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## SCIENCE AND IMPACT ON SOCIETY- ADVANCES AND CHALLENGES FOR CONVERTING SCIENTIFIC PRODUCTION INTO INNOVATION IN BRAZIL

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**Abstract:** The conversion of academic research into innovation in Brazil still faces structural challenges, despite high scientific production. This article, based on discussions at the LIX Annual Congress of the SBFis, analyzes the obstacles and opportunities for the insertion of masters and doctors in the productive sector, exploring the paradox between scientific production and innovation; Brazil is the tenth country in terms of scientific production, but paradoxically is in the distant 50th position in the innovation ranking. The difficulties of R&D funding, low university-company interaction and public policies that seek to encourage this collaboration are examined. Based on national and international experiences, the study presents proposals to strengthen the interaction between academia and the productive sector, boosting the country's technological and economic development.

**Keywords:** Innovation, Paradox, Masters and Doctors, Research and Development, Productive Sector.

## INTRODUCTION

Innovation has a significant impact on society by enabling the development of new technologies, medicines, biomedical devices and more efficient therapeutic practices. However, in Brazil, converting academic research into applicable innovation still faces structural challenges. During the round table at the LIX Annual Congress of the Brazilian Society of Physiology (SBFis) in September 2024, experts discussed the main challenges and opportunities for the insertion of doctoral physiologists in the productive sector, exploring the role of universities, companies and public policies in fostering innovation.

In this article, we focus on the progress and challenges of inserting masters and doctors into the productive sector, analyzing the paradox of scientific production versus innovation in Brazil, the R&D funding structure and uni-

versity-company collaborations. In addition, we discuss programs and policies that seek to encourage the transition of academics to the productive sector, analyzing national and international experiences.

## SCIENTIFIC-INNOVATIVE PARADOX

Brazil stands out globally in terms of scientific production, ranking among the ten countries that publish the most articles in various areas of knowledge. However, this significant academic output does not translate into an equivalent performance in innovation. This phenomenon, referred to by the authors of this text as the “Scientific-Innovation Paradox”, reflects the dissociation between academic research and its practical application in industry and the country's economy.

Figure 1 shows the ranking of scientific publications in 2020, in which Brazil ranks 10th in the world, demonstrating its relevance in the production of scientific knowledge.

On the other hand, Figure 2 shows the ranking of countries in the 2024 Global Innovation Index (WIPO, 2024), in which Brazil only appears in 50th position. This difference in performance highlights the country's difficulty in converting its academic output into technological solutions and innovations applied to the productive sector. What's the big problem with this? The problem is that, as a result, Brazilian society is unable to reap the full benefits of its investment in science in its daily life, whether through new products, services or effective improvements in quality of life.

This misalignment between scientific production and innovation, referred to here as the Scientific-Innovation Paradox, can be attributed to various structural and institutional factors, such as the origin of funding for innovation, low interaction between universities and companies, and regulatory and financial challenges that hinder the implementation



Figure 1: Ranking of Scientific Publications - 2020

Source: Own elaboration, with data from National Center For Science And Engineering Statistics; Science-Metrix; Elsevier (2021).

