RIO Country Report 2015: Brazil

Chapter:
2. Public and private funding of R&I and expenditure

Laura Maragna
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Abstract

RIO R&I International Country Reports analyse and assess the research and innovation system, including the main challenges, framework conditions, regional R&I systems, and international co-operation.
2. Public and private funding of R&I and expenditure

2.1 Introduction

Public expenditures are, in most cases, higher than the business in respect to STI funding in Brazil. However, state-owned enterprises have a great weight in spending STI, as is the case of Petrobras and Embrapa, that both play an important role in R&D activities. Considering this characteristics of the Brazilian funding scenario, public spending, by the federal government or at the Brazilian States level, are the main source of funds for STI in the country.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015*</th>
<th>EU average in 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>GERD (as % of GDP)</td>
<td>1.14</td>
<td>1.15</td>
<td>1.24</td>
<td>N/A</td>
<td>N/A</td>
<td>2.03 (2014)</td>
</tr>
<tr>
<td>GERD (PPP$)</td>
<td>33.90,37</td>
<td>35.46,18</td>
<td>39.70,47</td>
<td>N/A</td>
<td>N/A</td>
<td>558.4 (2014)</td>
</tr>
<tr>
<td>GBOARD (PPP$)</td>
<td>17.93,25</td>
<td>19.47,92</td>
<td>22.90,98</td>
<td>N/A</td>
<td>N/A</td>
<td>92.828.145 (2014)</td>
</tr>
<tr>
<td>GBAORD as % of GDP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.67 (2014)</td>
</tr>
<tr>
<td>R&amp;D funded by GOV and HEIs (% of GDP)</td>
<td>0.60</td>
<td>0.63</td>
<td>0.71</td>
<td>N/A</td>
<td>N/A</td>
<td>0.68</td>
</tr>
<tr>
<td>R&amp;D funded by PNP (% of GDP)</td>
<td>0.52</td>
<td>0.50</td>
<td>0.50</td>
<td>N/A</td>
<td>N/A</td>
<td>0.03</td>
</tr>
<tr>
<td>R&amp;D funded by BES (% of GDP)</td>
<td>0.75</td>
<td>0.77</td>
<td>0.73</td>
<td>N/A</td>
<td>N/A</td>
<td>1.12</td>
</tr>
<tr>
<td>R&amp;D funded from abroad (% of GDP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.2</td>
</tr>
<tr>
<td>R&amp;D performed by HEIs (% of GDP)</td>
<td>0.16</td>
<td>0.17</td>
<td>0.19</td>
<td>N/A</td>
<td>N/A</td>
<td>0.48</td>
</tr>
<tr>
<td>R&amp;D performed by GOV (% of GDP)</td>
<td>0.41</td>
<td>0.42</td>
<td>0.50</td>
<td>N/A</td>
<td>N/A</td>
<td>0.25</td>
</tr>
<tr>
<td>R&amp;D performed by BES (% of GDP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.29</td>
</tr>
</tbody>
</table>

Source: Indicadores Seleccionados de Ciência, Tecnologia e Inovação – MCTIC 2015.
2.2 Funding flows

2.2.1 Research funders

The MCTIC main funding agency for technological development and innovation is the Studies and Projects Financing Agency (FINEP), charged with the administration of the National Fund for Science and Technology (FNDCT). These sectorial funds are the main source for funding instruments to support research projects and innovation in Brazil.

Currently, there are 16 Sectorial Funds, and 14 related to specific thematic areas. One of these two broader funds is focused on the promotion of university-industry interaction (CT-FVA - Green-Yellow Fund). Below there is a list of all the Sectorial Funds of the FNDCT.

