Innovation in Brazil, India and South Africa: A New Drive for Economic Growth and Development

INNOVATION IN THE CONTEXT OF INDUSTRIAL POLICIES IN BRAZIL

July 2009

BNDES Brazilian development bank

Rafael Oliva
Advisor to the President

Presentation Agenda

1. Public Policies for Innovation in Brazil
2. The BNDES
3. The BNDES' Support for Innovation: instruments

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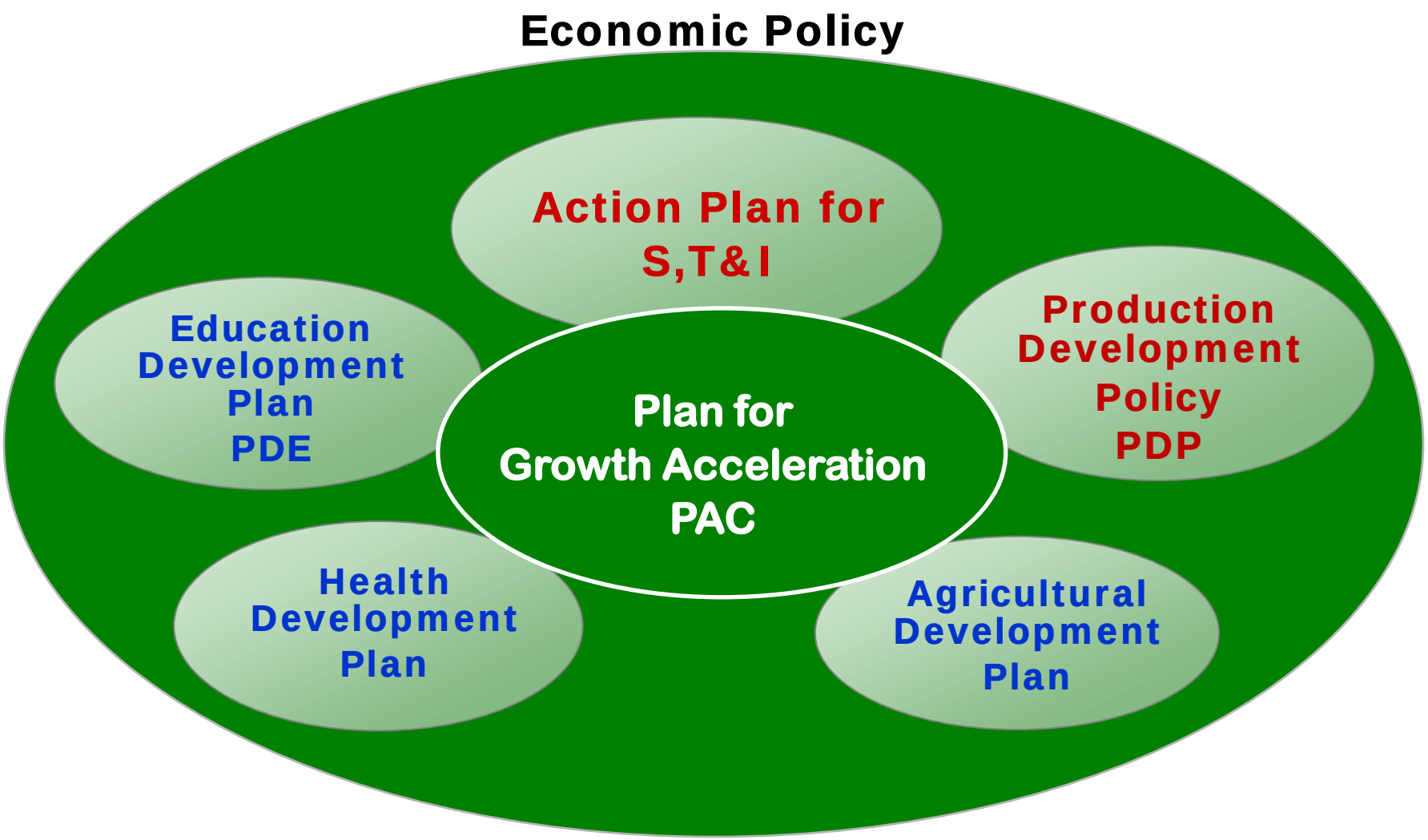
State Policies



The Action Plan for S,T&I (PACTI/MCT)

BNDES

Strategic Priorities

1. **Expansion and Consolidation of National S,T&I System**
   Qualify and train human resources; R&D laboratory infrastructure

2. **S,T&I for Social Development**

3. **R,D&I in Strategic Areas:**
   biotechnology, health, nanotechnology, information and communication technology, space, nuclear energy, defense, renewable energy, biofuels, agriculture, biodiversity etc.

