Transport Sector
Brazil

May 2015

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I. Sector Overview
Overview

Road transport is the main transport mode in Brazil in terms of both cargo and passenger movement. Despite being the most used, the quality of road infrastructure is very low, as only 14% of the road network in the country is paved. Compared to roads, the quality of railways is much better as their operation has been transferred to the private initiative in the 1990s. However, they carried only 21% of the cargo transport in 2014. The main competitor of the road mode in terms of passenger movement is the air transport. Notably, the passengers at Brazilian airports increased from 77mn in 2010 to 122mn in 2014, which ranked Brazil among the five largest domestic air transport markets in the world. However, the development of the segment is constrained by the saturation of large airports and the low quality of infrastructure of regional ones. The modes with the largest growth potential are the maritime and the waterway transport, given their cost competitiveness and low share of 14% of the cargo transport.

Main Challenge

The main challenge before Brazil is to balance the existing transport matrix by increasing the share of the more sustainable and efficient railway and waterway transport modes. Notably, the prevalence of the road transport is the main cause for the relatively high logistics costs in the country. In 2014, Brazil ranked 65th among 160 countries in the Logistics Performance Index published by the World Bank, falling behind the majority of its competitors from BRICS (China – 28th, South Africa – 34th, India – 54th) in terms of logistics effectiveness. Analysts outline that the investments in transport infrastructure should increase at least four times if the country wants to solve its logistics bottlenecks. The estimated value of investments in the modernisation of the transport matrix in Brazil ranges from BRL 424bn (National Logistics and Transportation Plan, 2012) to BRL 987bn (National Confederation of Transport, 2014).

Structural Problems

Among the major obstacles for the development of the transport sector are the overwhelming bureaucracy in the country and the complex institutional structure for regulation of transport services. There are several government agencies and regulating bodies with often overlapping functions. In addition, the country still lacks a common regulatory framework for transport infrastructure concessions, despite the series of road and airport auctions over 2012-2013. The bureaucracy is another reason for the inefficient results from the several transport infrastructure investment programmes launched by the government. Notably, despite the series of programmes in the last decade, including the Growth Acceleration Programme (PAC), the National Logistics and Transportation Plan (PNLT) and the Logistics Investment Programme (PIL), the transport sector is still facing major deficiencies.
### Main Indicators

<table>
<thead>
<tr>
<th>Main Sector Indicators</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP, constant prices (% change)</td>
<td>7.5%</td>
<td>2.7%</td>
<td>0.9%</td>
<td>2.5%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Services Gross Value Added (% change)</td>
<td>5.5%</td>
<td>2.7%</td>
<td>1.9%</td>
<td>2.2%</td>
<td>0.5%*</td>
</tr>
<tr>
<td>Transport Gross Value Added (% change)</td>
<td>9.2%</td>
<td>2.8%</td>
<td>1.9%</td>
<td>3.1%</td>
<td>1.7%*</td>
</tr>
<tr>
<td>Infrastructure Investment (% of GDP)</td>
<td>1.08%</td>
<td>0.89%</td>
<td>0.92%</td>
<td>0.96%</td>
<td>0.73%*</td>
</tr>
<tr>
<td>Vehicle Fleet (mn)</td>
<td>65.78</td>
<td>71.78</td>
<td>77.11</td>
<td>81.59</td>
<td>86.70</td>
</tr>
<tr>
<td>New Vehicle Sales (mn) (cars, light commercial vehicles, trucks and buses)</td>
<td>3.5</td>
<td>3.6</td>
<td>3.8</td>
<td>3.8</td>
<td>3.5</td>
</tr>
<tr>
<td>ABCR Index (Annual Paved Highway Traffic, 1999=100)</td>
<td>139.1</td>
<td>144.0</td>
<td>149.7</td>
<td>156.2</td>
<td>160.6</td>
</tr>
<tr>
<td>Railroad Volumes RTK (bn)</td>
<td>279.9</td>
<td>292.6</td>
<td>299.2</td>
<td>297.6</td>
<td>304.0*</td>
</tr>
<tr>
<td>Air Passenger Traffic (mn pax/year)</td>
<td>77.2</td>
<td>92.6</td>
<td>101.4</td>
<td>116.0</td>
<td>121.7*</td>
</tr>
<tr>
<td>Total Cargo Handled in Ports (mn tonnes)</td>
<td>833.9</td>
<td>885.6</td>
<td>904.4</td>
<td>929.4</td>
<td>969.6</td>
</tr>
<tr>
<td>Export of Goods, FOB (USD bn)</td>
<td>201.9</td>
<td>256.0</td>
<td>242.6</td>
<td>242.2</td>
<td>225.1</td>
</tr>
<tr>
<td>Import of Goods, FOB (USD bn)</td>
<td>181.1</td>
<td>226.2</td>
<td>223.2</td>
<td>239.6</td>
<td>229.1</td>
</tr>
</tbody>
</table>

Source: ABCR, ANFAVEA, CNT, Tendencias, Parallaxis, - * Estimated data
Transport Matrix

Cargo Transport by Mode in Volume Terms, 2014 (%)

- Road Transport: 61.1%
- Railway Transport: 20.7%
- Waterway Transport: 13.6%
- Pipeline Transport: 4.2%
- Air Transport: 0.4%

Number of Domestic Cargo Companies by Mode, 2014

- Road Transport: 168,382
- Waterway Transport: 209
- Air Transport: 14
- Railway Transport: 9

Passenger Transport Companies by Type of Transport, 2014

- Urban Road Transport: 18,538
- Charter Services: 3,718
- Interstate/International: 200

Comments

Despite its extensive territory of 8.5mn km², Brazil has the majority of its domestic cargo transported by road. Although the railroads are more efficient to carry large volumes of cargo over long distances, Brazilian railways carried only 20.7% of the total domestic cargo in 2014. The most cheap transport modes, the maritime and waterway, were responsible for 13.6% (9.59% for cabotage, 1.77% for waterway and 0.03% for offshore support), while 4.2% of the goods were transferred through pipeline and only about 0.4% by air. In terms of external trade, the most used transport mode is the maritime, responsible for nearly 96% of the international trade flow in 2014.
The transport and storage output is forecast to expand at a CAGR of 2.3% over 2015-2019, according to Oxford Economics. The consulting agency Tendencias estimated that the sector's growth will be mainly supported by the road transport mode and the expected improvement of the overall quality of the highway network in the country as a result of the road concessions after 2013.

On the other hand, BMI is warning that the current economic stagnation in Brazil is likely to hamper the earnings of infrastructure concessionaires, which could lead to instability in the sector in the long run.
BRICS: Logistics Services Quality

According to the latest Logistics Performance Index, published by the World Bank in March 2014, Brazil occupied the 65th position in the global logistics effectiveness ranking, which is the lowest position since the index was first calculated in 2007.

In comparison to the 2012 ranking, Brazil fell 20 positions, placing the country well behind India, China, South Africa, Argentina and Chile. The Brazilian customs services scored the lowest results among logistics services, placing the country at 95th position out of 160 nations. Among the BRICS countries, only the Russian logistics services are less efficient than those in Brazil.
In the Global Competitiveness Report 2014-2015, published by the World Economic Forum (WEF), Brazil ranked 57th out of 144 countries in terms of national competitiveness. This is the weakest performance since 2010, when the country ranked 58th. Brazil’s low competitiveness is caused by several factors, such as deficiencies in integrated planning for infrastructure projects, insufficient investments and lack of capacity to meet project deadlines. The quality of transport infrastructure in the country has been constantly deteriorating and, at present, is the worst compared to its competitor countries in BRICS.

