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Issue No.164, April 2000

ANALYSIS OF RAILWAY PRIVATIZATION IN LATIN AMERICA AND THE CARIBBEAN

Latin American railway privatization has achieved significant results, since the situation today is better than if the railways had remained under management and operation by the State. Traffic volumes have generally increased, although with wide variations between individual cases; government subsidies have been cut, and productivity has improved. On the other hand, the privatization of railways in Latin America has not been an unqualified success, because of certain features of the privatization models used and the environment of the transport sector in which the railways have to compete.

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LATIN AMERICA LEADS THE DEVELOPING WORLD IN RAILWAY PRIVATIZATION

The situation in North America. Not all countries or regions have shown the same enthusiasm for putting railways under private management. In a number of countries, in Latin America and elsewhere, railways were originally built and run as private enterprises, usually under government concession. Only in the United States has private management remained the invariable rule, although in the 1970s the Carter Administration did temporarily take over the **Penn Central** railroad, to ensure that the services provided by this company, which was effectively bankrupt, were not brought to a standstill; and for nearly 30 years inter-urban passenger train services in that country have been operated by **Amtrak**, a federal company.

Virtually, all freight trains in North America are now operated by private companies. In Canada, shares in the formerly state-owned **Canadian National** were auctioned to private investors in late 1995, while in Mexico, the privatization of railway services was almost complete by late 1999. As regards infrastructure, only the railroad *Ferrocarril del Istmo de Tehuantepec*, which the Government spun off from *Ferrocarril del Sureste* before privatization, is still being run by a parastatal body.

The situation in Central America and the Caribbean. In the countries of Central America and the Caribbean (except Cuba) debate on the future of the railways is seen as a dichotomy between

disappearance under public management or survival under private enterprise. In view of the technological obsolescence of much of the track and rolling stock, together with the rugged topography and the small scale of rail networks in many countries, disappearance sometimes seems the most likely outcome, as in fact has already occurred in Nicaragua and in Trinidad and Tobago. The railroad system in Costa Rica was quite well maintained and updated until a few years ago, but the government closed it down with the idea of reopening it under private sector management. The railways also ceased to operate in Guatemala, but the Government managed to auction the system off quite quickly, even though getting it running again posed significantly more serious challenges to the concession holder than it would have done in Costa Rica. In El Salvador, the State continues to operate the railway, although it carries little traffic, and its medium-term future is likely to depend on re-establishing the rail link with Guatemala. The railroad in Panama is being modernized, under concession to an enterprise financed by capital from the United States.

The case of South America. The situation of South American railways is more encouraging and, in most cases, their disappearance is unlikely since both the countries and the rail networks are bigger than in Central America, and technological obsolescence is less advanced. Apart from the exceptional case of Guyana (where there has never been a railway network as such), no South American national railway system has been completely closed down, although some, such as in Ecuador and Paraguay, are under threat.

In the vast majority of South American countries, the preferred option has been privatization; and in fact South America and Australasia are the two continents to have progressed furthest in this regard after North America. In Europe, only Great Britain has completed railway privatization, and in the vast majority of other countries the process has hardly begun; in Africa, progress is as yet limited, and it is even more so in Asia.

RAILWAY AND HIGHWAY PRIVATIZATION: A DIFFERENCE OF APPROACH

Governments sell rights to manage railway track. There is more than one way of privatizing a railway system, as will be seen below. However, many privatization options share an important characteristic, namely that the concession holder has to pay the Government for the right to use railway infrastructure. Frequently, concessions are awarded to bidders offering to pay the most for this right, provided they also make a commitment to invest pre-established amounts in track or rolling stock. For example, in Argentina, the concession system basically entailed paying an annual sum for the concession, plus hand over of locomotives and other rolling stock on a rental basis, and investment commitments. In the Peruvian case, the winning bid was made by a consortium that offered to pay the State 33.375% of its income from track use fees paid by operating companies.

But they do not sell rights to manage highways. Whereas governments usually expect to make money from railroad privatization, the goal tends to be different in the case of highways, where there is greater emphasis on economic development and social progress, and less on net payments to the State. For example, the Chilean government sets the following objectives for its highway concession programme: (i) attracting private-sector resources; (ii) outsourcing of production and management; (iii) optimization of efficiency; and (iv) release of public-sector resources. Pricing structures were defined so as to be attractive for users, while also balancing the overall level of payments made to the State on certain concessioned highway stretches, with subsidies provided on other stretches; the

Government does not expect to make a profit out of the process. In other words, in the case of railroads the goals are to improve infrastructure and services, and also financially benefit the Government; with highway concessions, however, the goal is to improve infrastructure and financially benefit users.

