

Brazil Innovation and Development Index

Measuring to transform

2026

INPI NATIONAL INSTITUTE OF INDUSTRIAL PROPERTY

Governo Federal

Ministério do Desenvolvimento, Indústria, Comércio e Serviços

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TANIA CRISTINA LOPES RIBEIRO

Chief Economist and Head of Economics and Innovation

RODRIGO VENTURA

Market Intelligence Coordinator

KÁTIA R. DO VALLE FREITAS PINTO

IBID 2026

Responsible Unit

Department of Economics and Innovation (CGEI)

E-mail: economia@inpi.gov.br

9 Mayrink Veiga Street, Downtown
Rio de Janeiro, Brazil
ZIP Code 20090-910

Authors

RODRIGO VENTURA (**Chief Economist**)
GUSTAVO TRAVASSOS
LUÍS HENRIQUE R. DE CAMPOS
KÁTIA R. DO VALLE FREITAS PINTO
MILENA MARQUES VIANA SIMONACE
Technical Coordinator
GUSTAVO TRAVASSOS

Graphic Design

MILENA MARQUES VIANA SIMONACE

Brazil Innovation and Development Index (IBID)

A multidimensional index that annually measures and assesses innovation performance across Brazil's 27 states and five major regions. The IBID combines Innovation Inputs and Innovation Outputs indicators, following the conceptual framework and methodological structure of the Global Innovation Index (GII) developed by the World Intellectual Property Organization (WIPO).

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Citation

National Institute of Industrial Property (INPI). Department of Economics and Innovation. Brazil Innovation and Development Index (IBID) 2026. Rio de Janeiro: INPI, 2026.

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Website: National Institute of Industrial Property (INPI)

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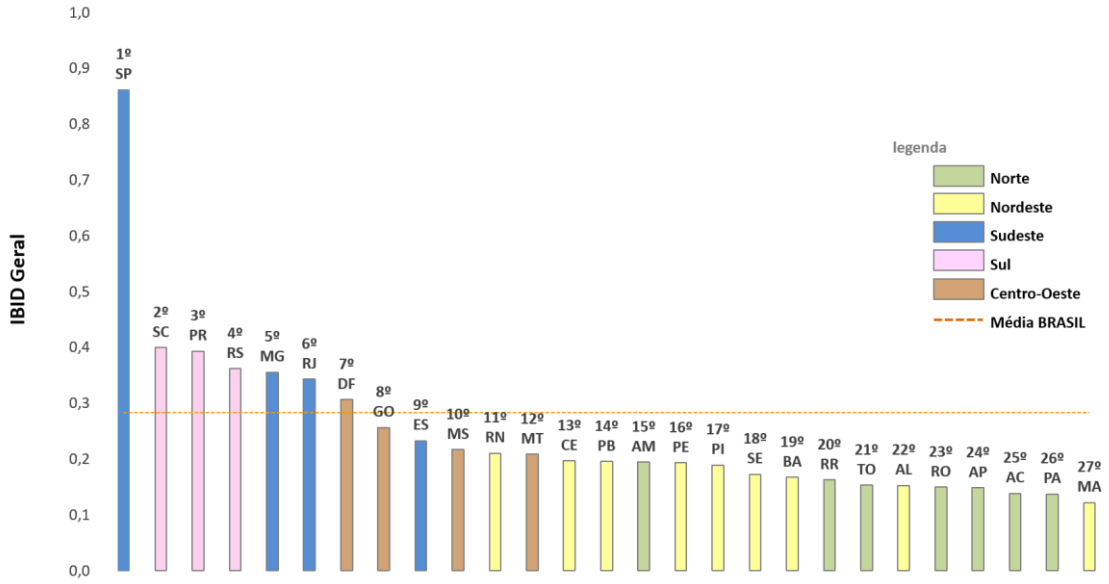
BRASIL INNOVATION AND DEVELOPMENT INDEX

The Brazil Innovation and Development Index (IBID) 2026 is Brazil's official subnational innovation index, developed by the National Institute of Industrial Property (INPI) and fully aligned with the conceptual framework and methodological architecture of the World Intellectual Property Organization's Global Innovation Index (GII). By replicating the GII structure at the state level, the IBID evaluates innovation performance across Brazil's 27 states and five major regions, providing a comprehensive picture of how innovation capabilities are distributed throughout the country and how effectively different territories transform innovation inputs into tangible economic, technological, and knowledge-based outcomes.

