

# ***IMF Conference on Economic Development, Diversification and the Role of the State***

**Kuwait City, Kuwait  
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*The views and opinions expressed herein do not necessarily state or  
reflect those of the BNDES and of the Brazilian government*

***Precedents of structural change and  
diversification in the  
Brazilian development history***

**BNDES** foundation and its agenda **has historically considered development** as:

A process of **structural change** ...

... in which **the economy moves and diversify** itself ....

... from less **to more dynamic** activities ...

... **strengthening linkages** within and out of value chains ...

it creates new **domestic competences both at the country (ie. Institutional) and at the firm levels (ie. innovation) ...**

**It has to be inclusive and environmentally sustainable**

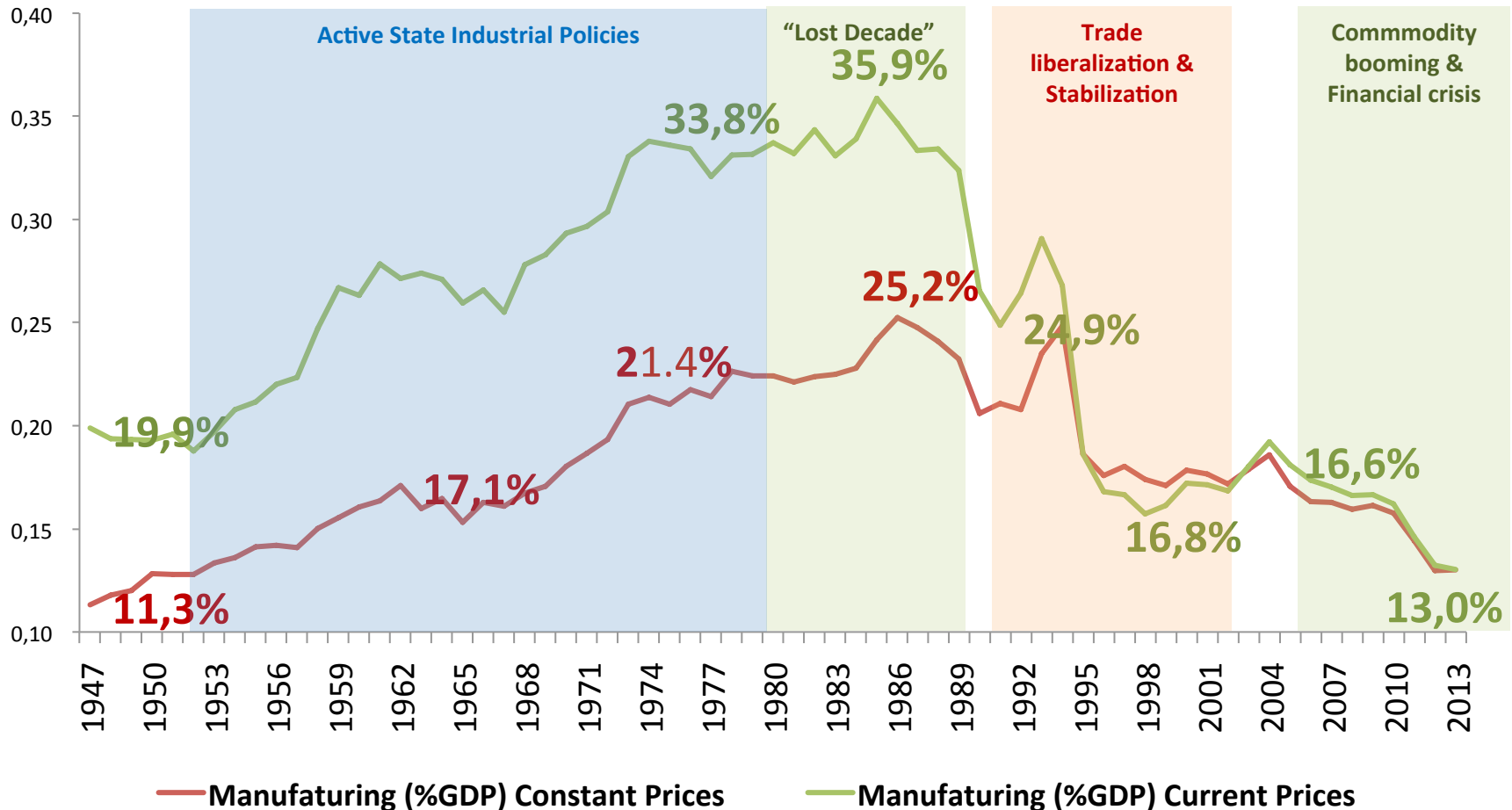
- Brazil is a prominent case of structural change and diversification
- This process occurred within a specific “framework”:
  - **macroeconomic policies**: consistent and in favor of the industrial strategy and diversification
  - **high level of coordination**: intensified during the military regime;
  - **intense use of classic instruments**: tariff protection, financial support via BNDES, and fiscal incentives to sectors prioritized in NDP; import substitution
  - **State-owned companies at the forefront**: created or used as a way to solve the coordination issues of the catching up process

## ***The Brazilian industrial policy, until the 1970s:***

- (+) Transformed a primary into a diversified industrial economy*
- (+) High growth cum productivity*
- (+) Sowed the seeds of a National S&T System*
- (+) Structured new sectors (e.g., Petrochemicals);*
- (+/-) Not so good in spurring innovation and technology: (+) aircraft industry, (-) computer industry*
- (-) Bad in regulating existing sectors (e.g., Textile, Automobile)*
- (-) Extensive, long and non-selective use of trade protection*
- (-) Insufficient promotion of exports*
- (-) Insufficient education-oriented policies.*

# Structural Change from 1950s to late 1970s; and after?

## Manufacturing as % of GDP



***The new industrial policy and  
its context***

# The return of the industrial policy in Brazil

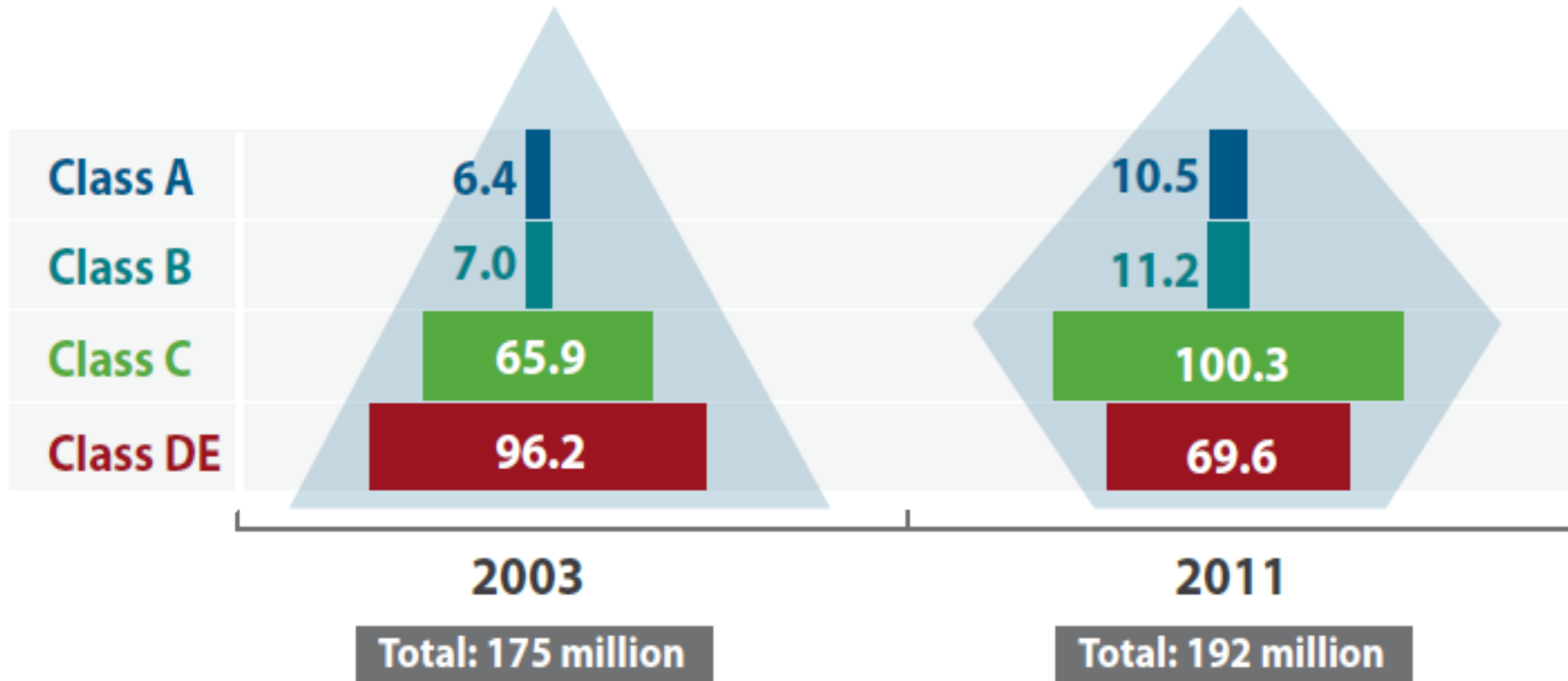
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- Industrial Policy has come back after a long period of discredit and macro adjustments (lost decade, focus on reforms – stabilization, privatization, concessions, fiscal responsibility)
- PITCE (2004-2007): Industrial, Technology and Trade Policy
  - At launch: trade balance constraints
  - Aim: **Spur technology-based innovation, reduce trade deficit**
  - Sectorial dimension: software, semiconductors, pharmaceuticals, capital goods
- PDP (2008-2010): Productive Development Policy
  - At launch: commodities boom, income redistribution/strong domestic market
  - Aim: **Innovate and invest to sustain growth**
  - Sectorial dimension: Strategic areas, Strengthen Competitiveness, International leadership
- PBM (2011-2014): *Brasil Maior* Plan
  - At launch: international environment: slow growth and loose monetary policies
  - Aim: **Innovate to compete and to add value**
  - Sectorial dimension: innovation disseminators, scale-Intensive, labor-intensive, Agribusiness system, services

