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MACROECONOMICS AND REGIONAL DYNAMISM: NOTES ON NEW DETERMINANTS AND RECENT INTERPRETATIONS

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Abstract

This paper examines different interpretations regarding regional productive deconcentration and territorial articulation within the current pattern of capital reproduction in Brazil. In the context of the growing importance of commodity and semi-manufactured exports as a key dynamic in the Brazilian economy during the twenty-first century, the text advances the hypothesis that Brazil is undergoing a process of passive insertion into international trade, characterized by a transformation of the productive base toward regressive specialization and the (re)primarization of the export basket. Drawing on the historical-structural approach to regional analysis, based on the seminal contributions of Wilson Cano, the study argues that, among the new regional determinants, there is a prevailing tendency toward productive fragmentation.

Keywords

Regional Economy; Regional Development; Productive Structures; Regional Theories; Urban-Regional Integration.

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MACROECONOMIA E DINAMISMO REGIONAL: APONTAMENTOS SOBRE OS NOVOS DETERMINANTES E AS INTERPRETAÇÕES RECENTES

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Resumo

Este trabalho apresenta diferentes interpretações acerca da desconcentração produtiva regional e da articulação territorial no atual padrão de reprodução do capital. Diante da exportação de commodities e bens semimanufaturados como variável dinâmica da economia brasileira no século XXI, o texto parte da hipótese de que o país passa por um processo de inserção comercial externa passiva, pautada por uma transformação da base produtiva em direção à especialização regressiva e (re)primarização da pauta exportadora. Utilizando o método histórico-estrutural aplicado à análise regional, com base nas obras seminais de Wilson Cano, conclui-se que, entre os novos determinantes regionais, prevalece a tendência à fragmentação produtiva.

Palavras-chave

Economia Regional; Desenvolvimento Regional; Estruturas Produtivas; Teorias Regionais; Integração Urbano-Regional.

MACROECONOMICS AND REGIONAL DYNAMISM: NOTES ON NEW DETERMINANTS AND RECENT INTERPRETATIONS

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Introduction

The Brazilian economy has undergone a profound transformation in its accumulation base during the twenty-first century, marked by the growing importance of foreign trade alongside a loss of density in the national productive fabric. In this context, the regressive specialization of Brazil's productive and export structure has intensified, as the development of the industrial base—interrupted since the 1980s—has not been renewed in the face of international competition, which Cano (2012; 2014) described as the "reprimarization of the export basket".

In this context, exports of commodities and semi-manufactured goods derived from the processing of agricultural and mineral natural resources with low value added have played a central role in shaping national and regional productive restructuring. Export-oriented activities and territories located further inland—notably the agricultural and extractive frontiers in the Central-West, North, and Northeast—have emerged as new dynamic territorialities within this productive structure.

Given these changes, one of the central issues concerns the behavior of regional productive linkages within the current pattern of capital reproduction. Thus, the central research problem may be formulated as follows: what are the new forms of regional integration or fragmentation in the twenty-first century? To address this question, this study has aimed to analyze the trajectory of national productive deconcentration and the vectors of Brazil's regional determinants (especially their

direct linkage with external markets), while also presenting different lines of interpretation. The study finds that the country is undergoing a process of passive insertion into international trade, in which factors associated with the export of static comparative advantages reinforce export-oriented dynamics in subregional spaces. It concludes that, in the current historical conjuncture, the external sector—particularly commodity and natural resource exports—has become a central determinant of Brazil's regional dynamics, with the external shaping new forms of territorial articulation while promoting productive deconcentration in a manner consistent with the thesis of regional productive fragmentation.

The study was conducted using the historical-structural method applied to regional analysis, combining a qualitative approach (based on a literature review) and a quantitative approach (based on descriptive statistics).

1. The capital accumulation cycle and the macroeconomic model

The beginning of the 1990s marked the end of the national-developmentalist cycle of capital accumulation in Brazil. In its place, trade and financial liberalization of the Brazilian economy emerged, thereby establishing a new pattern in which the State became aligned with and subordinated to the interests of transnational capital, which, according to Cano (2008), came to guide the country's strategic decisions regarding how much, when, and where investment would occur.