The 2026 edition goes beyond providing a snapshot of where innovation is concentrated today. Drawing on a thirteen-year historical series (2014-2026), it captures how innovation ecosystems have evolved across Brazilian states over time. While preserving the internationally recognized input-output framework of the GII, the report introduces new analytical tools to investigate why territories with similar resources, income levels, or innovation conditions often achieve markedly different innovation outcomes. In doing so, it offers a broader perspective on the relationship between innovation, productive capabilities, and regional development in Brazil.

IBID 2026 reveals a persistent pattern of regional concentration in Brazilian innovation. São Paulo remains the undisputed national leader, achieving an IBID score of 0.861, approximately three times the national average. The state has ranked first throughout the entire 2014-2026 series, reflecting a unique combination of favorable innovation conditions, strong innovation outputs, and a highly sophisticated productive structure. Santa Catarina, Paraná, Rio Grande do Sul, and Minas Gerais complete the group of Brazil's five most innovative states.

Figure 1 IBID 2026 Overall State Ranking.



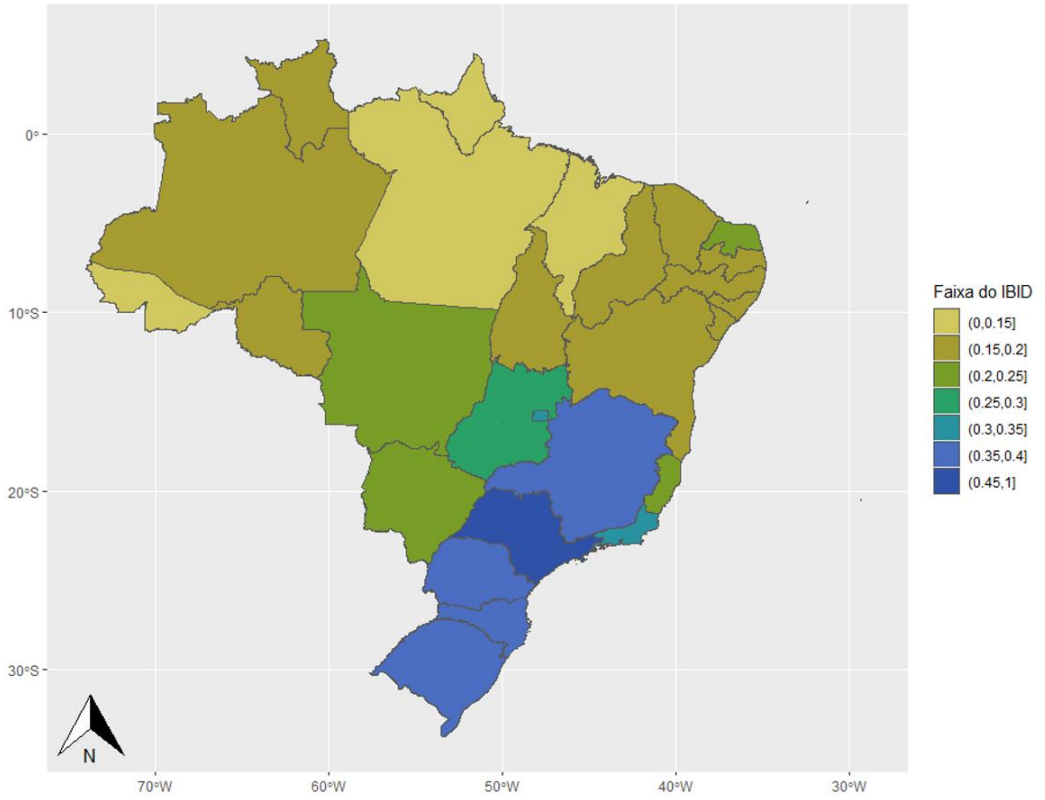
The composition of the top tier has remained remarkably stable over time. The same group of states has occupied the leading positions throughout the historical series, although changes in relative positions reveal important shifts within the national innovation landscape. In 2026, Rio Grande do Sul and Minas Gerais overtook Rio de Janeiro, moving into fourth and fifth positions, respectively. Paraná continued a long-term trajectory of improvement that has transformed it from fifth place in 2016 into one of the country's leading innovation economies.