Source: WEF, * - The higher ranking corresponds to lower quality of transport infrastructure
### Logistics Costs

**Share of Logistics Costs in Net Industry Revenue, 2014 (%)**

<table>
<thead>
<tr>
<th>Industry Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulp &amp; Paper</td>
<td>28.3%</td>
</tr>
<tr>
<td>Construction</td>
<td>21.3%</td>
</tr>
<tr>
<td>Mining</td>
<td>16.0%</td>
</tr>
<tr>
<td>Metal Processing</td>
<td>12.6%</td>
</tr>
<tr>
<td>Agriculture</td>
<td>11.7%</td>
</tr>
<tr>
<td>Consumer Goods</td>
<td>11.3%</td>
</tr>
<tr>
<td>Average Logistics Costs</td>
<td>11.2%</td>
</tr>
<tr>
<td>Chemical &amp; Petrochemical</td>
<td>9.5%</td>
</tr>
<tr>
<td>Electronics</td>
<td>9.0%</td>
</tr>
<tr>
<td>Automotive Sector</td>
<td>8.0%</td>
</tr>
<tr>
<td>Capital Goods</td>
<td>7.4%</td>
</tr>
<tr>
<td>Textile &amp; Footwear</td>
<td>6.6%</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>5.0%</td>
</tr>
</tbody>
</table>

**Logistics Costs by Type, 2014 (%)**

- **Long Distance Transport**: 43.9%
- **Storage**: 19.1%
- **Administrative Costs**: 9.5%
- **Urban Distribution**: 17.8%
- **Ports Costs**: 8.8%
- **Others**: 11.5%

### Comments

According to the National Confederation of Transport (CNT), the transport costs correspond to about 60% of the total logistics costs in Brazil. The latter account for 11% of the country’s GDP. Among the main causes behind these figures are the prevalence of the highway transport mode in the overall transport matrix of the country, combined with its poor quality and low density. According to a study by the Foundation Dom Cabral, the transport of finished products and raw materials is the most expensive. The survey also noted that the inclusion of the private sector in the management of the transport matrix is crucial for the development of the infrastructure in Brazil.

*Source: Foundation Dom Cabral, National Confederation of Transport (CNT)*
In the last decades, Brazil has witnessed a significant reduction of public investments in transport infrastructure. Notably, in the 1970s, the funds allocated to infrastructure projects accounted for 1.7% of the country’s GDP, while the estimate for 2014 is that these funds will not exceed 0.7%.

According to the Institute for Applied Economic Research (IPEA), the country needs to multiply at least four times the current level of investments in transport infrastructure to eliminate the existing deficiencies.
In July 2014, the government presented its evaluation of the actions related to the 2014 FIFA World Cup. The president Dilma Rousseff and FIFA officials underlined that Brazil was a successful host of this large sport event and managed to receive with no major problems all football fans, despite the negative predictions for a failure of the World Cup, mainly due to inadequate transport infrastructure and security concerns. However, the ambitious transport infrastructure programme, which was expected to eliminate the main logistics deficiencies in the host cities by the beginning of the World Cup, was only partially successful. According to a research by the newspaper O Globo, only about half (51.7%) of the initiated projects were delivered before the start of the event.

### Operational Indicators of the Air Transport Sector during the FIFA World Cup 2014

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of passengers at airports in host cities</td>
<td>16.7mn</td>
</tr>
<tr>
<td>(arrivals and departures between 10 June and 9 July 2014)</td>
<td></td>
</tr>
<tr>
<td>Number of arrivals and departures at airports in host cities</td>
<td>263,000</td>
</tr>
<tr>
<td>(five arrivals and departures per minute)</td>
<td></td>
</tr>
<tr>
<td>Number of passengers in the peak day during the event – 3 July</td>
<td>548,000</td>
</tr>
<tr>
<td>NB: Previous record reached on 28 Jan (Rio de Janeiro Carnival) – 467,000 passengers</td>
<td></td>
</tr>
<tr>
<td>Most used airport in terms of number of passengers – Guarulhos International Airport</td>
<td>3.81mn</td>
</tr>
<tr>
<td>Average punctuality index at airports in host cities during the event</td>
<td>92.54%</td>
</tr>
<tr>
<td>NB: The European average punctuality index is 92.4%</td>
<td></td>
</tr>
<tr>
<td>Average regularity index at airports in host cities</td>
<td>89.98%</td>
</tr>
<tr>
<td>Number of business jets on the day of the final game at Rio de Janeiro's airports</td>
<td>600</td>
</tr>
</tbody>
</table>
The government introduced the Logistics Investment Programme (PIL) in August 2012 with the goals to create a large and intermodal infrastructure network, increase the efficiency of the logistics services and lower transport tariffs. The planned investments under the programme are BRL 253bn for a period of 30 years, the majority of them executed through public-private partnerships. Currently, the main projects realised under the programme are in the fields of the road and air transport modes. By March 2015, the government has auctioned a total of 4,886 km of highways, out of 7,500 km included in the PIL. Four new road concessions are planned to be auctioned by the end of 2015. In terms of air transport infrastructure, there were no significant achievements after the auctioning of the six largest airports in the country between 2012 and 2013. In March 2015, the government unveiled a restructuring plan for the state company Infraero, which shall be concluded by the end of 2015. According to the Civil Aviation Department, the restructuring will open the way for new airport concessions. In terms of port infrastructure, a total of 34 new private terminals were licensed until February 2015. The programme for the railroad segment is the most lagging behind, as none of the 14 planned railroads has been auctioned as of May 2015.

In March 2015, the government sanctioned a new law establishing changes in the activity of road cargo carriers. It aims to decrease the operating costs of the sector through exemption from payment of toll taxes in selected cases and revocation of fines for overweight trucks received in the last two years. It also establishes regulations on working and rest hours for professional drivers. With the new law, the government also committed to build more rest stops on federal highway. The bill was signed by the President Dilma Rousseff after a series of negotiations between the government and road carriers induced by a wave of protests against high diesel fuel prices. The new regulation caused controversies, especially with regard to toll exemptions. However, Sao Paulo’s state transport agency Artesp declared that it will not adopt the toll exemption rule as it was “legally unenforceable” for the highways in the state. Fitch Ratings also claimed that the exemption of trucks from paying toll taxes will result in a fall in earnings of road concessionaires.
II. Road Transport
Road transport has a dominant role in Brazil's cargo and passenger transport matrix. According to the CNT, over 61% of the cargo and some 96% of the passenger transport are made by roads. Despite being the main transport mode, the density of paved road infrastructure in Brazil of 23.9 km per 1,000 km² is well below that in countries with similar areas such as Russia (54.3 km), China (359.9 km) and the United States (438.1 km). The inadequate quality is another major problem of the road network in the country. Paved roads accounted for only 14% of the total road network at the end of 2014.
Road Quality

Overall Quality of Roads, 2014 (%)

- Brazil: 6.9% Very Good, 38.2% Good, 27.8% Regular, 10.1% Bad, 1.9% Very Bad
- North: 17.1% Very Good, 39.5% Good, 30.4% Regular, 1.9% Bad, 1.9% Very Bad
- Northeast: 9.0% Very Good, 39.5% Good, 28.3% Regular, 4.2% Bad, 3.9% Very Bad
- Southeast: 3.9% Very Good, 13.8% Good, 42.5% Regular, 7.8% Bad, 3.7% Very Bad
- South: 3.7% Very Good, 14.2% Good, 26.3% Regular, 4.4% Bad, 4.9% Very Bad
- Central West: 6.9% Very Good, 17.0% Good, 26.6% Regular, 4.2% Bad, 19.1% Very Bad

General & Pavement Conditions of Public Roads

- Good: 25.7%
- Bad: 20.2%
- Very Bad: 8.4%
- Very Good: 3.6%
- Regular: 42.1%

General & Pavement Conditions of Roads Under Concession

- Good: 36.7%
- Regular: 21.8%
- Bad: 3.5%
- Very Good: 37.4%
- Very Bad: 0.6%

Source: CNT

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Vehicle Fleet

Vehicle Fleet Evolution (mn units)

Fleet by Type of Vehicle, Dec 2014 (%)

Comments

- Over 2004-2014, the vehicle fleet in the country more than doubled, pushed up by the strong economic development of the country in the beginning of the period and the increase of household income. For the same period, the road infrastructure improved at a much slower rate – the total extension of paved federal roads grew by less than 14%. As a result, the road accidents in Brazil increased by 78%.

