

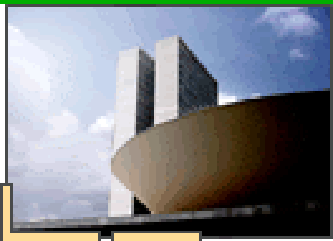
Digital Inclusion: The role of the Public Power and Parliaments

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Agenda

- Technology and Social Development
- Social Divide
- Needs for digital inclusion
- Challenges of the digital inclusion process
- Legislatives concerns
- Conclusions



Technology and the formation of the Western Society

- XVth century: islam and chinese more developed than european society
- European society model absorbed and introduced in a more powerfull way technological innovation and became hegemonic on western society.
- Technological innovation – Productivity enhancement – diversion of resources' excess to other activities – society's wealthy enrichment.



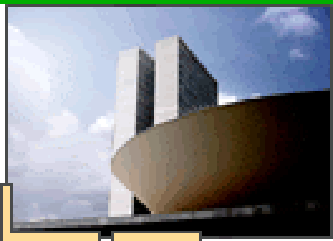
Social divide evolution

- XVth century:
 - 90% of population worked in agricultural production;
 - Poor or none technological differentiation between societies;
 - Little social inequity: until the begin of XIXth century differences in revenues per capita between poorer and richer was less than 3 times.



Industrial Revolution

- Technological oriented process.
- Dramatically increased wealth divide between countries.
- Nowadays, after two centuries of Industrial Era, differences between revenues per capita among citizens from rich and poor countries is greater than 400 times!



Digital revolution

- Potential for augmentation of the social divide even greater than due to Industrial Revolution.
- Countries need to act encouraging Digital Inclusion.
 - Reduction of social divide;
 - Reduction of technological differences between poor and rich countries.



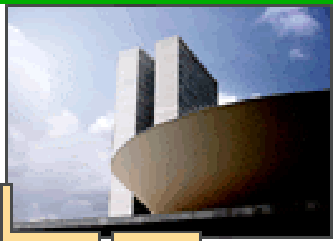
Countries' Challenges at the Information Era

- Reduction of social divide
- Mitigation of poverty
- Digital and social inclusion
- High-quality employment generation
- Technological development
- Professional qualification



Reflections on Digital Revolution

- Services sector expansion – in USA represents almost 80% of GNP
- Midia activities proliferation: content generation, leisure and culture.
- Specialized technical consultancy services expansion.
- Expansion on world's economy driven by transnational corporations.



Today's global picture

- GNP for the world estimated for 2002 of US\$ 50,43 trillions (using World Bank's parity criteria on buying power).
- 85% of this value was added Second World War
- Global commerce grew 6% / year, on average, since 1948, in comparison to a GNP increase of 3,7% / year.



