Regulatory Reform in the Brazilian Railway Sector and its Potential Effects.

May, 28th 2015

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Paper Structure

- Introduction
- Overview of the sector and its role for country’s development
- Possibility of introducing intramodal competition in railroads
- The two brazilian patterns of railroad privatization and sectorial regulation
- Competition in the railroad sector
- The reform currently under discussion
- Institutional actors and their roles in the new arrangement
- Tariffs
- Towards unbundling or not
- Conclusion
Overview of the Rail Sector and its role for Brazilian growth

- Rails are a more efficient way to transport huge volumes of freight through long distances when compared to roads;
- Brazilian GDP has a great dependence on primary commodities exportations; this cargo is captive of railways

Table 1 – Main Exported Products Exported in 2014 (US$ Million)

<table>
<thead>
<tr>
<th>Products</th>
<th>Value</th>
<th>Δ % (2014/13)</th>
<th>% Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soybeans and prods</td>
<td>31,408</td>
<td>1.4</td>
<td>14.0</td>
</tr>
<tr>
<td>Ores</td>
<td>28,402</td>
<td>-19.0</td>
<td>12.6</td>
</tr>
<tr>
<td>Oil and fuel</td>
<td>25,175</td>
<td>12.4</td>
<td>11.2</td>
</tr>
<tr>
<td>Transport material</td>
<td>20,374</td>
<td>-35.5</td>
<td>9.1</td>
</tr>
<tr>
<td>Meats</td>
<td>16,891</td>
<td>3.8</td>
<td>7.5</td>
</tr>
<tr>
<td>Chemicals</td>
<td>15,051</td>
<td>2.8</td>
<td>6.7</td>
</tr>
<tr>
<td>Metallurgic products</td>
<td>14,423</td>
<td>8.8</td>
<td>6.4</td>
</tr>
<tr>
<td>Sugar &amp; ethanol</td>
<td>10,357</td>
<td>-24.5</td>
<td>4.6</td>
</tr>
<tr>
<td>Machines and equipment</td>
<td>8,671</td>
<td>-3.4</td>
<td>3.9</td>
</tr>
<tr>
<td>Paper &amp; pulp</td>
<td>7,218</td>
<td>0.9</td>
<td>3.2</td>
</tr>
<tr>
<td>Coffee</td>
<td>6,616</td>
<td>26.1</td>
<td>2.9</td>
</tr>
<tr>
<td>Footwear &amp; leather</td>
<td>4,287</td>
<td>10.8</td>
<td>1.9</td>
</tr>
<tr>
<td>Electrical equipment</td>
<td>3,965</td>
<td>-7.5</td>
<td>1.8</td>
</tr>
<tr>
<td>Precious metals and stones</td>
<td>2,817</td>
<td>-12.1</td>
<td>1.3</td>
</tr>
<tr>
<td>Textiles</td>
<td>2,536</td>
<td>7.1</td>
<td>1.1</td>
</tr>
</tbody>
</table>
Overview of the Rail Sector and its role for Brazilian growth

- Freight services and infrastructure supply are important variables when it comes to assessing the country’s competitiveness in a global economy. And Brazil is not well positioned...

  - In the Logistics Performance Index – LPI 2014 (WB), Brazil stands in the 65th position among 160 countries analyzed. In 2012, Brazil was at the 45th position, among 155 countries.

  - When it comes to infrastructure in general, the decrease of Brazil was even worse: whereas in 2012 the country was in the 46th position, it dropped to the 54th in 2014.
Overview of the Rail Sector and its role for Brazilian growth

- Even though railroads are important due to Brazilian exportation characteristics, as well as territory dimensions, to date the railroad system is quite poor.

Graphic 1 - Brazilian Matrix of Cargo Transportation

Source: National Plan of Logistics and Transportation (PNLT), Transportation Ministry (2012)
Overview of the Rail Sector and its role for the Brazilian growth

- Besides the unbalanced Matrix of Cargo Transportation, Brazil has a low network density: \textbf{3.9m per km}^2.

<table>
<thead>
<tr>
<th>Country</th>
<th>Rail Network Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>117.35m per km^2</td>
</tr>
<tr>
<td>Poland</td>
<td>71.36m per km^2</td>
</tr>
<tr>
<td>Japan</td>
<td>69.95m per km^2</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>67.54m per km^2</td>
</tr>
<tr>
<td>Italy</td>
<td>65.47m per km^2</td>
</tr>
<tr>
<td>European Union</td>
<td>53.1m per km^2</td>
</tr>
<tr>
<td>France</td>
<td>45.4m per km^2</td>
</tr>
<tr>
<td>Ukraine</td>
<td>35.88m per km^2</td>
</tr>
<tr>
<td>Spain</td>
<td>30.25m per km^2</td>
</tr>
<tr>
<td>Sweden</td>
<td>25.83m per km^2</td>
</tr>
<tr>
<td>United States</td>
<td>23.04m per km^2</td>
</tr>
<tr>
<td>India</td>
<td>23.04m per km^2</td>
</tr>
<tr>
<td>South Africa</td>
<td>17.12m per km^2</td>
</tr>
<tr>
<td>Argentina</td>
<td>11.3m per km^2</td>
</tr>
<tr>
<td>Turkey</td>
<td>11.1m per km^2</td>
</tr>
<tr>
<td>Pakistan</td>
<td>9.79m per km^2</td>
</tr>
<tr>
<td>Mexico</td>
<td>8.92m per km^2</td>
</tr>
<tr>
<td>China</td>
<td>8.11m per km^2</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>5.53m per km^2</td>
</tr>
<tr>
<td>Russia</td>
<td>5.1m per km^2</td>
</tr>
</tbody>
</table>

Source: STATISTA (2015)
Overview of the Rail Sector and its role for Brazilian growth

- It also has low rates of investment...