- According to the consulting agency Tendencias, in 2015, the vehicle flow on roads managed by the private initiative will fall for the first time in the last ten years, as a result of the economic slowdown and the decrease in industrial production.
Cargo Transport

**Number of Registered Carriers and Vehicle Fleet (thou)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Registered Carriers</th>
<th>Number of Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1,286</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>642</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>770</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>903</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>1,018</td>
<td></td>
</tr>
</tbody>
</table>

**Outstanding Cargo Vehicles by Type of Carrier, 2014 (%)**

- Independent Carrier 45.1%
- Cargo Company 54.1%
- Cooperative 0.8%

**Average Age of Cargo Vehicle Fleet, May 2015**

- Truck (8t - 29t): 16.9
- Trailer: 15.7
- Truck Tractor: 13.6
- Light Truck (3.5t - 7.99t): 13.4
- Special Truck Tractor: 10.3
- Semi Trailer: 10.2
- Van (1.5t - 3.49t): 8.4

**Comments**

- Road transport accounts for more than 60% of the overall cargo transport in Brazil. The prevalence of this mode of transport is mainly due to inefficient government policy towards the development of the other transport segments in the last decades. Thus, the underdeveloped railway and waterway transport increase the importance of truck transport for short, middle and long distances.

- The cargo transport market is extremely competitive, with over one million active companies in the segment. According to the World Bank, this high competition results in low profitability, overloading and inadequate maintenance of the used vehicles.
The overall low quality of roads in Brazil results in increased operating costs for road users, pushed up by higher maintenance costs and expenses with brakes and tires, as well as in low average speed that implies additional fuel costs. According to the latest road survey by CNT, the average increase in the operating costs for road users due to the conditions of the road network is by 26%. Notably, the operating costs in the Southeast are the lowest in the country, as more than half of the road network in the region is estimated with very good and good quality. On the opposite side is the North region, where high-quality roads account for only 17.7%.
III. Railway Transport
Brazil has an overall railway network of 28,030km, operated by 12 concessionaires. The use of three types of track gauges (metre, broad and mixed) causes connectivity problems as well as increases the operating costs and the transport time.

Despite the relatively high number of competitors, the freight transport market is concentrated in three companies, MRS Logistica, Estrada de Ferro Carajas and Estrada de Ferro Vitoria a Minas, which handled about 83% of the railway cargo in 2013.
Railway Cargo Transport

**Railway Cargo Transport Evolution (TKU* bn)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Cargo Volume (TKU* bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>245.3</td>
</tr>
<tr>
<td>2010</td>
<td>277.9</td>
</tr>
<tr>
<td>2011</td>
<td>293.2</td>
</tr>
<tr>
<td>2012</td>
<td>301.5</td>
</tr>
<tr>
<td>2013</td>
<td>298.0</td>
</tr>
<tr>
<td>2014</td>
<td>307.3</td>
</tr>
</tbody>
</table>

**Cargo Volume Growth Index vs GDP Growth (1997=100)**

- 2009: TKU 177.8, GDP 138.9
- 2010: TKU 203.9, GDP 149.3
- 2011: TKU 212.6, GDP 153.4
- 2012: TKU 218.0, GDP 154.9
- 2013: TKU 216.9, GDP 158.8

**Volume of Transported Goods, 2013 (thou tonnes)**

- Iron Ore: 341,292
- Agricultural Production excl. Soy: 24,937
- Soy & Soybean Meal: 20,502
- Steel Products: 14,849
- Coal & Coke: 11,490
- Fuels, Petroleum & Alcohol Derivatives: 9,226
- Minerals: 7,788
- Cement & Building Materials: 6,470
- Vegetal Extraction & Cellulose: 4,978
- Fertilisers: 4,594
- Containers: 2,961
- General Cargo, Not containerised: 214

**Comments**

Railways are the second most used transport mode in Brazil in terms of cargo volume, with a share of 20.7% in 2014. Despite its structural problems, low average speed and density, the rail-transported cargo has been constantly growing. Between 2004 and 2013, the railroad cargo volume rose by 50% and is estimated to have grown by a further 2.2% y/y in 2014. Iron ore, coal and agricultural commodities are the most transported products.

Brazil has only two rail lines for passenger transport. The perspectives before the passenger segment remain bleak, after the government failed to auction the High-Speed Rail Link between Rio de Janeiro and Sao Paulo, due to lack of investors' interest.
Rolling Stock Fleet

Operating Rolling Stock Fleet

<table>
<thead>
<tr>
<th>Year</th>
<th>Locomotives</th>
<th>Wagons</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>3,016</td>
<td>95,808</td>
</tr>
<tr>
<td>2011</td>
<td>3,093</td>
<td>101,983</td>
</tr>
<tr>
<td>2012</td>
<td>3,215</td>
<td>104,609</td>
</tr>
<tr>
<td>2013</td>
<td>3,144</td>
<td>89,025</td>
</tr>
<tr>
<td>2014</td>
<td>3,711</td>
<td>96,086</td>
</tr>
</tbody>
</table>

Source: ANTF, ANTT, BNDES

Operating Locomotives by Concessionaire, 2014 (%)

- FCA 33.2%
- ALLMS 11.9%
- EFVM 8.5%
- EFC 6.8%
- ALLMP 7.6%
- ALLMN 5.0%
- MRS Logistica 21.1%
- Others 5.9%

Comments

- The type of rolling stock in Brazil is aligned with the nature of the transported products, mainly bulk cargo. More than 73% of all wagons in operation are of the gondola and hopper types.

- According to the latest available data from the National Association of Rail Carriers (ANTF), the average age of wagons in the country was 25 years in 2010, a considerable improvement when compared to 1990 (42 years). The projection for 2020 is for a further reduction to eight years.
IV. Air Transport
Airport Infrastructure

According to the CNT, Brazil is currently the world’s third largest market for air transport services in terms of number of carried passengers, after the United States and China. For the period 2003-2013, the domestic air passenger traffic more than tripled, while the demand for cargo transport increased by 48%. In order to meet the growing demand for air transport services as well as to attract private investments for the improvement and expansion of local infrastructure, the government auctioned the country’s largest airports in 2012 and 2013. As a result, the consultancy Routes Online estimated that the capacity of domestic airports, as measured by the number of available departure seats, grew by 15.6% over the period 2010-2014.

### Regional Distribution of Public Airports* (%)  

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southeast</td>
<td>27.0%</td>
</tr>
<tr>
<td>Northeast</td>
<td>23.7%</td>
</tr>
<tr>
<td>North</td>
<td>18.1%</td>
</tr>
<tr>
<td>South</td>
<td>17.4%</td>
</tr>
<tr>
<td>Central West</td>
<td>13.7%</td>
</tr>
</tbody>
</table>

### Regional Distribution of Private Airports* (%)  

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southeast</td>
<td>19.0%</td>
</tr>
<tr>
<td>Northeast</td>
<td>10.3%</td>
</tr>
<tr>
<td>North</td>
<td>15.9%</td>
</tr>
<tr>
<td>South</td>
<td>5.3%</td>
</tr>
<tr>
<td>Central West</td>
<td>49.6%</td>
</tr>
</tbody>
</table>

Source: ANAC, CNT, Routes Online, - * Data as of 15 March 2015
According to the Ministry of Planning, between 2011 and 2014, a total of BRL 13.4bn were invested, both public and private funds, in expansion of existing airports and construction of new terminals. The investments contributed to a substantial increase in the capacity and the service quality in the 15 largest airports of the country. In January 2015, the Civil Aviation Department (SAC) reported that in 2015, the government will focus on the implementation of the Regional Aviation Plan, which envisages the investment of BRL 7.3bn in the construction and renovation of 270 regional airports. At present, the largest capacity expansion works are being implemented at the Galeao International Airport in Rio de Janeiro, which will have to raise its capacity by 66% by 2016, when the city will host the Summer Olympic Games.
Air Fleet

According to a survey by the Brazilian Association of Airline Companies (ABEAR), the average age of the aircrafts used in the mass air transport in Brazil was 6.4 years at the end of 2013. The Association noted that the machines used by domestic carriers are relatively newer when compared to the fleet used in other countries like the United States, the United Kingdom, France, Germany, Japan, Colombia and Chile, where the average age was 12.5 years.