The consequences. This is not the place to justify this difference in approach, but it clearly raises costs for railway concession-holders, which they are forced to defray by charging transport rates which are above the marginal costs of the services provided. In general, the phenomenon leads to a series of unfortunate consequences for economic efficiency, which have been analysed by ECLAC elsewhere.

In another part of the world, i.e. in Great Britain, concession-holding companies typically receive subsidies from the Government during the initial years, which fall in value each year and frequently become a payment before the concession comes to an end. Despite ongoing debate over the advantages or disadvantages of this arrangement, there is increasing support for the view that the user of rail transport, or the community in general, should receive the benefits, rather than government coffers.

SEPARATION OF TRACK MANAGEMENT FROM TRAIN OPERATION

The model under which Latin American railway privatization began. Different privatization models have been applied in different Latin American countries and at different times. In 1989, Colombia began its privatization process by separating infrastructure management from the operation of services. Infrastructure was to remain in the hands of the State-owned company *Ferrovías*, with *Sociedad Colombiana de Transporte Ferroviario*, a mixed private-public enterprise, responsible for operating the trains. The same general model has been used in Europe, initially in Sweden, both track and the vast majority of services remain in the hands of different State-owned companies, and, more positively, in Great Britain where all the companies involved are private. This model has worked quite well in these two European countries in principle, although there have been problems in certain areas of its application. In the British case, privatization has coincided with a major increase in passenger and freight volumes. This has caused congestion and led to criticisms aimed (or which should have been aimed) at the particular way in which the model has been applied, rather than at the model itself.

Discouraging results. However, the results of this privatization model in Colombia were not good, partly because *Ferrovías* failed to refurbish and/or maintain the track adequately, and partly because of inherent factors such as the country's often quite rugged topography and its very narrow (3-foot) gauge. Subsequently, a conceptual review of railway privatization was undertaken in Colombia, and the system was split into two networks - Atlantic and Pacific - under combined concessions covering both infrastructure and operations, which do not rule out operation by third parties, which were put out to tender. Nonetheless, exceptional cases apart (such as the trains in the north of the country operated by the **Drummond Mining Corporation**, and a steam-engine tourist operation in the Bogotá area) rail transport has yet to revive in Colombia.

Cases in which the separation model is appropriate. Perhaps because of the mediocre results it achieved in Colombia, the separation model has not prospered in other countries of the region.

However, it does have distinct and significant advantages, especially in situations where productive enterprises depend critically on rail transport. In such cases, the railway company would be able to raise its prices to the point where it internalize for itself all the profits of the productive company, or up to the point where the latter was indifferent between using rail or road transport. This consideration was relevant in Peru, particularly in the case of *Ferrocarril del Centro (FCC)*, an operational division of *Empresa Nacional de Ferrocarriles (ENAFER)* that served the State-owned mining company *Centromin*, and is now owned by the private-sector company **Doe Run**. If FCC had been sold off without separation, the privatized railway company would have been able to charge the mining company the highest possible freight rates, up to the point that the traffic switch to trucks or the mining operation close down. On the other hand, if railway infrastructure was managed by a concession-holder that sold track rights to one or more operating companies, and if *Centromin* or **Doe Run** were not satisfied with the freight rates being charged, they would have the alternative of operating their own trains or asking another railway operator to do so, paying tolls to the track management company.

Peru finally adopted a variant of the model initially chosen in Colombia, which has peculiar characteristics in the Peruvian case because (up to now) the different lines are operated exclusively by companies that also form part of the consortium that won the infrastructure management concession (the rules do allow other operators to come forward, however). It is still too early to assess performance in the Peruvian case. The model is bound to have to overcome some difficult obstacles; but here again these have nothing to do with the model itself, but with features of the Peruvian transport sector, such as the scarcity of traffic on *Ferrocarril del Sur* and the institutional framework of the trucking sector with which it competes - a topic dealt with in greater detail below.

A hybrid model in difficulties. In the centre/south of Chile, a hybrid model is being applied which is similar in part to the Anglo-Swedish model in the case of main lines, where infrastructure is managed by *Ferrocarriles del Estado (EFE)*. This company operates passenger trains but also sells track-use rights to the private-sector company *Ferrocarril del Pacífico (FdP)*. The Chilean south/centre model also displays some of the features of combined concessions on its branch lines, however, where the operating company is also responsible for maintaining infrastructure. In this particular case in Chile, privatization is not giving satisfactory results. The tolls paid by FdP are partly used to meet the costs of EFE passenger train services and overheads, rather than being spent on projects or programs benefiting FdP directly. The Government pays an allowance for every ton-km transported by rail in order to offset an implicit subsidy received by the trucking sector; however, it is not FdP that receives it but EFE, and there are no guarantees that the latter use it in ways that favour FdP. In the five years since the privatization of freight transport, FdP has never earned a commercially satisfactory rate of return on capital.