Maricato (2008, p. 55) argued that: "States were not diminished as the neoliberal ideology would have us believe; rather, they adapted to the demands of large corporations and financial capital".[1] The State increasingly became hostage to prevailing macroeconomic conditions and to passive fiscal and tax policies aimed at attracting foreign capital, such as the promotion of the "fiscal war" (interstate tax competition)—whose resulting benefits are highly questionable, as noted by Lopreato (2013).

The reconfiguration of the State forms part of a new historical stage in the cycle of capital accumulation, which Osório (2012) describes as an "export-oriented pattern of capital reproduction based on productive specialization". This pattern of reproduction in peripheral, underdeveloped, and dependent Latin American countries—such as Brazil—is tied to the international commodity market, particularly the export of agro-mineral products.

This represents a subordinate and/or passive insertion of Brazil into the new international division of labor (IDL), as indicated by Palma (2009). Following the

1. This and all other non-English citations used hereafter have been translated by the authors.

recommendations of plans and programs promoted by multilateral organizations,[2] the country specialized in exporting products for which it already possessed comparative production advantages in external markets. In other words, Brazil reinforced its specialization in primary activities and raw materials, sectors for which it has abundant factors of production, particularly land and labor. Borghi (2015) noted that, through the export of primary products, Brazil increased its competitiveness in goods that are increasingly more marginal in international trade, thereby gradually losing external competitiveness even while operating with comparative advantages.

In this regard, Lélis, Cunha, and Linck (2019) have argued that the Brazilian economy has become increasingly tied to external conditions and dependent on the inflow of foreign currency generated by international capital flows, reinforcing an economic dynamic that is volatile and highly susceptible to abrupt fluctuations in commodity prices. In this context, exports assume a central role as drivers of effective demand and of the cyclical behavior of spending, revenue collection, and production in the Brazilian economy.

The adoption of the orthodox monetarist macroeconomic policy tripod in 1999, grounded in the "new macroeconomic consensus",[3] reinforced the country's subordinate position in the IDL. As noted by Oreiro and Paula (2021), the policy tripod subordinated fiscal, exchange-rate, financial, and industrial policies to the single objective of monetary policy: controlling inflation.

The macroeconomic agenda associated with the policy tripod imposed a series of restrictive measures on the Brazilian economy. These entailed the contraction of public investment in pursuit of primary fiscal surpluses, constrained economic growth resulting from restrictive inflation targets, and reduced external competitiveness of national industry due to the abandonment of an active exchange-rate policy (Nassif, 2015).

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2. See the United Nations Millennium Development Goals (MDGs) and the World Trade Organization's Doha Development Agenda (DDA).

3. According to Paula and Saraiva (2015, p. 22), "the New Macroeconomic Consensus (NMC) represents the new synthesis of conventional macroeconomic theory, much like the 'neoclassical synthesis' of the 1950s; however, monetary policy becomes the main instrument of economic policy, while the other policies (fiscal, exchange-rate, financial, etc.) become subordinated to the objectives of stabilizing output and, above all, inflation." The authors note that, within the framework of the NMC, a low and stable inflation rate is considered a vital condition for long-term economic growth, which translates politically into the adoption of the inflation-targeting regime as the best practice in monetary policy (PAULA, L. F. de; SARAIVA, J. Novo consenso macroeconômico e regime de metas de inflação: algumas implicações para o Brasil. [New Macroeconomic Consensus and the Inflation-Targeting Regime: Some Implications for Brazil. *Revista Paranaense de Desenvolvimento*, Curitiba, v. 36, n. 128, p. 19–32, Jan./Jun. 2015).

One of the most significant impacts was felt in Brazilian industry. This macroeconomic agenda helped shape the restructuring foundations of the national and regional productive structure in the twenty-first century, alongside the growing weight of commodity exports and the loss of density in the manufacturing sector— a process that Cano (2014) characterized as premature, or negative, deindustrialization.

Morceiro (2018) empirically documented the loss of value added in Brazilian industrial production, showing that the ratio between manufacturing value added (MVA) and GDP declined from 20.7% to 11.8% between 1981 and 2017. Macedo (2023) further notes that deindustrialization is also reflected in rising sectoral import coefficients, as domestic suppliers are increasingly replaced by foreign ones, weakening—if not outright breaking—the linkages within Brazilian production chains.

