Innovation Policy Challenges in the Globalising Learning Economy:
The Brazilian Experience

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Brazilian Industry without R&D

Industrial Policy

Based on foreign technology → lack of policy

S&T Policy

Individual grants → Institutionalisation of research & post-graduation → Policy stagnation


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The Brazilian Innovation System: some data

- Total of public IHE: 207 (83 federal, 65 state and 59 locals)
- Total of private or community IHE: 1,650
- Graduation courses: 16,000
- Master courses: 1,833
- Doctorate courses: 986
- Research institutions: 335
- Researchers: 77,600 (48,000 Ph.D.)
- Research teams: 19,500
- Qualified HR:
  - 65% within universities
  - 30.9% within industry
Geographical distribution of Technological Institutes
Organization of the Ministry of S&T

National S&T Council

Ministry of S&T

CNPq
FINEP
cgee
CNEN
AEB

15 Research Institutes

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Recent Brazilian ST&I System achievements

- **Sectoral Funds**: innovative economic engineering to complement, expand and secure the financial sources for ST&I
- **Industrial, Technological, Foreign Trade Policy** (2004) – re-insertion of these issues within the Governmental Policy Agenda and a pioneering convergence of industrial and technological policies
- **New regulatory and legal environment** (2005): Innovation, Informatics and Bio-security Laws; grants for R&D HR in companies; and regulation of FNDCT
- **Decentralisation** of federal governmental ST&I policies and their Integration to the state and local levels
- Emphasis on **regional development** and **social inclusion**
Ministry of S&T: strategies

1. Strategic axes

- Social inclusion
- Strengthening of agencies programs (CNPq and FINEP)
- Broadening of sources of financial resources

Expansion and consolidation of National System of Science Technology and Innovation
Sectoral Funds for Supporting Scientific and Technological Development

- Creation: from 1999 onwards

- Financial sources: financially fed from selected productive sectors through the contributions of companies’ invoicing and/or from the earnings arising from the exploitation of natural resources belonging to the Federal Government

- Aeronautics; Agro-business; Amazon Region; Biotechnology; Energy; Informatics; Infra-structure; Mineral; Oil & Gas; Transportation; Health; Space Activities; Telecom; University-Industry Cooperation; Water Resources; and Water Transportation and Ship Building.
Sectoral Funds

Committee

FINEP

CNPq

MST, FINEP, CNPq, Other Ministries,
Sectoral regulation agencies,
R&D organizations, firms

Public calls and specific demands

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FNDCT - Disbursements in 1970 - 2002

IGP-DI-media anual /dez.2003

Valores em R$ Mil Constantes (IGP-DI-Dezembro/2003)
FNDCT - Disbursements in 1980 - 2005

R$ 1,000, IGP-DI- /dec. 2004

Sectoral Funds

US$ 360 million
FNDCT - Disbursement in 1970 - 2006

R$ 1,000IGP-DI- /dec. 2004

R$ 1,2 bi
(US$ 560 millions)
2006
New regulatory and legal environment

- expansion the interaction between university and industry
- promote the shared use of S&T infra-structure by firms and S&T institutions (emphasis on SMEs)
- stimulate the creation of new technology based firms by researchers
- create new financial mechanisms for grants to HR, R&D and innovation in firms
FINEP – The Brazilian Innovation Agency

Publicly owned company subordinated to the Ministry of Science and Technology (MCT)

Mission

To encourage and finance innovation, and scientific and technological research in business, universities, institutes of technology, research centres, and other public or private institutions, mobilizing funds and combining the (financial) instruments for the country’s economic and social development.
FINEP’s main roles

Financing Agency for S,T&I

- Research grants to non-profit R&D institutions

Bank

- Loans at low interest rates for R&D in firms
- Investments

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Finep: modalities of financial support

Grants

Grants provided through FNDCT for public R&D institutions or non-profit organisations, and more recently, for private firms.

Support includes every stage and dimension of the S&T development cycle: basic research, applied research, product, service, and process innovation.

Incubation of technology-based businesses, implementation of technology facilities, structuring and consolidation of research processes, development and innovation in established firms and market development.

MODERNIT, PROPESQ, COOPERÁ, ASSISTEC, APLs, PNI, HABITARE, PROSAB, PRONINC PROGRAMS

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Loans
Credit granted to firms for their innovative activities. Resources emerge from FINEP’s own funds or through on-lending from other financial sources.

Loans may assume different shapes:
• standard loans;
• low interest rates and
• loans with profit sharing

PRO-INNOVATION PROGRAM

Investment
Venture capital funds related to innovation
Seed capital
INOVAR PROGRAM

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Firms receiving FINEP’s financial support present better performance, on average, than their similar without such a benefit.

Productivity, export value and salaries have grown above average.

They also invest more in R&D:

- Reimbursable financing: firms have invested between 50 and 60% more;
- Non-reimbursable financing cooperative projects: firms have invested 100% more.