The Anglo-Swedish model is being applied in the case of *Ferrocarril de Tehuantepec*, but it is too early to assess the results. In this particular case the model is appropriate in principle, since it allows the State company that manages the track to charge tolls which reflect the marginal cost of track use. The revenues generated by tolls set at marginal cost, however, will not be sufficient to cover the fixed costs of maintaining the track, and these could be financed by a State subsidy paid to the track management company.

Criticisms - justified and unjustified. It is clear that the executives of train operating companies do

not like the Anglo-Swedish model, partly because it tends to reduce their own profits, and partly because it has some inherently inconvenient characteristics. Railway company executives clearly prefer to have track maintenance under their own control. Inadequate maintenance undermined this privatization model in Colombia, and the same could happen in the Chilean and Tehuantepec cases. Some executives argue that the model makes it considerably more difficult for operators to earn attractive rates of return, as they are unable to apply significant price hikes to clients who are partly captive to rail transport (because if they did so another operator would enter the market).

On the other hand, consider the case where the operating company tries to attract new customers to the railway, by offering unprofitably low prices in the short run, in the hope that once the customer is sure of the benefits of rail transport, it will later be possible to raise prices and turn the operation into a profitable business. If the operator succeeds in this, the track management company could simply raise its tolls and internalize the surplus, thereby discouraging the railway operator from seeking new customers. However, this is only possible if the toll structure makes it possible to discriminate between different traffic segments, which is normally not the case.

In Sweden, one of the aims of the model was to create equal conditions between rail and highway transport, because no government would consider auctioning highway management, along with the operation of all related services, as a single comprehensive package. But this is the railway privatization model that is most frequently encountered in Latin America: in Argentina, Bolivia, Brazil, Colombia (at the second attempt), Chile (North), Guatemala and Mexico (excluding the sectors of Tehuantepec and the Valley of Mexico).

THE COMBINED CONCESSION MODEL

The combined model is criticised in the country where it has been applied most. In the combined model both infrastructure management and train operation are in the hands of a single company. This model is effectively the only one used in the United States, where criticism of the economic power it puts in the hands of railroad companies vis-à-vis their customers who are most captive to rail transport has been growing steadily, along with railway company mergers. In that country, where rail transport is today dominated by five large mega-carriers, a group of Republican and Democrat senators tabled legislation in 1999 (**the Railroad Competition and Service Improvement Act**) to introduce greater transparency in negotiations between clients and railway companies that enjoy certain monopoly powers, and with a view to fostering greater competition in rail terminals.

The predominant Latin America model. This same combined model is also dominant in Latin America, where it normally consists of a concession covering both track management and train operation, for a period varying between 30 and 50 years.

In exceptional cases, such the Chilean company *Ferronor*, railroads have actually been sold. The sale of a railway by a government is rare, especially in cases like *Ferronor*, where the railway has some strategic importance. The case of Ferronor verifies the difficulty of selling the railway while still retaining its strategic value. Ferronor has had considerable success in attracting certain forms of mass transport traffic to the railway, but, on the other hand, it has left large sectors of its main longitudinal route unused.

Table 1: Freight traffic on Argentine railways 1965-1998

| Year | Ton-km x 10 ⁶ |
|------|--------------------------|
| 1965 | 14,186 |
| 1975 | 10,659 |
| 1984 | 9,104 |
| 1991 | 7,880 |
| 1998 | 9,835 |

Source: Author's calculations, based on data published in: (i) **Railway Directory and Yearbook**, 1987; (ii) the magazine *Realidad Ferroviaria*, January/February 1999; *Política Ferroviaria* 1979-1981, Ministry of Economic Affairs; (iii) **Rail Business Report** 1996, and (v) ALAF - Annual Statistics, 1972.

More traffic than profitability. Privatization under a single combined concession has not produced unbeatable results either. In important cases, the volumes transported have risen, but this has not always been accompanied by good levels of profitability. The Chilean section of the **Arica-La Paz railway (FCALP)**, which was leased for a 25-year period starting in 1997 to a consortium consisting mainly of Bolivian business interests, was expecting to transport 360,000 tons in 1999 - more than 10% above its previous maximum. By good scheduling it expected to do this with a fleet of locomotives 30% smaller; -some locomotives are rented to other companies-, and a labour force cut by 84% (through a bold **outsourcing** policy). Nonetheless, it does not seem to have resulted in commercially satisfactory returns.

