EMERGING MARKETS FOREIGN DIRECT INVESTMENT STRATEGIES: NEW PATHWAYS TO GREEN GROWTH

INVESTMENT OPPORTUNITIES IN BRAZIL

Berlin, September 15th 2014
TOPICS

• BRAZIL: OVERVIEW

• OPPORTUNITIES
  1. ESTIMATED INVESTMENT
  2. OIL & GAS
  3. INFRASTRUCTURE
BRAZIL OVERVIEW
BRAZIL OVERVIEW

MACROECONOMIC

International Reserves (US$ bi)

Source: BNDES

Inflation - IPCA (% anual)

Source: BNDES
### BRAZIL OVERVIEW

#### MACROECONOMIC

**Public Debt / GDP**

<table>
<thead>
<tr>
<th>Year</th>
<th>Debt as % of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>73.72</td>
</tr>
<tr>
<td>2003</td>
<td>70.83</td>
</tr>
<tr>
<td>2004</td>
<td>68.71</td>
</tr>
<tr>
<td>2005</td>
<td>66.59</td>
</tr>
<tr>
<td>2006</td>
<td>64.27</td>
</tr>
<tr>
<td>2007</td>
<td>62.05</td>
</tr>
<tr>
<td>2008</td>
<td>60.83</td>
</tr>
<tr>
<td>2009</td>
<td>59.51</td>
</tr>
<tr>
<td>2010</td>
<td>58.19</td>
</tr>
<tr>
<td>2011</td>
<td>56.87</td>
</tr>
<tr>
<td>2012</td>
<td>55.55</td>
</tr>
<tr>
<td>2013</td>
<td>54.23</td>
</tr>
<tr>
<td>2014</td>
<td>52.91</td>
</tr>
</tbody>
</table>

- **Blue line**: Public Sector Net Debt
- **Black line**: Federal Government Gross Debt

**Investment Rate**

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate as % of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>15.77</td>
</tr>
<tr>
<td>2001</td>
<td>16.29</td>
</tr>
<tr>
<td>2002</td>
<td>16.87</td>
</tr>
<tr>
<td>2003</td>
<td>17.39</td>
</tr>
<tr>
<td>2004</td>
<td>17.91</td>
</tr>
<tr>
<td>2005</td>
<td>18.43</td>
</tr>
<tr>
<td>2006</td>
<td>18.95</td>
</tr>
<tr>
<td>2007</td>
<td>19.47</td>
</tr>
<tr>
<td>2008</td>
<td>19.99</td>
</tr>
<tr>
<td>2009</td>
<td>20.51</td>
</tr>
<tr>
<td>2010</td>
<td>21.03</td>
</tr>
<tr>
<td>2011</td>
<td>21.55</td>
</tr>
<tr>
<td>2012</td>
<td>22.07</td>
</tr>
<tr>
<td>2013</td>
<td>22.59</td>
</tr>
</tbody>
</table>

- **Current Prices**
- **2006 Prices**

Source: BNDES
Brazilian Social Pyramid

- Classes A / B
  - 2002: 13
  - 2014: 29
- Class C
  - 2002: 66
  - 2014: 118
- Classes D / E
  - 2002: 96
  - 2014: 49

Total population:
- 2002: 175 million
- 2014: 196 million

Source: BNDES

Gini Coefficient

Source: IPEA
BRAZIL OVERVIEW

POPULATION

Brazilian Population (2012)

<table>
<thead>
<tr>
<th>RANKING</th>
<th>TERRITORY</th>
<th>URBAN/RURAL</th>
<th>(1,000,000 PEOPLE)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Brazil</td>
<td>Total</td>
<td>196.87</td>
</tr>
<tr>
<td></td>
<td>Urban</td>
<td>167.01</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rural</td>
<td>29.86</td>
<td></td>
</tr>
<tr>
<td>1º</td>
<td>São Paulo - SP</td>
<td>Total</td>
<td>20.21</td>
</tr>
<tr>
<td>2º</td>
<td>Rio de Janeiro - RJ</td>
<td>Total</td>
<td>12.12</td>
</tr>
<tr>
<td>3º</td>
<td>Belo Horizonte - MG</td>
<td>Total</td>
<td>5.04</td>
</tr>
<tr>
<td>4º</td>
<td>Porto Alegre - RS</td>
<td>Total</td>
<td>4.05</td>
</tr>
<tr>
<td>5º</td>
<td>Recife - PE</td>
<td>Total</td>
<td>3.79</td>
</tr>
<tr>
<td>6º</td>
<td>Fortaleza - CE</td>
<td>Total</td>
<td>3.78</td>
</tr>
<tr>
<td>7º</td>
<td>Salvador - BA</td>
<td>Total</td>
<td>3.71</td>
</tr>
<tr>
<td>8º</td>
<td>Curitiba - PR</td>
<td>Total</td>
<td>3.29</td>
</tr>
<tr>
<td>9º</td>
<td>Belém - PA</td>
<td>Total</td>
<td>2.18</td>
</tr>
</tbody>
</table>

Source: PNAD - National Survey by Household Samples
OPPORTUNITIES
1. ESTIMATED INVESTMENTS IN BRAZIL
2. OIL & GAS
3. INFRASTRUCTURE:
   • ENERGY GENERATION
   • LOGISTICS
     - HIGHWAYS
     - RAILROADS
     - AIRPORTS
     - PORTS
1. ESTIMATED INVESTMENTS IN BRAZIL

During the period from 2014 to 2017, investments amounting to US$ 524.5 billion are expected in the following sectors: oil & gas and industrial sector.