4. **Promotion of Technological Innovation in Enterprises**

Major Goal 2010 → 1.5 % GDP in R,D&I → PRIVATE R&D/GDP 2010 target: 0.65%)

Production Development Policy

BNDES

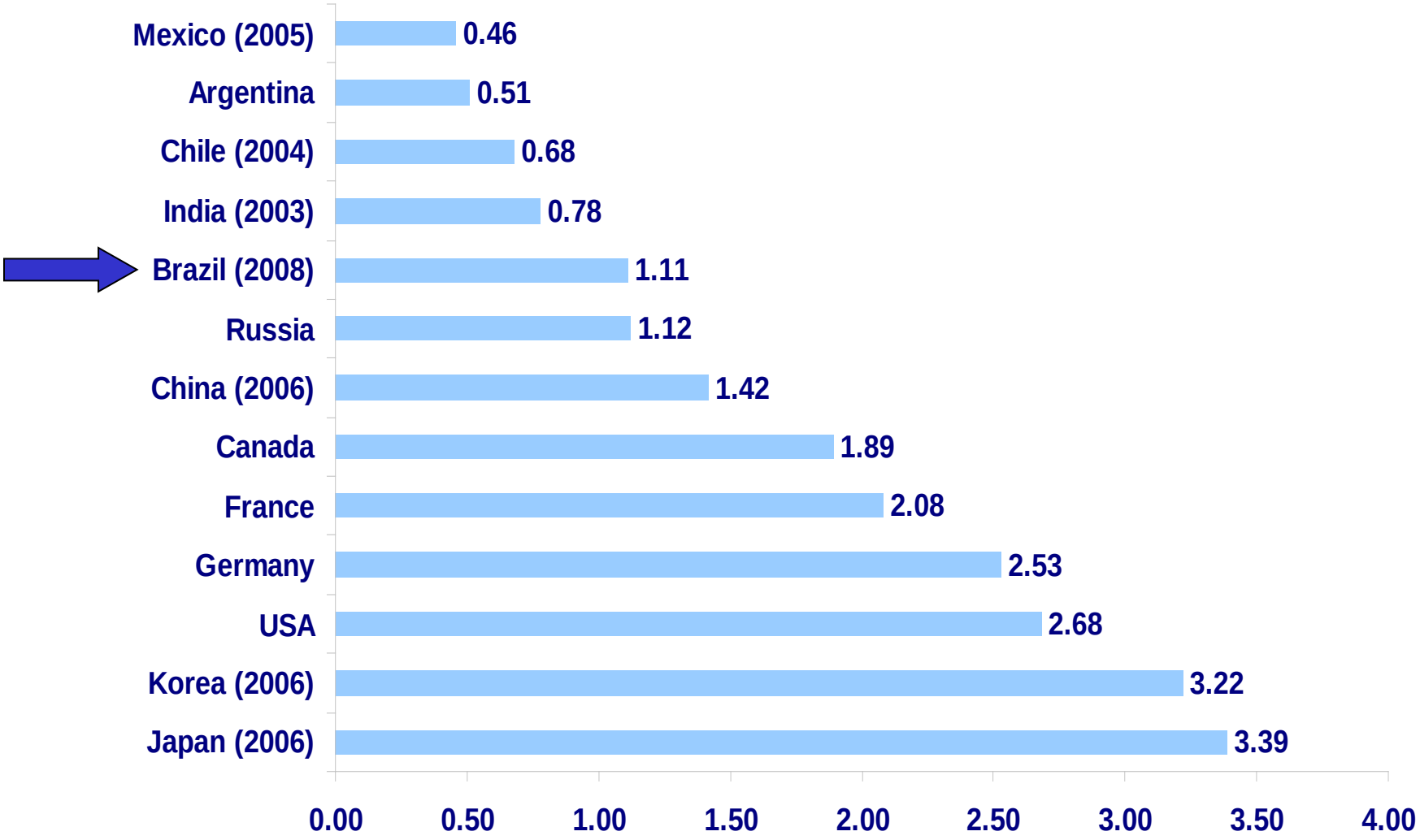
INVESTMENT/GDP
2010 target: 21%
2007: 17.6%
CAGR 2008-2010: 11,3%