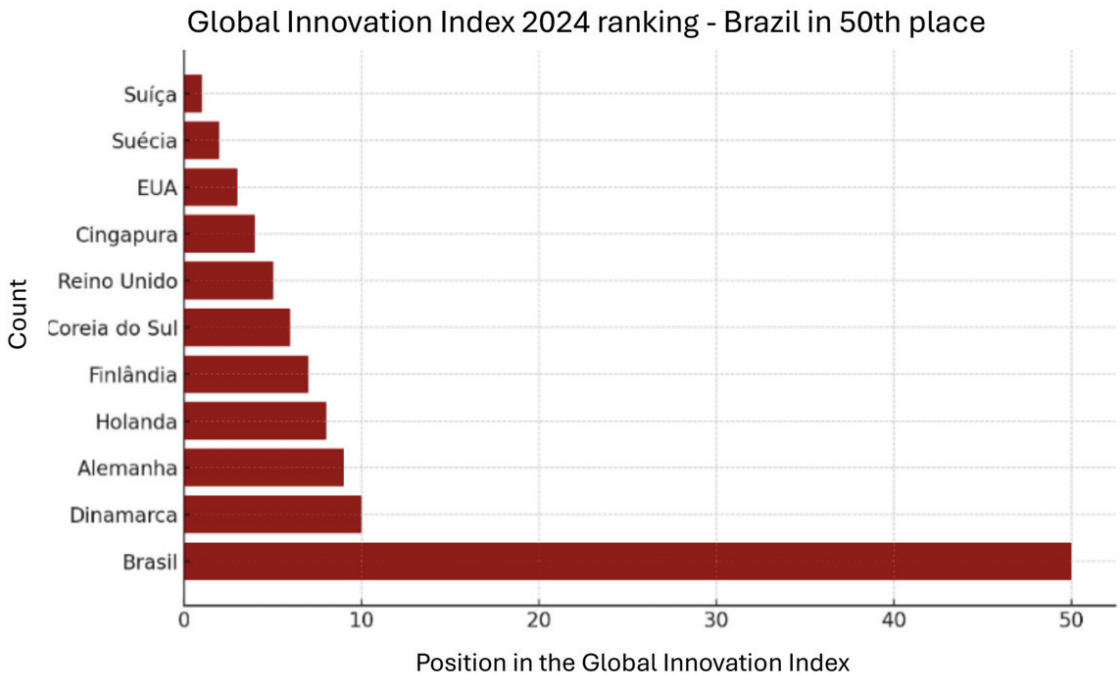


Figure 2: Global Innovation Index - 2024

Source: Own elaboration, with data from WORLD INTELLECTUAL PROPERTY ORGANIZATION; CORNELL UNIVERSITY; INSEAD, (2024).

of innovations in the market, among others. Thus, understanding and mitigating this paradox is essential to boost Brazil's technological and economic development. In this article, we will try to explore some of these issues with the aim of provoking reflection on the subject.

Carlos Ivan Simonsen Leal and Paulo N. Figueiredo (2021), in their study on technological innovation in Brazil, highlight one of the main challenges facing the country: the timid participation of the private sector in investments in Research and Development (R&D). According to the authors, Brazil's R&D funding structure is largely dependent on the public sector, unlike more advanced economies, where companies play a leading role in the national innovation effort. This characteristic puts Brazil in a similar position to some emerging economies of the past, such as South Korea, China and other Southeast Asian nations, which, until the 1980s and 1990s, had a similar model. However, these countries reversed this proportion of funding in the following decades, moving into line with the pattern of the advanced economies, where private investment exceeds government investment in R&D.

Figure 3 illustrates this discrepancy by comparing the distribution of R&D investments between the public and private sectors in different countries between 2000 and 2015.

The data indicates that while countries like South Korea and China have promoted a strong growth in private participation in R&D investments, in Brazil this change has not yet occurred. In fact, Brazil maintains a pattern closer to the average of Latin American countries, in which the public sector still leads the majority of investments in innovation, in contrast to the Asian model and developed economies.

Figure 4 highlights these differences. In 2020, Brazil invested only 1% of its GDP in R&D (World Bank, 2020), which represented approximately US\$ 16 billion. In absolute terms, the Brazilian private sector was responsible for half of this investment (Valor, 2022),

which is equivalent to around US\$8 billion in R&D in 2020. This figure even fell compared to the previous year, while public investment grew (Fapesp, 2023).

South Korea invested 4.8% of its GDP in R&D in 2020, a very significant figure. This represented around US\$79 billion (World Bank, 2020). Data from 2020 shows that in that year, the private sector accounted for almost 80% of R&D investments in the country (MFA, 2023). Thus, the Korean private sector is estimated to have invested around US\$63 billion. This means that the South Korean private sector invested around 7 times more in R&D than the Brazilian private sector in 2020.

A closer look at the table reveals a striking fact. The two countries have very similar GDPs and positions in the ranking of scientific publications; however, the difference in the countries' positions in the innovation ranking is remarkable: while Korea ranks 6th, Brazil ranks 50th.

According to the authors, this low private participation affects the country's capacity for innovation, since business investment in R&D is more geared towards the application of technologies and the development of products and processes that are competitive on the market. Companies that invest directly in innovation accumulate specific technical knowledge, understand market demands better and have a more agile structure for transforming scientific discoveries into marketable solutions. In addition, innovation within companies takes place in collaboration with networks of partners, fostering a dynamic environment of economic growth and increased national productivity.

The table also shows public and other investment in R&D in absolute figures. It is clear that even in Korea, where the private sector is dominant in investments, the public sector represents twice the investment of this sector in Brazil.