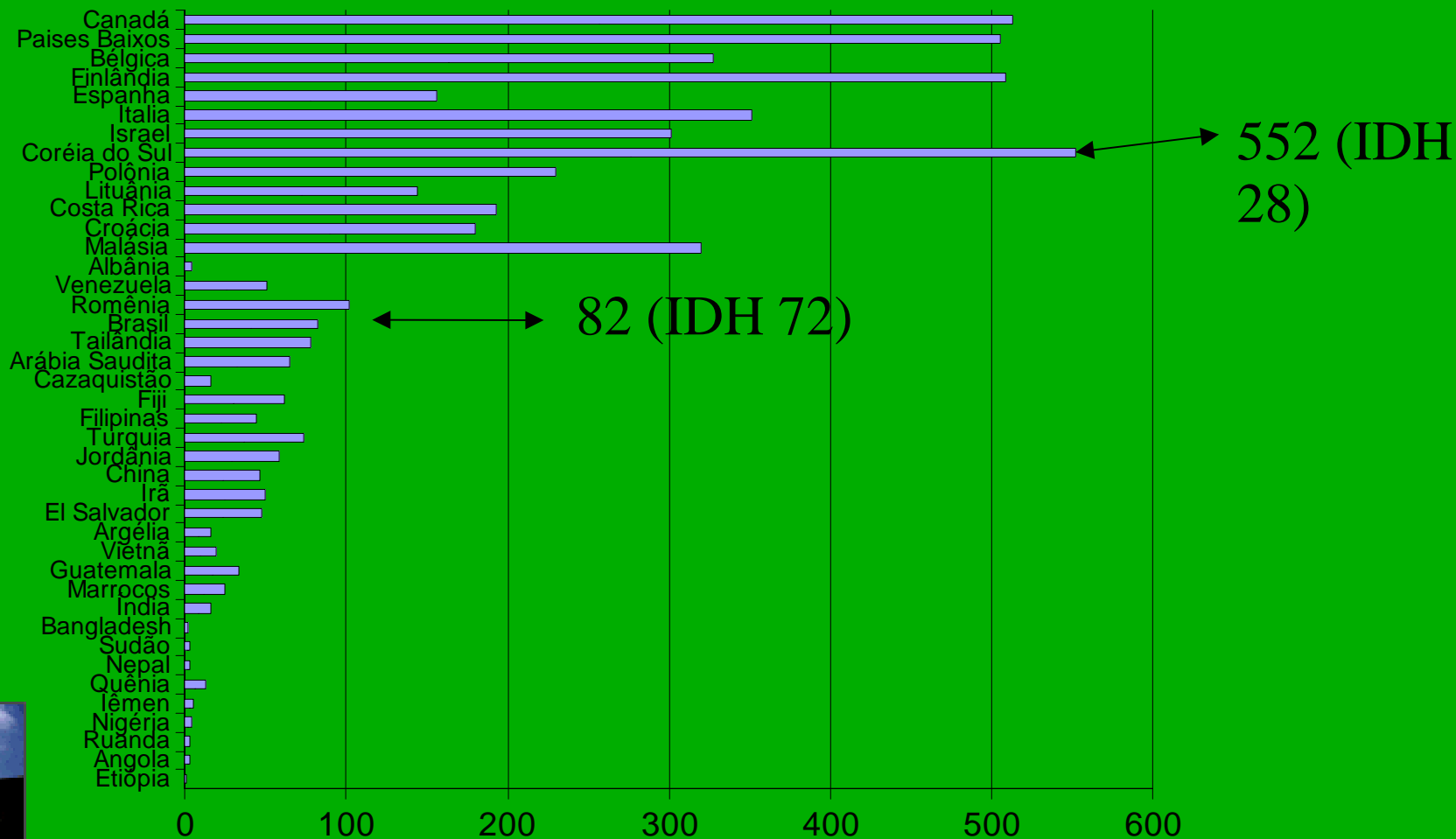
Information quantification

- University of Berkeley: in 2002 there were 5 Hexa-bytes of stored data in digital format, 37 thousand times the content of the American Congress' Library (19 millions of books).
- 800 MegaBytes of information stored per human in the world.
- Human brain storage capacity = 200 MegaBytes. Hence, digital divide condemns human being existence!