# Market dynamism after economic inclusion and social demand

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## Population by income class strata (% of people)\*

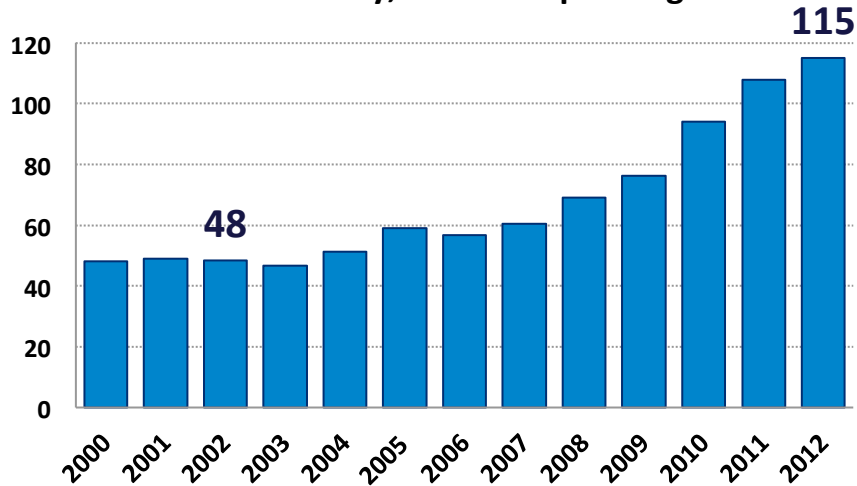


\* Source: IPEA, based on PNAD/IBGE data. Prepared by Ministry of Finance

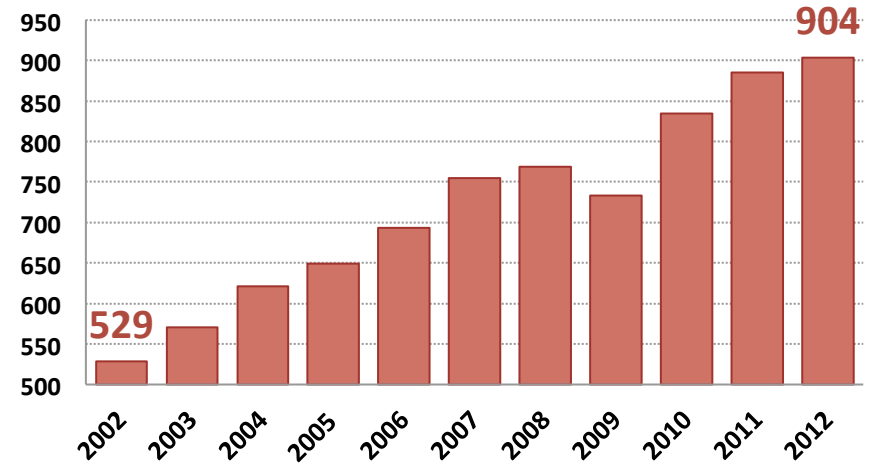


# Growing demand for better logistics

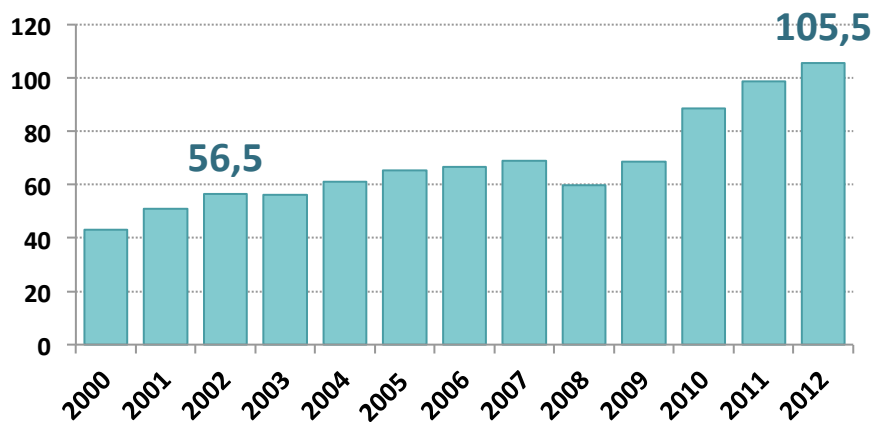
**Airline industry, in million passengers**



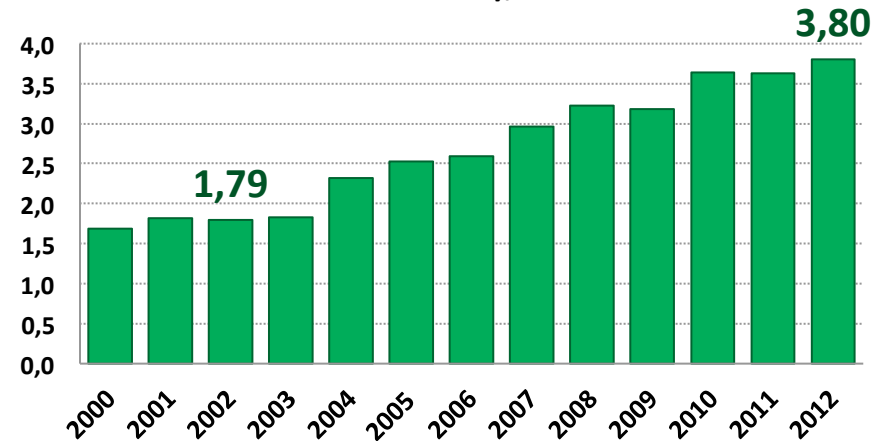
**Total cargo holding in ports, in million tons**



**Thousand vehicles per km on highways under concession**



**New vehicles (buses, trucks, light commercial vehicles and cars), in million**



## Investment Outlook for Brazil (2014-17)

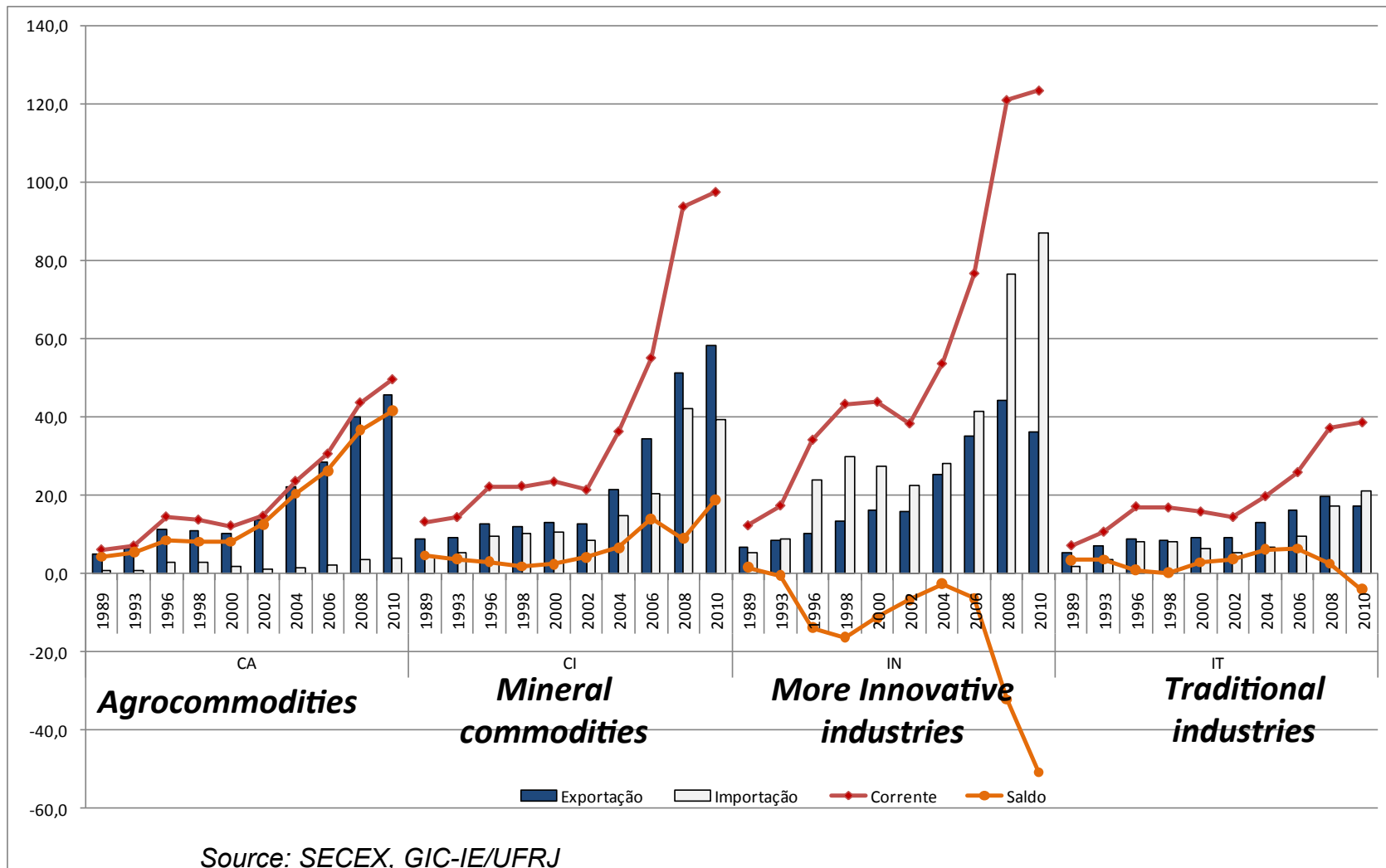
(U\$ billion - Constant prices)

Sectors	2009-2012	2014-2017	$\Delta\%$
Industry	421,4	523,9	24,3
Infrastructure	194,4	242,7	24,8
Housing	338,6	413,1	22,0
Agriculture & Services	547,6	716,7	30,9
Total	1.502,0	1.896,3	26,3

(\*) Note: The BNDES research on the investment outlook for 2014-2017 covers 66% of the total industrial investments, and 100% of investments in infrastructure, totalizing about 58% of the investments in the economy (excluding residential construction). Agriculture and Services investments are based on queries to Sectorial entities and/or econometric forecast.