Brazilian Exports (% World)
2010 target: 1.25%
2007: 1.18%
CAGR 2008-2010: 9.1%

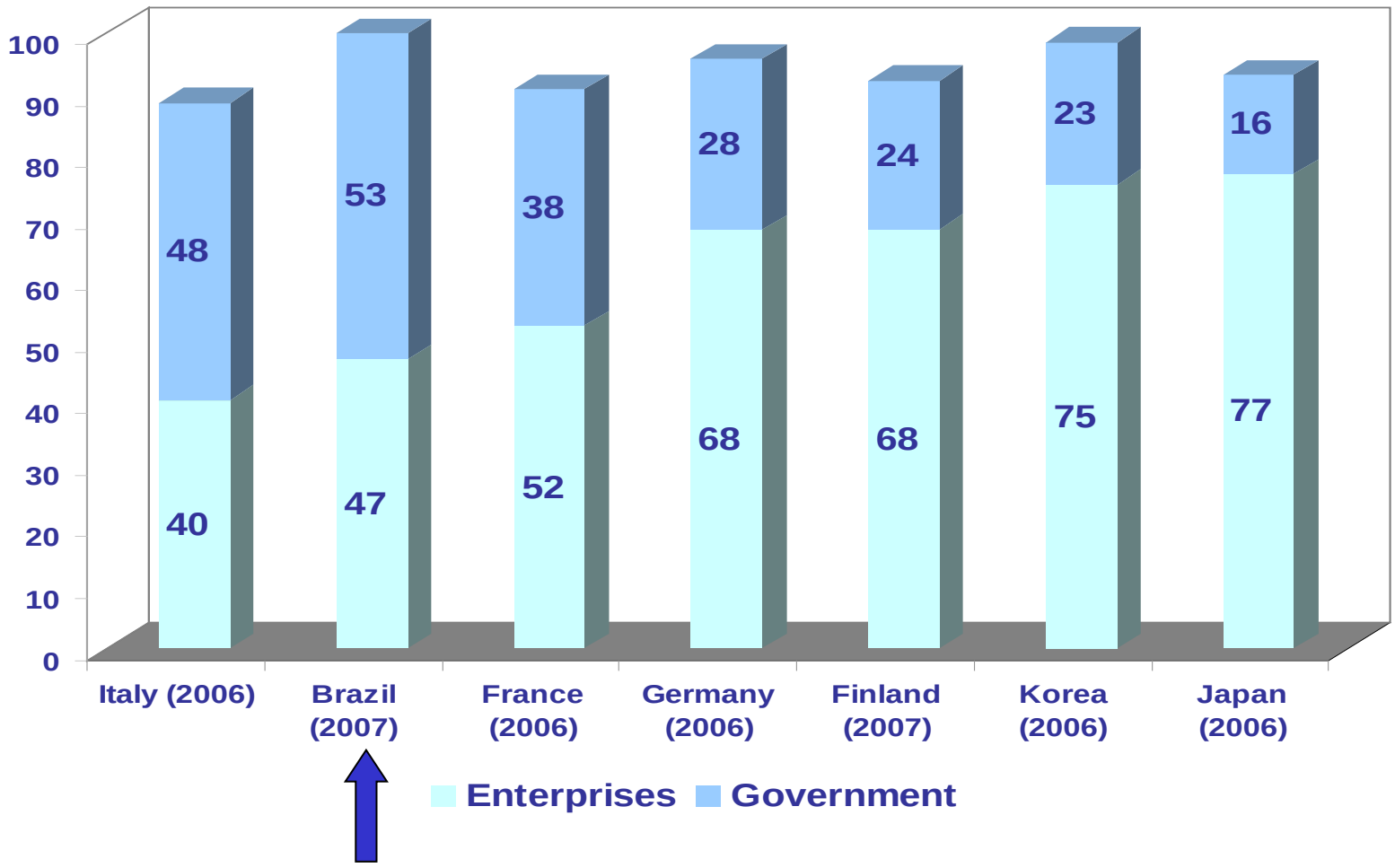
SMEs
2010 target:
Increase the
number of export SME
by 10%

PRIVATE R&D/GDP
2010 target: 0.65%)
2005: 0.51%
CAGR 2007-2010: 9.8%

National Expenditure in R&D (%GDP)