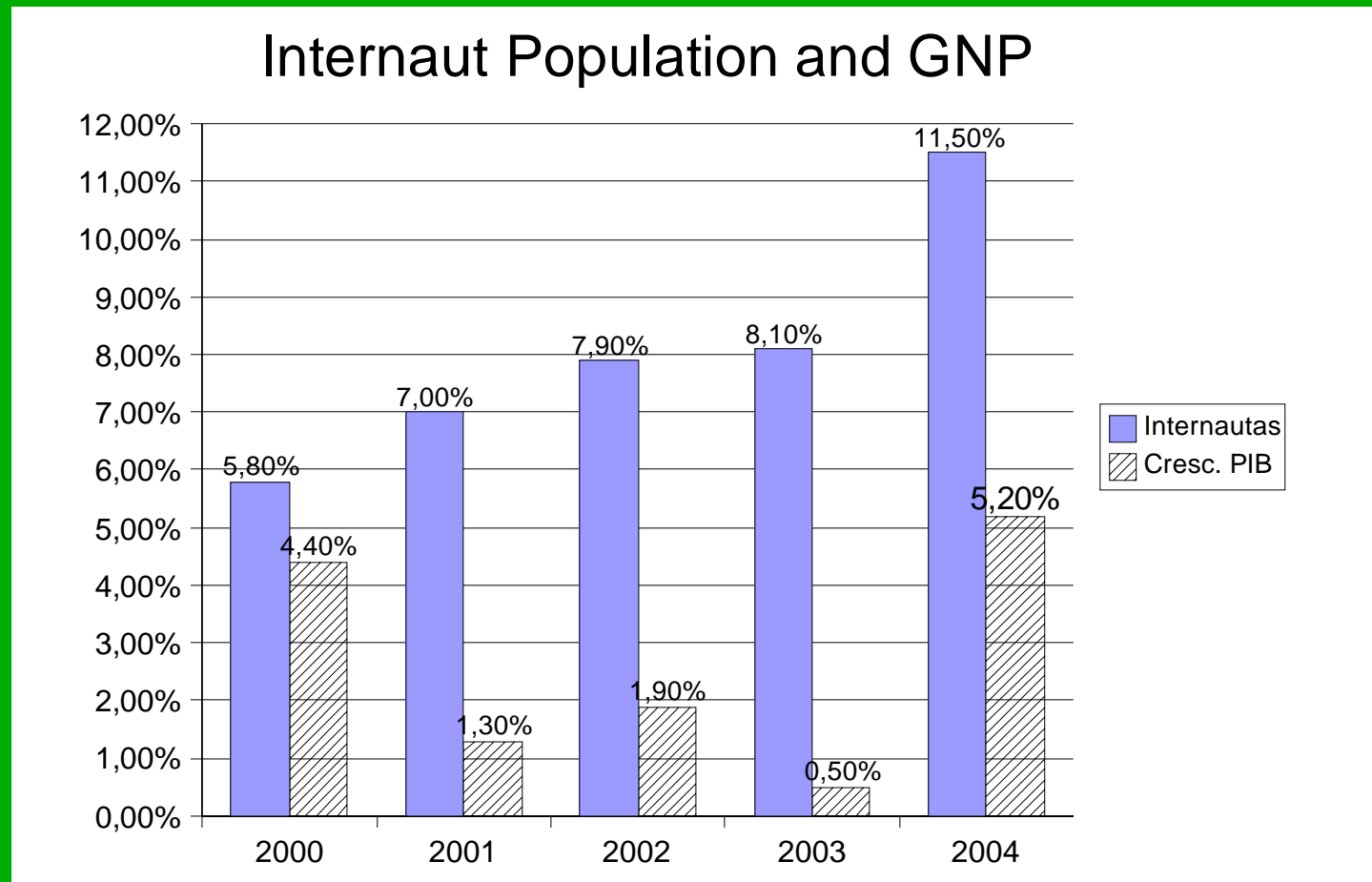


Digital Inclusion- Brazil's position related to 2004 UN's HDI

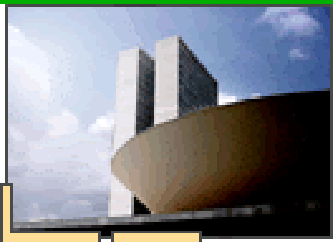
Internauts per 1000 inhabitants, 2002



Brazilian Internauts number evolution and GNP



Sources: Nielsen-NetRating, Brazilian
ISC, IDC and IBGE



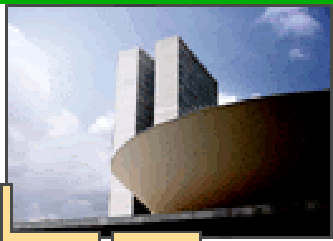
Technological Development

- Does the process has to be driven by Government or market?
- Two paradigms:
 - USA
 - Japan
 - Researchs indicates that huge public investments in R&D created an entrepreneur segment, that, afterwards, assumes investments' front line.



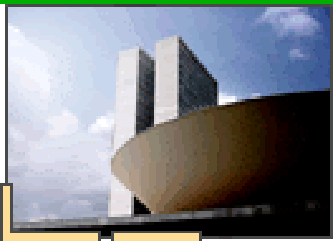
The development process of the USA

- I World War: government coordinated a scientific-technological-industrial mobilization effort with military purposes.
- 1950 – creation of the National Science Foundation, for funding the scientific and technological development for civilian purposes;
- Soviet Union also shown a strong post-war technological development with the appearance of first artificial satellites.