Regional disparities remain a defining characteristic of Brazilian innovation. The South and Southeast regions account for seven of the ten highest positions in the national ranking, while the North and Northeast regions remain concentrated in the lower half of the distribution. Nevertheless, the results also indicate that innovation is not static. Several states outside the traditional innovation hubs have improved their relative positions over the last decade, suggesting a gradual diffusion of innovation capabilities across the country.

A particularly noteworthy development is the emergence of a group of innovation "climbers". Following a classification adopted by the World Intellectual Property Organization (WIPO), Paraná, Rio Grande do Norte, Paraíba, Amazonas, Piauí, Roraima and Alagoas recorded the fastest ranking improvements between 2016 and 2026. While most of these states remain below the national leaders in absolute performance, their trajectories indicate that significant progress is possible even under less favorable structural conditions.

The data further suggest that innovation activity has become slightly less concentrated over time. Between 2025 and 2026, the dispersion of IBID scores across states declined, with the Gini coefficient falling from 0.274 to 0.261. Although the reduction is modest, it points to a gradual narrowing of the gap between the national leader and the rest of the country. Sixteen of the twenty-six states outside São Paulo reduced their relative distance to the leading state over the last decade.

Figure 2 Territorial distribution of innovation across Brazilian states



The territorial perspective reveals that Brazilian innovation operates through distinct regional ecosystems. São Paulo stands apart as a national innovation hub, while Southern states form a second cluster characterized by strong performance across both innovation inputs and outputs. Outside these regions, innovation performance becomes more heterogeneous, reflecting differences in institutional quality, human capital, productive structure, and technological capabilities. These patterns provide the backdrop for the central question explored in the remainder of this report: why do states with similar resources and economic conditions often achieve very different innovation outcomes?

From Innovation Performance to Innovation Efficiency

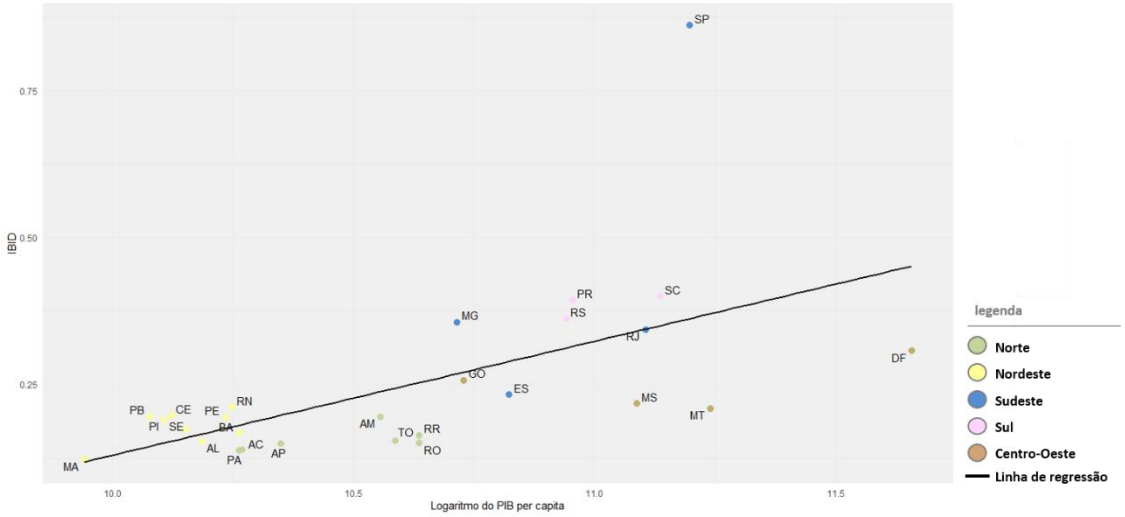
The rankings presented above show where innovation is concentrated in Brazil. They do not, however, explain why states with similar levels of income, infrastructure, human capital, or institutional quality often display very different innovation outcomes.

This question motivates one of the main analytical contributions of the IBID 2026. Beyond measuring innovation performance, the report examines the efficiency with which states transform available resources into tangible innovation outputs. The objective is to distinguish between territories that simply possess favorable conditions for

innovation and those that are particularly effective at converting those conditions into scientific production, intellectual property assets, innovative firms, and technological development.