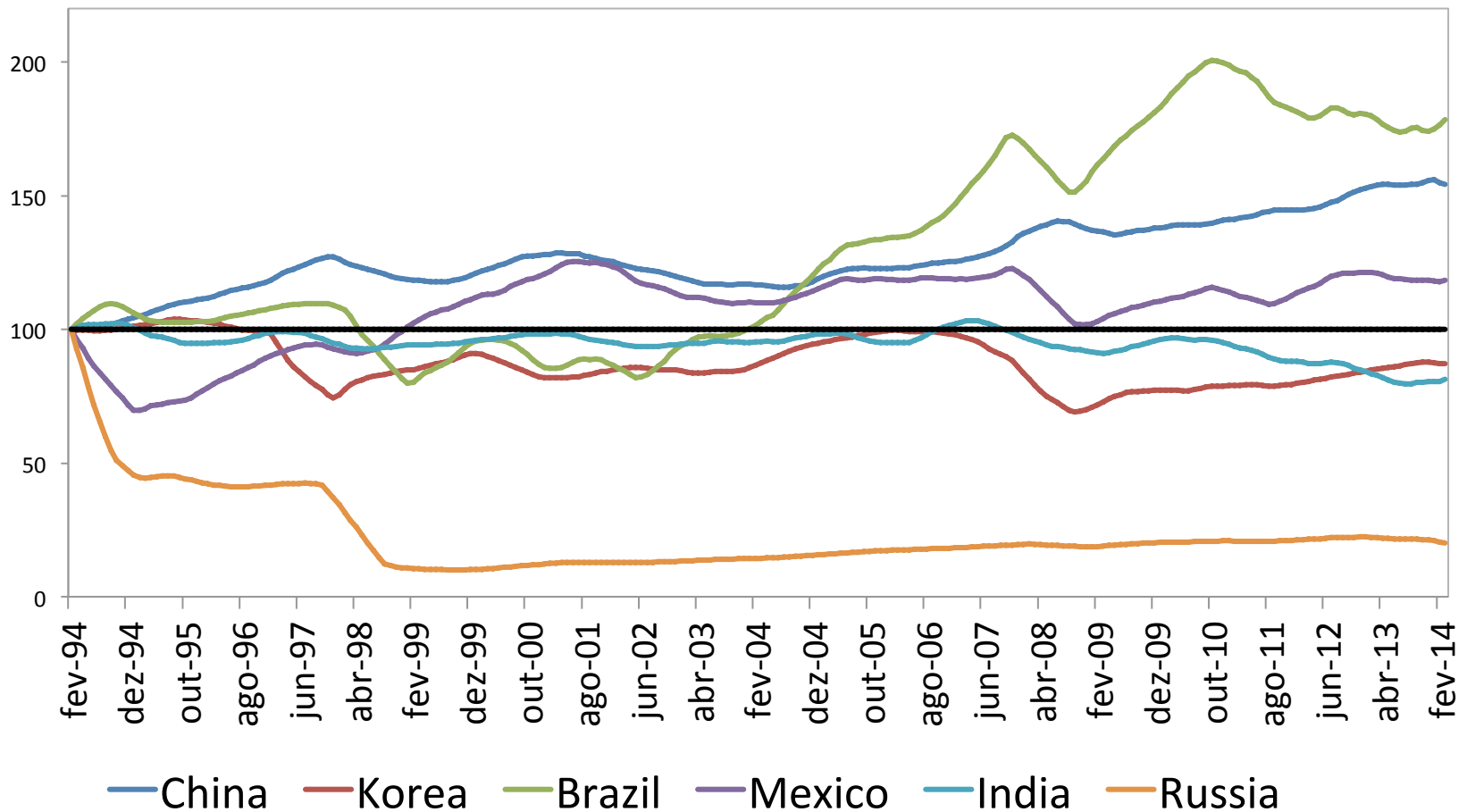
# Structural pattern of the Brazilian trade

US\$ billion

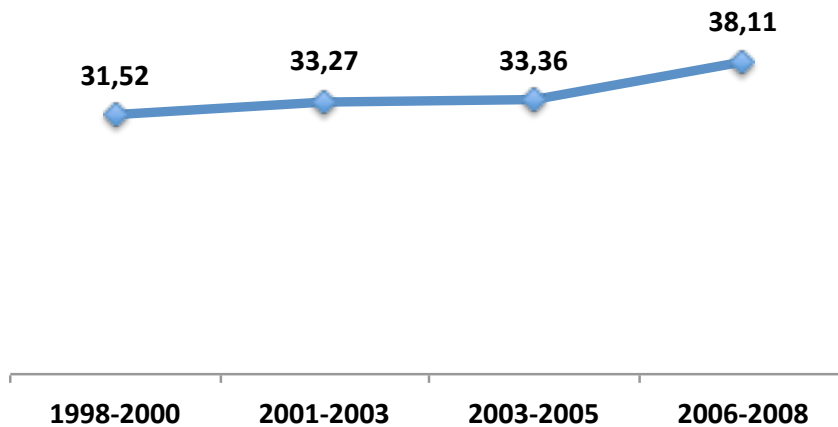


# Appreciation of the exchange rate

**Real Effective Exchange Rate**  
(average 1994 = 100)



## Innovation rate (% of Companies)



## Expenditures on Innovation Activities in Manufacturing Sector

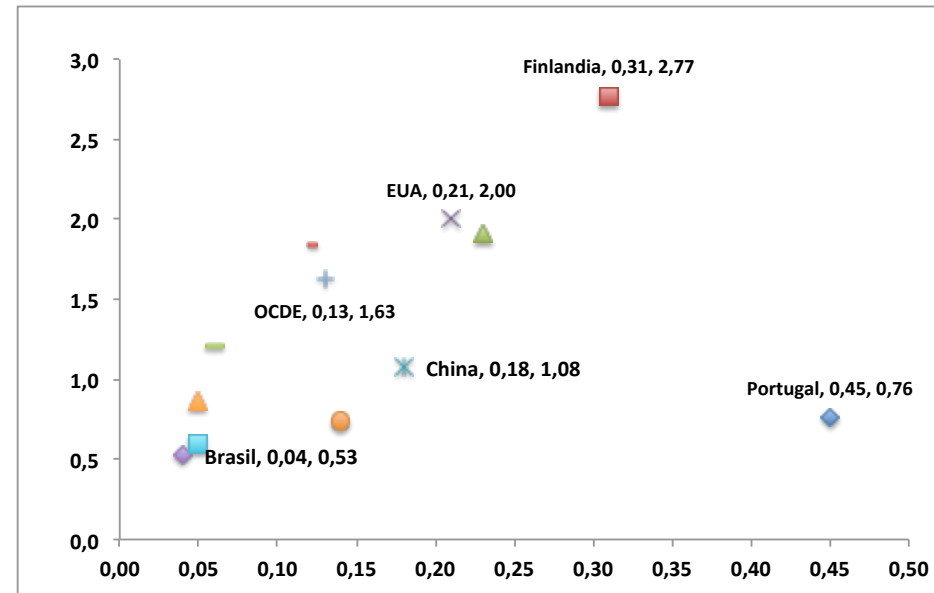
Item	% of innovation expenditures
Machinery & Equipment	49,2
Internal R&D	24,5
Industrial Projects	9,1
Introducing Innovation in the Market	5,7
External R&D	4,0
Other External know-how	2,7
Software	2,6
Training	2,1
Total	100,0

Source: based on data from IBGE, PINTEC (2008)