### Table 2 - Sectorial Funds of the FNDCT

<table>
<thead>
<tr>
<th>Name of the Sectorial Fund</th>
<th>Abbreviation</th>
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</thead>
<tbody>
<tr>
<td>Aeronautical Sectorial Fund</td>
<td>CT-Aeronáutico</td>
</tr>
<tr>
<td>Agribusiness Sectorial Fund</td>
<td>CT-Agronegócio</td>
</tr>
<tr>
<td>Amazon Sectorial Fund</td>
<td>CT-Amazonônia</td>
</tr>
<tr>
<td>Fund for the transportation Sector, waterway and shipbuilding</td>
<td>CT-Aquaviário</td>
</tr>
<tr>
<td>Biotechnology Sectorial Fund</td>
<td>CT-Biotecnologia</td>
</tr>
<tr>
<td>Energy Sectorial Fund</td>
<td>CT-Energ</td>
</tr>
<tr>
<td>Space Sectorial Fund</td>
<td>CT-Espacial</td>
</tr>
<tr>
<td>Sectorial Fund for Water Resources</td>
<td>CT-Hidro</td>
</tr>
<tr>
<td>ICT Sectorial Fund</td>
<td>CT-Info</td>
</tr>
<tr>
<td>Fund for infrastructure</td>
<td>CT-Infra</td>
</tr>
<tr>
<td>Mineral Sectorial Fund</td>
<td>CT-Mineral</td>
</tr>
<tr>
<td>Sectorial Fund for oil and gas</td>
<td>CT-Petro</td>
</tr>
<tr>
<td>Health Sectorial Fund</td>
<td>CT-Saúde</td>
</tr>
<tr>
<td>Sectorial Fund for Land Transport</td>
<td>CT-Transportes</td>
</tr>
<tr>
<td>Green-Yellow Fund</td>
<td>CT-FVA</td>
</tr>
<tr>
<td>Technological Fund for the Development of Telecommunications</td>
<td>Funttel</td>
</tr>
</tbody>
</table>

*Source: author’s compilation*

The resources for the FNDCT sectorial funds stem from contributions of the exploitation of natural resources, from taxes on Industrialized Products as well as from Contribution for Intervention in the Economic Domain (CIDE) collected from the values of the use or acquisition of technology and technology transfer from abroad. These resources are
allocated at the National Fund for Science and Technology (FNDCT) and managed by FINEP.

The National Research Council (CNPq), is a Ministry of Science, Technology, Innovation and Communications (MCTIC) agency and its main duties are to promote scientific and technological research and encourage the improvement of Brazilian researchers. The CNPq provides grants for training in the field of scientific and technological research in universities, research institutes, technological centres and vocational training, both in Brazil and abroad. In addition to promoting the training of human resources in strategic areas for national development, CNPq financially contributes for the implementation of projects, programmes and R&D networks, directly or in partnership with the States of the Federation.

CNPq also invests in promoting science and technology activities with financial support for editing and publication of periodicals, the promotion of scientific events and the participation of students and researchers in major congresses and national and international events in the field of science and technology.

The Ministry of Education (MEC) also has an important role in this scenario through the funding of scholarships and fellowships offered by its agency, the Coordination for the Improvement of Higher Education Personnel (CAPES). Other Ministries, such as the Ministry of Health (MS), the Ministry of Defence (MD), Ministry of Development, Industry and Commerce (MDIC), Ministry of Mines and Energy (MME), Ministry of Agriculture, Livestock and Supply (MAPA) also contribute to funding research and innovative projects. These Ministries usually sign an agreement with a funding agency (CNPq, FINEP, CAPES or even with EMBRAPA) and implement financial resources for the development of research in their fields of interest.

Founded in 1952, the National Bank for Economic and Social Development (BNDES) is one of the world’s largest development banks and, today, the main instrument of the Federal Government for the long-term financing and investment in all segments of the Brazilian economy.

As a public company and not a commercial bank, BNDES evaluates the granting of support focusing on social, environmental and economic impact in Brazil. Its financial support instruments include financing; granting of non-reimbursable funds to social, cultural and technological projects; for example. For this purpose, the BNDES has several sources of funding as the National Treasury, but also raises funds from abroad, from multilateral organizations and with external market security issuances.

The Brazilian S&T system counts with 25 Research Support Foundations (FAPs), which are located in each federal state and in the Federal District of Brasilia. These research support foundations aim to assist the research and innovation community of their respective state. While all FAPs financially support research and innovation activities, the individual budgets of the FAPs vary greatly.

The actions of the FAPs include a broad range of funding instruments in support of research, innovation and teaching. The São Paulo Research Support Foundation (FAPESP) is the largest and most effective FAP. FAPESP receives 1% of São Paulo State’s tax revenues; and has a total expenditure in different types of research that equals approximately €500 million in 2013.