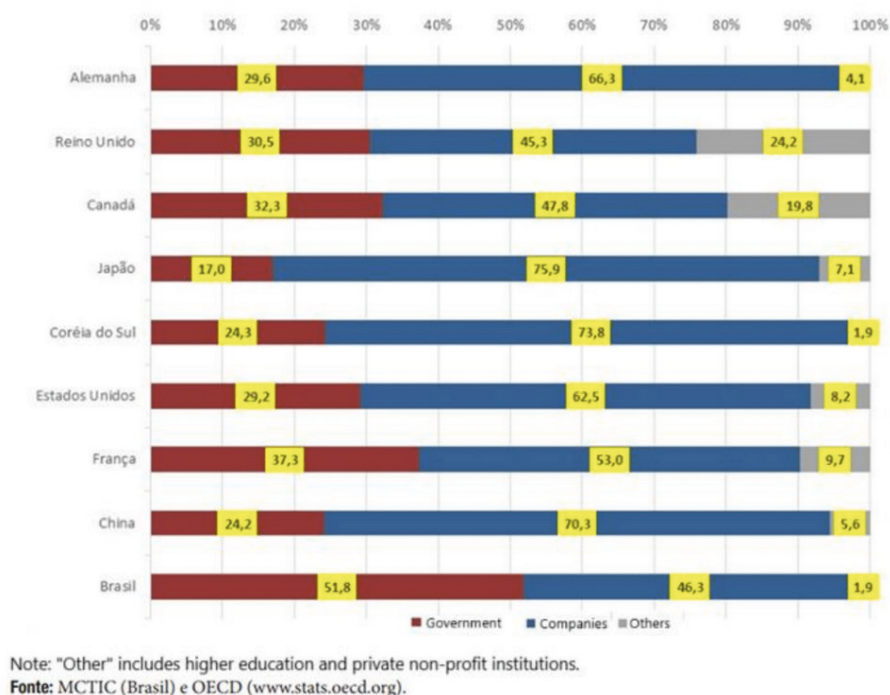


Figure 3: Percentage distribution of R&D spending  
 Source: MCTIC and OECD, 2015.

R&D investments - Brazil vs. South Korea							
Country	GDP (US\$ trillion, 2020)	Investment in R&D (% of GDP)	Absolute investment in R&D (US\$ billion)	Private sector investment in R&D (US\$ billion)	Public sector investment and others (US\$ billion)	Position in the Ranking of Scientific Publications (2020)	Position in the Innovation Publications Ranking (2020)
Brazil	1,48	1,0	16	8	8	10	50
South Korea	1,64	4,8	79	63	16	9	6

Sources: World Bank, MRE, IPEA, Valor Econômico

Note: The average R\$/USD exchange rate used for the calculations was 5.1558 (2000), according to IPEA data.

Figure 4: Comparison of R&D Investments - Brazil vs. South Korea  
 Source: Authors

Given this scenario, the authors argue that the current R&D funding model in Brazil has proved ineffective in generating innovation and productivity, since a large part of the resources are directed towards basic research without a clear strategy for converting it into applied innovation. To illustrate this point, Leal and Figueiredo (2021) compare Brazil and South Korea, showing that, in the 1960s, both countries had similar technological and economic performance. However, forty years later, South Korea has emerged as a high-income economy, with high productivity and global leadership

in various technological and industrial sectors. Brazil, on the other hand, has remained stagnant, according to the authors, with a low productivity rate and modest economic growth, which compromises its global competitiveness and technological development

Some data corroborate this view of Brazil's stagnation. In 1980, South Korea's GDP per capita was 17.5% of US GDP per capita, while Brazil's GDP was 39%. Four decades later, South Korea's GDP now represents 66% of American GDP, while Brazil's represents 22.8% (CNI, 2019) In addition, South Korea



has made great strides in competitiveness. In CNI's 2018-2019 Brazil Competitiveness Report, South Korea ranked first out of 18 countries, while Brazil ranked second to last. Between 2000 and 2018, labor productivity in the South Korean manufacturing industry grew by an average of 4.3% per year. In Brazil, the figure was 0.7% per year (CNI, 2019).

The comparison between Brazil and South Korea highlights the importance of private investment in R&D to boost innovation and economic competitiveness. However, at Brazil's current stage of development - a stage already experienced by Korea in its process of technological consolidation - the strong presence of public funding is not a problem in itself; it has contributed to the solution. The challenge lies in how these resources are directed. For public investment to fulfill its strategic role, it is essential that it is applied effectively, stimulating research with real potential for innovation and economic impact.

The next figure shows a comparison between Brazil and South Korea in terms of the distribution of government spending on Research and Development (R&D). Almost 70% of Brazilian government investment in R&D is allocated to higher education institutions and non-oriented research, i.e. basic research, aimed mainly at expanding scientific knowledge without an immediate application in specific products or technologies. In South Korea, this percentage is only 22%.

On the other hand, more than 77% of South Korea's investments are earmarked for research aimed at technological development and applied innovation, i.e. research aimed at creating products, technologies or processes with direct application in the market. These figures corroborate theses that show that strong investment in applied research, stimulating partnerships between universities and companies, promoting innovation in strategic sectors and ensuring an efficient synergy between the public and private sectors in R&D funding, have

