



Public policies for interconnection at lower costs

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Agenda

I. Introductory facts

II. Internet interconnection policies in LAC

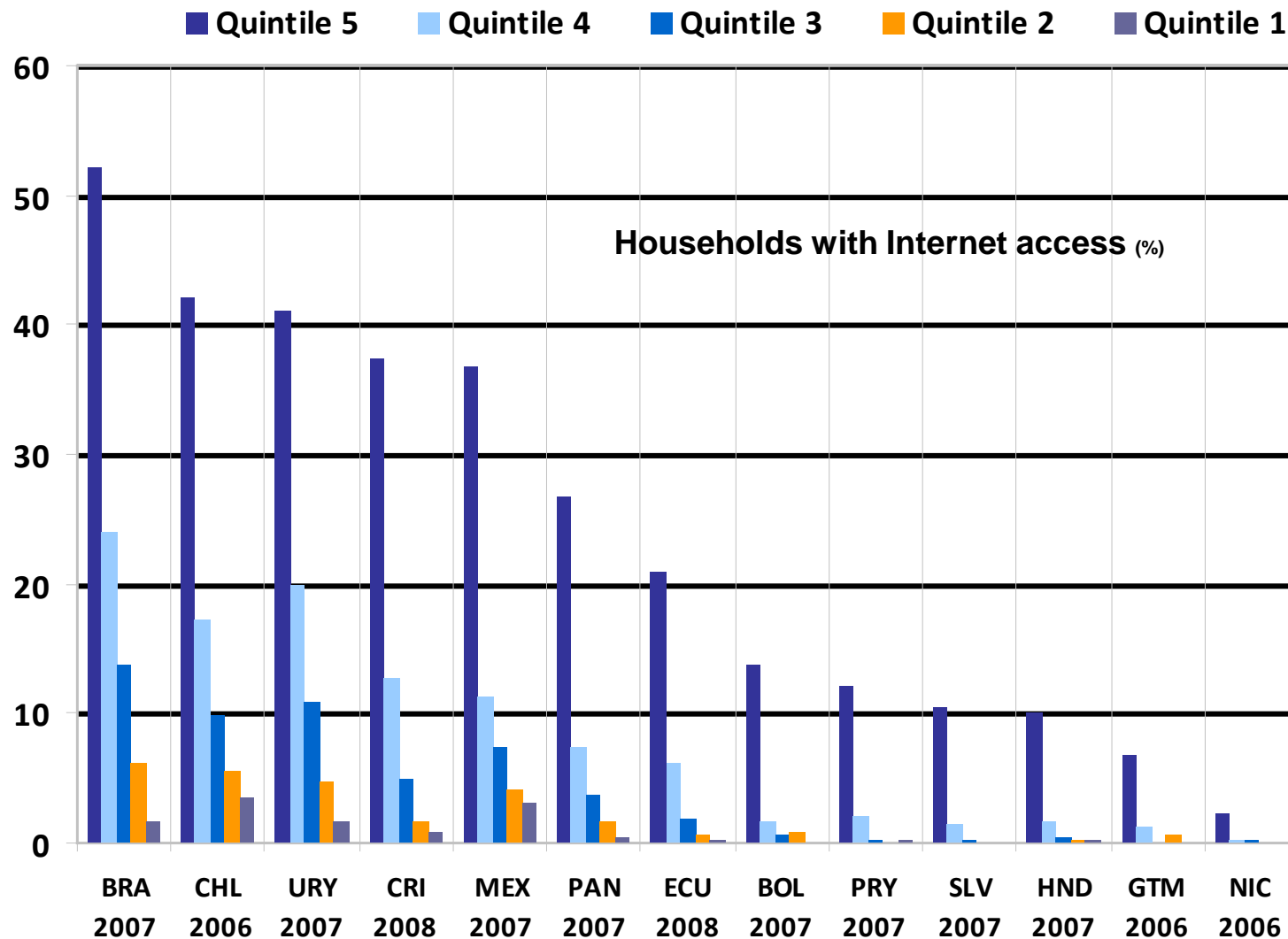
III. Final Remarks



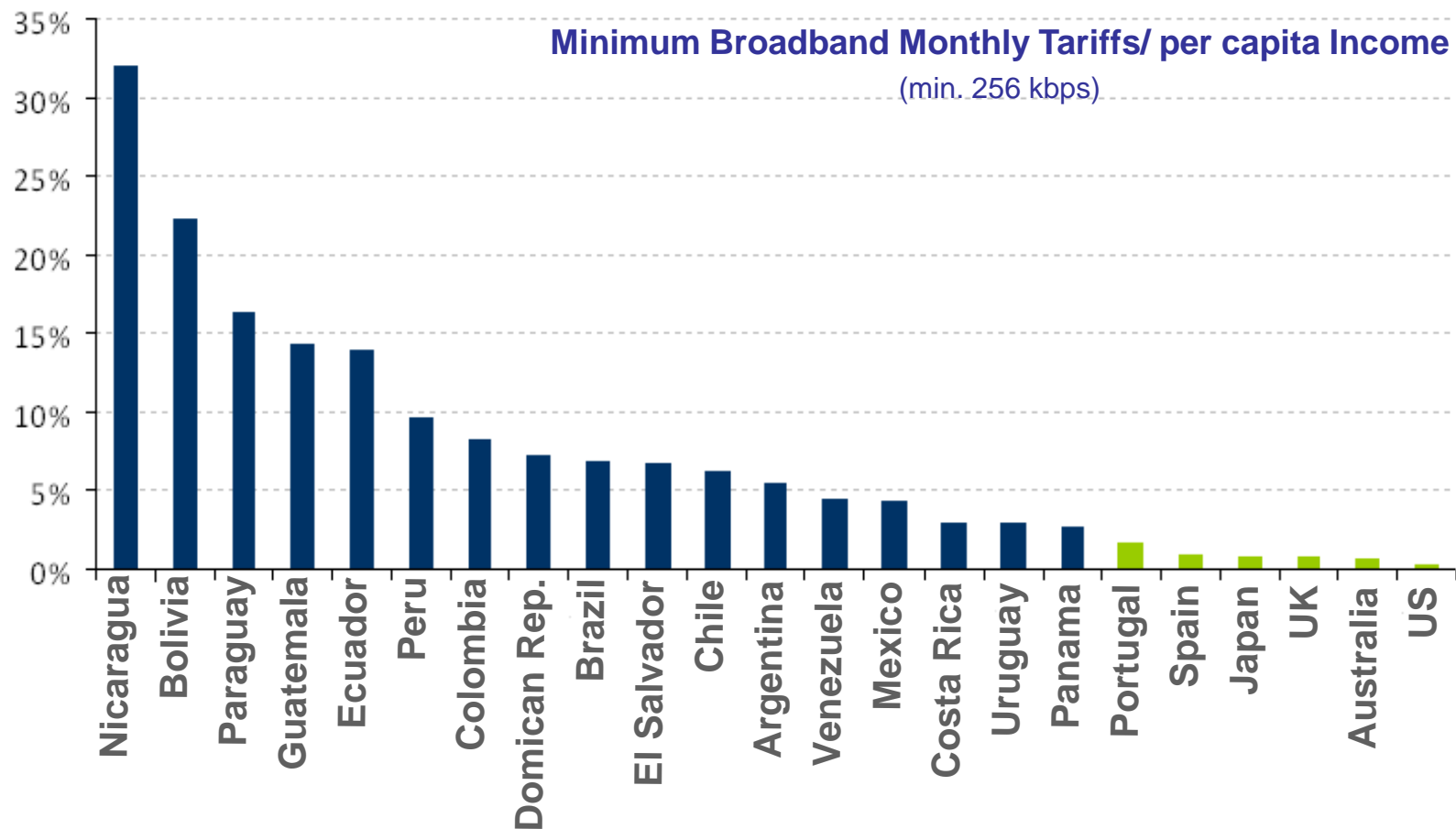
Considerations

- Internet is a driving force for economic and social development
 - ICT investments explain 10% - 24% of economic growth in LAC
- Public policies must address:
 - the expansion of Internet access
 - the growing demand for broadband Internet to use multimedia and peer-to-peer services
- The establishment of IXPs is a strategy that should be considered in ICT development agendas
- However, there are few policies and regulation on Internet interconnection.
 - Internet access is treated as an added-value service