### 2.2.2 Funding sources and funding flows

From the perspective of Governing Bodies, it is possible to identify four types of sources:

- Budgets of the Direct Federal Administration;
- Resources Federal Executing Agencies;
- Budgets of the Federation Units;
- Resources managed by the Regulatory Agencies.
For expenses incurred in the 2012-2015 period, it took into account the activities of STI conducted with federal funds, federal state enterprises and Brazilian States Research Foundations (FAPs), in the framework of the support axes and of high-priority programmes of the National STI Strategy (ENCTI) as well as in the framework of the supplementary programmes. Thus, the resources for the period 2012-2015 amounted to €18.5 billion, €7.5 billion of MCTI, €5.25 billion of other ministries, €3.25 billion of federal enterprises (BNDES, Petrobras and Eletrobras) and €2.25 billion of state funds operated by the Research Support Foundations (FAPs).

The allocation of R&I resources occurs through various instruments. Such instruments have formats and implementers with appropriate characteristics to the results outlined by sector planning. In general, are the Executing Agencies that controls these instruments, which can benefit researchers, science and technology institutions, businesses or arrangements that combine science and technology institutions and businesses. The instruments are more diversified in business support than the science and technology institutions and researchers.

The main instruments are:

- Scholarships Grant
- Research Subsides
- Economic Grant
- Loans
- Corporate Interest
- Investment and Participation Funds
- State purchase with Local Preference Margin
- Technological Order
- Tax Incentives

Figure 11 - Total expenditure in R&D by sector in 2013

Brazilian S&T investments are not “mission oriented”, in the sense that most of these investments are not linked to Ministries with a specific mission as in other countries. The Ministry of Science, Technology and Innovation is responsible for 28.8% of the overall Ministries’ investment in STI activities. Since the Ministry of Science, Technology and Innovation is responsible for the most diversified part of the Federal S&T investments and as the main implementing body of the STI Strategy, it is relevant to detail the Ministry’s spending. The most important source of funding to S&T in Brazil, the National Fund for Scientific and Technological Development (FNDCT) that is intended to provide expanded and more stable financing to scientific and technological development and
promote constant investment in innovation and associations between science and industry. Figure 12 shows the evolution of FNDCT’s budget execution since the creation of the Sectoral Funds until 2012.

Figure 12 - FNDCT’s total budget execution: 2000 to 2012 (R$ bi)

Source: MCTIC www.mct.gov.br/indicadores

As regard of European Union Framework Programmes, the Seventh Framework Programme (FP7) has promoted research and innovation initiatives during the timeframe 2007-2013, with a total budget of €53 billion. The programme was open to international collaboration and Brazil at that time was eligible for automatic funding. Therefore, Brazilian entities participated 222 times in 170 FP7 signed grant agreements, receiving a total EU contribution of €32,24 million for such participants for the respective projects. Brazil was ranked 6th in number of participations and in budget share (according to final statistics of FP7).

However, under the new Framework Programme for research and innovation Horizon 2020, Brazil no longer receives funding since it is expected that it will finance its own participation like other major economies. Due to the difficult budgetary situation, at federal level, The European Union Delegation to Brazil, through the Research and Innovation Sector has started to strengthen the Dialogue with the National Council of State Research Foundations (Confap) and the Research Foundations itself, to finance their researchers under Horizon 2020 approved proposals. Until now, seven Research Foundations have published guidelines for financing local researchers under Horizon 2020 programme as from the States of São Paulo (FAPESP), Minas Gerais (FAPEMIG), Goiás (FAPEG), Federal District (FAP-DF), Santa Catarina (FAPESC), Espírito Santo (ES) and Paraná (Fundação Auraucaria).

Additionally, the EU has set aside important funds to support students and higher education institutions to participate in Erasmus+ and Jean Monnet actions.

2.3 Public funding for public R&I

Public research has been strengthened in Brazil based on interdisciplinary approaches focused on solutions to major challenges such as climate change, aging societies and development. In the field of research funding, are being strengthened mechanisms for competitive access to resources from the performance evaluation of institutions and new contractual arrangements.