Argentine railway companies also complain of low rates of return, but this is difficult to confirm because of the lack of published accounts. Privatization in that country has managed to reverse a long-term decline in traffic volumes (see table 1). The figures in the table raise a question, however, namely what is causing the higher volumes? One possible answer could be the enterprise of private-sector companies and the privatization process itself, but another equally possible alternative is the incompetence of the former state-owned company *Ferrocarriles Argentinos*, or political interference therein.

In the Argentine case there are very marked differences between the different companies in terms of freight volumes. For example, *Ferrosur Roca* managed to triple volume transported during its first seven years, whereas *Mesopotámico General Urquiza* only succeeded in maintaining the traffic levels of its State predecessor.

Table 2: Freight traffic carried by the Brazilian Federal railway network and subsequent private-sector companies, 1983-1998

| Year | Ton-km x 10 ⁶ |
|------|--------------------------|
| 1965 | 14,186 |
| 1975 | 10,659 |
| 1984 | 9,104 |
| 1991 | 7,880 |
| 1998 | 9,835 |

Source: Author's calculations, based on data from RFFSA and Geipot.

In Brazil and Mexico traffic volumes have now risen, after an initial period (see table 2). The same has also happened with *Ferronor*. In some cases, such as FdP, volumes transported seem to decline in the period immediately following privatization, as a result of the company's focus on cost-cutting rather than increasing demand. In the short run it is generally easier for newly appointed managers to lower costs than to raise demand. This approach is not necessarily the most appropriate, bearing in mind the importance of fixed costs in rail-transport economics, which makes the railway a mass-transport medium. Sometimes, if there are not large quantities of either freight or passengers to transport, it is difficult to justify a railroad's operation.

Another railway that is transporting unprecedented tonnage is the Bolivian *Empresa Ferroviaria Oriental (FCO)*, which was awarded in concession to a Chilean business consortium. In 1998, FCO carried 1.102 billion tons - over 40% more than in 1994, the year prior to its privatization. Labour productivity had also risen by 248%. This case is exceptional since no highway compete on its main route to the border with Brazil; FCO is very likely the most profitable company in Latin America, and possibly in the entire world, despite the fact that nearly one-quarter of its traffic consists of passengers. In a competitive environment like that of FCO, the company can pass the fixed costs of the railway on to its users, but this is impossible for railways that do not have effectively captive clients.

The origin of productivity improvements. In nearly all cases of combined concessions (or sale), productivity has improved, by up to 750% - especially labour productivity. These achievements are partly the result of downsizing the labour force to the level really needed to operate the railway, but other factors have also had an influence. For example, in Argentina, the suspension of inter-urban passenger train services released large amounts of labour, and in the case of FCALP, greater use has been made of outsourcing. Higher labour productivity has also been assisted by a tendency to concentrate resources in the densest traffic segments, and abandon those considered to be marginal. This happened in the case of Ferronor, which in its final years of State management, negotiated freight contracts at rates that were barely above the corresponding marginal costs. Once the new private-sector owners took over, these contracts were not renewed.

It is clear that productivity improvements are not only the result of better management by the companies, but also due to factors such as the closure of more labour-intensive traffic segments. The same factors also help to explain reductions in, or the ending of government subsidies.

The problematic general freight market. Several railway companies have clearly had difficulties competing in the market for general freight, which in Latin America is usually transported by container, frequently with negligible profit margins. Railway companies typically have relatively high fixed costs, arising from factors such as management overheads, the part of track management costs that is independent of the number of trains running on it, signalling systems, etc. In this situation, charging freight rates equal to marginal (or direct) transport costs would leave the fixed costs uncovered. This problem is partly resolved by the separation model, especially if the infrastructure management company is State-owned, or if it receives a State subsidy as a contribution to fixed costs.

Companies holding combined concessions are able to transport general freight at acceptable rates if the distances are relatively large and infrastructure is in good condition, such as on the railway

between Mexico and the United States, or if trucking infrastructure along the same route is deficient, as is the case on the route between Baquedano and Salta (shared by *Ferrocarril Antofagasta a Bolivia – FCAB*, *Ferronor* and *General Belgrano*), or between Antofagasta and Bolivia served by FCAB, or between Santa Cruz and Quijarro served by FCO. Success also depends on the management capacity of the company in identifying markets and exploiting them. One of the most dynamic companies in this respect is the Argentine enterprise *Ferrosur Roca*.

In general, railway companies have to face competition from a trucking sector charged for highway usage through tolls and fuel taxes at rates inferior to the cost they generate. Moreover, the sector is often institutionally fragmented and suffers from a low level of professionalization. Fierce competition among truck operators drives freight rates down, sometimes to values below long-term marginal costs. Despite this, trucker associations in Latin American countries have proven more influential than the railway companies in obtaining government favours (taxes on diesel fuel, for example). These factors undermine the competitiveness of railway companies in the general freight market.
