

Conceptual Framework of Local Innovation and Production System:
the Brazilian and BNDES experience

Local Innovation and Production System Seminar

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SAR/BNDES



World Crises of the 3rd Millennium



Where is Brazil in the crisis context?

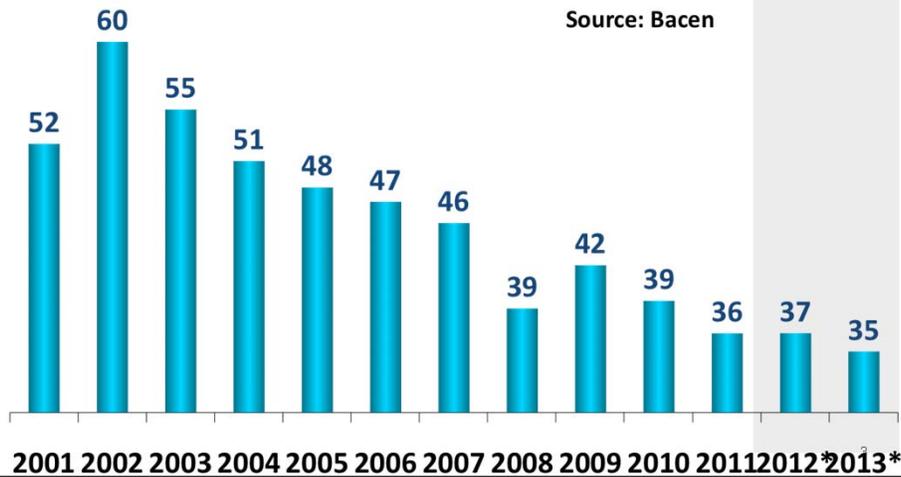
- ✓ **Social inclusion sustains dynamic domestic market**
 - ✓ de-mystifying the need to dissociate and antagonize economic and social policies
- ✓ **Robust banking system not exposed to problematic assets**
 - ✓ Investment growing above consumption
- ✓ **Several investment opportunities:**
 - ✓ Oil & Gas, Energy, Infrastructure, PAC 2, Competitive sectors, 2014 World Cup, 2016 Olympic Games...
- ✓ **The role of government: fiscal and monetary instruments, as well as regulatory and financial instruments.**

Why is the Brazilian economy at a new level?



✓ Public indebtedness on the wane

Consolidated Net Debt in the Public Sector (% GDP) – End of Period

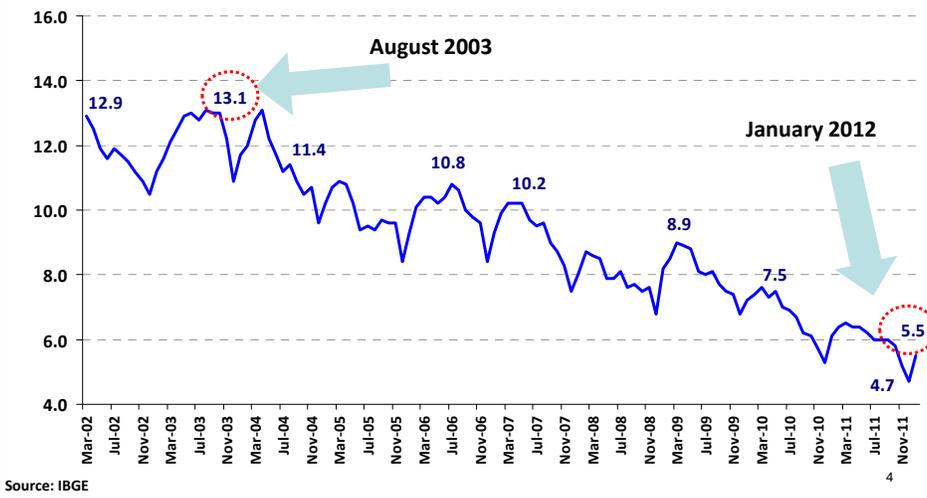


Why is the Brazilian economy at a new level? (1/2)