Table 1 highlights the relative decline of industry within the Brazilian economy and the shift toward regressive specialization of the national productive structure based on an analysis of the sectoral composition of production using the relative shares of gross value added (GVA).

Sector/Year	2000	2006	2010	2014	2020	2022
Agriculture, Forestry, and Fishing	**5.5%**	**5.1%**	**4.8%**	**5.0%**	**6.6%**	**6.7%**
Industry	**26.8%**	**27.7%**	**27.4%**	**23.8%**	**22.5%**	**26.3%**
Extractive industries	1.4%	3.5%	3.3%	3.7%	2.9%	5.5%
Manufacturing industries	15.3%	16.6%	15.0%	12.0%	12.3%	15.1%
Electricity and gas, water, sewage, waste management activities	3.1%	3.2%	2.8%	1.9%	3.2%	2.4%
Construction	7.0%	4.3%	6.3%	6.2%	4.1%	3.4%
Services	**67.7%**	**67.2%**	**67.8%**	**71.2%**	**70.9%**	**67.0%**
Wholesale and retail trade	8.1%	11.2%	12.6%	13.6%	12.5%	12.8%
Transportation, storage, and postal activities	3.7%	3.4%	4.3%	4.6%	4.1%	3.2%
Information and communication	4.3%	4.3%	3.8%	3.4%	3.6%	3.3%
Financial and insurance activities and related services	6.8%	7.2%	6.8%	6.4%	6.9%	7.0%
Real estate activities	12.2%	8.9%	8.3%	9.3%	9.9%	8.8%
Other service activities	16.9%	15.8%	15.7%	17.4%	16.4%	16.3%
Public administration, defense, public health and education, and social security	15.7%	16.3%	16.3%	16.4%	17.4%	15.6%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 1. Sectoral structure of production in Brazil based on the relative share of current gross value added (GVA) (2000-2022) (in %)

Source: Own elaboration, based on data from the Brazilian Institute of Geography and Statistics-IBGE (2025a).

It may be observed that the agricultural sector expanded by 1.2 percentage points (p.p.), whereas the services sector contracted by 0.7 p.p.—together accounting for more than 70% of total national output—and the industry sector experienced a decline of 0.5 p.p. This modest reduction in industry conceals critical insights into the economic dynamics, regional productive integration, and Brazil's emerging territorial configurations.

For instance, the national industrial profile underwent a qualitative shift, marked by the ascendency of the extractive industry at the expense of manufacturing. This reflects an industrial structure that is increasingly less complex, characterized by low technology, limited value added, low wages, and a diminished degree of sectoral integration. Consequently, industry is defined by low investment and constrained productivity, concentrated in activities that are either natural resource-intensive or labor-intensive,[4] with minimal emphasis on generating economies of scale and weak incentives for endogenous innovation. As a result, its technical–productive potential remains restricted. This trend thus indicates a gradual, yet steady, shift in the basis of accumulation, pointing toward a regressive specialization of the productive structure.

Table 2[5] presents the share of industrial transformation value (VTI – a Brazilian measure of industrial value added) according to "competitive factors", thereby enriching the discussion on national industrial restructuring. As noted by Monteiro Neto, Silva, and Severian (2020), this taxonomy seeks to categorize industrial sectors and expresses the internalization of patterns of technological intensity within specific groups or branches of industry. In other words, this industrial typology makes it possible to characterize the predominant type of industry and the level of development of the productive forces in a given country or region.

4. According to data from the Institute for Applied Economic Research (IPEA, 2018), the share of manufacturing in Brazil's export basket fell from 60% to 37% in less than two decades, and labour productivity in the industrial sector is today lower than the level recorded in 1995 (IPEA. Instituto de Pesquisa Econômica Aplicada. *Desafios da nação*, v. 1. [The Nation's Challenges] Brasília: Ipea, 2018).

5. During the period analyzed (1996–2018), there was a break in the series of the National Classification of Economic Activities (CNAE), so it was necessary to harmonize the sectors of CNAE 1.0 with those of CNAE 2.0 using the harmonization table provided by the Brazilian Institute of Geography and Statistics (IBGE).