Facts: the need to increase access



Facts: not affordable tariffs



It is essential to reduce end-users tariffs in order to increase Internet access

Traffic flows and connection capacity

- **The region is worldwide connected mainly through U.S.**
 - Using international links to route local traffic increases:
 - connection time to access local content
 - service costs
- **International traffic continues to grow**
 - most of the regionally accessed content is created and hosted in U.S.
 - most of LAC produced content is hosted in U.S. because it is cheaper than local hosting
- **And there is no good interconnection among LAC countries**
 - Great delay in intra-regional traffic
- **IXPs at local and regional level can contribute to improve the connection capacity and to create and host local content**



IXPs advantages

- To reduce costs by eliminating international traffic routing
- More bandwidth for local users because of lower costs associated to local capacity
- Shorter response times to local content by using less segments to route local traffic
- Better quality for advanced services such as VoIP, multimedia streaming, etc.
- Development of local low-cost infrastructure that facilitates the entry of new service and content providers
- Reducing transactional costs for ISP



Internet interconnection policies in LAC



UNITED NATIONS

Chile: obligation of interconnection of ISPs

- 1999: ISPs should establish interconnections among themselves to **transport national Internet traffic**
 - Definition of procedures and deadlines for establishing and accepting connections between ISPs (Res. Exenta No.1483, 1999)
- 2000: the obligation of interconnection is fulfilled when an ISP is connected to an IXP
 - Technical Definitions for IXP (Res. Exenta No.698, 2000)
 - No discrimination among IXPs or ISPs
 - IXP should have a website to publish technical and QoS information
 - Connected ISP's and topology
 - Bandwidth usages
 - Quality indicators for users and connection links among IXPs
- In case of disputes, regulator acts as a dispute settlement panel

Brazil: the multi-stakeholder approach

- **Brazilian Internet Steering Committee (CGI.br)**
 - Multi-stakeholder
 - Government (9) - Enterprises (4) - Civil Society (4) - Academy (3) + 1
 - Responsible for:
 - Development of Internet: technical and regulatory issues
 - Technical quality, innovation and dissemination of services
 - Allocation of Internet addresses (IPs) and the registration of domain names using <.br>;
- **Principles for Internet Governance** (Resolução CGI.br/RES/2009/003/P, 2009)
 - Efficiency, quality, network neutrality
- **PTT: is a CGI.br's project. It is an IXP that facilitates direct interconnection among various networks operating in a metropolitan region.**



Full interconnection among ISPs fosters local net to exchange local traffic

eLAC Regional Action Plan for IS

■ eLAC2007

- Goal 1: Regional Infrastructure
 - “Promote the development of regional ICT infrastructure, including broadband capacity through backbones and **interconnection of existing Network Access Points (NAP)** with root servers, mirror servers and traffic exchange points.”

■ eLAC2010

- Goal14
 - “Promote the development of infrastructure in each country and in the region, **fostering the deployment of traffic nodes, the installation of root servers and local content hosting**, with the object of improving the network’s quality and stability and reducing access costs.”



Awareness on the issue and provide a dialogue forum among relevant actors

Final Remarks



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Public policies to foster IXPs

- Let the market work
- To Increase awareness of the benefits of maintaining local traffic local
- To promote regulation for convergence
 - To familiarize regulatory authorities with the technical aspects and economics of Internet interconnection
 - To foster competition in Internet and telecom services
 - To promote information transparency
 - To set dispute and appellate instances
 - To foster network neutrality
- To develop frameworks to improve national coordination between Internet governance and telecommunications regulation

Thanks for your attention



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