✓ Unemployment falling

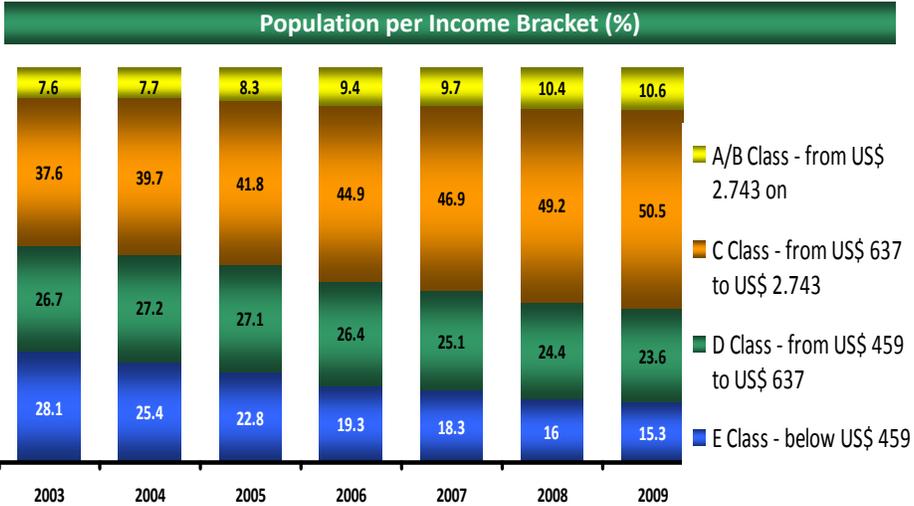
Unemployment rate (%)



Why is the Brazilian economy at a new level?



✓ Improved distribution of income



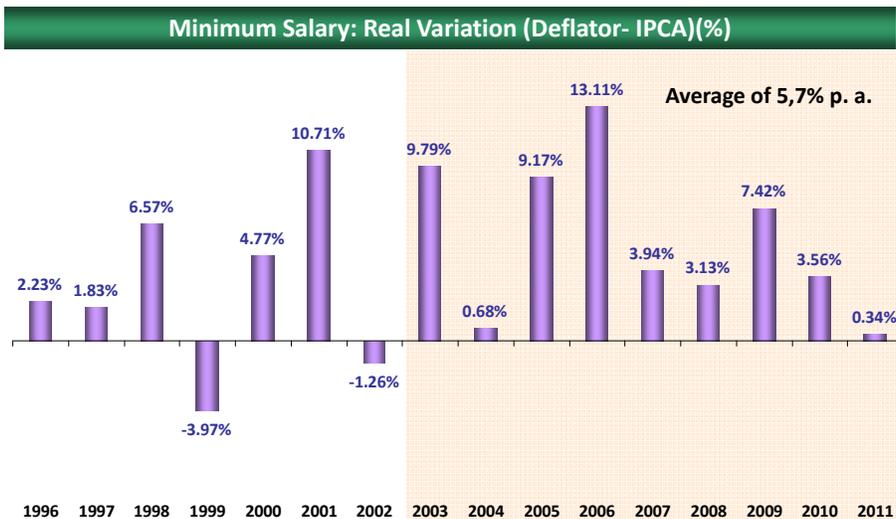
Source: FGV and Ministry of Finance

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Why is the Brazilian economy at a new level?



✓ Workers' salaries have risen



Source: Ministry of Labour and Employment, Central Bank

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Investment perspectives



Sectors	US\$ billion		Growth %
	2007-2010	2012-2015	
Industry	257	341	32.5
Oil & Gas	136	202	48.5
Mining	39	29	(25.2)
Steel	18	18	0.6
Petrochemical	14	17	19.5
Vehicles	18	31	74.0
Electronics	13	18	37.1
Pulp & Paper	11	12	8.3
Textile and Apparel	6	8	33.3
Aviation	2	5	198.6
Infrastructure	184	227	23.3
Electric Power	81	90	10.6
Telecoms	41	42	4.6
Sanitation	18	25	33.5
Railroads	14	26	76.8
Roads	23	30	32.9
Ports	5	9	61.9
Airports	1	6	333.9
Housing	341	491	44.2
TOTAL	782	1058	35.4

✓ Highlights: energy infrastructure, logistics (especially airports) and housing

Source: BNDES US\$/R\$ = 1.75

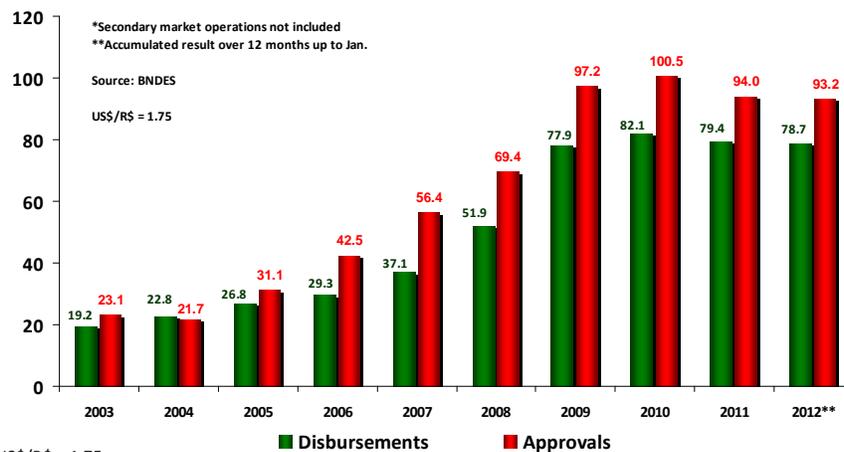
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BNDES' disbursements over 12 months reached US\$ 78.7 billion in January