Competitive factor/Year	2007	2010	2014	2018	2020	2022
Natural resources	53.6%	52.7%	54.7%	55.7%	58.3%	57.4%
Labor-intensive	13.7%	16.4%	15.7%	13.1%	11.5%	8.3%
Scale-intensive	27.5%	25.1%	24.1%	26.4%	25.4%	23.8%
Differentiated	1.9%	2.5%	2.3%	2.3%	2.7%	6.4%
Science-based	3.3%	3.3%	3.3%	2.5%	2.1%	4.1%

Table 2. Share of industrial transformation value (VTI) by competitive factor in Brazil (2007-2022)
Science: Adapted from Monteiro Neto. Silva and Severian (2020) with IBGE (2023) data.

According to Nassif (2006), its main competitive factor of Type I industry is its access to the abundance of natural resources available in the country, whereas Type II industry is characterized primarily by the wide availability of labour. These first two industrial types have a greater capacity to generate direct employment. Type III industry consists of segments that exhibit increasing returns to scale, owing to the inherent technological indivisibilities of these activities. Type IV industry is oriented toward satisfying diverse and specific demands at a substantial scale. Type V industry relies primarily on the application of scientific research to achieve exceptional profits and to operate temporarily with gains akin to monopoly rents.

Collectively, these three industrial types are characterized by higher capital-to-labour ratios and greater technological sophistication in their productive processes.

It is striking that, throughout the entire period, the natural resource–based sector accounted for more than half of Brazil's VTI, peaking at 58.3% in 2020. This concentration indicates the ongoing deterioration of Brazil's industrial structure and its regressive specialization, with national industry increasingly oriented toward sectors reliant on abundant natural resources and low-cost labour.

Overall, a clear regressive trend may be observed in both the industrial sector and the national economy, characterized by specialization in sectors with low technological uptake, a focus on commodity exports, and productivity anchored in extractive and agricultural activities with limited inter- and intra-sectoral complementarity. This pattern of Brazilian industrial disarticulation is also evident across regional productive spheres.

2. An emerging regional determinant: deconcentration, productive specialization, and regional fragmentation

Changes in the economy resulting from the orthodox/monetarist macroeconomic model have influenced the pattern of regional articulation throughout the twenty-first century. Amid the ongoing transformation of the

accumulation base, new productive, regional, and urban determinants have emerged in the recent Brazilian economy, signaling a new trend of productive deconcentration. These determinants can be broadly characterized as a productive specialization in commodities and semi-manufactured goods derived from low value-added agro-mineral and agricultural resources, following a pattern that exacerbates the fragmentation of regional linkages and reinforces spatial and economic heterogeneities. In this context, regional growth has increasingly been driven by economic activities with limited capacity to generate sectoral and regional linkages, and with a stronger orientation toward external markets.

Table 3 presents the regional shares of Brazil's gross domestic product (GDP) and their growth rates, showing that, between 2002 and 2022, the Central-West, North, and Northeast regions gained the largest shares and recorded the highest growth.

Region/Year	2002	2006	2010	2014	2018	2020	2022	Growth rate p.a. (2002-2022)
Norte	4.7%	5.0%	5.3%	5.3%	5.6%	6.3%	5.7%	3.2%
Nordeste	13.1%	13.2%	13.5%	13.9%	14.3%	14.2%	14.0%	2.4%
Sudeste	57.4%	57.7%	56.1%	54.9%	53.1%	51.9%	52.7%	1.8%
Sul	16.2%	15.6%	16.0%	16.4%	17.1%	17.2%	16.5%	2.3%
Centro-Oeste	8.6%	8.5%	9.1%	9.5%	9.9%	10.4%	11.1%	3.2%
Brasil	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**2.2%**

Tabela 3. Participação regional no PIB brasileiro (em %) (R$ de 2022)
Note: Values deflated using the GDP implicit deflator.
Source: Own elaboration using IBGE (2025b) data.

The expansion of these three regions is associated with two related factors: i) the production and export of mineral and agricultural products, which also encompasses the growth of logistics, communications, and transport sectors in these areas; and ii) the early and/or negative deindustrialization[6] of the Brazilian economy. This process, rooted in a production structure oriented toward agriculture or services, generates dynamics outside the industrial–metropolitan sphere of the national developmental-accumulation cycle, giving rise to new geographic areas of elevated economic dynamism.

