ALTERNATIVES TO DEPLOY UNIVERSAL FIXED BROADBAND INFRASTRUCTURE: analysis of the options considered in Brazil

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Outline

- Overview of broadband infrastructure in Brazil
- Analytical framework
- Options considered in Brazil
- Recommendations
Overview of broadband infrastructure in Brazil (1)

Background

• Regulatory framework was set in 1997.
• Main goals were competition and universal service for fixed phones.
• Convergence led to consolidation: from 28 companies to 4 groups.
• Broadband providers are not subject to unbundling or universal service obligations.

Density, relative price and number of fixed broadband accesses – 2009

• Brazilian market is comparable to UK and Korea
• Density is 4 to 8 times behind advanced economies
• Relative price is 3 to 9 times higher

Source: ITU
Overview of broadband infrastructure in Brazil (2)

Strong social and regional inequalities... are reflected in the density indexes.

Market concentration explains... high prices, especially in farther regions.

Mobile broadband (3G) will be available to 2/3 of the population by 2016.
Analytical framework: two-dimensional analysis

1) Market conditions:
- Competition in areas with higher economic densities
- Monopoly using existing infrastructure
- Unserved areas in rural and remote territories

2) Applicable policies:
- Incentive to competition (market stimulus & regulatory framework)
- Impulse on supply and demand sides (public investment & education)

<table>
<thead>
<tr>
<th>Policies</th>
<th>Areas</th>
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<td>Market stimulus</td>
<td>Competition already exists</td>
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<td>Legal and regulatory framework</td>
<td>Single operator</td>
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<td>Public investment</td>
<td>No infrastructure available</td>
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<td>Education and training</td>
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<td>Local entrepreneurships</td>
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<td>Unbundling</td>
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<td>Grant of new licenses</td>
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<td>Tax-cuts, subsidies and credit</td>
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<td>Universal Service Fund</td>
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<td>Incentives to users</td>
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<td>Support and maintenance</td>
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<td>Online content sharing</td>
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## Options considered in Brazil

<table>
<thead>
<tr>
<th>1) State-owned company</th>
<th>2) Public private partnership (PPP)</th>
<th>3) Acceleration of deregulation</th>
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<tbody>
<tr>
<td>Employment of unused optical fibers</td>
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<td>Maintenance of current regulatory model</td>
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<td>Increase competition</td>
<td>Uncertain result in competition</td>
<td>Application of USF</td>
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<td>Direct control of rollout process</td>
<td>Minimum public investment</td>
<td>Tax cuts &amp; subsidies</td>
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<td>Use of new technologies</td>
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<td>Credit to invest in infrastructure</td>
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<td>Dependent on local entrepreneurs</td>
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<td>Frequency allocation</td>
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The first option was eventually chosen by the President of Republic on May, 5th 2010.
Analysis of the options

- None of the options considered had a true comprehensive approach.
- Market concentration explains poor quality, low density and high price; hence, it should be defied by public policies.
- Two options addressed the issue of low competition, whereas the other relied only on public investment.
- None of them suggested education and training policies, which will probably return during next rounds of debate.
Rec. #1: Coordination of the central government

Pre-existing characteristics
• Structural heterogeneity
• Unequal distribution of income
• Regional differences
• Large territory

Results
Significant market failures:
• Low density
• High prices
• Poor quality

Lack of broadband policies
• Absence of universal service obligations
• Failure to use Universal Service Fund (USF)
• High telecommunication taxes (up to 63%)
• Poor competition conditions
• Outdated legal framework
Rec. #2: Focus on less developed regions and low income classes

Regional differences

% of households with fixed broadband in Brazil (2008)

Focus of public policies:
- suburbs
- middle & small cities
- rural areas

Criteria and data are critical to define priorities
Rec. #3: Need to foster competition

**Competition at national level**

Market share of fixed broadband providers (2010)

- Oi: 36%
- Net: 25%
- Telefonica: 24%
- GVT: 6%
- CTBC: 7%
- Others: 2%

% of municipalities with broadband service

- 47% available
- 53% not available

**Competition at local level**

% of municipalities with CR1 over indicated threshold (2009)

- Northeast: >90%
- Southeast: >90%
- South: >90%
- Brazil: >90%
- Center-west: >90%
- North: >90%

- >= 90%
- >= 70%
- >= 50%

- Facilities-based vs. service-based competition
- Wholesale vs. access markets
Rec. #4: Taking advantage of idiosyncratic conditions

Opportunities generated by unused optical networks in Brazil:

- reduce need of public investment
- hasten implementation timelines
- increase competition in wholesale market

Full deployment expected in 2014:

- +30,000 km optical fiber network
- all but one of the States will be covered
Rec. #5: Combination of policy instruments

The problem of promoting broadband is extremely complex. Therefore, policy ought to be comprehensive.

A single solution does not fit all issues.
Thank you!

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