Regarding state spending on R&I, in 2013 Brazil invested €3,75 billion, almost half of the funds invested by the federal government in the same year. São Paulo stands out as protagonist in these contributions, accounting for 58.6% of the sum of state expenditures. As is the case in federal scale, the growth rate of investment in R&I by State Governments is high, and also worth mentioning the growing participation of the northern states, the Northeast and Midwest. In 2013 the sum of investments in R&I of the federal and state governments was €12 billion. On the other hand, business
investments in S&T totalled €9.5 billion in 2013, verifying that this total amount of €310 million corresponds to expenditures for the Graduate.

About half of total public S&T investments of €10 billion in 2012 were directed at post-graduate university education. The Brazilian public sector (federal and local governments combined) spent around R$40 billion on science and technology in 2012. Around 40% of this S&T public investment was targeted at maintaining post-graduate university courses and institutions (at both the federal and state levels).

Therefore, the main instruments of public funding for public R&I, as previously presented in topic "2.3.2 Funding sources and funding flows" are the Scholarship Grants and the Research Subsidies. The Scholarship Grants are the main source of direct support to researchers, and takes place through various modalities as mid-level and graduation, as well as Masters and PhDs. The main agencies working in the granting of scholarships are National Research Council (CNPq), Coordination for the Improvement of Higher Education Personnel (CAPES) and the State’s Research Foundations (FAPs). The Research Subsidies occurs through financial support to the strengthening of research projects; the publication of national periodicals; the participation of researchers in events; congresses; maintenance projects, upgrading and modernization of scientific and technological institution and research infrastructure.

The Ministry of Science, Technology and Innovation is responsible for the biggest share (36%) of the total public spending in R&I. Besides, there is also the Ministry of Education (MEC), which main agency responsible for the investments in S&T is the Coordination for the Improvement of Higher Education Personnel (CAPES), which means that most of its budget is attached to post-graduation scholarships in Brazilian and foreign universities. The flagship programme **Science without Borders (Ciência sem fronteiras)** is included in CAPES budget but also in the National Research Council’s (CNPq) budget.

**Figure 13**: Percentage of expenditures of the Federal Government in Science, Technology and Innovation (STI), for organ in 2013:

<table>
<thead>
<tr>
<th>Ministry</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Education</td>
<td>44.6%</td>
</tr>
<tr>
<td>Ministry of STI</td>
<td>28.8%</td>
</tr>
<tr>
<td>Ministry of Agriculture</td>
<td>6.8%</td>
</tr>
<tr>
<td>Ministry of Health</td>
<td>3.0%</td>
</tr>
<tr>
<td>Ministry of Planning</td>
<td>5.4%</td>
</tr>
</tbody>
</table>

*Source: ENCTI 2016-2019*

Other public funding for research and towards more oriented research institutions came from the Ministry of Agriculture (MAPA) and the Ministry of Health (MS). MAPA invested around €600 million in R&I in 2012, that is around 13% of total federal R&I investments. The main agency responsible for almost all of MAPA’s investments in R&I is the Brazilian Agricultural Research Corporation (EMBRAPA) that is also considered a Brazilian success case in terms of technology and innovation.

Another important mission-oriented research institution in the Brazilian innovation system is the Oswaldo Cruz Foundation (Fiocruz), under the supervision of the Ministry
of Health (MS). Almost all MS budget for R&I is attached to Fiocruz. The institution has a broad scope, acting in education and in basic and applied research, especially on public health and related subjects.

In the Ministry of Industry, the S&T budget goes to the Brazilian Patents Office (INPI) and to the National Institute of Metrology, Quality and Technology (INMETRO). Finally, under the Ministry of Planning is the Brazilian Institute of Statistics (IBGE) that responds for most of the S&T budget of this Ministry.

2.4 Public funding for private R&I

2.4.1 Direct funding for private R&I

Public support for business innovation has increased steadily over the years, both through direct support measures and through R&D tax credits. Brazil provides a wide range of direct support measures, most of which is channelled through the dedicated Studies and Projects Financing Agency (FINEP), which offers direct R&D subsidies through tenders, provides low-interest loans for R&D projects and funds partnerships between business and universities. In addition, the National Development Bank (BNDES) provides additional innovation funding amounting to around a third of FINEPs resources in 2010. FINEP and BNDES also provide support to seed and venture capital funds that support start-up companies.