Source: ANAC, ABEAR
Passenger and Cargo Transport

The market for air passenger transport in Brazil has been constantly growing over the last five years, both in terms of domestic and international flights. In 2014, the number of transported passengers by domestic carriers rose by 6.7% y/y, boosted mainly by the hosting of the 2014 FIFA World Cup. However, the increase was below the average growth rate in the period 2010-2013 (CAGR of 8.7%).

The cargo transported via domestic flights has stagnated over 2010-2014, expanding at a CAGR of 0.6%. On the other hand, the freight carried via international flights has increased by 80% since 2010, recording a compounded annual growth rate of 15.8%.
In 2014, the demand for air transport services rose by 6% y/y, triggered by the 2014 FIFA World Cup event. On the other hand, the supply rose by less than 1%, resulting in a 3.7pp increase of the domestic load factor. TAM and Avianca Brasil recorded the highest utilisation rates (81.5% and 82.8%, respectively) among the top five domestic air carriers.

The demand for international flights rose by 5% in 2014, and was also favoured by the 2014 FIFA World Cup. There was a 1.4% slowdown in the supply for international flights, as domestic companies had to comply with bilateral agreements between Brazil and other countries, which regulated the market share of domestic carriers in the air transport.
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Air Fares

**Average Domestic Air Fare (BRL)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Fare (BRL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>347.5</td>
</tr>
<tr>
<td>2011</td>
<td>323.9</td>
</tr>
<tr>
<td>2012</td>
<td>326.7</td>
</tr>
<tr>
<td>2013</td>
<td>341.8</td>
</tr>
<tr>
<td>Jan-Sep 2014</td>
<td>323.6</td>
</tr>
</tbody>
</table>

**Average Air Fare per Kilometre (BRL)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Fare (BRL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>0.33842</td>
</tr>
<tr>
<td>2011</td>
<td>0.31418</td>
</tr>
<tr>
<td>2012</td>
<td>0.31522</td>
</tr>
<tr>
<td>2013</td>
<td>0.32099</td>
</tr>
<tr>
<td>Jan-Sep 2014</td>
<td>0.30632</td>
</tr>
</tbody>
</table>

**Average Direct Distances (km)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Distance (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1.027</td>
</tr>
<tr>
<td>2011</td>
<td>1.031</td>
</tr>
<tr>
<td>2012</td>
<td>1.036</td>
</tr>
<tr>
<td>2013</td>
<td>1.065</td>
</tr>
<tr>
<td>Jan-Sep 2014</td>
<td>1.055</td>
</tr>
</tbody>
</table>

**Comments**

- For the period January-September 2014, the average air fare for domestic passenger transport fell by 4.2% y/y. The decrease was triggered by the overall economic slowdown as well as by a 0.4% reduction of the average price of kerosene. In Brazil, fuel accounts for some 40% of the operating costs of the carriers.

- Despite the price reduction of the fuel, Brazil remains with the second most expensive kerosene in the world, after Malawi, according to the Financial Times. The media outlet underlines that the high price of kerosene is a significant constraint for the development of the air transport in the country.
Market Shares

**Domestic Market (%)**
- **Gol**: 37.2%
- **TAM**: 33.6%
- **Azul**: 20.9%
- **Avianca Brasil**: 6.8%
- **ABSA**: 6.5%
- **Sideral Air Cargo**: 17.0%
- **Others**: 1.1%

**International Market (%)**
- **TAM**: 69.6%
- **Gol**: 30.1%
- **ABSA**: 24.6%
- **Azul**: 0.3%
- **Others**: 1.1%

Comments

In 2014, Gol Linhas Aereas dominated the domestic passenger air transport segment with a total of 35.7mn transported passengers. TAM ranked second with 32.2mn customers, followed by Azul with 20mn passengers. The year was most successful for Azul as the company increased significantly its share on domestic passenger segment from 14.8% in 2013 to 20.9% in 2014 and also gained presence on the international market. Gol was the other air carrier that recorded an increase in its positions on both the domestic and international markets of 1pp and 3.8pp, respectively. In terms of cargo transport, TAM continued to dominate both the domestic and international market. However, the company witnessed a decrease in its market share mainly due to the increased competition.

Source: ANAC
V. Maritime and Waterway Transport
Port Handled Cargo

Handed Cargo by Type of Ports (mn tonnes)

<table>
<thead>
<tr>
<th>Year</th>
<th>Public Ports</th>
<th>Private Terminals</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>296.3</td>
<td>543.0</td>
</tr>
<tr>
<td>2011</td>
<td>310.8</td>
<td>576.0</td>
</tr>
<tr>
<td>2012</td>
<td>316.8</td>
<td>587.6</td>
</tr>
<tr>
<td>2013</td>
<td>336.7</td>
<td>592.7</td>
</tr>
<tr>
<td>2014</td>
<td>348.8</td>
<td>620.0</td>
</tr>
</tbody>
</table>

Handed Cargo by Type, 2014 (%)

- Gas & Liquid Bulk: 23.9%
- Containers: 10.4%
- Bulk Solid: 60.9%
- General Cargo: 4.8%

Most Transported Goods in Volume Terms, 2014 (%)

- Iron Ore: 35.6%
- Fuels and Mineral Oils & Products: 21.5%
- Containers: 10.6%
- Soy: 5.3%
- Bauxite: 3.7%
- Fertilisers: 2.8%
- Corn: 2.5%
- Sugar: 2.3%
- Mineral Coal: 2.2%
- Steel Products: 1.7%
- Soybeans: 1.5%
- Others: 10.3%

Comments

According to ANTAQ, there were 34 public ports in Brazil at the end of 2014, of which 29 were sea ports and only five river ports, as well as 113 private port terminals. Sea ports are responsible for an average 96% of Brazil’s international trade flow. However, their share in domestic cargo is relatively small – in 2014, it stood at about 14%.