BNDES' Disbursements and Approvals 2003-2012

Data accumulated over the last 12 months



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- Creation in 2007 of two units at the Presidency Office aiming at discussing new policies for innovation and regional, local and environmental development
 - a Committee for Production Systems, Regional Development, Innovation and the Environment and
 - a Secretariat for Local Innovation and Production Systems (LIPs) and Regional Development

Main Purposes

- Bring the BNDES' sector insights and operational areas together in order to build a systemic vision of development
- Contribute to incorporating the priority to regional and local development
- Propose new policies to support production and innovation systems, as well as regional and local development within a long-term sustainable perspective

1 – Need to contextualize analytical and policy frameworks

The production and innovation capacity of a country or region – seen as the result of relations between the economic, political and social actors – reflects historical, political, institutional, social, economic and cultural circumstances (Furtado, 1957, 1961)

Different contexts, cognitive and regulatory systems as well as means for articulation and learning lead to different ways of generating, assimilating, using and accumulating knowledge in addition to specific political requirements

Type of insertion of a country or region within the wider geopolitical context and the role of:

- ✓ implicit policies (Herrera, 1971) and
- ✓ malign macroeconomic regimes (Coutinho, 2003)

2 – Production and innovation are not limited to specific groups of companies, sectors and regions

There are known reasons as to why policies for production and innovation tend to focus mainly on the manufacturing activities of leading corporate groups

But it is necessary to evolve and recognize that they should not be restricted solely to these actors, sectors and regions

Need to

- ✓ Incorporate social inclusion and development in the worldwide **research and policy agendas**
- ✓ Break with the invisibility of activities capable of boosting social and economic development

3 – Production and innovation dynamics strongly

✓ relates to capacities in the production of raw materials, equipments, final good and commercialization segments, besides involving a series of other activities and organizations that are responsible for

- their promotion, regulation, financing and representation
- assimilating, using and disseminating knowledge and capabilities

✓ **depends on these economic, political and social actors, and on the environments where they are located**

Development of the concepts of national systems of innovation (Freeman, 1982 and 1987; Lundvall, 1985) and local innovation and production systems (Cassiolato and Lastres, 1997)

Focus on the **different production and innovation systems as well as their territories**

Local Production and Innovation Systems – LIPsS



New way to look, think and implement policies for production and innovation development, capable of focusing activities:

- with different levels of maturity and dynamics, from the most intensive in terms of knowledge to those that use internal or traditional knowledge
- with different actors, sizes and functions, deriving from the primary, secondary and tertiary sectors, operating locally, nationally or internationally

Possibility to boost the potential of policy efforts, redirecting them to the territory and to the interactions among actors to encourage

- learning, innovation and competence building processes
- fostering and enrooting sustainable local development

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The BNDES' strategy for LIPsS and Regional Development



✓ Support to structuring projects and their surrounding areas, mainly in developing regions, in order to disseminate and foster development, by encouraging:

- enhancement of 3 types of LIPsS aiming at enrooting development and adding value to goods and services locally produced; and
- commitment of large and medium companies, government and promotion agencies as well as other organisms to locally-integrated socio-economic and institutional development

New policy with three main axes

- Representative and coordinating organism = companies + national, regional and local government + others
- Territorial development agenda, with specific targets, time schedule and budget
- Participative financial mechanism, such as collective funds

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- ✓ Support for state plans for integrated development – priority to the mitigation of regional imbalances
 - Includes the support of LIPs for social inclusion with non-reimbursable funds
 - ✓ Support of other national and regional policies and programs:
 - Ministry for National Integration
 - ✓ Individual and collective support for Small and Medium-size Enterprises – SMEs
- Ex. *BNDES Card* has significantly enlarged the reach of BNDES' support within the different regions of the country

Mapping and Policies for Local Innovation and Production Systems (LIPs) - **Commissioned study involving 200 researchers in the five Brazilian regions**

Main Purposes

- Consolidate knowledge on identification and mapping of Local Production Systems in 22 Brazilian states
- Design and analyze LIPs and trade flows relations
- Assess existing support policies and provide means to design and improve policies for LIPs in Brazil

Advances in mapping LIPSS

GeoBDNES – identification of around 700 LIPSS already supported by different types of promotion agencies in 22 Brazilian states

Analysis of LIPSS relations with trade flows between states and with other countries

✓ what goods and services are imported from other regions and could be produced locally?