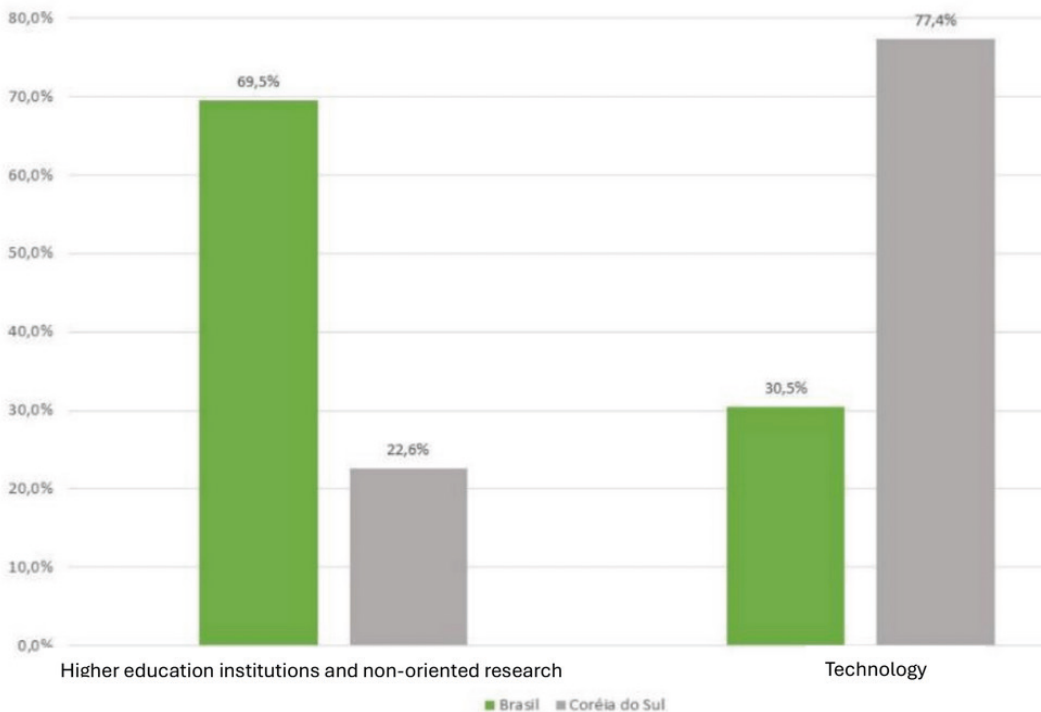
made South Korea evolve from an agrarian country to a high-income economy and global technological leader. This data once again reinforces the disconnect between academic production and the productive sector in Brazil.

Although Brazil's investments in Research and Development (R&D) are lower than those of countries like South Korea, some sectors of the economy have stood out for their high level of investment in this area. The pharmaceutical and pharmachemical industry is one such sector, with the highest percentage of companies investing in R&D activities. Around 67% of companies in the pharmaceutical and pharmachemical sector invested in R&D, while in industry as a whole this percentage was only 34.4% (PINTEC, 2022). The national pharmaceutical industries were responsible for more than 75% of R&D spending in the country in 2017 (PINTEC), demonstrating the sector's importance in national technological development.

## **UNIVERSITY-BUSINESS PARTNERSHIPS**

Collaboration between universities and companies has proven to be fundamental in driving technological and economic development in contemporary societies. According to the OECD, countries that have research that has the ability to innovate based on the results obtain greater productivity gains and respond better to socio-economic challenges (IEDI, 2020). In fact, integrating the generation of scientific knowledge with industrial innovation capacity makes it possible to overcome the so-called "valley of death" of innovation - the phase of transforming research into practical application.

Comprehensive policies are being adopted globally with the aim of strengthening links and boosting the transfer of knowledge between science and industry in order to stimulate innovation. An OECD report collected case studies over the years 2017-2018 to provide an overview of this scenario. Accord-



**Note:** The same observations apply as in Figure 6.

**Source:** Prepared by the authors based on data from MCTIC (Brazil) and OECD ([www.stats.oecd.org](http://www.stats.oecd.org)).

Figure 5: Distribution of government R&D spending in Brazil and South Korea.

Source: Leal and Figueiredo, 2022

ding to the data collected, the main policy instruments used in OECD countries to support this transfer of knowledge are:

1. Financial instruments, which include different types of transfer of resources from the state to companies, universities or public research institutes (PPIs), conditional on collaboration between them.
2. Regulatory instruments provide incentives for the different parties involved in the transfer of knowledge between science and industry, including laws that affect researchers' careers, university funding and the ownership of patent rights.
3. So-called "soft" instruments refer to less interventionist modes of public policy focused on facilitating relationships and cover mobilization, networking, integration and trust-building.

According to the report, there are formal and informal channels that can give rise to this transfer. Formal channels include the creation of academic spin-offs, collaborative research projects, specific research contracts, patent registration and licensing of university inventions, the provision of academic consultancy services and the mobility of researchers. On the other hand, informal channels include activities such as the development of networks, participation in conferences and continuing education programs offered by universities to companies (IEDI, 2020).

The literature on the "triple helix" (university-industry-government), developed by authors such as Etzkowitz and Leydesdorff (2000), shows that regions with strong interactions between these three actors register greater innovative dynamism. Emblematic examples include Silicon Valley in the USA, where the historical interaction between Stan-

ford University and technology companies was decisive for the emergence of disruptive innovations and startups with global reach; and Cambridge in the UK, whose science park associated with the University of Cambridge has fostered a thriving ecosystem of technology-based companies.

