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## THE POTENTIAL FOR MORE TRADE BY RAIL BETWEEN BRAZIL AND ITS NEIGHBOURS IN THE SOUTHERN CONE

This edition of the FAL bulletin contains the summary of a review carried out by ECLAC concerning the potential for a higher level of trade via rail between Brazil and other countries of the expanded Mercosur, and through those countries with Asia.

At present, such trade occurs at very low levels, except in the case of trade with Bolivia. Some projects are planned, however, that would improve integration of the railway network in the Southern Cone, without requiring very significant levels of investment. If those projects are executed, the prospects would be good in the medium and long term for substantially increasing trade by rail in the region.

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**The current role of the railway in international trade in Brazil.** With few exceptions, the role of the railway in trade among Latin American countries is minimal or even zero, and rail transport between countries is possible only in the Southern Cone and between Mexico and Guatemala. At present, there are no international railways in the rest of the region, and the connections that once existed between Guatemala and El Salvador, and between Colombia and Venezuela, have disappeared. On the other hand, rail has a huge share in the delivery of export products to the ports, accounting for more than 50% of such products by weight in South America. The particular case of Brazil is a good example of this, as virtually all exported iron ore reaches port by rail. There are very few trains, however, that cross a border with Brazilian export products, as can be seen from table 1.

**Source:** <http://www.transportes.gov.br/bit/mapas/mapclick/ferro/mapferr.htm>

The borders and names shown on this map do not imply support or official acceptance by the United Nations.



Brazil has rail connections and trade with three neighbouring countries: Argentina, Bolivia and Uruguay. As far as Brazilian exports by rail are concerned, in 2000 shipments to Bolivia were the most significant (59% of all rail shipments), followed by those to Argentina (33%). Dispatches to Uruguay accounted for only 1% of the total tonnage exported by rail, the rest probably consisting of exports to other countries that left Brazil by rail. With regard to rail imports, an even greater proportion (85% of the total) came from Argentina, only 8% from Bolivia and 5% from Uruguay. These data were generated by the International Transport Database of the ECLAC Transport Unit, and are subject to errors which would be very slight in absolute terms, caused by inaccuracies in filling in the original forms, and so on, but which could be more significant in the case of rail transport, as there are very few shipments to and from other countries by this mode of transport. With regard to trade

by rail between Argentina and Brazil, the volumes recorded by the only rail company offering rail services along that corridor, *América Latina Logística* (ALL), are moderately higher than those indicated by BTI.

Table 1

**MODAL DISTRIBUTION OF BRAZILIAN TRADE WITH OTHER COUNTRIES  
OF LATIN AMERICA AND THE CARIBBEAN, 2000, BY VALUE AND VOLUME**

Mode of transport	Exports		Imports	
	US\$ (10 <sup>6</sup> )	Tonnes (10 <sup>6</sup> )	US\$ (10 <sup>6</sup> )	Tonnes (10 <sup>6</sup> )
Air	1 244.24	38.92	1 090.46	21.86
Ocean vessel	5 846.57	11 290.20	5 042.51	12 593.59
Mail	0.11	0.00	0.20	0.00
Rail	180.97	371.62	84.70	351.22
Lake vessel	-	-	14.78	83.32
River boat	64.67	1 632.49	0.28	10.66
Truck	5 173.62	3 697.89	3 390.78	4 506.61
Other	196.31	313.99	3.41	1.262

**Source:** BTI, Transport Unit, ECLAC.

The tonnages exchanged by rail between Brazil and Argentina, on the one hand, and Bolivia, on the other, have declined by 22% or 25% (depending on the source) and 31% respectively, between 2000 and 2001. Between 2001 and 2002, however, there was an upturn of 13% in the case of Argentina (according to data from ALL) and 7% in the case of Bolivia (according to the Bolivian Superintendence of Transport, which includes as rail exports the soya transferred from train to barge on the river Paraguay at Puerto Suarez). We do not have figures reflecting the recent trend in trade by rail between Brazil and Uruguay, but it is in any case much less than in the cases of Argentina and Bolivia.

**Explanations of the low level of participation and the recent recovery.** Why is there such a low level of trade by rail between Brazil and its South American neighbours? To a large extent, the answer lies in

technical differences between the rail networks, and in particular in the gauge, which is metric in the south of Brazil, and Stephensonian (1,435mm) in both north-east Argentina and Uruguay, which means that the freight has to be transferred, or the wheels of the cars changed, thus increasing freight charges and delays. The situation at one of the two points for trade by rail between Brazil and Uruguay, at Jaguarão/Río Blanco (the border between Brazil and Uruguay) is especially unfavourable, as the elevation of the railways on the Brazilian side makes a transfer to or from trucks necessary. Another railway connection with Uruguay, at Cuareim/Cuarahim, ceased to exist several decades ago, and there has never been a connection with Paraguay or other bordering countries. The situation with regard to Bolivia is more satisfactory, as there is a Corumbá/Quijarro connection with rails of the same gauge (metric) on both sides of the border. See table 2.

What are the reasons for the albeit modest recovery in trade by rail in recent years? The explanation lies, to a large extent, in the concessions for railway activities in Argentina, Bolivia and Brazil. Private concessionary companies have demonstrated on the one hand, more commercial drive, and on the other hand, a greater willingness to take advantage of relevant technological advances, than their predecessors from the state sector. One example of this is the commissioning of roadrailer cars along the São Paulo-Zárate (Buenos Aires) route, which makes intermodal truck/rail car transport possible. This initiative, the only one of its kind in South America, was by ALL, a company that emerged from the Brazilian concession *Ferrovias Sul Atlântic*, whose owners, in May 1999, acquired two concessions in Argentina. This placed the railway routes linking São Paulo, Buenos Aires and Mendoza, a city just a few steps from the Chilean border, under the control of a single group. Sending freight from São Paulo to Mendoza still involves two gauge changes, but at least there is continuity with the company.