6. According to Cano (2012, p. 834), early or negative deindustrialization, which is typical of underdeveloped countries, involves a decline in the share of global production, reduced investment, loss of productivity, disruption of production linkages, a decrease in manufactured exports, and diminished domestic and international industrial competitiveness. In the case of Brazil, this has been attributed to factors such as the absence of industrial policies, high interest rates, contraction of public investment, fiscal austerity measures, an overvalued exchange rate, and indiscriminate trade liberalization.

The North, together with the Central-West, recorded the highest regional GDP growth rate in the country (3.2% per year). In this region, expansion has been driven by several factors: i) investment policies in transport and energy infrastructure; ii) linkages with external markets and growth induced by global demand for agro-mineral commodities; and iii) large-scale extraction and processing projects of natural resources and basic inputs (Brandão, 2019).

The Central-West, in turn, experienced growth driven by the following determinants: i) a cycle of high prices for agricultural commodities; ii) the location of distribution and logistics centers, boosted by fiscal incentives; iii) the expansion of the agricultural frontier, whose integration with international trade exceeds that with the domestic market (Macedo, 2023); and iv) the development of a modern agro-industrial complex, including the pulp, paper, and paper products manufacturing sector. These factors facilitated the integration of imported state-of-the-art equipment and machinery with the competitive advantages of Brazilian agribusiness—including abundant land, favorable climate and soils, and a large supply of low-cost labour. This package resulted in a high-technology, high-productivity agricultural system (Pires, 2021).

Chart 1, showing the gross value added (GVA) of the agricultural sector by region, clearly illustrates the advance of the Central-West region in this segment. Using 2002 as the base year (2002 = 100), the region reached an index of 270.1 in 2022, well above the national average of 175.1. This macro-region accounted for 30% of total national production in 2022, with a focus on cattle and grain production (maize, soy, and cotton).

The Northeast (Table 3) recorded economic growth of 2.4% per year, slightly above the national average of 2.2%. According to Juliana Bacelar de Araújo (2017), this growth is linked to: i) the decentralization and interiorization (expansion of activity into the country's interior) of public services (assistance, health, and education); ii) direct income transfer policies such as *Bolsa Família* and the Continuous Cash Benefit – BPC); iii) the expansion of public credit through the Constitutional Fund for Financing the Northeast – FNE, the Caixa Econômica Federal Bank, and the National Bank for Economic and Social Development – BNDES); iv) real increases in the minimum wage; v) growth in formal employment; vi) the recomposition of rural social security; vii) public investments carried out through the Growth Acceleration Program (PAC) and the *Minha Casa. Minha Vida* [My Home, My Life] program; and viii) growth in the real estate and tourism sectors. Lopes (2023) further notes that growth in the Northeast is also related to the expansion of the modern agro-industrial sector, due to soybean production in the Matopiba region, the sugar-alcohol sector in the Zona da Mata region (particularly in the states of

Alagoas, Pernambuco, and Paraíba), and the exports of irrigated fruit farming in the São Francisco River Valley (Petrolina in Pernambuco and Juazeiro in Bahia), in the irrigated areas of the Baixo and Médio Jaguaribe (Ceará), and in the Vale do Açu and Mossoró (Rio Grande do Norte).