In 2014, the volume of handled cargo rose by 4.2% y/y, reaching 968.8mn tonnes. Approximately 64% of the freight was handled by private terminals, which are mainly used for solid and liquid bulk cargo. On the other hand, public ports are most used for container cargo.
Public Ports

Largest Public Ports by Cargo Volume, 2014 (mn tonnes)

<table>
<thead>
<tr>
<th>Port</th>
<th>Cargo Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santos</td>
<td>94.0</td>
</tr>
<tr>
<td>Itaguai</td>
<td>63.8</td>
</tr>
<tr>
<td>Paranagua</td>
<td>41.6</td>
</tr>
<tr>
<td>Rio Grande</td>
<td>22.4</td>
</tr>
<tr>
<td>Itaqui</td>
<td>18.0</td>
</tr>
<tr>
<td>Vila do Conde</td>
<td>15.2</td>
</tr>
<tr>
<td>Suape</td>
<td>15.2</td>
</tr>
<tr>
<td>Sao Francisco do Sul</td>
<td>13.3</td>
</tr>
<tr>
<td>Rio de Janeiro</td>
<td>7.5</td>
</tr>
<tr>
<td>Others</td>
<td>57.8</td>
</tr>
</tbody>
</table>

Most Transported Goods, 2014 (%)

<table>
<thead>
<tr>
<th>Good</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Containers</td>
<td>21.6%</td>
</tr>
<tr>
<td>Iron Ore</td>
<td>16.9%</td>
</tr>
<tr>
<td>Fuels and Mineral Oils &amp; Products</td>
<td>11.2%</td>
</tr>
<tr>
<td>Soy</td>
<td>9.9%</td>
</tr>
<tr>
<td>Fertilisers</td>
<td>6.7%</td>
</tr>
<tr>
<td>Sugar</td>
<td>6.4%</td>
</tr>
<tr>
<td>CoM</td>
<td>5.1%</td>
</tr>
<tr>
<td>Soybean Meal</td>
<td>2.5%</td>
</tr>
<tr>
<td>Wheat</td>
<td>1.9%</td>
</tr>
<tr>
<td>Others</td>
<td>17.8%</td>
</tr>
</tbody>
</table>

Handled Cargo by Type, 2014 (%)

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulk Solid</td>
<td>59.3%</td>
</tr>
<tr>
<td>Containers</td>
<td>21.6%</td>
</tr>
<tr>
<td>Gas &amp; Liquid Bulk</td>
<td>14.7%</td>
</tr>
<tr>
<td>General Cargo</td>
<td>4.4%</td>
</tr>
</tbody>
</table>

Comments

Over the period 2010-2014, the volume of handled cargo by public ports expanded by a CAGR of 4.2%. However, in line with the economic slowdown, the growth rate in handled cargo decelerated to 3.6% in 2014.

Public ports were the most affected by the deceleration in economy, as three among the top ten facilities witnessed a drop in handled volumes, namely Santos (5.1%), Paranagua (0.4%) and Rio de Janeiro (8.6%). Despite this negative performance, the Port of Santos remained the largest in the country, responsible for 27% of the overall cargo handled by public ports.
Private Terminals

Largest Private Terminals by Cargo Volume, 2014 (mn tonnes)

- Ponta da Madeira: 112.5
- Tubarao: 109.8
- Almirante Barroso: 53.1
- Ilha Guaiaba: 40.5
- Almirante Maximiano da Fonseca: 35.1
- Ponta Ubu: 25.9
- Madre de Deus: 19.8
- Trombetas: 17.4
- Almirante Tamandare: 14.9
- Alumar: 13.7
- Others: 177.3

Most Transported Goods, 2014 (%)

- Iron Ore: 46.2%
- Fuels and Mineral Oils & Products: 27.2%
- Bauxite: 5.0%
- Containers: 4.1%
- Mineral Coal: 2.7%
- Soy: 2.7%
- Steel Products: 1.8%
- Cellulose: 1.3%
- Corn: 1.0%
- Others: 8.0%

Handled Cargo by Type, 2014 (%)

- Bulk Solid: 61.8%
- Containers: 4.1%
- General Cargo: 5.0%
- Gas & Liquid Bulk: 29.1%

Comments

- In 2014, the private terminals accounted for 64% of the handled cargo in the country.
- Over 2010-2014, the volume of handled cargo by private terminals expanded by a CAGR of 3.4%. Unlike public ports, which suffered a deceleration in the growth rate of cargo volume, the performance of private terminals in 2014 was stronger than the average since 2010 – 4.6%. The expansion was supported by an increase in the volumes of the two most handled goods by private terminals – iron ore (up 3.2%), and fuel and mineral oils (up 7.6%).
Long Haul Cargo Transport

**External Trade in Volume Terms (mn tonnes)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Export</th>
<th>Import</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>483.8</td>
<td>128.5</td>
</tr>
<tr>
<td>2011</td>
<td>514.6</td>
<td>142.8</td>
</tr>
<tr>
<td>2012</td>
<td>525.7</td>
<td>144.8</td>
</tr>
<tr>
<td>2013</td>
<td>531.7</td>
<td>152.5</td>
</tr>
<tr>
<td>2014</td>
<td>552.2</td>
<td>161.5</td>
</tr>
</tbody>
</table>

**Most Exported Goods in Volume Terms, 2014 (%)**

- Iron Ore: 53.7%
- Fuels and Mineral Oils & Products: 8.7%
- Containers: 8.3%
- Soy: 7.4%
- Bauxite: 3.5%
- Corn: 3.5%
- Sugar: 3.4%
- Others: 11.5%

**Most Imported Goods in Volume Terms, 2014 (%)**

- Fuels and Mineral Oils & Products: 48.5%
- Containers: 14.7%
- Fertilisers: 8.1%
- Mineral Coal: 6.3%
- Bauxite: 4.3%
- Petroleum Coke: 2.2%
- Wheat: 2.0%
- Others: 13.9%

**Comments**

- Over the period 2010-2014, the long haul cargo transport at Brazilian ports grew at a CAGR of 3.9%. In 2014, the growth was stronger – 4.3%, mainly due to the increase in the volumes of imported goods (5.9% up y/y).

- Private terminals handled about 60% of the overall long haul cargo transport during 2014. They handled mainly iron ore (65%) and fuels (11%). The most transported products via long haul by public terminals were containers (22%), iron ore (21%) and soy (11%).
Port Operational Efficiency

<table>
<thead>
<tr>
<th>Average Handling Time for Containerised Cargo (hours)</th>
<th>Average Handling Time for Non-Containerised Cargo (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Wait Time for Docking</td>
<td>Wait Time for Docking</td>
</tr>
<tr>
<td>9.7 20.5 10.2 11.5 12.2</td>
<td>35 47.8 42.7 45.6 38.5</td>
</tr>
<tr>
<td>Wait Time for Operation Start</td>
<td>Wait Time for Operation Start</td>
</tr>
<tr>
<td>0.3 0.4 0.5 0.7 0.5</td>
<td>5.3 2.6 3.9 3.5 3.6</td>
</tr>
<tr>
<td>Time of Operations</td>
<td>Time of Operations</td>
</tr>
<tr>
<td>4.8 4.6 4.9 6 5.5</td>
<td>8.9 8.8 8 8.5 8.9</td>
</tr>
<tr>
<td>Wait Time for Undocking</td>
<td>Wait Time for Undocking</td>
</tr>
<tr>
<td>0.7 0.6 1.2 4.2 1.3</td>
<td>2 2.3 1.6 1.2 1.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Average Lay Time at Main Brazilian Ports, 2014 (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Paranagua 92.78</td>
</tr>
<tr>
<td>Itaguai 70.75</td>
</tr>
<tr>
<td>Guaiaba 61.70</td>
</tr>
<tr>
<td>Almirante Maximiano da Fonseca 48.55</td>
</tr>
<tr>
<td>Ponta da Madeira 47.43</td>
</tr>
<tr>
<td>Tubaro 44.23</td>
</tr>
<tr>
<td>Ponta de Ubu 39.95</td>
</tr>
<tr>
<td>Santor 29.58</td>
</tr>
<tr>
<td>Almirante Barroso 22.25</td>
</tr>
</tbody>
</table>

Comments

- The government’s efforts to improve the waterway infrastructure in Brazil proved so far to be unsuccessful, as the current operational efficiency of domestic ports is well below that of their Asian and European peers.
- The main progress in efficiency improvement in the last few years was the implementation of the Port Without Paper Programme, which reduced the documentation needed for the release of goods. In 2013, the programme was successfully implemented in all 35 public ports.
- In addition to low operating efficiency, the insufficient channel depth of the majority of ports results in inability to handle larger vessels from the Post-Panamax class.
Inland Waterway Transport