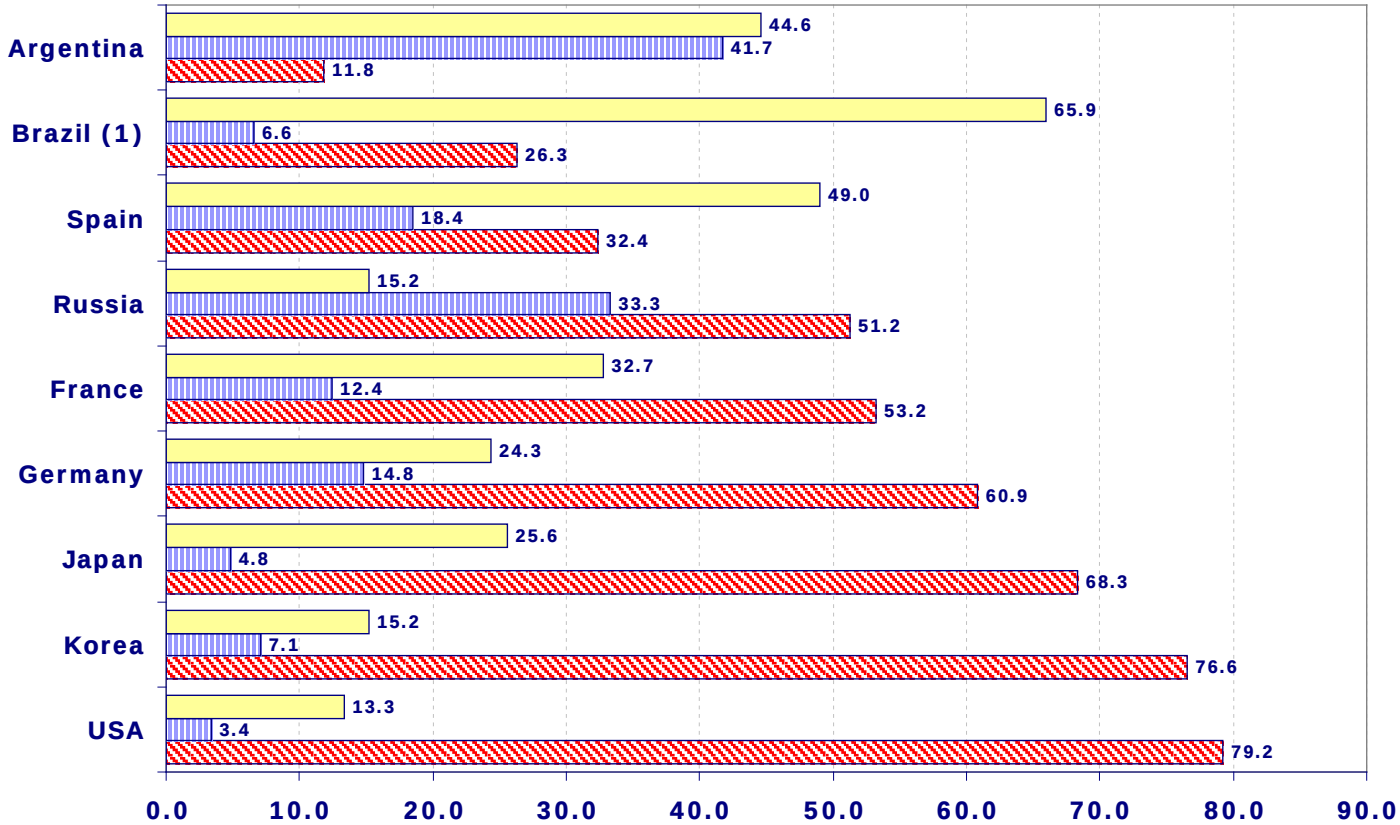


Private and governmental investment in R&D (%) in Brazil



Most Brazilian researchers work at universities...