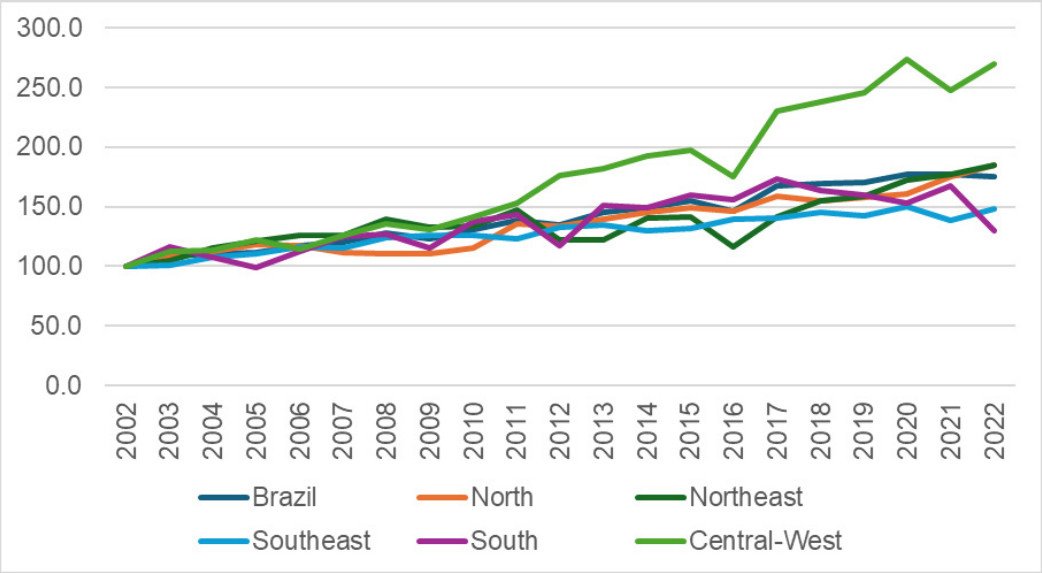

Chart 1. Gross value added (GVA) of the agricultural sector per macro-region in Brazil, 2002–2022 (Base Year 2002)
Source: Own elaboration using IBGE (2025b) data.

The Southern economy recorded growth of 2.3% per year (Table 3), slightly above the national average, but lagging behind the previously mentioned regions. This expansion is primarily linked to the extractive industry—particularly coal mining—and livestock and crop production (cattle, soy, sugarcane, rice, tobacco, and maize). Despite its growth, the region has gradually lost ground in the national scenario due to the rise of the Central-West as Brazil's main productive hub. By contrast, the Southeast exhibited the country's weakest performance, with a growth rate of 1.8% per year, although it continues to account for more than half of Brazil's total gross domestic product. As the location of much of Brazilian industry, the region was more severely affected by the process of deindustrialization, resulting in its weak economic performance.

Table 4 presents the three-year average of sectoral shares of GVA by region. The North and Central-West recorded increases in nearly all sectors. In the North, notable growth occurred in the extractive industry—particularly the production of metallic minerals (iron, copper, manganese, gold), petroleum, and gas in the Amazon Basin—while in the Central-West, expansion was driven by the extraction of plant resources and the advancement of the manufacturing sector, supported by sectoral integration within agro-industrial processes.

Region/Year	2002-2004	2005-2007	2008-2010	2011-2013	2014-2016	2017-2019	2020-2022
Agriculture and livestock farming							
North	7.6	8.2	8.3	10.7	11.3	10.8	10.0
Northeast	20.3	21.7	20.8	17.6	17.5	18.9	18.4
Southeast	25.8	30.6	26.8	26.1	23.7	22.4	20.2
South	28.7	25.4	27.4	26.2	28.1	27.5	24.7
Central-West	17.6	14.1	16.7	19.4	19.4	20.4	26.7
Extractive industry							
North	7.4	5.6	10.5	13.1	14.4	18.3	19.7
Northeast	12.7	11.3	10.0	7.8	6.2	4.6	3.4
Southeast	76.4	80.7	76.8	77.0	75.9	74.3	75.3
South	1.7	1.1	1.1	0.9	1.8	1.3	0.7
Central-West	1.8	1.3	1.6	1.2	1.7	1.5	0.9
Manufacturing							
North	4.6	4.9	4.4	4.5	4.6	4.4	4.5
Northeast	8.6	8.6	8.9	8.5	10.4	11.1	10.6
Southeast	61.1	62.1	61.1	58.1	55.8	55.0	54.9
South	21.7	20.3	20.8	23.4	23.4	23.6	23.2
Central-West	4.0	4.1	4.8	5.5	5.8	5.9	6.8
Administration, defense, education, and public health and social security							
North	7.4	7.6	7.7	8.3	8.2	8.6	9.2
Northeast	19.1	19.8	20.4	20.7	21.0	21.3	21.5
Southeast	45.2	44.1	43.5	42.4	41.4	39.7	39.2
South	12.8	12.7	12.5	13.2	13.8	14.0	13.7
Central-West	15.5	15.8	15.9	15.4	15.6	16.4	16.4
Trade and repair of motor vehicles and motorcycles							
North	5.3	5.5	5.5	5.2	5.2	5.3	5.5
Northeast	14.3	14.5	15.4	15.3	15.5	15.1	14.3
Southeast	51.5	52.0	50.4	51.9	50.8	51.3	50.7
South	20.5	19.6	19.4	18.7	19.2	19.3	19.7
Central-West	8.4	8.4	9.3	8.9	9.3	9.0	9.8
Other services							
North	3.3	3.6	3.5	3.5	3.4	3.5	3.6
Northeast	11.7	12.1	12.2	12.9	13.3	13.6	13.5
Southeast	62.5	62.1	62.1	61.4	60.4	58.5	58.9
South	15.2	14.7	14.6	14.8	15.0	16.3	16.0
Central-West	7.3	7.5	7.6	7.4	7.9	8.1	8.0
Total activities							
North	4.9	5.1	5.3	5.6	5.5	5.8	6.3
Northeast	13.4	13.4	13.8	13.9	14.5	14.6	14.1
Southeast	55.8	56.7	55.6	55.0	53.2	52.2	51.9
South	16.9	16.0	16.1	16.1	16.8	17.1	16.9
Central-West	9.0	8.8	9.2	9.4	10.0	10.3	10.8