Graphic 2 - Investments in rail infrastructure in US$ (billion)

Sources: OECD Index; (*) Brazilian Ministry of Transportation (R$)
(**) Conversion by the current exchange rate on the last day of each reporting year, according to data provided by the Brazilian Central Bank
Overview of the Rail Sector and its role for the Brazilian growth

- And productivity...

**Graphic 3** - Railways, goods transported (million ton-km)

Source: World Bank Data
Possibility of introducing intramodal competition in railroads

- Share of infrastructure among vertically-integrated concessionaires;
  Mutual traffic;
  Open access.

- Unbundling
  Accounting separation;
  Legal entity separation;
  Corporate structure disintegration.
The two Brazilian patterns of Rails Pivatization and Sectorial Regulation

- In the 90s Brazil experienced a privatization program under which the existing railways were divided in six different geographic areas, plus the railway of São Paulo state, and concessioned under vertically integrated arrangements.
- The process began in 1992 with the inclusion of the Federal Railway Network (RFFSA) in the PND.
- All the consortia that owned concessions experienced the presence of a commodity (agricultural or mineral) producer.

Brazilian railroads were privatized mainly to their clients (VENCOVSKY; 2005).
The two Brazilian patterns of Rail Pivatization and Sectorial Regulation

- Privatization process succeeded in increasing productivity....

Graphic 4 - Brazilian Railroad Productivity

Source: National Terrestrial Transportation Agency; TF National Association
The two Brazilian patterns of Rail Pivatization and Sectorial Regulation

- .... and significantly reducing accidents.

**Graphic 4 - Brazilian Railroad Accident Rates**

![Graph showing a significant decrease in railroad accident rates from 1997 to 2012](source)

*Source: National Terrestrial Transportation Agency; TF National Association*
Nonetheless, there was little increase in the network in terms of building new railroads, as well as in intramodal competition.
The Reform currently under discussion

- National Logistics Integration Plan suggests the inauguration of a new concession model:
  - Segregating activities within the sector,
  - Separating investment in infrastructure O&M from service provision.
  - The whole capacity of the new railroads shall be purchased by VALEC, a federal State-owned company.

**Figure 2** - Brazilian Railways Unbundle Scheme

*Source: ANTT*
Tariffs

- Free negotiation between VALEC and concessionaires;
  
  Provided that some rules are respected:
  
  (i) Tariffs shall be composed of fixed costs associated to the transfer of spare capacity;
  (ii) The portion corresponding to capital return shall be calculated as an aliquot of the payment basis plus taxes;
  (iii) The aliquot shall be established for each concessionaire by ANTT; and
  (iv) The payment basis shall be composed of the capital employed for infrastructure provision.

VALEC shall act as a “manager marketplace”, through which providers and customers shall meet (PINHEIRO, 2014).

- Tariff for the auctioned Traffic Capacity (OFI to VALEC);
- Fruition Tariff (OFI to concessionaires);
- Free negotiation between OFI’s and customers.
Institutional Actors and their Roles in the New Arrangement

- National Agency for Terrestrial Transportation (ANTT);
- EPL (State-owned company);
- VALEC (State-owned company);

Shall act as a network manager; it will acquire from infrastructure concessionaires their whole network capacity of transportation and will auction such capacity to:

(i) Customers willing to transport their own cargo;
(ii) Independent Rail Operators (OFI);
(iii) Already-existing rail concessionaires.

The company shall then work as a “manager marketplace”, in which providers and customers meet themselves through VALEC (PINHEIRO, 2014).

- Vertical and horizontal concessionaires;
- Independent Rail Operators (OFI).
Towards unbundling or not

- Legal basis (Presidential Decree n. 8129/2013);
- Fiscal budget;
- Business risk;
- Cohesion of two different concessions models: risk of bottlenecks and institutional insecurity;
- Reform Procedure;
- Should the State-owned company take the role of being the horizontal concessionaire of the network to be constructed instead of purchaser of the capacity?
- Will this arrangement pose an obstacle to the positive effects expected with the insertion of competition in the sector?
- Is VALEC’s responsibility to secure regularity and continuity of service in those less profitable lines?
Towards unbundling or not

- Regulatory governance issues;
- Shall the owner of the cargo be allowed to be an infrastructure concessionaire?
- Shall the owner of the cargo be entitled to become service freight operator?
- Will the intended benefits of unbundling and introducing competition in the railway sector overcome the economies of scale of a vertical integrated structure and the transaction costs that are typical of unbundled public utility industries?
- Regulatory Impact Analysis;
Conclusion

Some further considerations are necessary before making a decision towards unbundling or not the rail Brazilian sector. The role to be played by VALEC is one of the major points of concerns, regarding legal, fiscal and operational aspects.
Thank you!

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