Estimated Investment – 2014 - 2017

- The Oil and Gas segment concentrates 42% of the estimated investment in infrastructure.
- Mining will be responsible for 5%.
- Pulp and Paper segment concentrates 2% of the total.

Source: Ministério da Fazenda.
1. ESTIMATED INVESTMENTS IN BRAZIL


- Agriculture and Services: 38%
- Industry: 27%
- Infrastructure: 14%
- Housing: 21%

Investments from BNDES by Sector

<table>
<thead>
<tr>
<th>Sector</th>
<th>2007</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Industry</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Commerce/Services</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Agribusiness</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Public Administration</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Unit: US$ billion current

Source: BNDES
1. ESTIMATED INVESTMENTS IN BRAZIL

PRE-SALT

• The **discovery of new deepwater oilfields** (pre-salt) has opened a new frontier for the oil and gas industries.

• Development of the pre-salt will bring Brazil to a **new position in the oil market** by increasing proven reserves and doubling the production capacity by 2020.

• Pre-salt development also represents overcoming challenges related to **technology, infrastructure and logistics**, regulation, taxes and human capital.

TOTAL INVESTMENT RELATED TO THE OIL AND GAS SECTOR IS ESTIMATED AT US$ 400 BILLION OVER THE DECADE.
1. ESTIMATED INVESTMENTS IN BRAZIL

During the period from 2014 to 2017, infrastructure investments amounting to US$ 261.4 billion are expected, with the following distribution amongst sectors:

Infrastructure Investment Forecasted for 2014 - 2017

- The main energy-sector projects are hydroelectric plants, followed by nuclear and wind power
- In telecommunications, third-generation mobile service and broadband wireless internet are at the forefront
- Logistics investment is led by the railway segment followed by roadway and port projects

Source: National Bank for Economic and Social Development (BNDES)
2. OIL & GAS

BMP 2014-2018 (US$ 220.6 billion)

Libra Oil Field

- Massive oil field in the pre-salt area, offshore Brazil
- Estimated reserves: 7.9 - 18.2 billion barrels (recoverable)

Source: Petrobras
3. INFRASTRUCTURE

One of the key factors for socioeconomic growth is **INFRASTRUCTURE**:

- **ENERGY GENERATION**

- **LOGISTICS**:
  - HIGHWAYS
  - RAILROADS
  - AIRPORTS
  - PORTS
3. INFRASTRUCTURE

ENERGY GENERATION

Investment Program in Power Generation (2013-2018)

Unit: MW
Source: EPE

Unit: US$ billion
Source: EPE
3. INFRASTRUCTURE

ENERGY GENERATION

Investment Program in Power Transmission (2013-2018)

Transmission Lines
- Northeast: 1,399 km
- North: 3,764 km
- Southeast and 1,828 km
- South: 3,810 km

Investment
- Northeast: 0.39 billion
- North: 1.52 billion
- Southeast and Center West: 0.96 billion
- South: 1.55 billion

Total = US$ 4.2 Billion

Unit: Km
Source: EPE

Unit: US$ billion
Source: EPE
3. INFRASTRUCTURE

ENERGY GENERATION

Investment Program in Power Transmission (2013-2018)

Unit: Number
Source: EPE

Unit: US$ billion
Source: EPE

TOTAL = US$ 3.7 BILLION
3. INFRASTRUCTURE

LOGISTICS

Investment Program in Logistics

I. Highways (Aug 15, 2012)
• Concession of 7.0 thousand kilometers of highways
• Estimated investment: US$ 23.0 billion

Source: EPL
3. INFRASTRUCTURE

LOGISTICS

Investment Program in Logistics

II. Railroads (Aug 15, 2012)
- Concession of 10.0 thousand km of federal railroads
- Estimated investment: US$ 45.5 billion for the next 35 years

Railway Açailandia - Vila do Conde Port (Barcarena)
Estimated extension of 457 km

Railway Rio de Janeiro - Campos - Vitoria
Estimated extension of 551 km

Railway Belo Horizonte - Salvador
Estimated extension of 1,561 km

Source: EPL
3. INFRASTRUCTURE

LOGISTICS

III. Airport concessions (2013)

- 2 Airports: Galeão (RJ) and Confins (MG) have been privatized (auction in November 22\textsuperscript{th})
- 270 Regional Airports ▶ Estimated investment: US$ 3.6 billion

**Growth Potential**

![Growth Potential Chart]

**Passenger / Population**

![Passenger / Population Chart]


IV. Port concessions (2013)

- Estimated Investment: US$ 27.3 billion
FGV was founded in December 1944 to help boost the socioeconomic development of Brazil by training administrators for Brazilian private and public enterprise.

Since then, FGV has chosen to broaden its focus to the Economic and Social Sciences, as well as Administration, to become a center of quality and excellence in research and to spread knowledge at the undergraduate, continuing education, executive, specialized, MBA, Master´s and Doctorate levers.

The role of FGV in the study, analysis and drafting of Public Policies reinforces it as a reputable Think Tank contributing to Brazil´s increasingly important role in the international scene.
DR. SERGIO FRANKLIN QUINTELLA
Vice President
www.fgv.br