**Handled Cargo by Type of Navigation (mn tonnes)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Long Haul</th>
<th>Inland Navigation</th>
<th>Inland Waterway Cabotage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>21.2</td>
<td>30.9</td>
<td>19.6</td>
</tr>
<tr>
<td>2011</td>
<td>23.3</td>
<td>33.7</td>
<td>23.2</td>
</tr>
<tr>
<td>2012</td>
<td>23.2</td>
<td>34.6</td>
<td>27.7</td>
</tr>
<tr>
<td>2013</td>
<td>22.6</td>
<td>31.9</td>
<td>27.7</td>
</tr>
<tr>
<td>2014</td>
<td>23.2</td>
<td>32.2</td>
<td>27.7</td>
</tr>
</tbody>
</table>

**Most Used Hydrographic Regions, 2014 (%)**

- Amazons: 55.0%
- Tocantis - Araguaia: 26.2%
- Paraguai: 7.9%
- South Atlantic: 5.8%
- Parana: 5.1%
- Sao Francisco: 0.01%

**Most Transported Goods in Volume Terms, 2014 (%)**

- Bauxite: 26.4%
- Fuels and Mineral Oils & Products: 13.3%
- Iron Ore: 10.4%
- Soy: 8.8%
- Containers: 7.9%
- Alumina: 5.7%
- Corn: 4.1%
- Sulfur, Earths & Stone, Plaster & Lime: 3.8%
- Others: 19.6%

**Comments**

- The total extension of the inland waterway network in Brazil is 41,635km, but only about half of it is economically viable for cargo and passenger transport.
- The inland waterway network accounts for only 7% of the overall cargo transported in the country, according to CNT. The Confederation outlines that the main obstacles for the development of the segment are the extreme bureaucracy, the difficulties in obtaining environmental licenses and the constraints related to the construction of locks and the maintenance of a minimum water depth for navigation.
In 2014, the maritime fleet of Brazil increased by 5.4% y/y. About 73% of all ships were dedicated to port support activities, while there were only 175 cabotage and long haul ships. Over the last five years, the average age of the maritime fleet has been constantly decreasing. The cabotage and haul vessels are the newest with an average age of 13.4 years, followed by the maritime support fleet (15.1 years) and the port support fleet (16.4 years).

In 2014, the fleet used for inland waterway transport increased by 11.9% y/y. Most of the ships (79%) were dedicated to long haul cargo transport.
VI. Urban Mobility
Brazil has witnessed a rapid urbanisation process in the last decade, which led to an increase of the share of urban population to 84% in 2014. The most used type of transport in Brazilian cities is the auto transport. About 30% of the citizens are using personal transport (cars and motors), while the rest are using public transport, mainly bus, due to the small penetration of other types of mass transport. In 2012, the government approved an Urban Mobility National Policy that envisages BRL 51bn for the development of a sustainable transport system in Brazilian cities. However, the implementation of the investment plan is unlikely to start soon, as only 30% of the federal capitals and cities with over 500,000 inhabitants have submitted an Urban Mobility Plan as of March 2015 in order to receive federal funding.
Between December 2014 and January 2015, nine Brazilian state capitals announced a rise in public bus fares while five other unveiled plans for an increase in the coming months. In June 2013, after a wave of protests, many municipalities desisted from amending fare prices.

A total of seven state capitals raised the bus ticket price in 2014. Authorities claimed that the price increase was made only to cover the higher costs for fuel, bus maintenance and labour. However, the surge of ticket price in the majority of cases was higher than the evolution of the National Consumer Price Index (IPCA) for 2014 – 6.46%. Sao Paulo and Rio de Janeiro saw the largest increases in bus fares of 16.7% and 13.3%, respectively.

The increase of bus fares caused a series of protests and a wave of violence in several cities in 2014. However, the protests were less attended as compared to those in June 2013.
Urban Railway Transport

### Number of Transported Passengers (bn)

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.9</td>
<td>2.3</td>
<td>2.5</td>
<td>2.7</td>
<td>2.9</td>
</tr>
</tbody>
</table>

### Transported Passengers/Subway (mn)

<table>
<thead>
<tr>
<th>Company</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metro SP</td>
<td>784</td>
<td>1,006</td>
</tr>
<tr>
<td>CPTM</td>
<td>187</td>
<td>796</td>
</tr>
<tr>
<td>Metro Rio</td>
<td>170</td>
<td>216</td>
</tr>
<tr>
<td>Linha 4 SP</td>
<td>144</td>
<td>160</td>
</tr>
<tr>
<td>Super Via</td>
<td>80</td>
<td>100</td>
</tr>
<tr>
<td>Recife</td>
<td>58</td>
<td>65</td>
</tr>
<tr>
<td>BH</td>
<td>29</td>
<td>55</td>
</tr>
<tr>
<td>Trensurb</td>
<td>39</td>
<td>44</td>
</tr>
<tr>
<td>Metro DF</td>
<td>22</td>
<td>44</td>
</tr>
<tr>
<td>Maceio</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Salvador</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>J. Pessoa</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Natal</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Teresina</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

### Comments

Over 2010-2014, the number of passengers using urban railway transport expanded at a CAGR of 11.2%. In 2014, the growth of passengers was only 4.4% y/y, mainly due to the slow expansion of the sector during the year – only 30km of new railways were built, out of the previously projected 79.4km. At the end of 2014, the urban railway system in Brazil had 1,002.5km, distributed among 40 lines with a total of 521 stations. According to the National Association of Passengers Rail Carriers (ANPTrilhos), there were 20 projects in construction phase at the end of 2014, which are expected to expand the urban railway network with new 336km by 2020.
In the last decade, sanitation and housing were the main focus of public investments in urban infrastructure. The need for improvement of public transport deepened after the selection of Brazil as a host of the 2014 FIFA World Cup and the 2016 Olympic Games. The main aim of the urban mobility law 12.587 from 2012 was to oblige cities with more than 20,000 inhabitants to elaborate urban mobility plans in order to receive public funding. According to BNDES, the government needs to invest BRL 234bn, or 4.8% of the GDP, in order to meet the public transport needs of the 15 largest cities. However, only BRL 50bn were pledged for urban mobility infrastructure for the period 2015-2018.
The total investments for the upcoming 2016 Olympic and Paralympic Games in Rio de Janeiro are estimated at BRL 37.6bn, of which 43% are federal funds and the rest coming from public-private partnerships. The largest investments are directed to improvement of the urban mobility system in the city (BRL 17.9bn) and construction of sport bases and stadiums (BRL 6.5bn). The urban mobility projects include expansion of the urban railway system, construction of three bus rapid transit lines and duplication of the Elevado do Joa highway.

**Urban Railway**

The expansion of the urban railway system includes two projects – the construction of a light rail vehicle as well as 16km of metro rail line (Line 4). The investment in the new metro line, which will link the South zone of the city to the Barra da Tijuca neighbourhood, is estimated at BRL 10.5bn. The new metro line will have a capacity to transport 300,000 passengers/day. The light rail vehicle, valued at BRL 1.2bn, will connect Rio de Janeiro’s port area with the centre of the city (28km) and is expected to transport 285,000 passengers/day.

**Bus Rapid Transit Lines**

The expansion of the bus rapid transit lines in Rio de Janeiro involves the construction of 150km of exclusive bus corridors, divided into four lines – BRT Transolimpica, BRT Transoeste, BRT Transcarioca and BRT Transbrasil. The total investment amounts to BRL 5.7bn. When finished, the overall capacity of the bus rapid transit lines will be 1.4mn passengers/day.