A first indication of this phenomenon emerges when innovation performance is compared with income levels. As expected, wealthier states generally achieve stronger innovation performance than poorer ones. The relationship, however, is far from deterministic. Several states, particularly in the Northeast, perform above what their level of income would predict, while others with relatively high income levels underperform. The results suggest that income is an important enabling factor, but not a sufficient explanation for innovation success.

Figure 3 Innovation performance relative to income levels (IBID vs. GDP per capita)



The northeastern region stands out in this regard. Seven of the thirteen states classified as innovation overperformers relative to income are located in the region, with Paraíba, Ceará and Piauí exhibiting particularly strong results. By contrast, all states in the Central-West region perform below expectations relative to their income levels. The Federal District is the most notable example, recording the highest GDP per capita in Brazil while generating innovation outcomes below what its income level would suggest.

To examine this question more directly, IBID 2026 introduces the Innovation Conversion Index (ICI). The indicator measures the relationship between innovation outputs and innovation inputs, allowing the analysis to focus on conversion performance rather than on the volume of resources available to each state. Conceptually, it mirrors the Innovation Efficiency Ratio employed by the Global Innovation Index at the international level.

The results reveal substantial variation in innovation conversion across Brazilian states. Most states generate innovation outputs below the level suggested by their innovation inputs. Remarkably, São Paulo is the only state in the country with an ICI above one, meaning that its innovation outputs exceed what its own innovation environment would predict. This finding reinforces the state's unique position within the Brazilian

innovation system and helps explain its sustained leadership throughout the historical series.

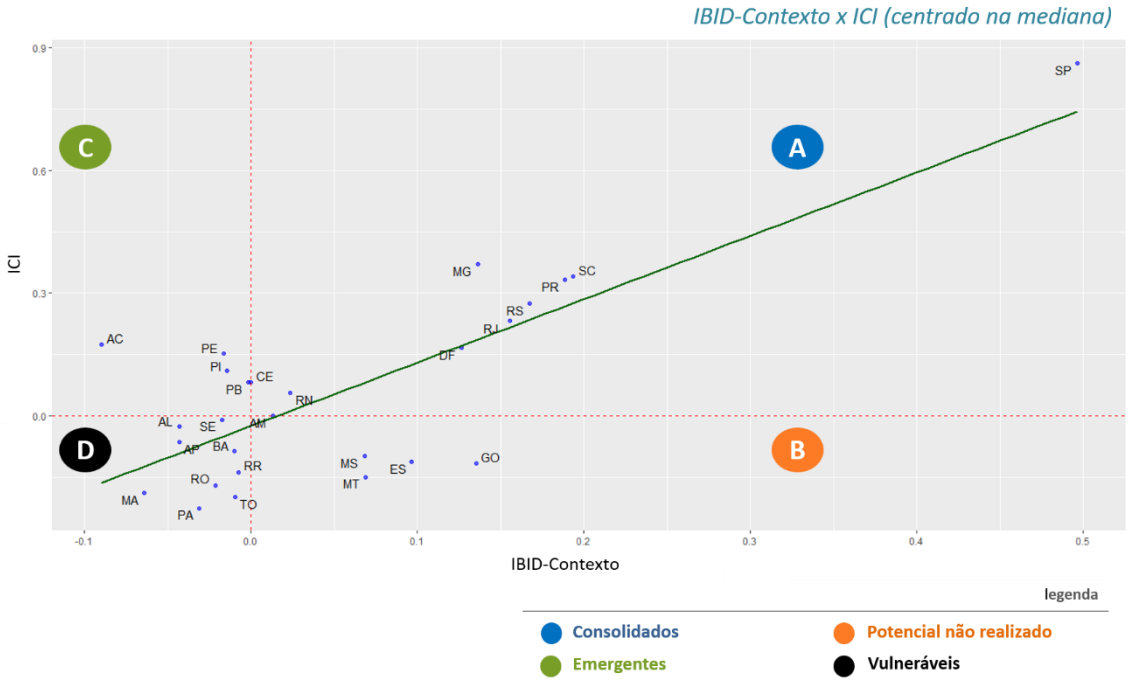
Figure 4 Innovation Conversion Index (ICI): Innovation outputs relative to innovation inputs

