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Enhancing investments in 5G infrastructure: the Brazilian experience

Edgar Souza Anatel, Brazil



Introduction

- Deployment of broadband infrastructure projects may require very large amounts of investment
- Financing alternatives may be limited or reduced, specially for implementing public policies
- Brazil has been designing investment mechanisms in spectrum auctions for more than 15 years



The Brazilian Challenges



Continental extension



Low income per capita



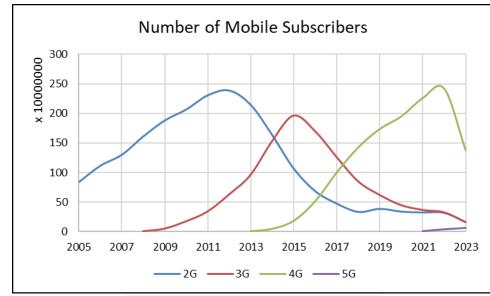
Low ARPU

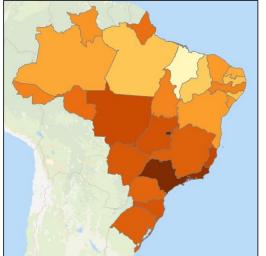


Structrural Plan for Telecommunications Networks

 Comprehensive diagnostic of Brazilian broadband networks

- Identify connectivity gaps
- Propose investment projects and sources of financing

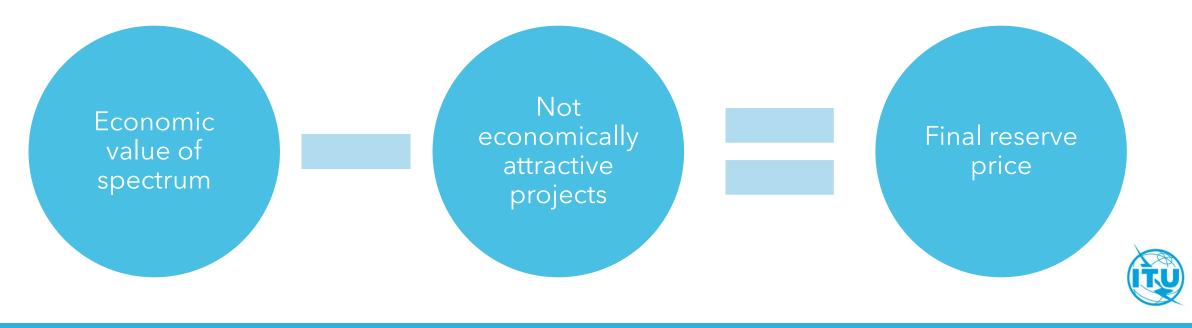






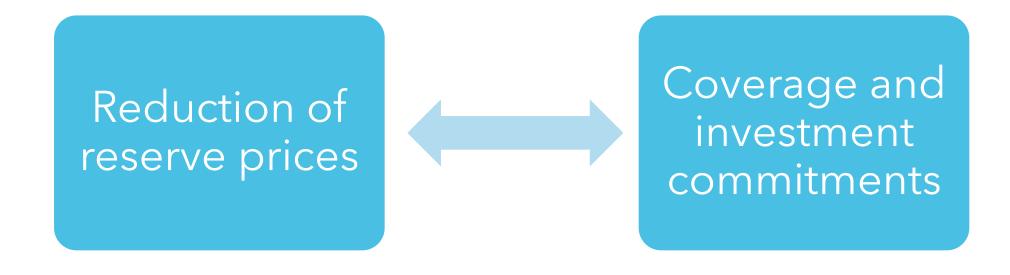
History of Spectrum Auctions in Brazil

- Design of investment mechanisms since 2007
- Net Present Values (NPV) include deployment costs of projects that are not economically attractive



The so-called "5G Auction" (2021)

- Multi-band auction: 700 MHz, 2.3 GHz, 3,5 GHz and 26 GHz
- Conversion of [at least] 90% of the economic value of spectrum into investment commitments

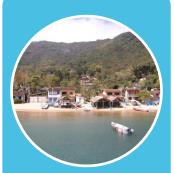




Summary of Investment Commitments



Cover with 40 technology unserved populated areas and federal highways



Cover with 4G technology unserved cities and villages



Cover
unserved cities
with **fibre- based**backbone net
works



Cover cities with **5G** standalone technology



State-owned network deployment



Provide **public schools** with connectivity

700 MHz

2.3 GHz

3.5 GHz

3.5 GHz

3.5 GHz

26 GHz



Concluding remarks

- Financing mechanisms are key factors for successful deployment of broadband infrastructure
- Identifying infrastructure gaps is a very challenging task
- Brazil has been including coverage/investment obligations in spectrum auctions since 2007



Thank you!