# A laggard innovator in the international arena?

## Private R&D as % of GDP

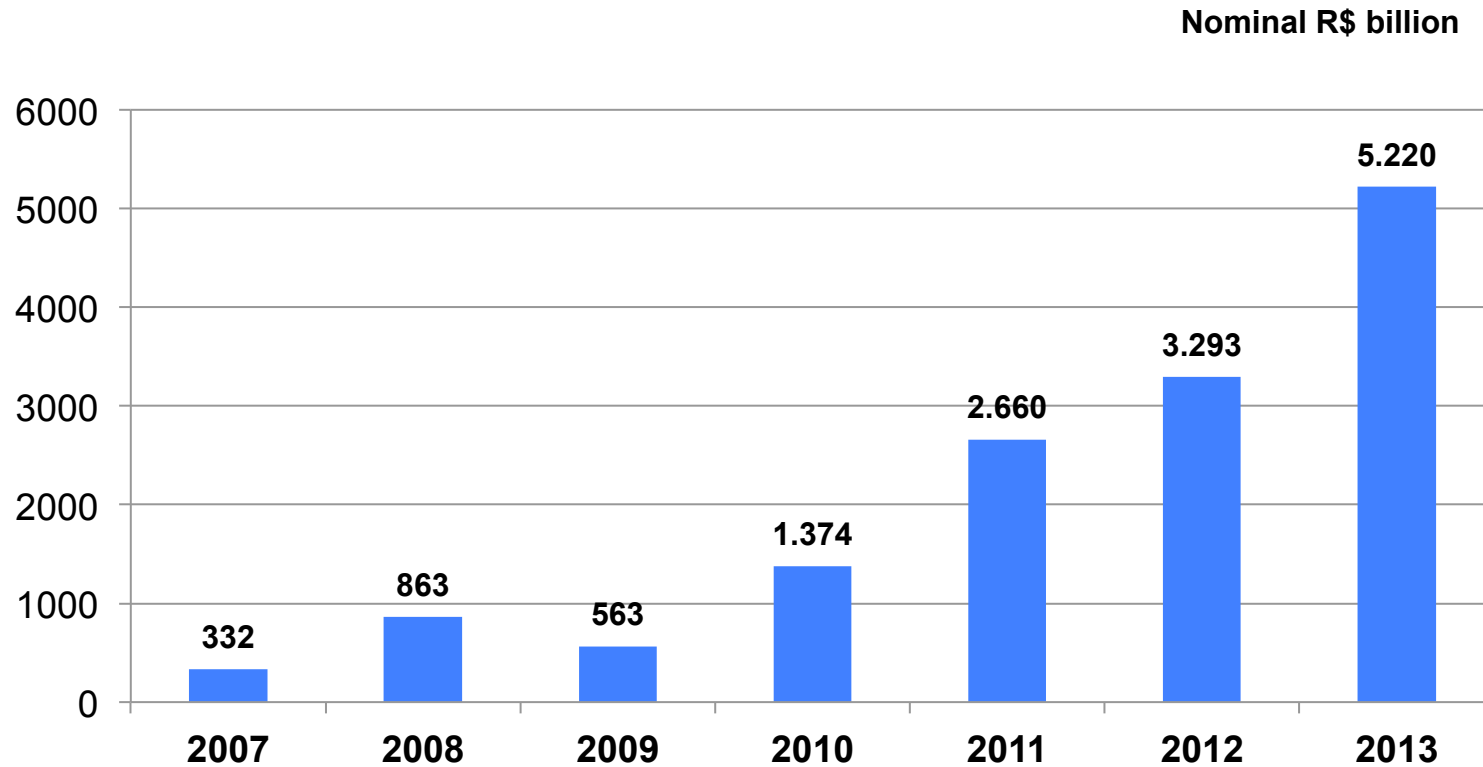
Country	(%) 2008	Variation (pp) 2005-2008
Portugal	0,76	0,45
Finland	2,77	0,31
Denmark	1,91	0,23
USA	2,00	0,21
China	1,08	0,18
Spain	0,74	0,14
OECD	1,63	0,13
Germany	1,84	0,12
EU	1,21	0,06
<b>Brazil</b>	<b>0,53</b>	<b>0,04</b>
Italy	0,60	0,05
Norway	0,87	0,05
France	1,27	-0,03
Holland	0,89	-0,12



Source: Cavalcanti & De Negri (2011), IPEA TD 1659.

***The BNDES in action:  
three tales of the new industrial policy –  
innovation at the core***

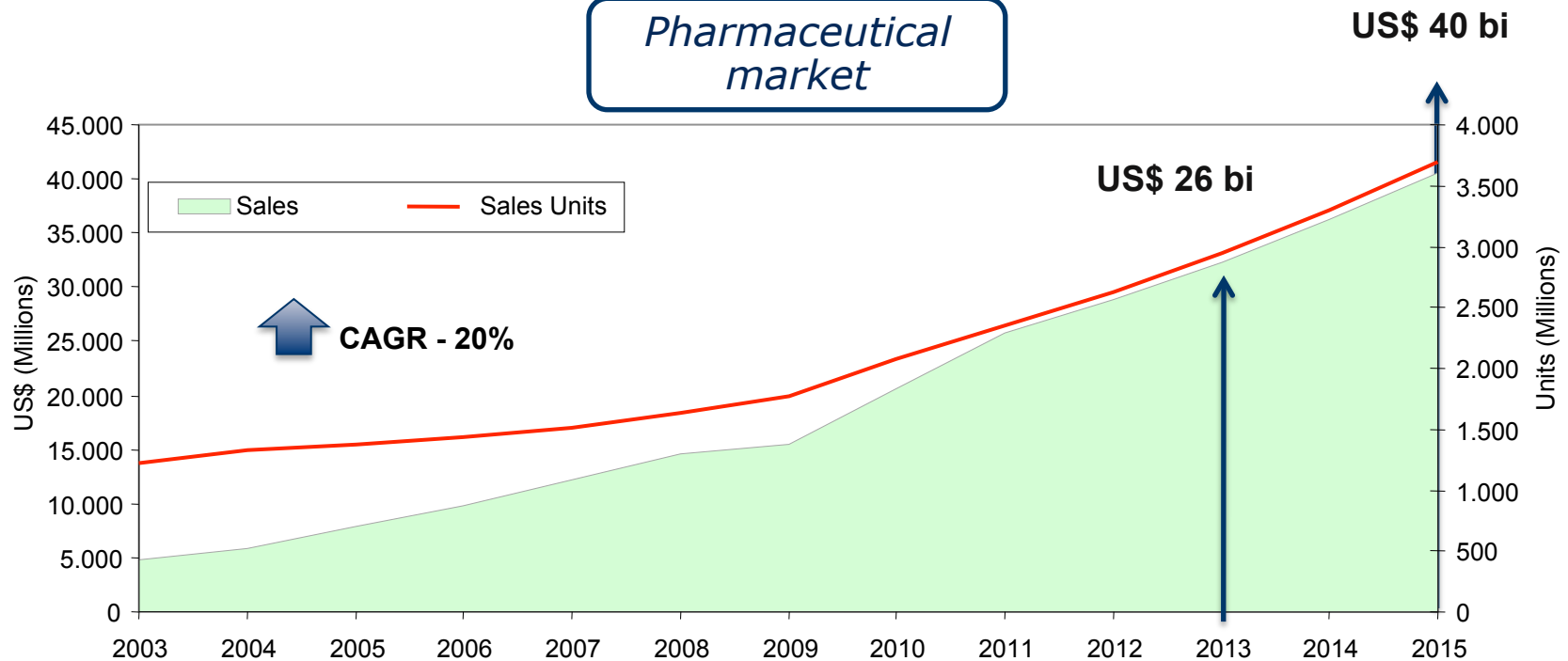
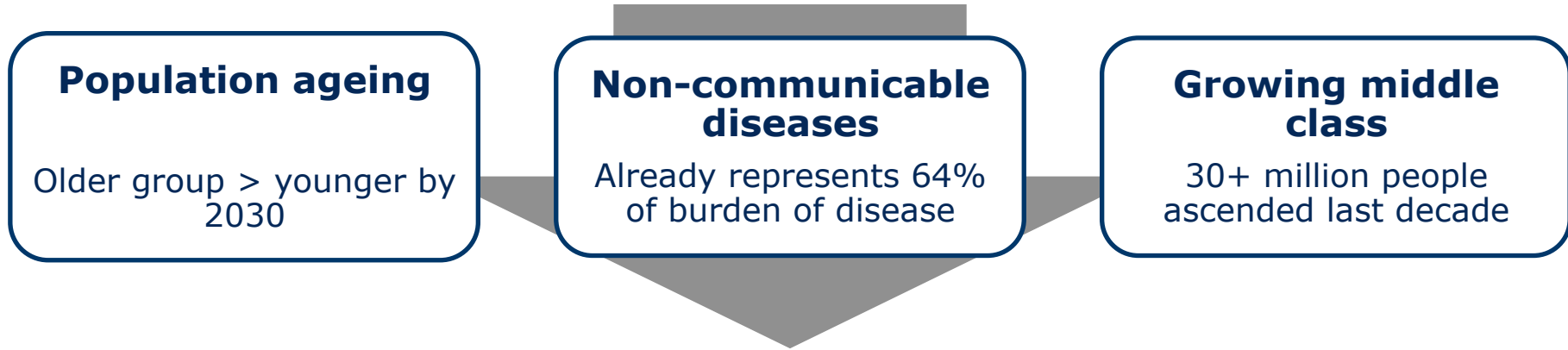
# BNDES's disbursements to innovation