Percentage of full-time researchers per institutional sector 2005



Challenges

- **Improve the capacity for coordination**

- **Accelerate uptake of technologies with great impact on the whole productive structure**
  - ICTs, capital goods, biotechnology, nanotechnology

- **Mobilize the private sector**

- **Provide resources for investment in volume, costs and terms consistent with the different stages of innovation process**
  - Improve the existing instruments to characteristics of the knowledge society: the intangible capital agenda

Main advances

- S,T&I: a matter of the State
- New regulation for innovation
- Increased federal funds for S,T&I
- Improvement and expansion of existing S,T&I programs and creation of new ones

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Priorities

BNDES

1950

Infrastructure (Energy and Transport)
Steel Work

1960

Heavy Industry – Consumer Goods -
PYMES

1970

Substitution of Imports
Basic Inputs – Capital Goods

1980

Energy
Agribusiness
Competitive Integration

1990

Private Infrastructure and Exports
Privatization: Management of PND
Social and Urban Development

Today

Innovation - Infrastructure – Production Capacity
Exports – Social Inclusion

The BNDES and Multilateral Agencies

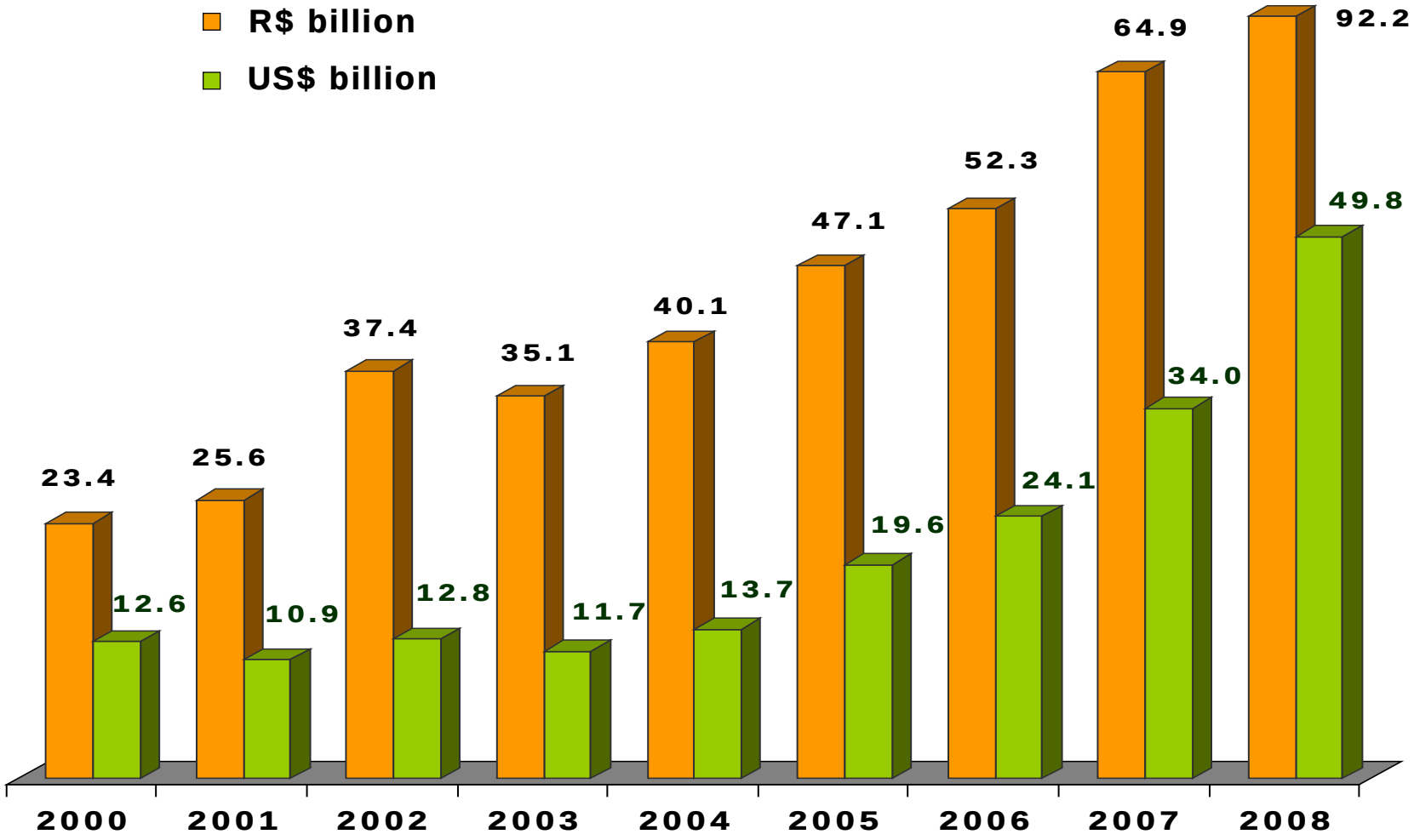
Development Banks

Bank	Assets US$ billion	Net Equity US$ billion	Disbursements US$ billion
World Bank	233.6	41.5	10.5
BNDES	**118.6**	**10.8**	**49.8**
IDB	72.5	19.4	7.1
CAF	14.3	4.6	5.8

Source: BNDES (Dec./08), World Bank (Jun/08),
IDB and CAF (Dec./08).