The lack of strong links between academia and the business sector is one of the shortcomings of our Brazilian innovation system, according to several experts (IEDI, 2020). Carlos Henrique de Brito Cruz, former director of Fapesp, explores this issue in his article “*Benchmarking university/industry research collaboration in Brazil*” (2019). According to him, progress has been made in this area and results suggest that parts of the Brazilian science and technology system already have established and growing collaborations between academia and the private sector (Cruz, 2019).

However, the author mentions some challenges that need to be overcome if we are to evolve. The first is that most of the industrial researchers who collaborate with Brazilian universities are from foreign companies that don't sponsor R&D in the country. For him, this suggests that Brazilian universities have international competitive capacity, but are little exploited by national companies. Another point he makes goes completely against what has been explored in this article, stating that Brazil's private sector still invests very little in R&D compared to developed countries. For him, this limits productive interactions with universities.

Another challenge observed is that some universities still manage their partnerships with the private sector in a very amateurish way, with little institutional support for researchers, generating excessive bureaucracy. The final point highlighted is the need to adopt clearer indicators, with the aim of encouraging the national science and technology system to improve policies, with proposals based on evidence (Cruz, 2019).

Below, we explore some successful initiatives in university-company collaboration in Brazil that show their transformative power in converting science into technology.

Brazilian universities have strengthened their interaction with the productive sector through innovation centers and technology parks. USP, through InovaHC, connects researchers, entrepreneurs and the private sector to develop innovative medical solutions, with more than 80 partnerships signed between 2021 and 2024. UFMG, leader in patents at the INPI between 2010 and 2019, manages intellectual protection through CTIT and drives startups and innovation with BH-Tec and the ‘Scale Up’ program. UFRJ, for its part, is home to a Technology Park, which brings together 28 companies and 34 research units, attracting R\$1 billion in private investment. Its efforts have already resulted in 371 patents between 2017 and 2023, as well as the creation of InovaCCS, which stimulates innovation in the health area. These examples reinforce the role of universities in promoting innovation and bringing academic research and technological development closer together in Brazil.

## **THE CHALLENGE OF INSERTING MASTERS AND DOCTORS INTO THE PRODUCTIVE SECTOR**

The inclusion of masters and doctors in the productive sector is one of the central challenges for Brazil's scientific and technological development. An analysis of the data presented in Figure 6, taken from the study Brazil: Masters and Doctors, carried out by the Center for Management and Strategic Studies (CGEE), reveals a worrying panorama regarding the allocation of these professionals in the national labor market. It can be seen that the majority of Brazilian doctors are employed in federal and state public administration, while the participation of private business entities remains low. This pattern suggests a predominantly state-owned absorption model, which limits the inclusion



of these professionals in the productive sector and, consequently, the impact of academic research on industrial innovation.

This scenario contrasts significantly with the reality in the United States, as illustrated in Figure 7, which presents data from the *National Center for Science and Engineering Statistics* (NSF, 2019). In the US, the distribution of PhDs by work sector over the last few decades shows that 47% of PhDs work in the business sector, almost 44% in the education sector and only 9% in government. This structure indicates a more mature innovation ecosystem, where there is greater synergy between universities and companies.

The comparison between the two countries shows a structural discrepancy in the absorption of doctors by the labor market. This contrast reinforces the need for public policies that encourage greater absorption of doctors by the business sector in Brazil, promoting mechanisms that stimulate interaction between universities and companies. Once the connections between the productive sector and academia are strengthened, there will be a natural insertion of these professionals into the market, benefiting both the companies and the doctors themselves.

Analysis of the inclusion of masters and doctors in the formal labor market in Brazil reveals a significant increase in the number of graduates between 2009 and 2021. However, this growth does not necessarily reflect a proportional absorption of these professionals by the productive sector. The data presented by the Center for Management and Strategic Studies (CGEE, 2023) indicates that although the number of formally employed masters and doctors has increased, there is still a misalignment between academic training and the demands of the labor market, as shown in Figure 8.

Another relevant aspect to be analyzed is the inclusion of doctors in the health industry. A comparison between data from Brazil and the United States reveals a significant differ-

ence in the distribution of these professionals. According to the *National Center for Science and Engineering Statistics, Survey of Doctorate Recipients* (2019), in the United States, approximately 40% of doctors in the health field work in the business and industrial sector, reflecting a robust Research and Development (R&D) ecosystem that includes pharmaceutical, biotechnology and medical equipment companies. This high rate of absorption by the private sector is evidence of a favorable environment for innovation, where there are incentives for doctors to work in the development of new technologies and products.