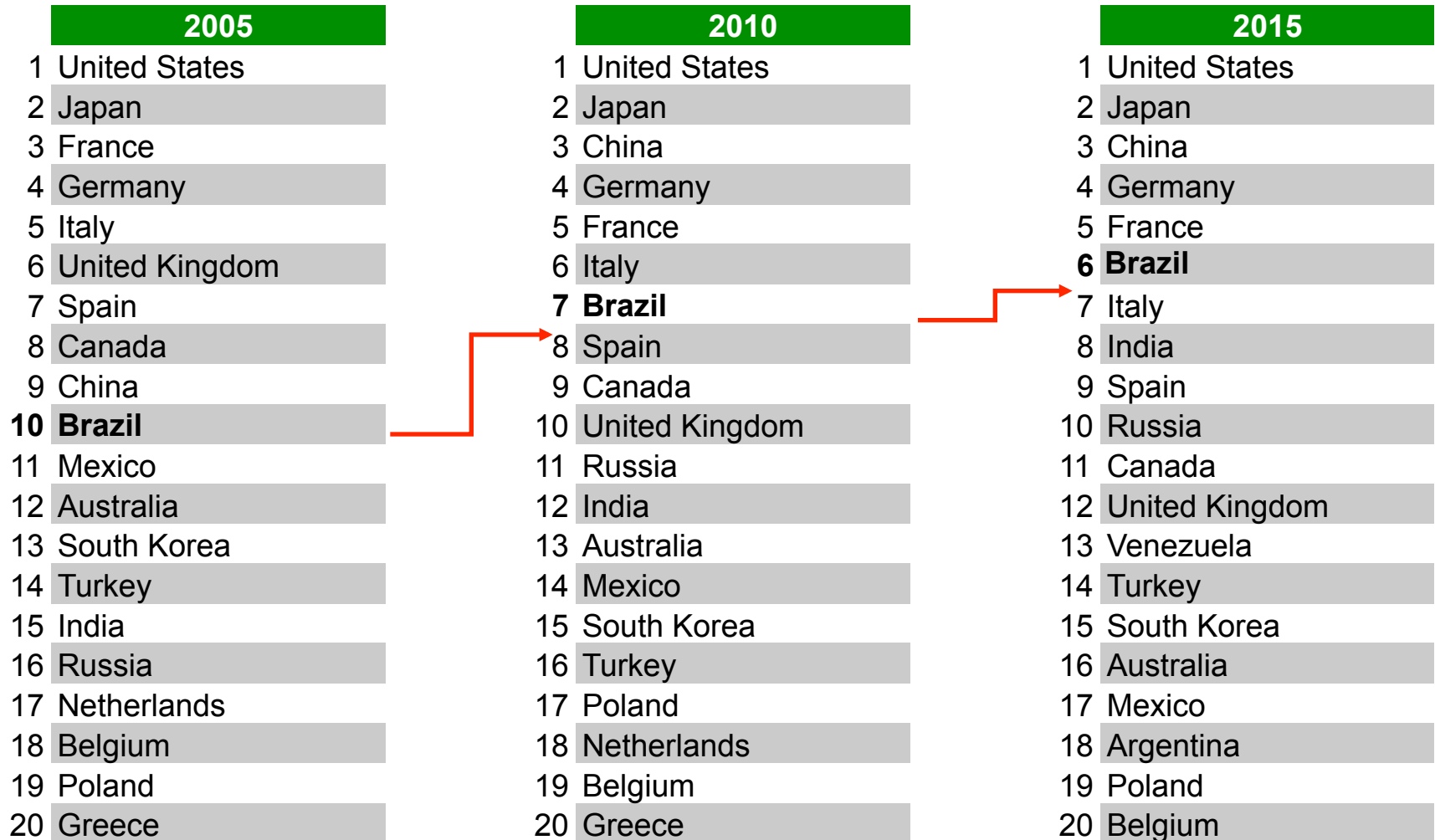
Source: BNDES; including disbursements through BNDES card (innovation services) and FINEP



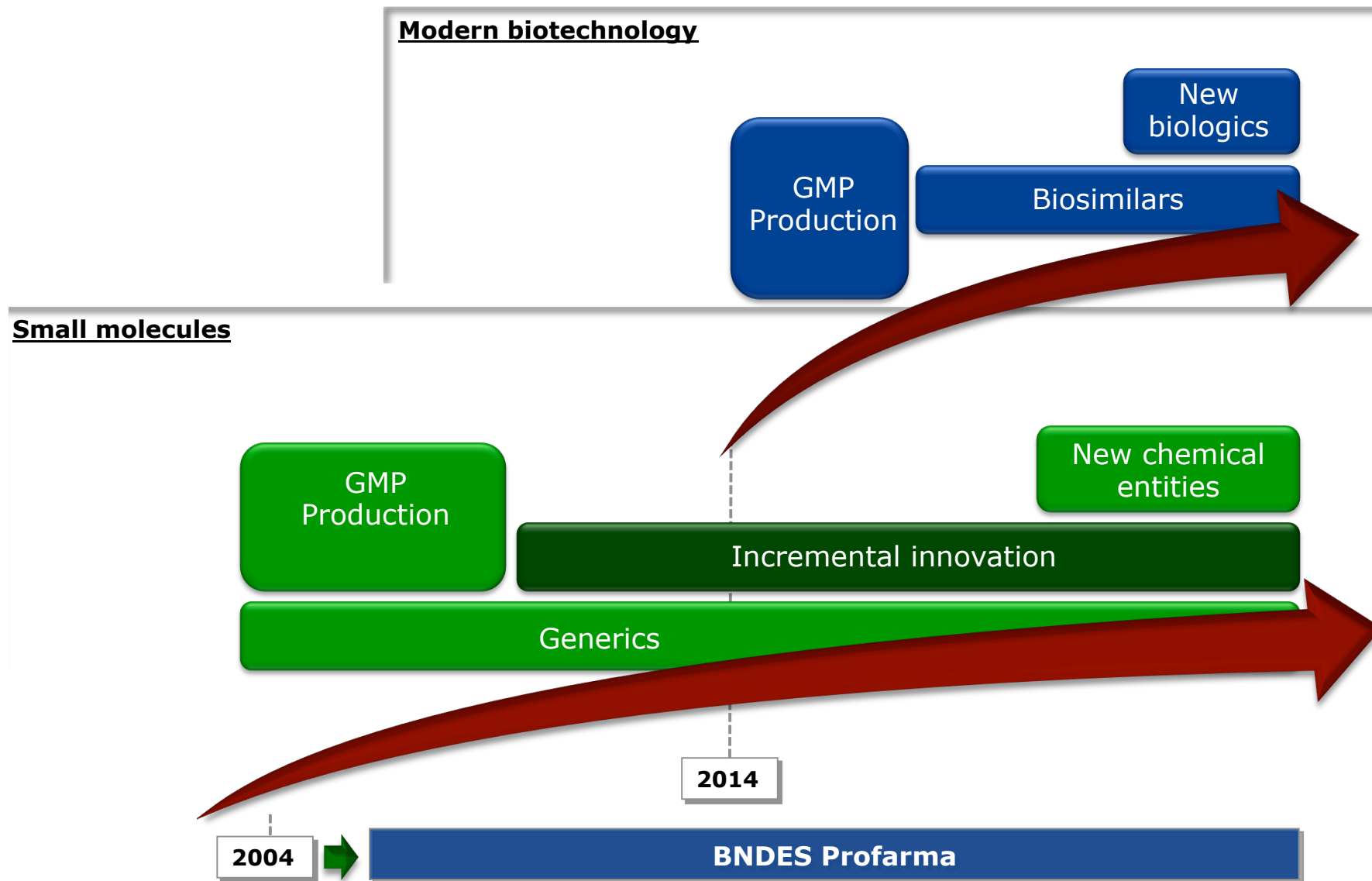
# (1) Pharma: health demand push, demographics and epidemiology



# (1) Pharma: a worldwide growing market



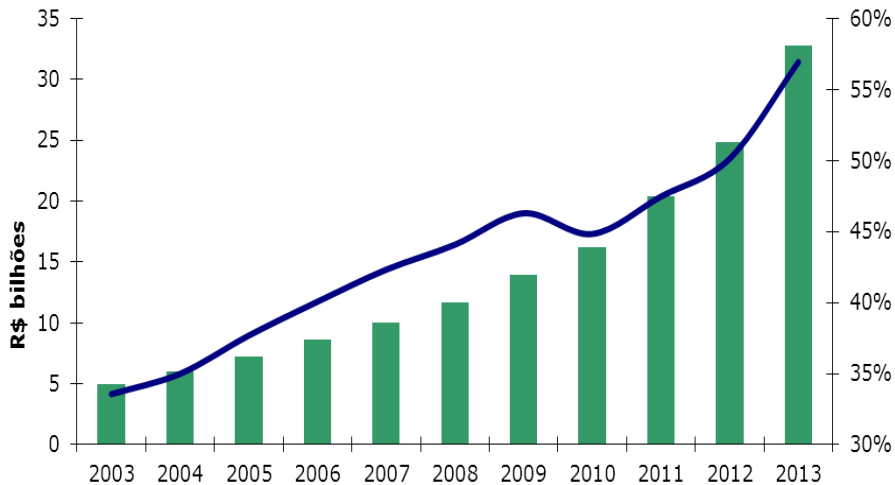
# (1) Pharma: targeted industry's path



# (1) Pharma: BNDES effectiveness – a first evaluation

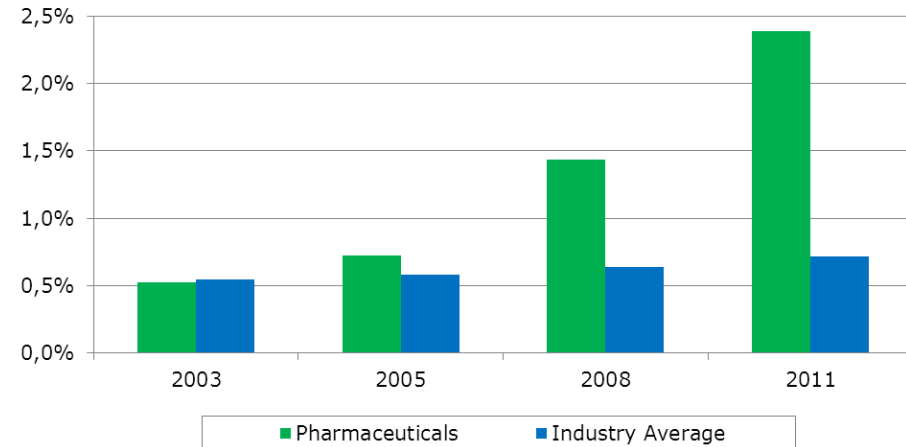
Indicador	Pharma Production capacity	GMP industrial facilities	R&D dedicated employees
<b>Results</b>	Growth ➤ Industry average: 50% ➤ Supported companies: 116%	Supported companies ➤ 13 (2004) ➤ 28 (2010)	Growth ➤ Industry average: 93% ➤ Supported companies: 250%