Rank ICI 26	UF	ICI26	ICI25	ΔPos ICI	Rank IBID 26
1	SP	1,259	1,257	= 0	1
2	MG	0,767	0,810	⇧ 3	5
3	SC	0,737	0,953	⇩ 1	2
4	PR	0,729	0,842	= 0	3
5	RS	0,670	0,805	⇧ 1	4
6	RJ	0,627	0,863	⇩ 3	6
7	AC	0,571	0,368	⇧ 9	25
8	DF	0,561	0,456	⇧ 6	7
9	PE	0,547	0,650	⇩ 2	16
10	PI	0,505	0,477	⇧ 3	17
11	CE	0,479	0,529	⇧ 1	13
12	PB	0,478	0,569	⇩ 4	14
13	RN	0,451	0,565	⇩ 4	11
14	AM	0,395	0,286	⇧ 9	15
15	SE	0,386	0,555	⇩ 5	18
16	AL	0,370	0,368	⇧ 1	22
17	AP	0,330	0,242	⇧ 7	24
18	BA	0,309	0,365	= 0	19
19	MS	0,297	0,436	⇩ 4	10
20	ES	0,283	0,554	⇩ 9	9
21	GO	0,278	0,337	⇩ 2	8
22	RR	0,258	0,216	⇧ 4	20
23	MT	0,245	0,325	⇩ 2	12
24	RO	0,225	0,304	⇩ 2	23
25	MA	0,206	0,328	⇩ 5	27
26	TO	0,196	0,185	⇧ 1	21
27	PA	0,169	0,220	⇩ 2	26

The ICI also reveals that high innovation performance and high innovation efficiency are not necessarily the same phenomenon. Minas Gerais, for example, ranks fifth in the overall IBID ranking but occupies second place in the ICI ranking, demonstrating an exceptional capacity to translate available resources into results. At the other end of the spectrum, some states possess relatively favorable innovation environments but remain less effective in converting these conditions into measurable outcomes.

This distinction becomes even clearer when innovation inputs and conversion capacity are examined simultaneously. States can then be divided into four broad groups: those with both strong innovation environments and strong conversion performance; those with favorable conditions but limited conversion; those capable of achieving strong results despite constrained resources; and those facing challenges on both dimensions. This framework provides a more nuanced understanding of innovation ecosystems and offers a useful basis for policy design.

Figure 5 . Innovation Inputs and Conversion Capacity: Four Profiles of Brazilian States



Among the most interesting findings are the cases of Ceará and Rio Grande do Norte, which combine above-median conversion with relatively strong innovation environments, and the cases of Acre, Paraíba, Pernambuco and Piauí, which achieve above-median conversion despite operating with comparatively limited innovation inputs. These states demonstrate that effective innovation systems can emerge even under resource constraints. Conversely, some higher-income states with stronger innovation environments remain less successful in translating potential into results.

The evidence therefore suggests that innovation performance depends not only on the quantity of available resources, but also on the efficiency with which those resources are mobilized and transformed into productive outcomes. This conclusion naturally raises a broader question: what explains persistent differences in innovation conversion across territories? The final section addresses this issue through the lens of economic complexity and productive sophistication.