(*) In the World Bank, different to the others, the 12-month fiscal year ends on June 30.

Evolution of Disbursements



Default 2008: 0.15 (%)

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The BNDES' Innovation Policy

BNDES

Goal: to contribute to the increase of innovative activities in Brazil on a systematic basis

Directives

1. **Efforts in all economic sectors**
2. **Complementary to other institutions within the National Innovation System**
3. **By means of integration between financing and capitalization instruments**

Target: R$ 6 billion in disbursements between 2008-2010

The BNDES' Innovation Policy

LINES

- **INNOVATIVE CAPITAL** — FOCUS ON STRATEGY
- **INNOVATION TECHNOLOGY** — FOCUS ON PROJECTS

NONREIMBURSABLE RESOURCES

FUNTEC Technology Fund → Projects in Research, Development and Innovation

BNDES CARD

For micro, small and medium-sized companies

Certification, conformity assessment, technology services, IP, software, etc

EQUITY

Direct Participation

Funds

Criatec Program (*Seed Money*)

Looking Ahead: Intangible Capitals Agenda

BNDES

IC AGENDA AT THE BNDES: 3 STEPS

IC Rating

- Better assessment and **avoid poor allocation of resources**
- **Develop gauges** and *scorecards* to evaluate credit

IC Report

- Stimulate companies to **construct / improve** Intangible Capital
- Stimulate companies to **report** Intangible Capital

Awareness

- Include topic in business agendas and public policy

Test with 40 companies → **Gauges in final validation phase**

Final Remarks

- **PROMOTING INNOVATION IS A PRIORITY OF PUBLIC POLICIES IN BRAZIL**
- **DIFFERENT GOVERNMENT AGENCIES HAVE BEEN ENGAGED IN THE EFFORT TO BUILD**
- **BNDES HAS WORKED TO PROVIDE A WIDE RANGE OF FINANCIAL INSTRUMENTS**
  - **Financing and capitalization**
  - **Support for companies of all sizes and of all sectors**
- **THE NEXT STEPS**
  - **Financing side: the intangible capitals agenda**
  - **ACCELERATE THE CONSOLIDATION OF THE CULTURE OF INNOVATION**

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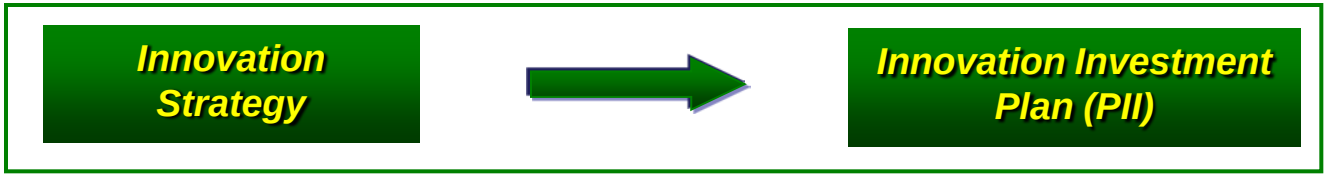
Lines, FUNTEC and Card

Innovative Capital

BNDES

Company



- **Goal: support for innovative efforts aligned with strategies and foreseen in the companies' Innovation Investment Plans**
- Eligible Items: physical infrastructure + tangible and intangible assets
- Financing and/or capitalization
- Minimum Amount : **R$ 1 million**
- **Cost: 4.5% a.a. (valid until Dec./2009)**
- Participation: up to 100%
- Term of Loan: **up to 12 years**

Technological Innovation

BNDES

Project

Technological Risk	Market Opportunity	Originality for National Market

- **Goal:** support research, development and innovation projects with **technological risk and market opportunity**: products and/or new processes (for the national market) or those that are significantly improved
- Financing and/or capitalization
- Minimum Amount**: R$ 1 million**
- **Cost: 3.5% a.a (valid until Dec./2009)**
- Participation: up to 100%
- Term of Loan: **up to 14 years**