Local companies market share on Brazilian market

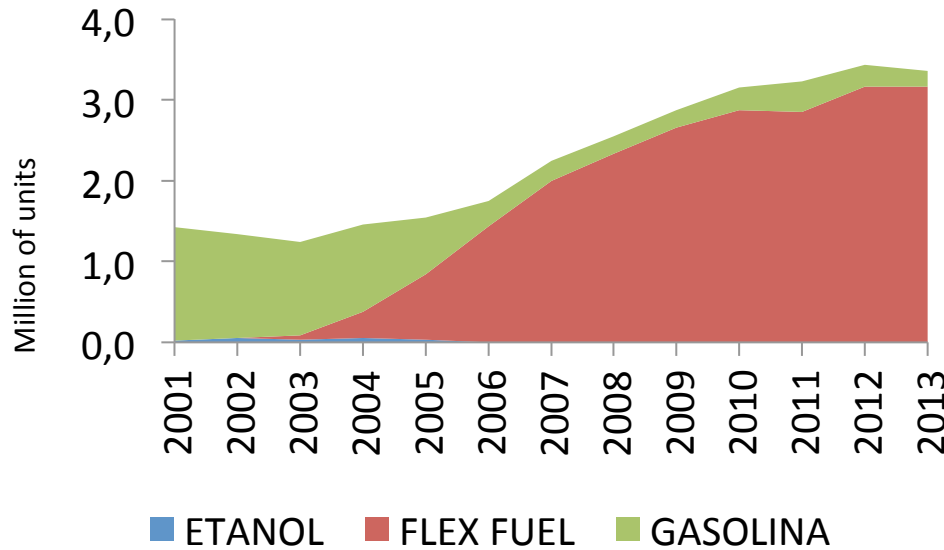


Pharma Industry is now the most R&D intensive industry of the country

R&D / Sales (Pintec/IBGE)



## (2) Sugarcane biotech: the demand push from the ethanol market

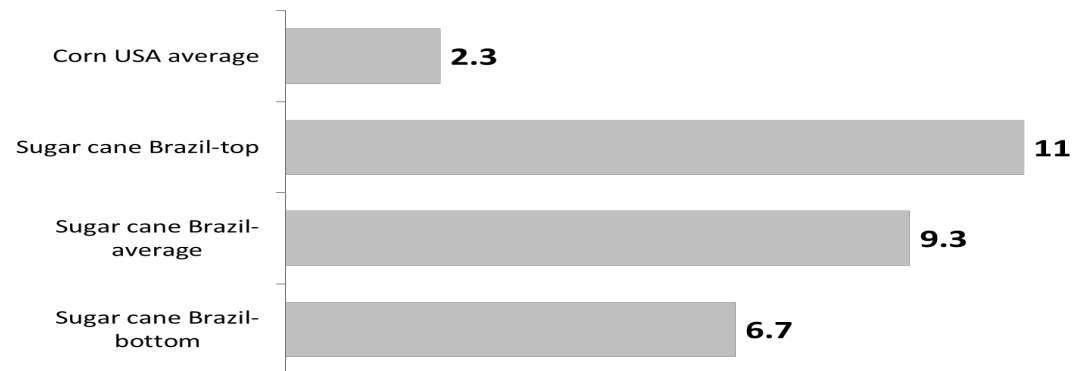


- More than 60% of Brazilian car fleet can be running on ethanol/gasoline.
- Ready availability and low cost of feedstocks, mainly sugarcane bagasse and straw.
- Land availability and a traditional agroindustrial asset base.

Source: Anfavea

- Sugarcane Biomass provides all primary energy required for processing and add more to the grid.
- Presence of economies of scope into bio-chemicals.

Energy efficiency - BOE output/ BOE input



Source: USDA apud Villela Filho (2011)

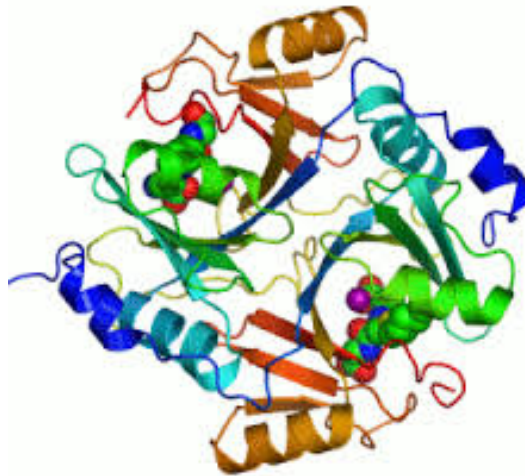
BOE = barrel of oil equivalent

## (2) Sugarcane biotech: the challenge

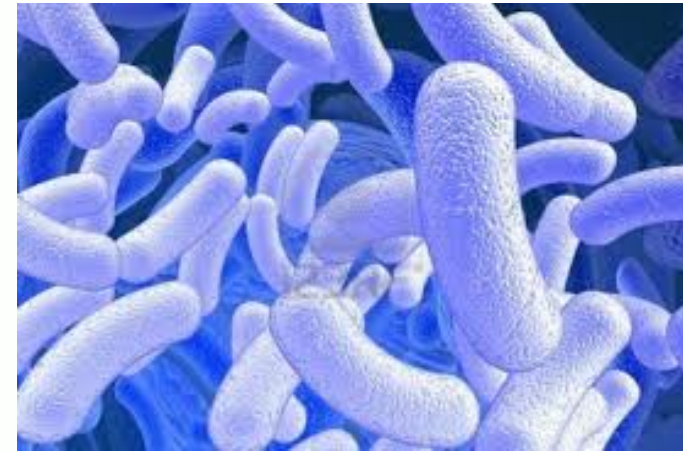
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*High-yield and non-food energy crops*



*Low cost enzymes*

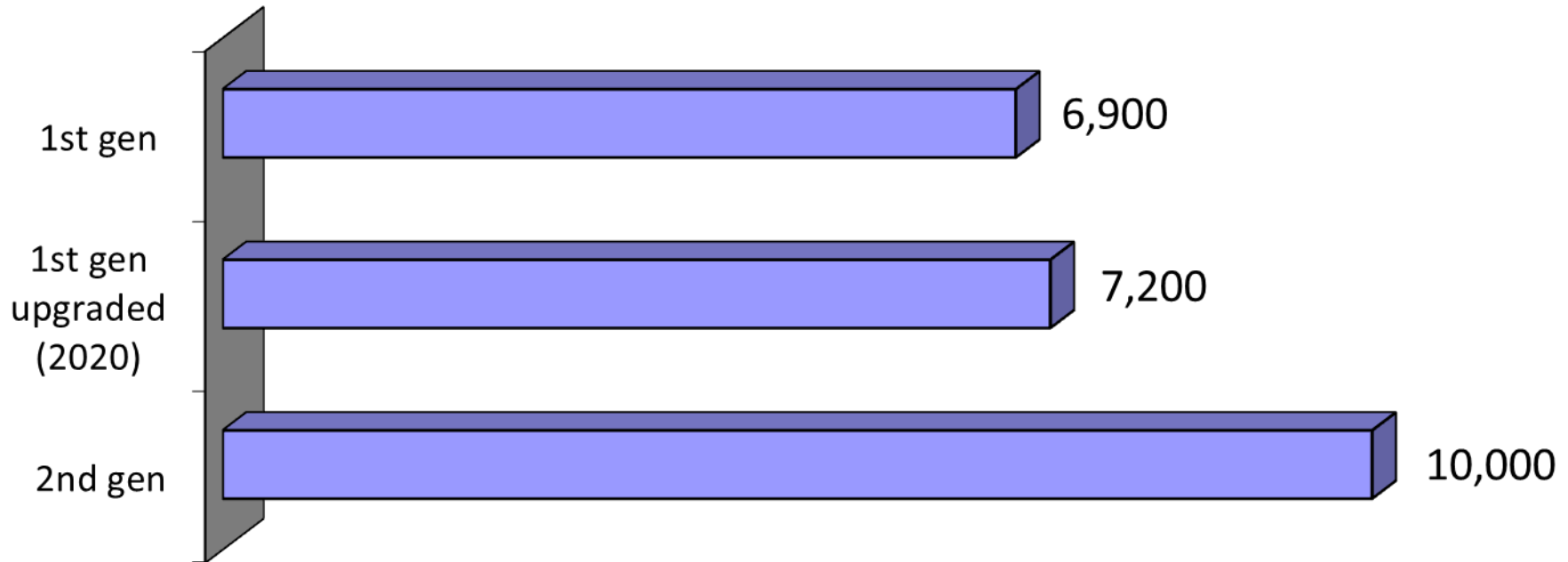


*High-yield and commercial scalable bugs*

***Biotech partnerships for advanced biofuels and biochemicals***

## (2) Sugarcane biotech: 2g ethanol productivity premium

Sugarcane-based ethanol yield per hectare (liters)



Source: CGEE.