The merger of these railways under the control of ALL exemplifies another trend that is driving rail transport in the Southern Cone, including between Brazil and its neighbours. Although there have been no other mergers of property between concessionary companies in Brazil and their neighbours, there are trade and operational agreements between *Ferrovias Brasil*, which includes the *Ferrovias Novoeste*, a concessionaire originating from the networks between Bauru and Corumbá, and the Bolivian *Empresa Ferrovias Oriental*, which facilitates trade by rail between Bolivia and Brazil. Solving the technical problems that hinder trade by rail between Brazil and its neighbours will be more expensive and difficult than resolving the institutional problems.

**Prospects and projects.** What are the prospects for a higher level of trade by rail between Brazil and the other countries of the Southern Cone? In the case of Bolivia, it is expected that completion of the paved road between Quijarro and Santa Cruz de la Sierra will bring more competition from truck transport, which would tend to reduce the demand for rail transport over that route. On the other hand, rail transport should be able to defend itself quite well, because of the agreements between the concessionary companies, the long distances between the points of freight origin and destination, and the fact that three quarters of the traffic from Brazil to Bolivia and 60% of traffic in the other direction consists of typical rail products, such as steel products, paper, cardboard, seeds, minerals and concentrates.

The above project is for roads, and would reduce the role of the railway, but there are other projects for railways which could have the opposite effect, although their implementation is not guaranteed. Several of the projects under consideration would expand the coverage of the metric-gauge rail network in the Southern Cone, thus facilitating trade by train between concessionary companies and different countries.

Table 2

### RAILWAY CONNECTIONS BETWEEN BRAZIL AND NEIGHBOURING COUNTRIES

Border point in Brazil	Border point in neighbouring country	Concessionaire in Brazil	Operating company in neighbouring country	Gauge in Brazil (metres)	Gauge in neighbouring country (metres)	Typical traffic in recent years

							(tonnes in both directions)
<b>Uruguiana</b>	Paso de los Libres (Argentina)	América Latina Logística (Ferrovia Atlántico)	América Latina Sul	América Latina Logística (General Urquiza Mesopotámico)	1.000	1.435	400,000
<b>Livramento</b>	Rivera (Uruguay)	América Latina Logística (Ferrovia Atlántico)	América Latina Sul	Administración de los Ferrocarriles del Estado	1.000	1.435	30,000
<b>Jaguarão</b>	Río Branco (Uruguay)	América Latina Logística (Ferrovia Atlántico)	América Latina Sul	Administración de los Ferrocarriles del Estado	1.000	1.435	At present traffic is transferred to and from trucks, owing to the elevation of the railway in Brazil
<b>Corumbá</b>	Quijarro (Bolivia)	Ferrovias Brasil (Ferrovia Novoeste)	Brasil	Empresa Ferroviaria Oriental (Genessee & Wyoming)	1.000	1.000	200,000

The most advanced of these projects with regard to planning is the replacement of the historical transandean railway between Los Andes, in Chile, and Mendoza, in Argentina, which is an initiative by the Argentine company Tecnicagua. It is not certain however that the restored transandean railway would have the capacity to transport the volumes required to obtain an adequate return on the capital needed for the work. Another Argentine enterprise, the consultant Conarsud, has plans to establish a metric-gauge corridor between the border with Brazil at Paso de los Libres, and Mendoza, through a combination of re-gauging some existing lines and adding others with a third rail. This construction, together with the transandean line, would provide Brazil with a rail corridor that is technically standardized (disregarding the sections to the west of the Chilean town of Los Andes, which have a broad gauge of 1,676 mm), which could be used to send and receive products via the ports of Valparaíso, San Antonio and Ventanas.

Another proposal is for extension of the Paraguayan *Ferroeste* railway as far as the border with Paraguay in the vicinity of *Foz de Iguacu*, where it would connect with another proposed railway, also to be constructed with a metric gauge, which could cross the south of the country, from east to west as far as a point on the river Paraguay opposite the Argentine town of Formosa, from which there is already a railway line that leads to Embarcación, Salta, Socompa and the Pacific ports of Antofagasta, Mejillones and Iquique. Each of these projects would require an investment of from about US\$ 150 million to US\$ 250 million. As the cost is not excessive, this construction could be considered for the medium term, although there are still many problems to be resolved, including testing the economic feasibility of the project.

Other projects would require major investments, such as interconnection of the eastern and Andean networks, which both have a metric gauge, in Bolivia, and the construction of a low-elevation railway tunnel through the Cordillera de Los Andes, on the Mendoza-Los Andes axis. Such projects could be difficult to

execute in view of the railway concession, which increases the number of interested entities which have to reach agreement in relation to sharing the investment costs.

In view of the economic crisis at the end of the 1990s and the beginning of the following decade, there has been no clear trend in trade between Brazil and its Mercosur partners and other countries of the Southern Cone. It is most likely, however, that this trade will grow in the medium and long term. There are, for example, large automotive companies such as Daimler-Chrysler, Volkswagen and Ford, which have factories both in Argentina and Brazil, and would benefit from a greater exchange of intermediary products and completed vehicles, in which the railway could play an important role. Growth is also expected in trade between Brazil and the East Asian countries, some proportion of which could be transported by rail to or from the ports of the Pacific.

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