**Elevado do Joa Highway**

Elevado do Joa is a highway connecting the Barra da Tijuca neighbourhood with the South zone of the city. The duplication of the highway also involves the construction of a parallel cycling lane and two terminals, which will connect the BRT Transolimpica and BRT Transcarioca on the one hand, with the BRT Transoeste and BRT Transolimpica, on the other. The overall budget of the project amounts to BRL 458mn.
VII. Main Players
## Top M&A Deals

### Top 15 M&A Deals in the Transport Sector in Brazil (2014-2015YTD)

<table>
<thead>
<tr>
<th>Date</th>
<th>Target Company</th>
<th>Deal Type</th>
<th>Buyer</th>
<th>Country of Buyer</th>
<th>Deal Value USD (mn)</th>
<th>Stake (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb-14</td>
<td>ALL - America Latina Logistica SA</td>
<td>Acquisition</td>
<td>Rumo Logistica Operadora Multimodal SA</td>
<td>Brazil</td>
<td>2,973.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Jun-14</td>
<td>Sascar Participacoes SA</td>
<td>Acquisition</td>
<td>Compagnie Generale des Etablissements Michelin SCA</td>
<td>France</td>
<td>603.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Jan-15</td>
<td>Hidrovias do Brasil SA</td>
<td>Minority stake purchase</td>
<td>P2 Gestao de Recursos Ltda (P2Brasil); International Finance Corporation (IFC); BNDES Participacoes SA - BNDESPar; Santander Securities Services Brasil DTVM SA</td>
<td>Brazil</td>
<td>300.0</td>
<td>n.a.</td>
</tr>
<tr>
<td>Dec-14</td>
<td>Prumo Logistica SA</td>
<td>Minority stake purchase</td>
<td>EIG Global Energy Partners LLC; Buyer(s) unknown in this case</td>
<td>United States</td>
<td>278.6</td>
<td>36.0</td>
</tr>
<tr>
<td>Nov-14</td>
<td>OTPMU Participacoes SA (Odebrecht Mobilidade Urbana)</td>
<td>Minority stake purchase</td>
<td>Mitsui &amp; Co Ltd</td>
<td>Japan</td>
<td>199.9</td>
<td>40.0</td>
</tr>
<tr>
<td>Mar-14</td>
<td>Transnordestina Logistica SA</td>
<td>Minority stake purchase</td>
<td>Valec Engenharia, Construcoes e Ferrovias AS</td>
<td>Brazil</td>
<td>173.4</td>
<td>16.8</td>
</tr>
<tr>
<td>Aug-14</td>
<td>Prumo Logistica SA</td>
<td>Minority stake purchase</td>
<td>Mubadala Development Co PJSC</td>
<td>UAE</td>
<td>85.7</td>
<td>10.4</td>
</tr>
<tr>
<td>Apr-14</td>
<td>Vix Logistica SA</td>
<td>Minority stake purchase</td>
<td>International Finance Corporation (IFC)</td>
<td>n.a.</td>
<td>81.9</td>
<td>14.2</td>
</tr>
<tr>
<td>Apr-15</td>
<td>Rocha Terminais Portuarios e Logistica SA</td>
<td>Minority stake purchase</td>
<td>BNDES Participacoes SA – BNDESPar</td>
<td>Brazil</td>
<td>63.9</td>
<td>n.a.</td>
</tr>
<tr>
<td>Jun-14</td>
<td>Direct Express Logistica Integrada SA</td>
<td>Acquisition</td>
<td>B2W - Companhia Digital</td>
<td>Brazil</td>
<td>57.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Feb-14</td>
<td>Gol Linhas Aereas Inteligentes SA</td>
<td>Minority stake purchase</td>
<td>Air France-KLM SA</td>
<td>France</td>
<td>52.0</td>
<td>1.5</td>
</tr>
<tr>
<td>Apr-15</td>
<td>99 Taxis Desenvolvimento de Softwares Ltda (99Taxis)</td>
<td>Minority stake purchase</td>
<td>Monashees Capital; Qualcomm Ventures; Tiger Global Management LLC</td>
<td>Brazil; United States</td>
<td>41.8</td>
<td>n.a.</td>
</tr>
<tr>
<td>Jul-14</td>
<td>Easy Taxi Servicos Ltda</td>
<td>Minority stake purchase</td>
<td>Tengelmann Ventures GmbH; Phenomen Ventures</td>
<td>Germany; Russia</td>
<td>40.6</td>
<td>n.a.</td>
</tr>
<tr>
<td>Sep-14</td>
<td>Modern Transporte Aereo de Carga SA (Modern Logistics)</td>
<td>Minority stake purchase</td>
<td>DXA Investments Holding Ltda</td>
<td>Brazil</td>
<td>32.1</td>
<td>n.a.</td>
</tr>
<tr>
<td>Feb-14</td>
<td>Terminais Portuarios da Ponta do Felix SA</td>
<td>Minority stake purchase</td>
<td>Uralkali</td>
<td>Russia</td>
<td>30.0</td>
<td>14.8</td>
</tr>
</tbody>
</table>

Source: EMIS DealWatch

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M&A Activity (2013-Q1’2015)

Number and Value of Deals in Brazil’s Transport Sector

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Deals</td>
<td>7</td>
<td>8</td>
<td>12</td>
<td>22</td>
<td>9</td>
<td>6</td>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Total Value of Deals (USD mn)</td>
<td>1,031</td>
<td>576</td>
<td>2,754</td>
<td>12,243</td>
<td>3,239</td>
<td>760</td>
<td>180</td>
<td>698</td>
<td>331</td>
</tr>
</tbody>
</table>

Number of Deals by Deal Value, USD (%)

- 0-50mn; 31.8%
- 50.1-100mn; 18.8%
- > 1000mn; 5.9%
- Undisclosed; 34.1%
- 500.1-1000; 4.7%
- 100.1-500mn; 4.7%

Number of Deals by Deal Type (%)

- Acquisition 36.5%
- Open market purchase 10.6%
- Joint Venture 3.5%
- Privatisation 2.4%
- Block Trade 2.4%
- Merger 2.4%
- SPO 1.2%
- Tender Offer 1.2%
- Minority stake purchase 40.0%
- Merger 2.4%
- SPO 1.2%
- Tender Offer 1.2%
- Minority stake purchase 40.0%

Number of Deals by Region of Investors (%)

- Brazil 56.6%
- EMEA 20.2%
- North America 14.1%
- Asia 9.1%
- Latin America 6.2%
- Other 1.5%

Source: EMIS DealWatch
Invepar S.A.

**Highlights**

- Invepar was founded in 2000 as a joint venture between OAS, a company focused on infrastructure construction, and Previ, Banco do Brasil’s pension fund. In the same year the company won two road concessions: LAMSA - Linha Amarela SA in Rio de Janeiro and CLN - Concessionaria Litoral Norte in Bahia.

- The company offers highway, airport and urban mobility transport services in Brazil and abroad. Its current portfolio comprises twelve concessions – 1,975km of highways, the concession of Guarulhos International Airport, the largest airport in Latin America by passenger traffic, and two urban mobility concessions in the city of Rio de Janeiro.

- Invepar also controls three companies - PEX S.A. (automatic toll tax collection), MetroBarra S.A. (responsible for the acquisition of rolling stock to be used in Rio de Janeiro’s subway expansion), and PEX Peru S.A. (automatic toll tax collection on Invepar’s road concessions in Peru).

- Its main shareholders are OAS and the pension funds of Banco do Brasil, Petrobras and Caixa Economica Federal.
Invepar S.A. (cont’d)

**Highlights**

- The main event for Invepar in 2014 was the delivery of the Third Passenger Terminal of the Guarulhos International Airport in May 2014. The terminal, catering exclusively to international flights, has an area of 192,000m² and initial capacity of 12mn passengers per year.

- The company also started the operation and the construction of a second road lane of the BR – 040 highway (936.8km), connecting Brasilia (the Federal District) with Juiz de Fora (Minas Gerais).

- In 2014, Invepar’s revenue rose by 23.5% to BRL 3bn. The urban mobility business registered the highest growth during the year – 21.4%, boosted by an increase of the passenger traffic in MetroRio. The revenue of the airport segment rose by 20%, due to the inauguration of the third terminal of the Guarulhos International Airport and the organic growth of its other three terminals.