## (2) Sugarcane biotech: impacts on R&D investments

**biofuelsdigest.com**

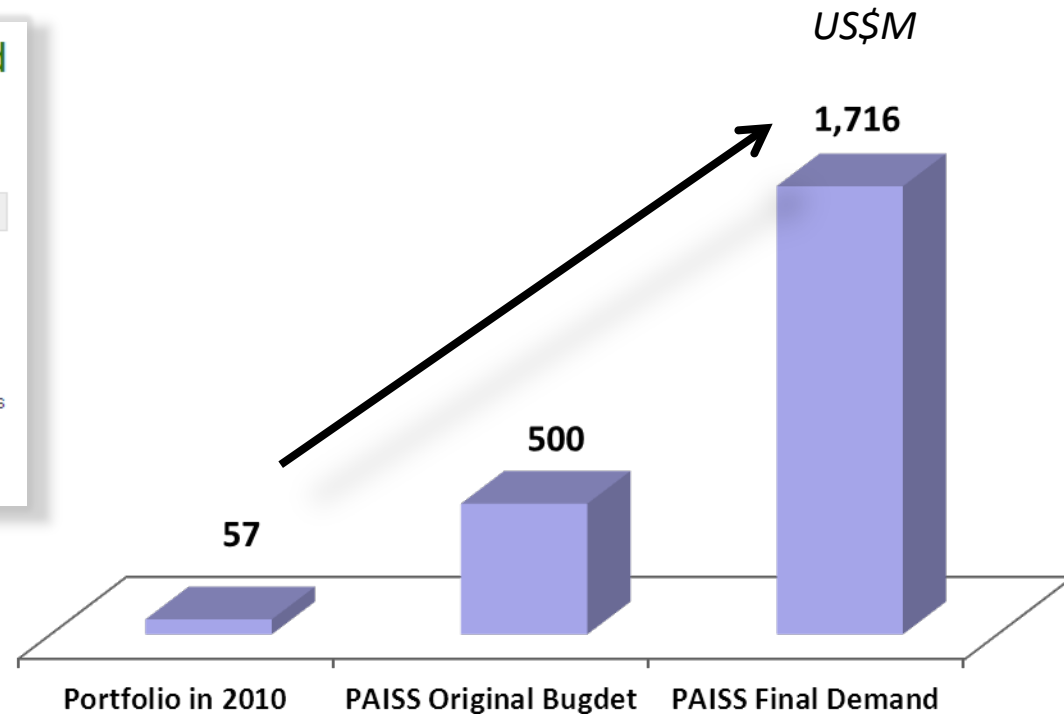
### Brazilian government to double planned investment to \$988M through 2014 in biobased technologies

Jim Lane | September 24, 2012

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In Brazil, the Brazilian national development bank, BNDES and the research funding arm, FINEP, announced a plan to double propose investment in biofuels and renewable chemicals and provide up to \$988 million to the sector in 2013 and 2014. Dow Chemical, DuPont and Braskem are among those who have announced projects with a cost of up to \$1.5 billion – and Carlos Cavalcanti, head of biofuels at BNDES, told Business Week at World Biofuels Markets (Brazil) that the agencies are indeed likely to concentrate funding in a few projects, which all focus on developing value-add products from sugarcane.



- 35 Business Plans approved will result in a potential investment of BRL 3.4 bn
- Extensive partnerships between Brazilian and foreign companies
- 2 direct Private Equity investment totaling R\$ 900 million



### (3) Software industry: summary of BNDES support

'04 up to Mar '14

Program/ Product	# Ope	US\$ MM
<b>PROSOFT</b>	<b>390</b>	<b>2,074</b>
PROSOFT- Company	164	1.762
PROSOFT- Commercialization	223	51
PROSOFT- Exports	3	261
<b>BNDES Card</b>	<b>95,907</b>	<b>408</b>
Commercialization of software	44,115	262
IT companies investment	50,982	145
<b>Investment Funds</b>	<b>76</b>	<b>48</b>
<b>TOTAL</b>	<b>95,563</b>	<b>2,530</b>

The **three listed software companies** in the Brazilian stock market received **investments from the BNDES** previously to the IPO.

# (3) Software: BNDES effectiveness – a first evaluation

## Comparison between years '06-'11

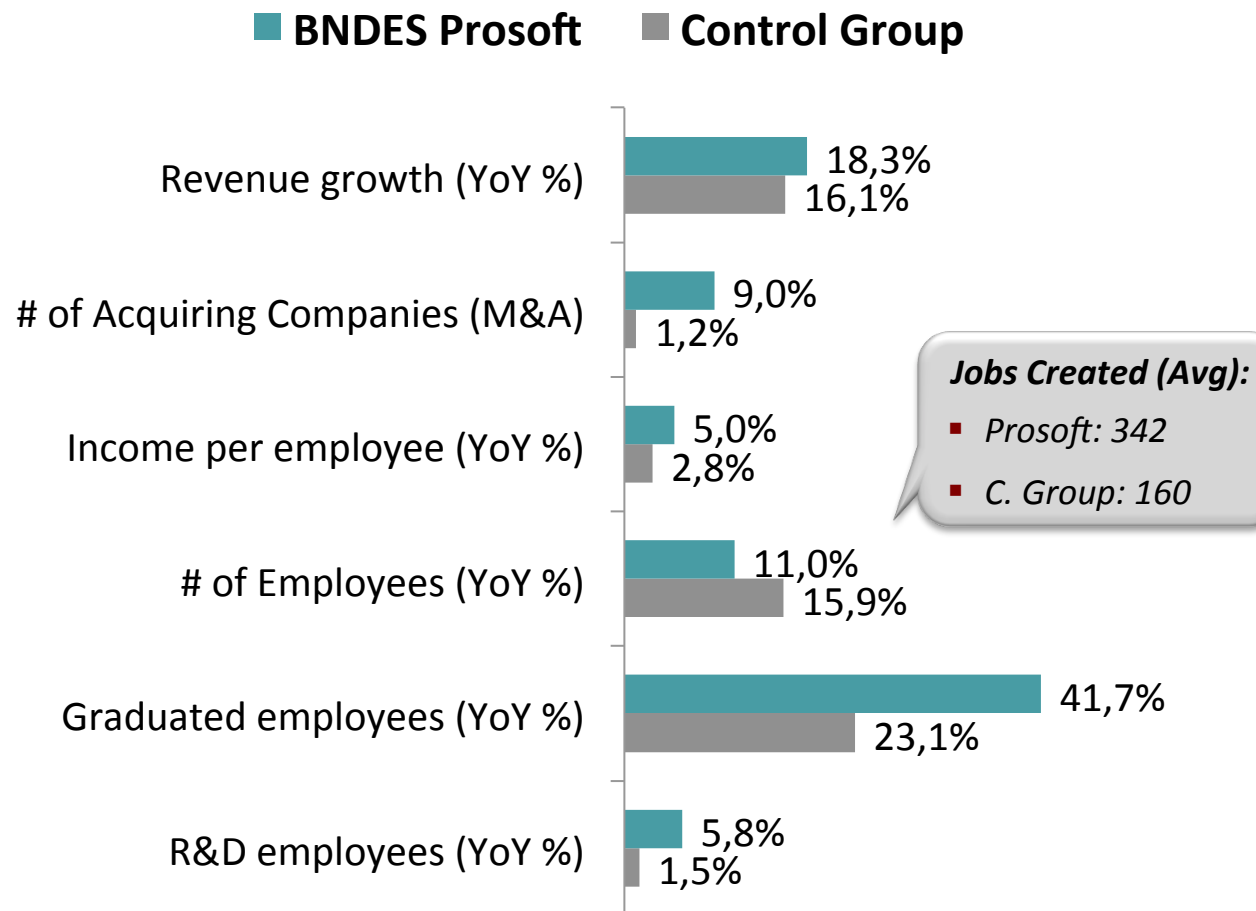
*BNDES Prosoft (companies financially supported in 2006) x Control Group (2010).*

### Premises

- Both groups were supported by BNDES Prosoft
- The investment outcome takes a while to mature

### Results

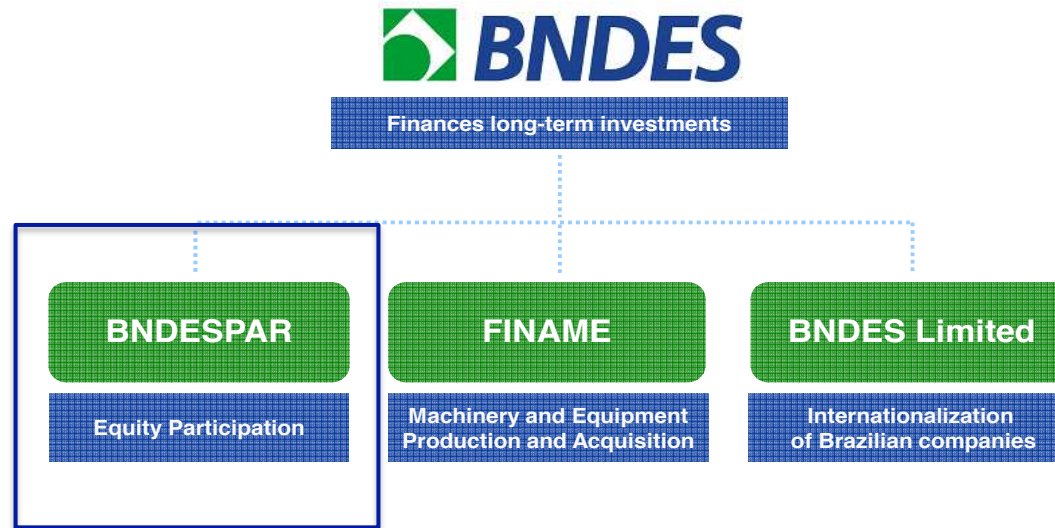
- BNDES Prosoft strengthens local companies and improves R&D efforts



***BNDES as a development-oriented equity investor  
and a venture capitalist***

# The BNDES's equity arm

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- **Set up in the mid 1970s**, at the same time of the Brazilian Corporation Law (6.404/76)
- Double agenda: to **provide equity funding** to companies and **foster the Brazilian capital markets**;
- **Shared decision process** through **independent committees** and technical appraisal;
- Subject to internal **policies and procedures** (eg: temporary minority stake, liquidity, corporate governance practices, etc);
- Same **executive board of that of the BNDES**;
- **Compliant with** the Security and Exchange Commission of Brazil (CVM)