(IPEA, 2005)
FINEP achievements 2003 - 2005

- Establishment of new financial supporting programs devoted to small innovative firms
  - PAPPE
  - Juro Zero
  - Inovar Seed Money

- Improvement of regional distribution of FNDCT financial resources (North, Northeast and Central regions have received a privileged treatment);

- Broadening and expansion of S&T activities driven to the social development – health, sanitation, housing technologies, popular cooperatives, family agriculture, etc.
FINEP results and perspectives

2005:
record budget since 1975

2005:
reimbursable + non-reimbursable resources
+ other sources (partnerships)
over US$ 450 millions

2006:
budget perspectives above
US$ 900 millions

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Challenges for the near future

- Increase reimbursable and non-reimbursable resources;
- Strengthen FINEP’ programs;
- Improve partnerships, decentralising resources and operation;
- Explore potentialities of new regulatory and legal environment, including grants to firms innovation;
- Improve national and international strategic alliances;
- Consolidate FINEP’s participation in the design and implementation of S,T&I policies;
- Improve the internal organizational development.
Thanks for your attention

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PAPPE

Non-reimbursable resources: Finep + States Research Support Foundations (FAPs), R&D and innovation projects of researchers in firms

Investment around US$ 70 millions in 2004

Projects in 2004

<table>
<thead>
<tr>
<th>Sectoral Fund</th>
<th>Nº projects</th>
<th>Nº firms</th>
<th>Status firms</th>
<th>Micro</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
<th>Total of firms</th>
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<tr>
<td>Agrobusiness</td>
<td>105</td>
<td>84</td>
<td>incubated</td>
<td>23</td>
<td>1</td>
<td>2</td>
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<td></td>
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<td>3</td>
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<td>3</td>
<td>2</td>
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<td>25</td>
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<td>1</td>
<td>35</td>
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<tr>
<td>Energy</td>
<td>73</td>
<td>72</td>
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<td>18</td>
<td>3</td>
<td>0</td>
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<td></td>
<td></td>
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<td>21</td>
<td>7</td>
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<td>Health</td>
<td>66</td>
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<td>incubated</td>
<td>21</td>
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<td>1</td>
<td>0</td>
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<td></td>
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<td>non incubated</td>
<td>16</td>
<td>17</td>
<td>8</td>
<td>3</td>
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<td>Coop U-I</td>
<td>267</td>
<td>249</td>
<td>incubated</td>
<td>71</td>
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<td>4</td>
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<td>90</td>
<td>24</td>
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<td>Total Finep</td>
<td>572</td>
<td>531</td>
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<td>327</td>
<td>114</td>
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PAPPE data - Aug 2005

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Incubadora de Fundos

Process and Results

- 6 Funds Calls / 29 Due Diligences
- R$ 35,6 millions as committed capital in 6 funds (just FINEP), with 5,63 of leverage.
- New R$ 32 millions as approved capital to invest in three new funds.
- 4 investors (1 Pension Fund) participating in 2000 process x 14 (5 Pension Funds) in 2005.

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Venture Forum

- Venture Forum (Two types of event)
  - 17 “Beauty Contests”
  - 2,380 Candidate companies
  - 133 Participant companies presented (VC)
  - 15 Participant companies presented (PE)
  - Average of 47 investors per event
  - 23 Realized investments
  - R$ 103 million totaling

volta
FINEP's new actions focus
Fund of Funds (FoF)

- **Purpose**: To create a US$ 1 billion fund with 1/3 of Government capital and management by a private independent manager.
- **Adapt Concept to Brazilian Reality**
  - Do we have critical mass in terms of numbers of funds? > FINEP receive 71 proposals of funds, BNDES 32 proposals and PREVI 20 proposals.
  - Do we have in Brazil a favorable interest rate environment? > Not, but the current environment shows a decreasing trend in SELIC.
  - To jump start fund industry trend in, the Brazilian Government plans to invest more than US$ 300 million in this project.
- **Goals and Objectives**
  - Double the industry volume of committed capital.
  - Eliminate the industry bottlenecks to attract domestic and international institutional investors.
  - Help institutional investors manage their fund investments more cost-effectively.

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Seed Capital – Inovar Semente

- **Purpose:** Create 24 regional funds for seed capital, totaling committed capital of R$ 300 million in six years. The FINEP will invest 40% of this total.

- **Adapt Concept to Brazilian Reality**
  - Brazil has a deep pool of technology and entrepreneurial spirit.
  - However, most of technologies invented in universities and research centers generally are not launched in the market due to lack of capital.

- **Goals and Objectives**
  - Stimulate establishment of seed and early stage funds.
  - Encourage angels and new fund managers to invest in this segment.
  - Nourish a continuous source of deal flow for the entire VC/PE/IPO investment chain.
Juro Zero

Credit granted to MSE for their innovative activities

- no interests rates
- no firms guarantees
- no burocracy

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Desembolso FNDCT em 2004 - distribuição regional

- South Region: 16%
- Northeast Region: 20%
- North Region: 5%
- Southeast Region: 53%
- Central-west Region: 6%