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**Source:** Company Data

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GOL Linhas Aéreas Inteligentes S.A.

**Highlights**

- **GOL**, founded in 2000, is the largest low-cost air carrier in Latin America in terms of passenger traffic.

- The company ended 2014 with a fleet of 141 Boeing 737 Next Generation aircrafts, with an average age of 7.2 years. In 2014, GOL served 71 destinations in 11 countries in South America, the United States and the Caribbean under five brands GOL, Varig, Smiles, Voe Facil and GOLlog.

- In 2014, GOL was the largest air carrier in terms of domestic passenger transport with 37.7mn customers and a 37.2% share of the domestic market. According to Abracorp (Brazilian Association of Travel Agencies), the company also was the biggest corporate passenger carrier in 2014, with a 31.2% market share.

- The company's shares are traded on the BM&FBovespa and the New York stock exchanges. Its market capitalisation stood at BRL 2.2bn at the end of April 2015.

- In February 2014, French-Dutch airline group Air France KLM acquired 1.5% of GOL’s capital and signed a strategic cooperation agreement with the company.

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**Source:** Abracorp, ANAC, Company Data
In 2014, GOL’s net revenues stood at BRL 10bn, 11% up from 2013. During the year the company registered its highest annual domestic occupancy rate of 77.8%.

The passenger transport accounted for about 89.9% of GOL’s revenues in 2014, with the remaining coming from cargo transport and other services.

In 2014, the company registered a net loss for a fourth consecutive year in the amount of BRL 1.1bn, mainly due to the devaluation of the Brazilian Real against the U.S. Dollar and losses from oil hedge operations.
The company was established in 1997 under the name of Ferrovia Sul Atlantico. After a series of acquisitions in Brazil and Argentina, it adopted its current name in 1999. At present, ALL is the largest railway operator in Latin America.

ALL has two main business units: ALL Rail and Brado Logistica. The company also provides distribution, storage and customised container shipping services.

ALL Rail manages four railway concessions in Brazil - ALL Malha Norte, ALL Malha Paulista, ALL Malha Sul and ALL Malha Oeste, which account for 41% of the overall rail network in the country. The rolling stock of the company includes some 1,000 locomotives (25% of all operating locomotives in the country) and 25,000 wagons (22% of all operating wagons).

Brado Logistica operates four logistics centres and 13 intermodal terminals throughout Brazil.

In March 2015, Rumo Logistica Operadora Multimodal SA, the logistics arm of Brazilian sugar-ethanol group Cosan, completed the acquisition of ALL in an all-stock deal, valued at BRL 7bn (USD 3bn).
In December 2014, ALL approved the sale of its subsidiary Ritmo Logistica to Novo Oriente Participacoes Ltda for BRL 55mn with the aim to focus on its core business – railway operations.

In 2014, the company’s net revenues increased by 6% y/y, reaching BRL 3.7bn. The positive performance was registered in both business lines of ALL – rail operations revenue rose by 6%, while Brado Logistica’s income grew by 4%. The revenue growth was supported by increases in the average tariff for rail operations (3%), as well as in the volumes of transported agricultural commodities (2.8%) and industrial products (4.6%).

The most transported products during the year were soy (33% up y/y), soybean meal (14%) and sugar (13%). Overall, the latter accounted for 46% of the total cargo transport of ALL in 2014.
MRS Logística S.A.

**Highlights**

- **MRS**, founded in 1996, is the concessionaire of the Southeastern Federal Railroad Network, which connects the most-developed economic regions of Brazil with the ports of Itaquai and Santos.

- The company manages about 6% of the overall railway network in Brazil and owns more than 20% of the total rolling stock fleet, which consists of some 18,000 wagons and 800 locomotives.

- **MRS** focuses on general cargo transport of iron ore, finished steel products, cement, bauxite, agricultural products, green coke and containers. It is the largest railway cargo operator in Brazil with a 29% share in the overall freight transport in 2013. In 2014, the transported cargo by the company grew by 5.2% to 164.1mn tonnes.

- The largest shareholder of **MRS** is the state-controlled miner Vale (47.6%), followed by Mineracoes Brasileiras Reunidas (32.9%), CSN (27.3%), Usiminas (11.1%) and Nacional Minerios (10%).

---

**Income Statement (Consolidated, BRL mn)**

- **2012**: Net Revenues 2,390, EBITDA 1,117, Profit 440.
- **2013**: Net Revenues 3,088, EBITDA 1,218, Profit 469.
- **2014**: Net Revenues 3,083, EBITDA 1,213, Profit 379.

- **EBITDA margin**:
  - **2012**: 37.4%
  - **2013**: 40.1%
  - **2014**: 39.6%

---

**Balance Sheet (Consolidated, BRL mn)**

- **2012**: Total Assets 6,074, Total Equity 2,04, Net Debt 2,509, Net Debt/EBITDA 2.04.
- **2013**: Total Assets 6,640, Total Equity 1,96, Net Debt 2,669, Net Debt/EBITDA 2.697.
- **2014**: Total Assets 7,004, Total Equity 2.22, Net Debt 2,848, Net Debt/EBITDA 2.697.

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Source: Company Data

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In 2014, the net revenues of MRS amounted to BRL 3.1bn, an increase of 0.8% y/y. The growth was triggered mainly by the strong rise in the volume of transported cargo.

For a consecutive year iron ore was the most transported product by the company, recording an increase of 7.9% in the transported cargo to 8.9mn tonnes. The agricultural commodities cargo also registered a strong growth during the year of 9.2%.

In 2014, the net profit of MRS contracted by 19.3% y/y, as a result of higher capital expenditures and reduction in the financial income.
Log-In Logística Intermodal S.A.

**Source:** Company Data, EMIS DealWatch

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**Income Statement (Consolidated, BRL mn)**

- 2012: 718 (Net Revenues), 15.5% (EBITDA margin)
- 2013: 811 (Net Revenues), 18.8% (EBITDA margin)
- 2014: 974 (Net Revenues), 19.2% (EBITDA margin)

**Balance Sheet (Consolidated, BRL mn)**

- 2012: 1,912 (Total Assets), 9.72% (Net Debt/EBITDA)
- 2013: 2,060 (Total Assets), 8.37% (Net Debt/EBITDA)
- 2014: 2,133 (Total Assets), 7.66% (Net Debt/EBITDA)

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**Highlights**

- Log-In was created in 2007 as a result of the spin-off of the container transport business of Navegacao Vale do Rio Doce, the transport arm of Brazilian state-controlled miner Vale.

- Log-In is a logistics solutions provider with operations in three business units: port terminal operations (through the container port terminal Vila Velha in Espírito Santo), coastal shipping (maritime transport between ports located in Brazil and Mercosur coast) and intermodal terminals (inland operations of intermodal cargo terminals with a network of more than 20 port terminals between the extreme North of Brazil and Argentina).

- The company owns eight vessels with a total capacity of 19,200 TEU and one bulk transportation vessel with a capacity of 80,000 tonnes.

- In June 2007, Log-In was floated on the BM&FBovespa Stock Exchange in an IPO worth BRL 744.8mn. In December 2013, Vale sold all its common shares of Log-In via auction on the stock exchange for BRL 233mn.
In 2014, the net revenues of Log-In increased by 20.1% y/y. The good performance reflects the significant growth of cabotage volumes and the higher occupancy rates of the company’s ships, as compared to the previous year.

In 2014, Log-In launched vehicle cabotage services between Brazil and Argentina, which also boosted the financial performance of the company. Log-In announced that it also plans to offer the service for the domestic market.

As of 15 May 2015, the largest shareholders of Log-In were FAMA Investimentos (13%), Fundacao Petrobras de Seguridade Social - Petros (12.8%), Credit Suisse Hedging-Griffo (10.2%), Fator Administradora de Recursos (7.9%) and Onyx Equity Management (7.2%).
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