Productive Sophistication and Innovation

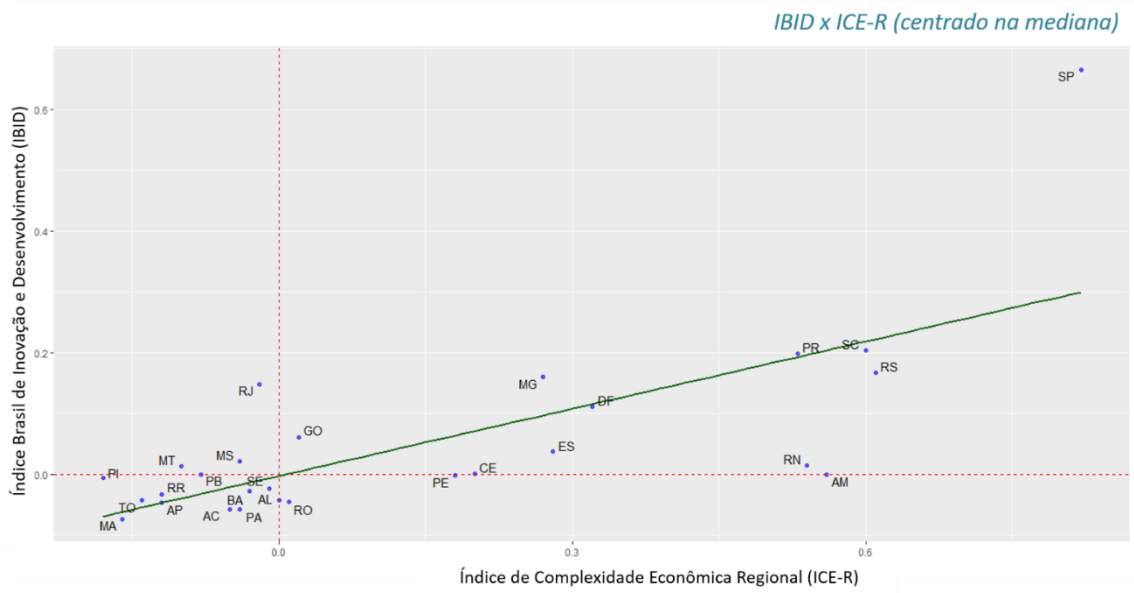
Why do states with similar levels of income and innovation inputs achieve markedly different innovation outcomes? IBID 2026 finds that an important part of the answer lies in the sophistication and diversity of their productive structures. While income, infrastructure, human capital, and institutional quality all contribute to innovation performance, they do not fully explain why some territories consistently outperform expectations while others struggle to convert their advantages into results.

To investigate this question, IBID 2026 draws on the literature of economic complexity developed by Hidalgo and Hausmann. This perspective argues that long-term development depends less on the quantity of resources available and more on the diversity and sophistication of productive capabilities accumulated within an economy. Innovation, in this framework, emerges from the ability to recombine these capabilities into new products, technologies, processes, and forms of knowledge. States with more diversified and sophisticated productive systems therefore tend to possess greater innovative potential.

To test this hypothesis at the subnational level, the IBID was compared with Brazil's Regional Economic Complexity Index (ICE-R), developed by Cedeplar/UFMG and calculated from the diversity and sophistication of formal employment structures across Brazilian states. Unlike measures of economic size or income, the ICE-R captures the breadth of productive capabilities embedded in each regional economy.

The results reveal a strong association between productive sophistication and innovation performance. The relationship between the IBID and the ICE-R reaches a correlation coefficient of 0.72, indicating that economically more complex states tend to achieve superior innovation outcomes. Productive sophistication alone accounts for more than half of the variation in innovation performance observed across Brazil's 27 states. While this relationship should not be interpreted as evidence of causality, it suggests that the structure of a regional economy plays a critical role in shaping its innovative capacity.

Figure 6 Innovation performance and productive sophistication: IBID versus ICE-R



The comparison between innovation and economic complexity reinforces many of the patterns identified in the previous sections. Five of the seven leading states in the IBID ranking also belong to the group of the seven most economically complex states in Brazil. São Paulo, Paraná, Santa Catarina, Rio Grande do Sul, and the Federal District appear among the leaders in both indicators, suggesting that innovation excellence is often accompanied by a sophisticated and diversified productive base.

At the same time, the relationship reveals several important deviations from the overall trend. These cases help explain why innovation performance cannot be understood solely through measures of income, innovation inputs, or productive sophistication taken in isolation. The most notable examples are São Paulo, Minas Gerais, Rio de Janeiro, and Amazonas.

São Paulo stands out as the clearest example of cumulative advantage within the Brazilian innovation system. The state combines the country's largest innovation environment, the only ICI above unity, the highest level of productive sophistication, and the best overall innovation performance. The convergence of these factors helps explain why São Paulo has maintained a substantial lead over all other states throughout the 2014-2026 series.

Minas Gerais provides a different but equally instructive case. Although it ranks only ninth in economic complexity, the state achieves considerably stronger innovation results than its productive structure alone would predict. This pattern is consistent with the findings of the Innovation Conversion Index, where Minas Gerais ranks second nationally. Across multiple analytical perspectives, the state systematically generates innovation outcomes above expectation.