Local and regional teams - **PhDs, professors, post-graduate students and other researchers specialized in regional and local development**

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Importance of local and regional research teams` capacity in:

- obtaining, processing and evaluating information
- revealing local production and innovation structures, their linkages, potentialities and requirements
- exchanging and cross-fertilizing experiences and recommendations of different parts of the country
- translating gathered information into policy prescriptions
- helping to connect and inform local and regional policy spheres

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Progress made in Brazil:

- Brazilian network of researchers analyzing over 150 LIPs in different activities and regions of the countries
- Almost 15 years of a significant collective learning process and accumulation of experiences
- Important process for creating, using, improving and disseminating knowledge
- Support to public and private policy
- Intense interaction and learning among researchers, policy-makers, entrepreneurs and others
- International cooperation and exchange of experience – Mercosur, Latin America, Globelics and BRICs
- Associated possibilities for advances and fine-tuning

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Requirements and opportunities to design and implement policy models

- Proper and suitable to the different local conditions
 - **concepts, indicators, and analytical and policy models are not neutral**
- Geared towards inclusive, cohesive and sustained development
- Capable of fostering knowledge intensive production and innovation capabilities
- That integrate the priorities on national, regional, state and local development within a long-term perspective

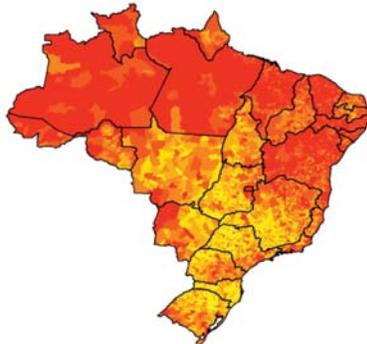
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Refinement of LIPs' policies adopted in Brazil relates mainly to the need to use **contextualized** concepts, indicators and models capable of:

- Recognizing and mobilizing local opportunities and potentialities
- Reaching different regions, activities and actors
- Cutting down imbalances instead of reinforcing them
- Putting in its center the capability to acquire and use all sort of knowledge – formal, informal, traditional, etc.
- Associating economic and social development

Income inequalities

Insufficiency of public services



Brazil's Zero Misery Plan and Map of Opportunities

Challenges and opportunities for adequate and proper policy alternatives for inclusive and sustainable development

There is a wide array of consequences from adopting policies that favor the development production and innovation capacities related to expanding the quality of services involving food, health education, housing (with sanitation and access to water and electricity), solid waste treatment, culture and other essential public services, as prioritized in **Brazil's Zero Misery Plan**

- ✓ access to knowledge as the main focus for the Third Millennium
- ✓ logic compatible with the cooperation and dissemination of knowledge and capacities
- ✓ considerable expansion of the agenda in support of different local production and innovation systems spread across the entire Brazilian territory

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- Crisis and a new production regime
- More involvement for developing countries in the growth of world production
- Renewed interest in development issues and policies
- Policy and financing emphasis in variety, as opposed to the pursuit for homogenization and for large projects with little commitment to social and local development
- Development models focusing on social and environmental sustainability
- Need to mobilize national, regional and local production and innovation systems

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- Creation of the BRICS' Development Bank
- Emphasis to deeper exchanging of experiences, policy priorities, programs and mechanisms
 - seminars
 - short stages
- Joint creation of new forms of mobilizing sustainable development policies and instruments
 - the need to explore and forge the basis for the new world system (Maharajh, forthcoming)
- Identification of main institutions representing the five countries from academia and governments

BNDES vs. Multilateral Banks

US\$ million	BNDES	IDB	IBRD	CAF	China DB	BIDV
	Dec 31, 2010	Dec 31, 2010	Jun 30, 2010*	Dec 31, 2010	Dec 31, 2010	Dec 31, 2010
Total Assets	329,504	87,217	282,842	18,547	774,180	18,566
Shareholders' Equity	39,551	20,960	37,401	5,753	60,953	1,056
Net Income	5,950	330	(870)	166	5,618	150
Loan Disbursements	96,322	10,341	28,854	7,694	86,690	2,451
Total Loans	217,006	63,007	120,103	13,873	682,926	12,707
Capitalization	12.0%	24.0%	13.2%	30.8%	7.9%	5.7%
ROA	2.1%	0.4%	-0.3%	1.6%	0.8%	0.9%
ROE	21.2%	1.6%	-2.3%	3.7%	9.5%	16.9%
Established	1952	1959	1945	1968	1994	1957

IDB = Inter-American Development Bank
 IBRD = The International Bank for Reconstruction and Development (World Bank)
 (*) Unlike other institutions, 12-month fiscal year ends June 30th
 CAF = Corporación Andina de Fomento
 CDB = China Development Bank
 BIDV = Bank for Investment and Development of Vietnam

Capitalization = Shareholders' Equity / Total Assets
 ROA = Return On average Assets
 ROE = Return On average Equity



Thank you very much!

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