FUNTEC

- ✓ **Direct Investment and in lost funds**
- ✓ Scientific and technological projects
- ✓ Of strategic interest to Brazil

- ✓ **Beneficiaries :**
  - Technological institutes and support institutes
  - **Conditions: company intervention**

- ✓ The BNDES' Level of Participation: up to 90%
- ✓ Projects are assessed by CCTEC

BNDES Card Innovation

Eligible Items:

- ✓ Technological extension
- ✓ Technicians specialized in energy efficiency and environmental impact
- ✓ Prototype Development
- ✓ Design, Ergonomics and Model of the Product
- ✓ Quality assessment and implementation of the product and software process
- ✓ Develop packaging
- ✓ Acquisition and transfer of technology (registered contracts at the INPI)
- ✓ Feasibility assessment and request registration of intellectual property

Conditions:

- ✓ Beneficiaries: micro, small and medium-sized companies
- ✓ Limit: up to R$ 500,00, per bank (BB, CEF, Bradesco)
- ✓ Fixed repayments in up to 48 months
- ✓ Interest rate: 1.00 % a.m.

Capitals Market

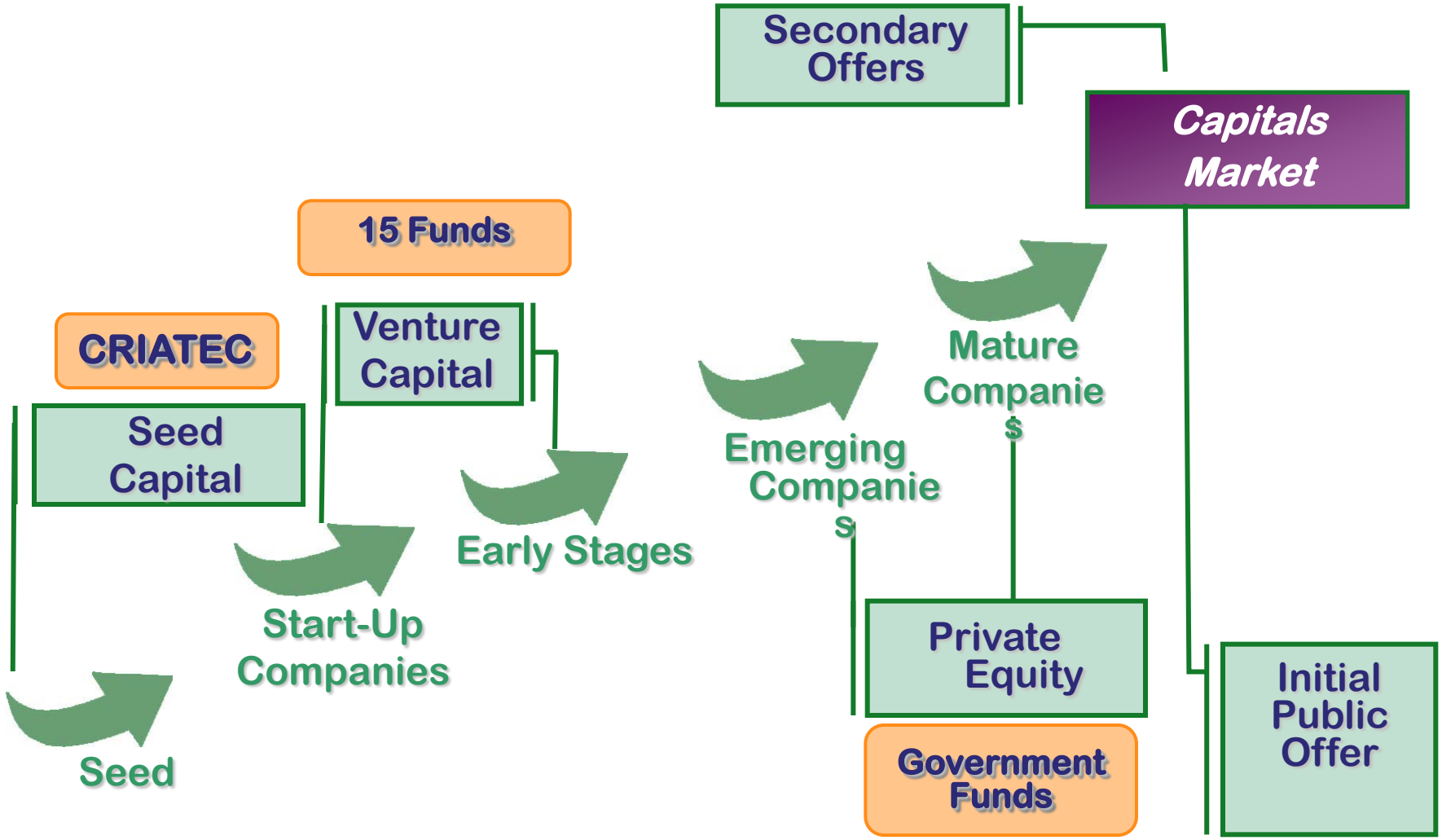