On the other hand, in Brazil, according to data from the CGEE (2023), most doctors are concentrated in the education and public administration sectors, while less than 20% work in the human health and social services sector. This disparity indicates a significant gap in the absorption of these professionals by the productive sector, which compromises the potential for innovation in the health area. This scenario reinforces the initial paradox of this study. The country invests considerably in the academic training of these professionals, but fails to take full advantage of this highly qualified human capital to generate innovation, develop new technologies and products, and thus return to society the benefits of the public investment made in the academic training of these masters and doctors.

Overcoming this disconnect between academia and the productive sector is essential for Brazil's economic and social development. The creation of specific programs to stimulate innovation in industry, as is the case in the United States and Europe, could be a promising way to reverse this situation. Below we explore the main existing policies:

In Brazil, since 1987 there has been the RHA program - Researcher in the Company (Human Resources in Strategic Areas), created by the Ministry of Science, Technology and Innovation and managed by the National

**Distribution of employees by legal nature of the employing establishment, 2009 and 2021 (%)**

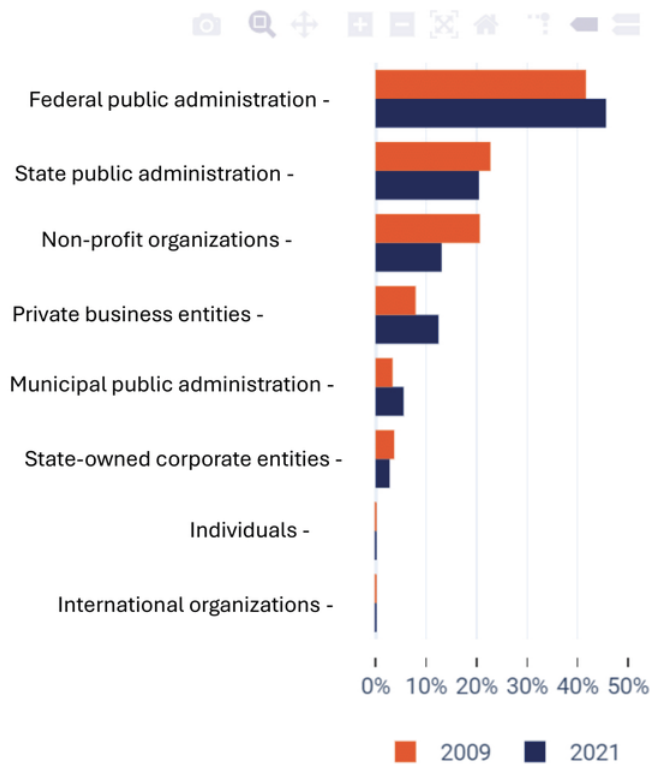


Figure 6 - Distribution of employees by legal nature of the employing establishment, 2009 and 2021 (%)  
Source: Center for Management and Strategic Studies (CGEE, 2023). Data taken from the Sucupira Platform - Capes/MEC (1996-2021) and RAIS/MTE (2009 and 2021).

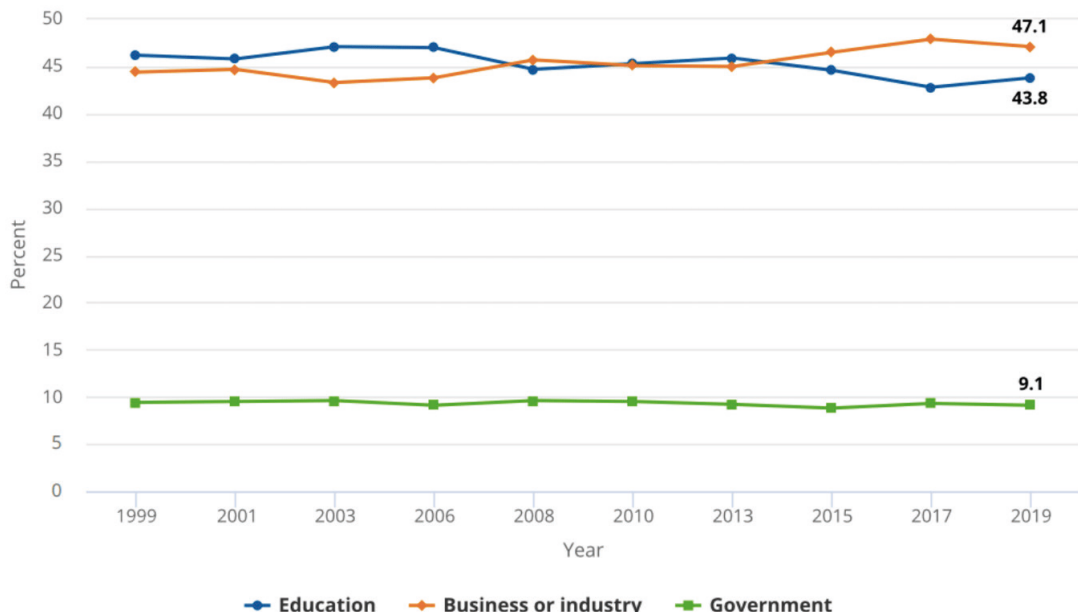


Figure 7 - Distribution of U.S.-trained PhDs by employment sector, 1999-2019 (%)  
Source: National Center for Science and Engineering Statistics, *Survey of Doctorate Recipients*, 2019.