One of the main programmes financed by BNDES is the Plano Inova Empresa, by which the Federal Government improved how to foster innovation, integrating the support tools available (credit, economic subsidies, investments, equity and non-reimbursable funds). The expansion of the investment level set out in Plan, reaching the total amount of €8 billion for the period 2013-2017, favours the strengthening of relations between business and scientific and technological institutions (STIs) in the public sector. The funds are intended for companies of all sizes, aimed at direct investments in research, development and innovation (RD&I) economic subsidies to enterprises, partnership projects between research institutions and companies, shareholding interest in technology-based companies and credit for companies.

With similar goals and a more decentralized operations, the Brazilian Technology System (SIBRATEC), ran by FINEP has the aims to support the technological development of Brazilian companies, as well as improve the quality of products on the domestic and foreign markets, providing conditions for increasing the innovation performance and raise competitiveness.

SIBRATEC already assisted 57,000 businesses through more than 400 ICT distributed in 53 operational networks, 13 Innovation Centres, 18 of Technological Services and 22 of Technological Extension and had investments totalling €46 million of public funds and the return of more than €5 million of state funds and companies.

It should also be highlighted policies to support innovation executed in a decentralized manner through Inovacred and Tecnova programmes of FINEP. The Inovacred that decentralizes credit actions to innovative companies already has a partnership with 16 regional credit institutions that cater to 21 units of the federation. The Tecnova applying the same logic to resources for economic subsidies for innovation projects is now also operating in 21 Brazilian states, through partnerships with research support foundations.

The creation of the Brazilian Association for Research and Industrial Innovation (EMBRAPII), social organization whose mission is to support business projects that are innovation based through university-industry collaboration is also worth highlighting. The EMBRAPII’s pilot project was completed in 2013 with the signing of 66 cooperative projects with companies involving financial resources of €65 million, shared equally by MCTIC/Finep, scientific and research institutions and businesses. The pilot project results provided valuable subsidies for qualifying EMBRAPII as a social organization, which
accredited in 2014, 13 scientific and research institutions (STIs) for the development of collaborative projects with companies. 

According to the information agency of MCTIC, in 2015, EMBRAPPII ensures the execution of €29 million in 62 industrial innovation projects signed with various companies. Since 2014, when the organization began operating, 71 agreements were signed worth a total of €31.25 million. The majority (74%) is project to develop new products. 

In addition to direct fostering to innovative companies, should be highlighted the expansion and consolidation of conducive environments to innovation in the country, through the National Programme for Support of Technological Parks and Incubators (NIP) and the support policy for Centres Of Technological Innovation (NIT) of the of Science and Technology Institutions. Total investment in these programmes in the 2011 to 2014 were more than €50 million, and recent studies indicate that for every €1.0 invested by the Federal Government other € 3.6 were leveraged by state and municipal governments and the private sector. The more than 900 companies already established in the 30 operation Parks are generating 32,000 jobs and an annual turnover of almost €1 billion per year. The 400 deployed incubators have graduated 2,500 companies, which generate an annual turnover of €1 billion. 

The direct support system has been criticised for excessive bureaucracy, which keeps some innovating firms from accessing the available support channels, and tends to be too slow for firms that need to make urgent investment decisions. From an organisational perspective, there may also be scope for raising the efficiency of support programmes by addressing overlapping responsibilities among institutions, a lack of clear mandates, and the lack of systematic cost-benefit analysis. In the future, all available direct support measures should subjected to systematic and regular evaluations, and the authorities should assess the scope for making the application process easier and faster, while continuing to ensure the quality of the supported projects.

2.4.2 Indirect financial support for private R&I

In addition to direct support measures, Brazil also uses tax benefits to support R&D indirectly, and these benefits more than doubled in real terms since the Good Law (Lei do Bem) came into effect in 2005. Many R&D expenditures can be deducted from corporate tax liabilities at 160% of the CIT rate – with additional benefits to reward employing researchers or obtaining a patent. Moreover, capital goods used for R&D can be fully depreciated for corporate taxes purposes in the first year of investment.

The Law of Innovation (Lei de Inovação), enacted in October 2005, was based on the idea that the government should stimulate and expand the support for universityindustry partnerships, thus promoting the participation of universities and research centers in the innovation process and stimulating the transfer of knowledge from universities to enterprises. In addition, this Law included mechanisms to support the innovative activities of private companies through the transference of non-reimbursable public resources. This law provided for the availability of an economic subsidy to the enterprises, through non reimbursable financing with funds from the public budget.