Direct Participation: Innovative PYMES

R$ million

	2005	*2006*	*2007*	*2008*
Investments (ctd)	**6**	**8**	**16**	**17**
Amount	**66.8**	**98.1**	**367.3**	**377.2**
Average Amount	**11.1**	**12.3**	**23.0**	**22.1**

Since 1988, when support for the PYMES began via risk capital, the BNDES offered support to 99 companies, with direct disbursements of R$ 1.3 billion.

Companies' life cycles and support instruments

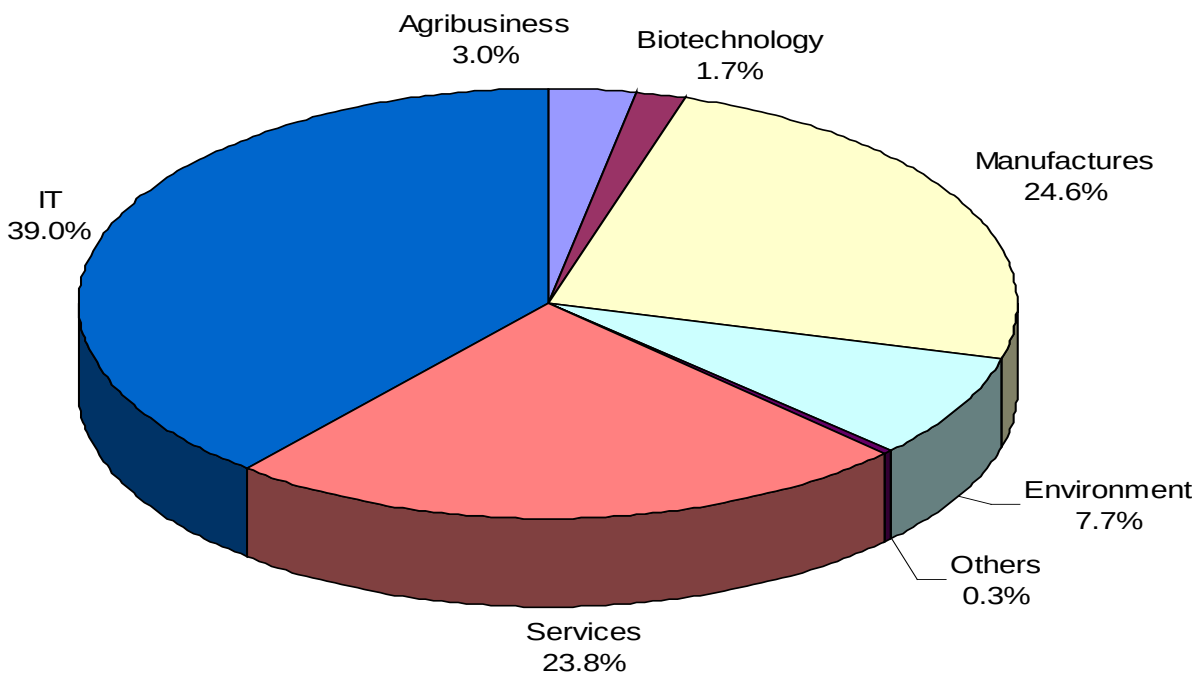


BNDESPAR – Participation in Funds

BNDESPAR participated in structuring 42 investment funds, totaling R$ 1.4 billion and supporting 149 companies (105 VC and 44 PE) - March/2009

VC Fund: R$ 548 million invested

Sectorial distribution per approved amount



CRIATEC

BNDES

Goals: to capitalize innovative micro and small companies with seed capital and offer them adequate management support

- **Investment period begins: January 2008**
- **Companies receiving investment: 18**
  - **Biotechnology, Agribusiness, IT and Medical equipment**
- **Allocated equity: R$ 100 million**
- **Participation: BNDESPAR (80%) and BNB (20%)**