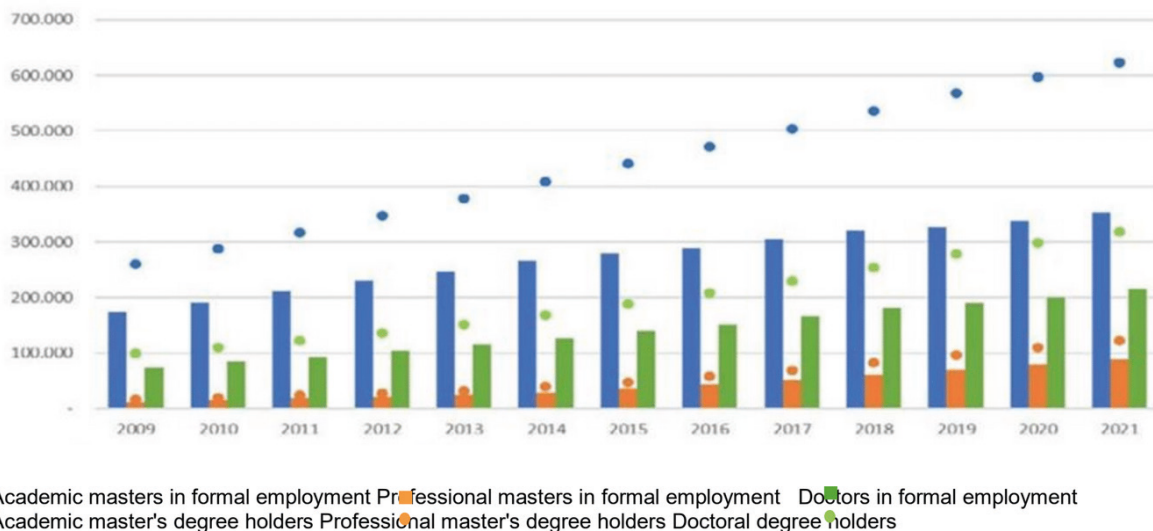


Figure 8: Number of graduates and formal employees among academic and professional master's and doctoral graduates

Source: Center for Management and Strategic Studies (CGEE), 2023.

Council for Scientific and Technological Development (CNPq), which subsidizes the insertion of masters and doctors in companies, especially micro and small ones, to develop innovation projects. RHAЕ has been reformulated and in 2024 a new call for proposals was launched, with investments of R\$61 million, to support projects through the placement of researchers in innovative companies and startups focused on the impact economy or associated with the missions of the New Industry Brazil (NIB) program. The project works with a range of types of technological development grants (Gov.br, 2024).

The National Postgraduate Plan (PNPG) 2025-2029 is also currently being drawn up and will be published in the first half of 2025. One of the points of the plan will be the expansion of interaction with the productive sector in a curricular way and stimulated by the development agency. One of the proposals under discussion is the inclusion of compulsory internships in companies for postgraduate students, with the aim of bringing academic training closer to the needs of the market and making it easier for these professionals to en-

ter the private sector (Folha de S.P., 2025). One of the problems of the low number of masters and doctors in the productive sector may be related to the difference between the academic training offered in stricto sensu postgraduate courses and the needs of companies.

## THE ROLE OF REGULATION AND DEVELOPMENT AGENCIES

Collaboration between industry and academia is widely recognized as a key driver of innovation, helping to transform scientific discoveries into market innovations, strengthening technological and socio-economic development. For this collaboration to take place efficiently, it is essential that there are adequate incentives, both through public policies and regulatory mechanisms that facilitate the connection between the parties. In this context, regulation and development agencies play an essential role in promoting an environment conducive to innovation and sustainable economic development. Below we explore a little more about this environment in Brazil.

## NEW INDUSTRY BRAZIL

The New Industry Brazil (NIB) program seeks to foster exactly this type of collaboration as part of the neo-industrialization strategy. Launched in 2024, NIB allocates significant resources - more than R\$500 billion by 2026 - mainly via the National Bank for Economic and Social Development (BNDES), the Financier of Studies and Projects (Finep) and the Brazilian Company for Industrial Research and Innovation (Embrapii), to finance innovation projects in the productive sector (Agência Brasil, 2024).