The japanese process

- Japanese government had a fundamental role within its country technological development process.
- Supported international placements of R&D projects.
- Promoted the creation of technological corporations, with capacity to compete internationally.
- Stimulated high qualified labour force in sciences front-line, by academic interchange with american and european institutions.



The Brazilian process

- Country's historical technological development was induced by the government acting as main financing and executing authority.
- 70': closure of the economy and imports substitution policy, envisaging the formation of a technological national park.
- 80' and 90': government financing crisis – need for model revision.
- XXIth: financing and tax reduction policies encouraging technological development executed by the private sector.



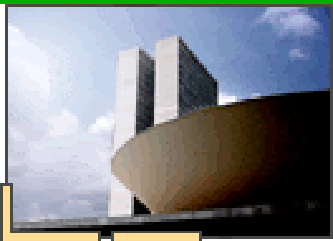
Evolution of the ICT in Brazil Informatics sector

- Informatics sector: between 1984 and 1991 the National Informatics Policy banned informatics goods imports.
- Encouraged the arise of genuine national technological companies.
- In earlies 90', model changed to a market oriented one – commercial opening – many of those companies disapeared because were not able to compete with international corporations.



Evolution of the ICT in Brazil Telecommunication Sector

- Telecommunication Sector: state-owned until 1998.
- Government financial crises, initiated in the 80' inhibited investments. Country had bad telecom infrastructure.
- Only 12 millions telephones installed.
- No practical mobile phone service.



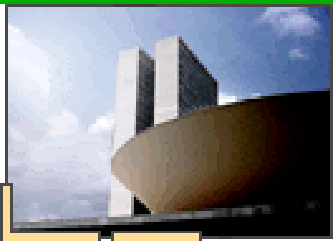
Evolution of the ICT in Brazil Telecommunication Sector

- 1998: telecom privatization resulted in segment's great expansion, BUT did not universalize services.
- Reasons: tariff policy, high tax incidence and lack of products tuned to brazilian social reality.
- Expansion: fixed lines growth to 40 millions and mobile lines almost reaching 80 millions lines.



Evolution of the ICT sector in Brazil Reflexes

- ICT segment expansion generated a deficit in the balance of payment, which remains today around US\$ 6 billions / year.
- On the other hand, tax and credits incentives, together with the introduction of clauses for the newly privatized companies, determined the formation of high tech parks, such as the cell phones industries installed in Manaus.



Investment in technology

- Investment in high tech contributes to Digital Inclusion.
- This appliance corresponds to high return rates.
- Examples:
 - Japan: average ICT investments at the 80' higher than 40% / year;
 - Canada: average return of investments higher than 30% / year.



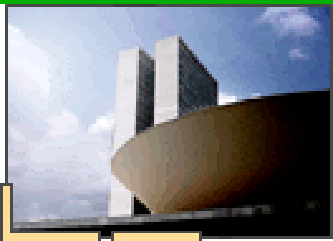
Investment in technology

- Research conducted by Organisation for Economic Co-operation and Development (OECD) indicated that investments related to capital goods had a return tax up to 130% / year at the 70' and up to 190% at the 80'.
- Return of these investments is CRESCENT!
- Improves income revenues in society.
- Diminishes income divide.



Technological Innovation

- Technological Innovation is a must:
 - Economical development;
 - Creation of higher quality jobs ;
 - Productivity growth;
 - Social inclusion.
- Brazilian case:
 - Growth cycle of brazilian economy productivity by means of industry plants renovation is already over.



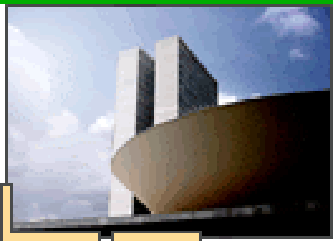
Results of brazilian ICT incentives policy

- Creation of an industrial park for ICTs at the country by applying and imports substitution policy.
- Brazil possesses the biggest Latin American ICT industry.
- High qualificate professionals: brazilian ICT labour force alone is bigger than adding the rest of Latin America.