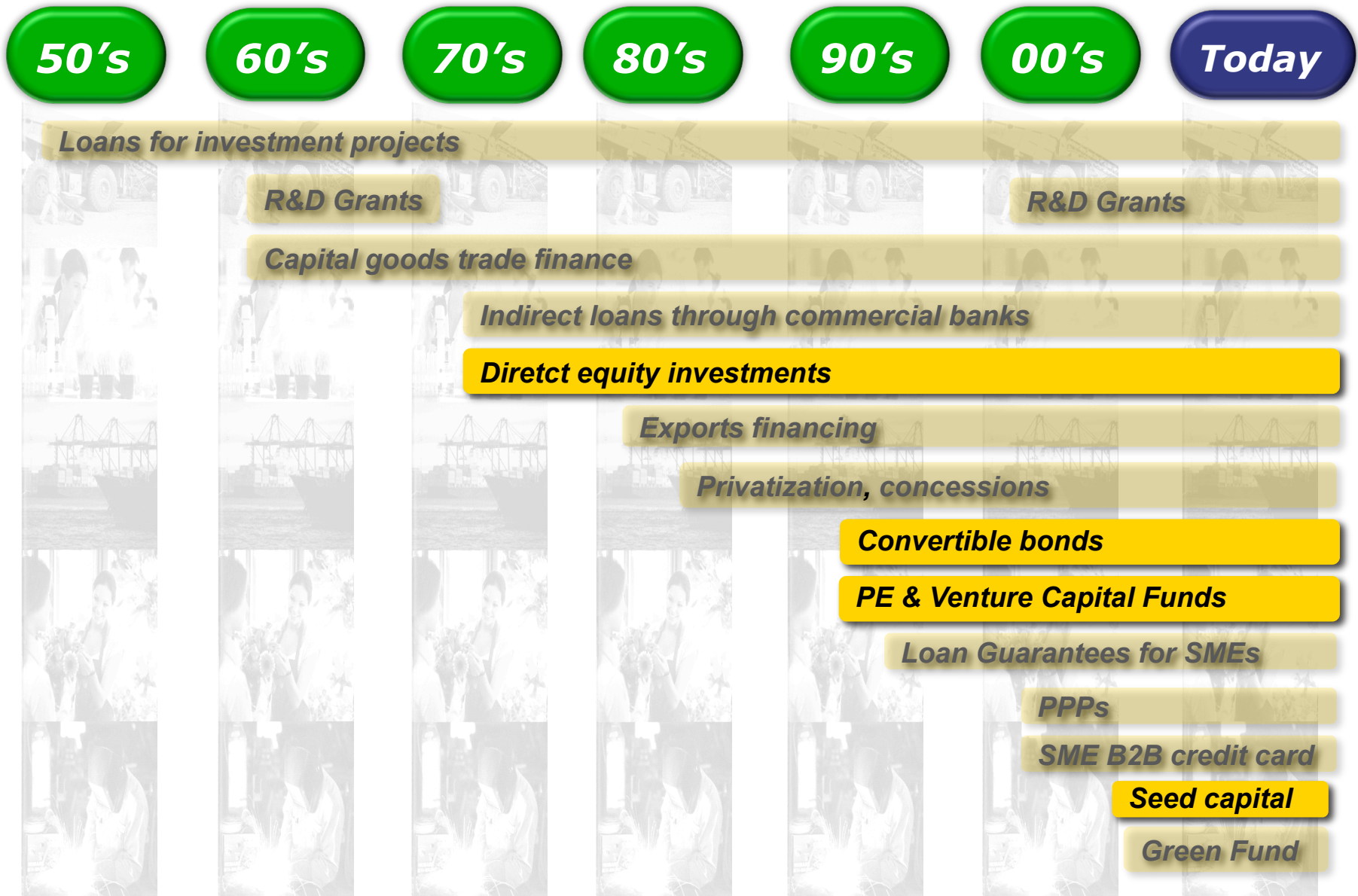
# The BNDES's equity investments at a glance

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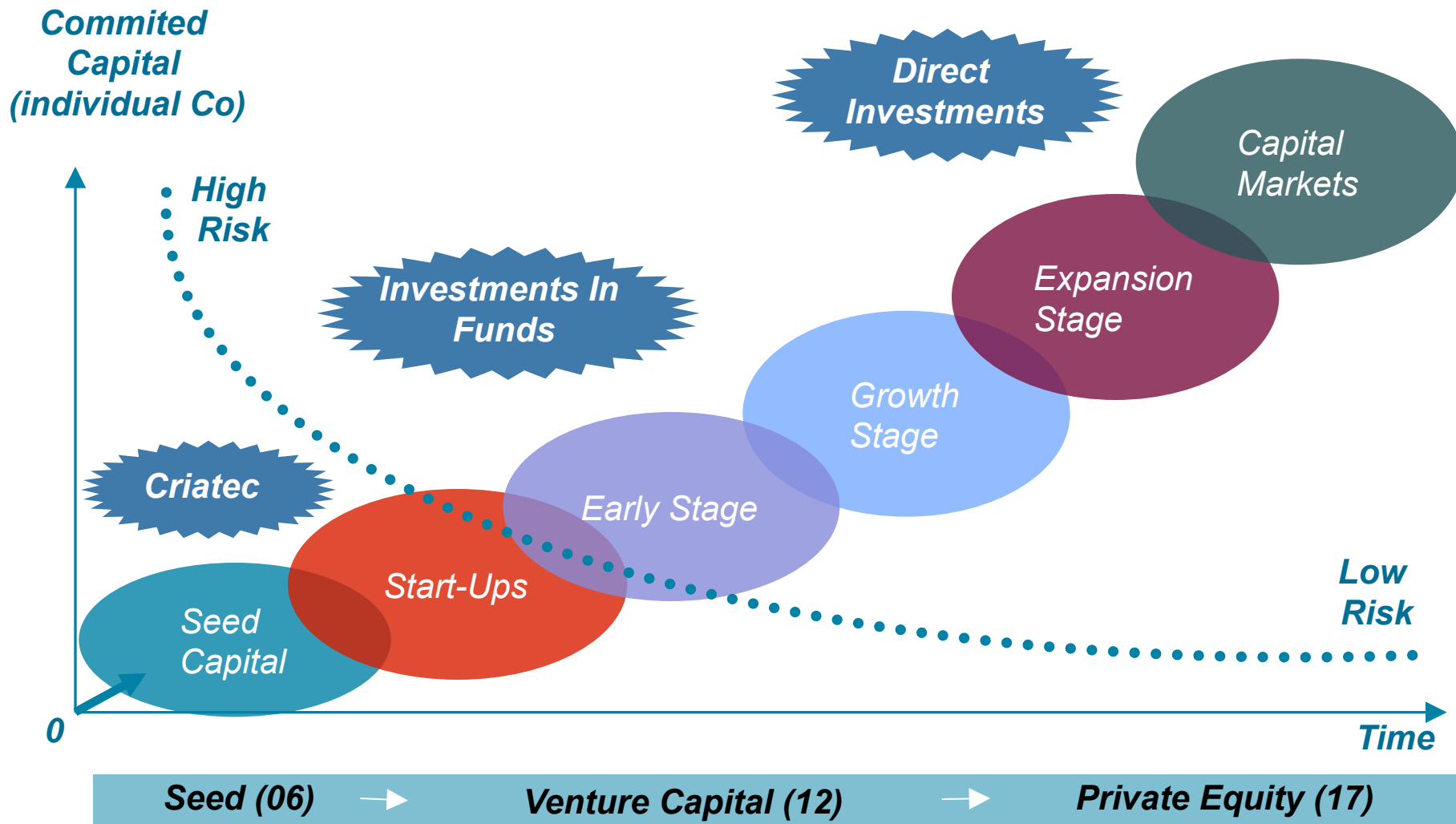
	2012	2013
	current R\$ billion	
<b>MARKET VALUE</b>	89,0	82,7
<b>ANNUAL TURNOVER</b>	15,1	9,2
<b>DIVIDENDS &amp; INCOME INTEREST</b>	4,9	4,7
<b>NET PROFIT</b>	0,3	1,5
<b># INVESTED COMPANIES</b>	305	336
DIRECT EQUITY	175	174
THROUGH PE AND VC FUNDS	137	162
<b># OF FUNDS</b>	40	45

# A complete range of equity instruments and expertise developed over time

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# BNDES invests across all stages



BNDES has stakes in 206 companies through 35 funds

# BNDES as an LP venture capitalist: fostering entrepreneurship through VC and PE Funds

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## Present portfolio

**34** Funds investing in **162** companies across **20** different states

**R\$ 2,5 bi** Committed capital in **15** sectors

leveraging **R\$ 9,6 bi** expected IRR of **14% aa**

## Positioning

- ✓ **Biggest VC and Seed investor** in the country and **2° in general**;
- ✓ **Build institutional capacity** at the country level: active role in reviewing self-regulation and legislation
- ✓ **Leader in introducing new funds in Brazil**: seed capital, SME access to stock market, corporate venturing, PPPs ... ;



# BNDES's best practices as a development-oriented venture capitalist

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- We do **capital increase** and fund good BPs ... we don't buyout;
- We fund **leapfrog and risky investments**, ... we don't practice debt to equity or balance sheet restructuring;
- We benefit from the **portfolio approach**, ... we do not focus on specific ventures losses;
- We go for **economic fundamentals**, ... we are are not bullish on market trends;
- We believe **Companies and its markets' dynamics are key** ... not the stock market;
- We are **financial experts**, .... but we don't play investment banking;
- We are **patient and risk takers**, ... we are not complacent;
- We are **an influent and key shareholder**, ... we don't take control;
- We favour having **other investors' money in the same round** whenever it is possible;
- We play best **corporate governance** practices, ... we don't manage the company;

**Julio Ramundo**  
Managing Director - BNDES

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