As of 2006, FINEP started to implement the Economic Subsidy Programme whose resources were originated from FNDCT. This instrument was pointed by some analysts of the Brazilian innovation system as one of the main pillars of the national innovation policy and represented a step forward by allowing non reimbursable funds to be granted to Brazilian enterprises.

The other act that supports innovation was the “Lei do Bem”, enacted in 2007, which provides for tax incentives for technological innovation, as well as other incentives such as exemption from income tax, accelerated depreciation and accelerated repayment, the reduction of tax on purchase of machinery and equipment for R&D; accelerated amortization of intangible assets; reduction of income tax withholding resulting
registration of technology transfer contracts and maintenance of trademarks, patents and cultivars; grants to researchers, masters and PhDs.

Furthermore, the “Lei do Bem” has bound economic subsidies to the resources from sectorial funds and to the funding for projects involving cooperation between companies and scientific and technological institutions (Koeller, 2009).¹

The Innovation Law and other 9 legal devices were modified in January 2016, by law No. 13.243, known as the Legal Framework for STI. This law law establishes measures to encourage innovation and scientific and technological research in the productive environment, with a view to technological training, technological autonomy and development of the national and regional productive system of the country. The Legal Framework stablishes that the financial instruments to stimulate innovation in companies are: economic subsidy; financing; partner participation; technological bonuses; technological order; tax breaks; scholarships; use the state's purchasing power; investment funds; equity funds; financial securities, encouraged or not; investment forecast research and development in public service concession contracts or sectoral regulations.

The total tax incentives in Brazil reached around €1.5 billion in 2012 and MCTIC estimated €1.8 billion of tax breaks in 2014. According to estimates by OECD, the amount of fiscal incentives for R&D represented 0.05% of the Brazilian GDP in 2013 while direct incentives (funding of BERD) represented 0.10 percent (OECD, 2015). In these indicators, Brazil stands high far away from several OECD and other developing countries reported.

**Figure 14** - Total tax incentives in Brazil (R$ Billion and percentage of GDP): 2000-2013

![Figure 14 - Total tax incentives in Brazil (R$ Billion and percentage of GDP): 2000-2013](image)

**Source:** MCTIC ([www.mct.gov.br/indicadores](http://www.mct.gov.br/indicadores)) and IBGE

### 2.5 Assessment

Brazil does not allow refunds of R&D tax credits or losses to be carried forward. In this setting, unsuccessful firms do not benefit from R&D tax credits and starters are likely to face significant disadvantages in relation to incumbents, particularly in a context of scarce and expensive credit. In addition, these tax credits are only available for those firms filing tax return under one specific tax regime (“lucro real”), which is typically only chosen by large and established companies. Brazil should allow refunds of R&D tax credits or alternatively introduce long carry-forward periods, and make these benefits available regardless of the tax regime under which firms file tax returns.

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The Sectoral Funds, created during the second government of President Fernando Henrique Cardoso, represented a substantial change in the Brazilian innovation policy, since they allowed a significant increase in resources aimed at fostering innovation in Brazil, and provided greater sustainability to the volume of resources earmarked for innovation policy. During the ten years period under (2003 to 2013), the sectorial funds enabled a significant increase in funding for innovation, both in terms of reimbursable and of non reimbursable financing.

The Brazil now has several tax and financing mechanisms to encourage innovative activity, a considerable step forward for the country. However, there are obstacles related to the implementation of these instruments, since according to analysts the country needs no more incentives for innovation, but a more efficient application of the instruments and resources available. Performance based funding could therefore be an important approach to incentives that are actually more demand based.

The main criticism of the tax incentives laws is in fact the benefits are restricted to companies that perform the calculation of net income, generally large companies that already have better financing conditions. Thus, the companies that need the incentives are small and medium, which usually choose for deemed income statement. According to Weisz 2006² tax incentives are in the right direction, but are still timid.

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² Weisz, 2006 "Mecanismos de Apoio à Inovação Tecnológica":
http://www.inova.unicamp.br/sites/default/files/documents/Mecanismos%20de%20Apoio%20a%20Inova%C3%A7%C3%A3o.pdf.