Government's role

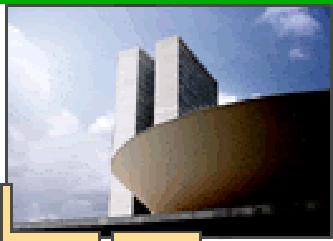
- Developing countries: strategic worries with social and digital inclusion.
- Stimulation fo foreign direct investment, for high quality – and well paid - employment generation and encouraging technology transfer.
- Incentives to professional high qualification should contribute to diminish social asymmetry on lesser developed societies.



Public Policy: stimulation to Free Software dissemination



- Incentives to Free Software usage:
 - The reduction of royalties transfers for developed countries (in Brazil it represents US\$ 1 billion / year sent abroad);
 - The creation of high quality jobs;
 - Strategic nature of the ITs for national security policies;
 - Competition on the software market;
 - Digital Inclusion.



Countries that incentive Free Software

- Mexico
- France
- Germany
- South Koreaia
- China
- Brazil: Free Software is a Government Policy



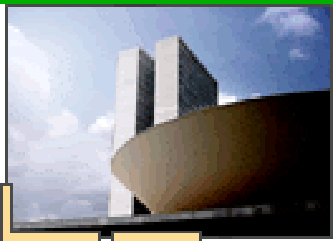
Free Software: what can government do?

- Use of its buying power to promote segment development.
- Parliament can use its repercussion power on society awakening its consciousness for the need.
- Legislation approval for its promotion, with credit or tax incentives.
- Standarization: the creation of legal standards for e-Gov.
Example: e-Ping governmental project.



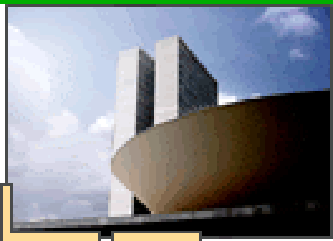
Brazil: obstacles to Digital Inclusion

- Sector's tax load for ICT: superior to 40%.
(USA: 18%, Argentina: 27%)
- Taxing policy inadequate to brazilian average income.
- Lack of a National Politics for the ICT sector.



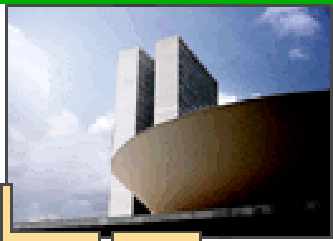
Public Policy: Industrial Policy in Brazil

- Macro Objectives:
 - Sustainable growth of commerce;
 - Augmentation of high added value products on exports;
 - Promoting innovation capacity;
 - Development of activities tuned with high technology;
 - Reduction of regional differences;
 - Generation of a mass consumption market.



Public Policy: Tax Policy

- Need of creation of tax mechanisms that promotes Digital Inclusion.
- International parameters:
 - USA, England, France, Japan, South Koreaia has tax reduction policies – in some cases extinction – of users costs for local calls for Internet access;
 - Tax and tariffs policy stimulating broad band dissemination. Paradigm: South Koreaia.



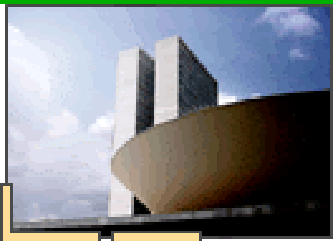
Public Policy: challenges

- Universalization of telecom services;
- Telephony monthly subscription fee inadequate to population income;
- Cost of equipments for Internet access still prohibitive to a big portion of our society;
- Use of FUST (Telecommunication Service Universalization Fund) resources.



Digital Inclusion in Brazil : challenges

- Brazilian population: 180 million inhabitants;
- 150 millions of info-excluded citizens;
- 40 millions of addresses without telephone;
- 4.5 millions small businesses;
- 7.000 municipalities;
- 10.000 libraries;
- 250.000 schools.



Thank you!



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