Rio de Janeiro exhibits a similar pattern. Despite ranking close to the national median in economic complexity, the state produces innovation results that exceed what its productive sophistication would suggest. This positive deviation indicates the

continued presence of important scientific, technological, and innovation assets, even as the state has faced challenges in maintaining its broader innovation performance in recent years.

Amazonas illustrates the opposite situation. The state possesses the fourth-highest economic complexity score in Brazil, reflecting the sophistication of its industrial base, yet ranks only fifteenth in the overall IBID. The gap between productive sophistication and innovation performance is the largest negative deviation observed in the analysis. This finding echoes previous evidence showing that Amazonas struggles to transform favorable conditions into proportional innovation outputs.

Taken together, these results point to a broader conclusion. Innovation is not determined solely by the amount of resources available, nor solely by productive sophistication. Rather, the strongest innovation ecosystems emerge where three dimensions reinforce one another: a favorable environment for innovation, the capacity to convert inputs into outputs, and a sophisticated productive structure capable of absorbing and recombining knowledge. States that combine these attributes consistently achieve superior innovation outcomes, while weaknesses in any one dimension may constrain performance regardless of strengths elsewhere.

The Brazilian experience therefore suggests that productive diversification and technological sophistication should be understood not merely as consequences of innovation, but also as important foundations for sustaining it over time. By linking innovation outcomes to the structure of regional economies, the IBID expands the analytical scope of innovation measurement and provides a broader framework for understanding regional development dynamics in Brazil.

Conclusion

The Brazil Innovation and Development Index (IBID) 2026 confirms that innovation remains unevenly distributed across Brazilian territory, with leadership concentrated in a relatively small group of states. São Paulo continues to occupy a unique position within the national innovation system, while the South and Southeast regions maintain the strongest innovation ecosystems in the country. At the same time, the historical series reveals evidence of gradual convergence, as a growing number of states improve their relative performance and reduce their distance from the national frontier of innovation.

Yet the central contribution of the 2026 edition extends beyond identifying where innovation is located. Drawing on a thirteen-year historical series and new analytical tools, the report shows that innovation performance cannot be fully understood through measures of income, infrastructure, human capital, or institutional quality alone. States with similar levels of resources often achieve remarkably different outcomes, suggesting that the capacity to convert available conditions into innovation is itself a critical dimension of development.

The introduction of the Innovation Conversion Index (ICI) provides new evidence on these differences. The results demonstrate that high levels of innovation inputs do not automatically translate into strong innovation outputs. Some states consistently generate

more innovation than their available resources would suggest, while others struggle to convert favorable conditions into tangible results. This distinction reveals that innovation capacity is shaped not only by the availability of resources but also by the effectiveness with which those resources are mobilized and transformed into knowledge, technology, and intellectual property assets.

The analysis further shows that productive sophistication plays an important role in explaining these differences. States with more diversified and complex economic structures tend to achieve higher levels of innovation and stronger conversion performance. The positive relationship between innovation and economic complexity suggests that innovation should be viewed not as an isolated outcome, but as part of a broader process of capability accumulation, productive diversification, and long-term economic transformation.

The findings also highlight that there is no single pathway to innovation-led development. The experience of São Paulo illustrates the advantages of combining a strong innovation environment, efficient conversion mechanisms, and a highly sophisticated productive base. At the same time, the performance of several Northeastern states demonstrates that meaningful innovation gains can be achieved even under more constrained economic conditions when available resources are effectively converted into results. Conversely, some higher-income states continue to face challenges in translating favorable conditions into innovation outcomes.

Taken together, the evidence presented in IBID 2026 reinforces an important policy message: improving innovation performance requires more than expanding inputs. Investments in infrastructure, education, research, and finance remain essential, but their effectiveness ultimately depends on the ability of regional economies to absorb knowledge, generate productive capabilities, and transform opportunities into innovation outcomes. Strengthening these conversion mechanisms is therefore as important as expanding the resources available to innovation itself.

By combining internationally aligned innovation metrics with a subnational perspective on development, IBID 2026 provides a comprehensive framework for understanding the evolving geography of innovation in Brazil. The report not only identifies the country's leading innovation ecosystems but also offers insights into the structural factors that shape their performance, contributing to a more informed debate on innovation, competitiveness, and regional development in one of the world's largest and most diverse economies.