By relieving R&D costs and risks, this funding encourages companies to enter into partnerships with universities and research centers. In addition to credit and subsidies, the NIB incorporates tax incentives and innovation policies: for example, it provides for the reform of the Good Law (Law No. 11.196/2005) to expand the list of companies eligible for R&D tax benefits, encouraging more private investment in research

Another important pillar is the protection of intellectual property and legal certainty in partnerships. Brazil already has the Legal Framework for Science, Technology and Innovation (Law No. 13.243/2016), which complements the 2004 Innovation Law and facilitates cooperation agreements between ICTs (Institutions Scientific, Technological and Innovation) and the productive sector. This framework created Technological Innovation Centers (NITs) at universities to manage patents and technology transfer, ensuring that joint results are properly protected and shared between the partners.

Embrapii is a success story: it is an organization aimed at financing cooperative R&D projects between research institutions and industries. In a decade, Embrapii has accredited 96 research units (in universities, institutes and technology centers) and supported more than 2,500 projects, totaling around R\$3.2 billion invested (Embrapii, 2024). This ecosystem

shortens the distance between academia and industry by meeting market demands. These partnerships have resulted in innovative solutions in areas such as advanced manufacturing, health, agribusiness and digital technologies, proving in practice the gains of the union between scientific knowledge and application

## DEVELOPMENT AGENCIES

Development agencies in Brazil act as intermediaries in the financing of innovation projects, strengthening the relationship between academia and the productive sector. Some of the main institutions responsible for supporting research and development in the country are BNDES, Embrapi, FINEP and the Research Support Foundations (FAPs). In addition to these institutions, other agencies also connect researchers to the productive sector. CAPES funds postgraduate scholarships and academic cooperation with companies. CNPq supports applied research through initiatives such as RHAE, which funds the participation of researchers in innovative projects within companies

## CONCLUSION

Scientific innovation plays a fundamental role in a country's technological progress and economic development. In Brazil, although academic production is robust and internationally recognized, the conversion of this knowledge into applied innovation still faces significant structural and institutional challenges. The phenomenon of the "Scientific-Innovative Paradox", in which Brazil is the tenth country in terms of scientific production, but paradoxically ranks a distant 50th in terms of innovation, reflects the need to improve interactions between universities, companies and the government.

The analysis of Research and Development (R&D) funding models reveals that while countries like South Korea have promoted a substantial increase in private participation in

innovation investments, Brazil still depends predominantly on the public sector to fund R&D activities. This dependence hinders the application of academic discoveries in the productive sector, limiting the competitiveness and economic impact of Brazilian science.

Cooperation between universities and companies has emerged as one of the main vectors for overcoming this challenge. Successful experiences, both international and national, show that strategic partnerships can reduce difficulties in the innovation process, facilitating the transition from basic research to viable technological solutions on the market. Collaborative models such as those adopted in the United States and Europe indicate that programs that encourage academic mobility and private sector participation in R&D are effective in increasing technological competitiveness.

In Brazil, programs such as Nova Indústria Brasil (NIB) represent an important step towards stimulating industrial innovation and strengthening the synergy between academia and the productive sector. Maintaining tax incentives, funding mechanisms and regulatory policies aimed at innovation, such as the Lei do Bem (Good Law) and the Marco Legal da Ciência, Tecnologia e Inovação (Science, Technology and Innovation Legal Framework), are essential measures to create an environment conducive to the development of new technologies and the absorption of masters and doctors into the job market.

Even so, it's not enough. The main barrier to be overcome in Brazil is not the lack of funding or scientific production, but the conversion of this knowledge into concrete solutions for the productive sector and society. The country invests significantly in research through the most diverse institutions, which is reflected in the scientific production rankings. However, the major bottleneck lies in the lack of strategic direction for this investment to result in applied innovation. To overcome this challenge, it is essential that a significant part of the resources be

directed towards research aligned with market demands, in direct partnership with companies and strategic sectors of the economy.

The rapprochement between academia and the productive sector needs to be encouraged in a structured way, ensuring that research is not done in isolation, but together with those who know the needs and opportunities of the market. In addition, the promotion policy must be articulated between the main institutional players - the Ministry of Science, Technology and Innovation (MCTI), the Ministry of Development, Industry, Trade and Services (MDIC), the Ministry of Education (MEC) and funders - to guarantee a more efficient and connected innovation ecosystem.

This transformation also involves structural changes within academia. It is necessary to reformulate criteria for evaluating professors in order to value the applied impact of research, expand professional master's degree programs, revise curricula to strengthen innovation-oriented training and create more effective incentives for collaboration with the productive sector. With this restructuring it will be possible to better align scientific production, reducing the gap between the knowledge generated in universities and the innovation that drives the country's development.

The future of innovation in Brazil depends on creating a more integrated ecosystem in which science is recognized not only for its academic excellence, but also for its economic and social impact. The implementation and strengthening of public policies that encourage collaboration between the academic and productive sectors, combined with a greater role for the private sector in investing in innovation, will be decisive in consolidating a sustainable and competitive development model. This will enable Brazil to overcome the paradox between scientific production and innovation, transforming its academic potential into long-term technological and economic progress.



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