWU) Report No. 38. March 15.

Blackshaw, Philip and Louis S. Thompson. 1993. "Railway Reform in the Central and East European Economies." World Bank, Policy Research Working Paper No. 1137. May.

Caves, Douglas and Laurits R. Christensen. 1980. "The Relative Efficiency of Public and Private Firms in a Competitive Environment: The Case of Canadian Railroads." *Journal of Political Economy*. Vol 88, No. 5. pp. 958-976.

Flouret, Emiliano. 1991. "Private Capital in the State Railroad Companies in Latin America." *1991 World Railways Congress Proceedings*. Papers presented November 19 - 21, Washington, D. C., Vol. 1, pp. 19-34.

Fukui, Koichiro. 1992. "Japanese National Railways Privatization Study: The Experience of Japan and Lessons for Developing Countries." World Bank Discussion Paper No. 172.

Galenson, Alice and Louis S. Thompson. 1993. "The Bank's Experience with Railway Lending: An Evolving Approach." TWUTD. December.

Garibotto, Enrique. 1993. "Privatization Provides Shock Therapy." *Developing Railways 1993: A Railway Gazette Yearbook*. Reed Business Publishing. pp. 15-17.

Hyde, Kevin. 1989. "Competitive Re-Positioning--A Case Study." Paper presented at World Rail--Service and Profit, a Financial Times Conference, London, May 8.

Kessides, Christine. 1993. "Institutional Options for the Provision of Infrastructure." World Bank Discussion Paper No. 212.

Kohon, Jorge and Louis S. Thompson. 1989. "Institutional Reform in Transport--Case Study: Uruguayan Railways." World Bank, INU (TWU) Report No. 59. December.

Levy, Hernan and Aurelio Menendez. 1990. "Privatization in Transport: Contracting out the Provision of Passenger Railway Services in Thailand." World Bank, EDI Working Paper.

Lukov, B. E. 1993. "World's Busiest Network Breaks Up." *Developing Railways 1993*.

Moyer, Neil E. and Louis S. Thompson. 1992. "Options for Reshaping the Railway." World Bank Policy Research Working Paper No. 926. June.

Nellis, John. 1988. "Contract Plans and Public Enterprise Performance." World Bank Discussion Paper No. 48.

Reid, Sir Robert. 1989. "Institutional Reform in Transport: The British Rail Experience." World Bank, INU (TWU) Report No. 44. June.

Richardson, David. 1991. "Workshop Management Contracts--The Way Ahead." *1991 World Railways Congress Proceedings*. Papers presented November 19 - 22. Washington, D. C., Vol. 1, pp. 413-417.

Small, Francis. 1993. "The Corporatisation Process, 1982 - 1992." Association of Professional Engineers and Scientists, Australia. Management Education Program, Corporatisation Seminar.

Tanahashi, Yasushi. 1992. "Reform of Railways in Japan." World Bank, INU (TWU) Report No. 99. March.

World Bank. 1988. "Senegal--SEFICS Rail Transport Project." Project Completion Report No. 7255. May 20.