Table 4. Sectoral distribution of GVA by region in Brazil (three-year average)

Source: Own elaboration using IBGE (2025b) data.

The expansion of these sectors stimulates growth in other related segments, such as construction, commerce, and services, through "forward" and "backward" intersectoral linkages that underpin the dynamism of the main economic activities. In other words, growth rooted in industry or agriculture, to some extent, has increased net disposable income by expanding employment and wages in areas with a higher marginal propensity to consume, thereby integrating a broad segment of the population into income circuits and stimulating demand for commerce and services.

An increase was also observed in the share of the aforementioned regions in the public sector GVA—covering administration, defense, public education and health, and social security—reflecting both the expansion of public services and infrastructure investments, which provide a foundation for economic growth, and the broadening of the revenue base, driven by the flow of consumption, production, and investment in goods, services, and commodities in these areas.

The data for the macro-regions highlight the principal dynamic vector of emerging regional determinants: the expansion of export-oriented sectors in areas outside the industrial-metropolitan sphere, producing commodities and semi-manufactured goods derived from natural resources. This new territorial configuration of economic dynamism is accompanied by the development of logistics, communication, and transportation infrastructure, which reinforces a regionalized low value-added export agenda, as noted by Lessa (2009).

The role of the State is central to this process, as Macedo (2023) points out, because infrastructure constitutes a type of investment characterized by low supply elasticity, long maturation periods, low profitability, high resource requirements, irreversibility, and indivisibility—factors that limit private sector participation. Nevertheless, the State's involvement in establishing logistical channels for the export of primary products reinforces Brazil's passive external insertion into the international division of labor (IDL) and directs the new patterns of productive deconcentration toward the export-oriented areas of the North, Northeast, and Central-West.

Lopes and Macedo (2023) and Lopes, Macedo, and Monteiro Neto (2021) further observe that constitutional financing funds—Constitutional Fund for the Development of the Central-West (FCO), the North (FNO), and the Northeast (FNE)—are being adapted to meet the needs of commercial infrastructure, particularly in sub-regional areas dominated by exporting activities. In other words, public funds are being mobilized for sectoral accumulation, reducing the circulation time of goods and fostering a direct connection between local economies and international market, as cautioned by Brandão (2007).

The rising share of lower value-added products in Brazilian exports is illustrated in Chart 2, which presents changes in the composition of the export basket over the past 25 years by sectors aggregated according to ISIC classification.[7]

The manufacturing industry, which in 2000, accounted for 80.6% of all Brazilian exports, in 2024, represented only 53.9%. While remaining the largest sector, it has experienced a sharp decline due to the dismantling of the industrial production base. In contrast, both agriculture and livestock and the extractive sector have increased their shares in the export basket: the former rose from 8.1% to 21.5%, while the latter expanded even more rapidly, from 6.7% to 24% over the same period. This growth in exports of natural products and commodities reflects a new pattern of capital accumulation in the Brazilian economy, increasingly specialized in sectors with lower value added natural competitive advantages.

The increasing prominence of these sectors also reflects new forms of regional productive articulation, with producing areas increasingly linked directly to export markets. This reinforces the trend toward fragmentation arising from dependence on external markets, undermining the commercial and productive inter-regional linkages established during the national-developmentalist accumulation cycle, when domestic industry served as both the production base and the connecting link between different sectors and regional spaces.

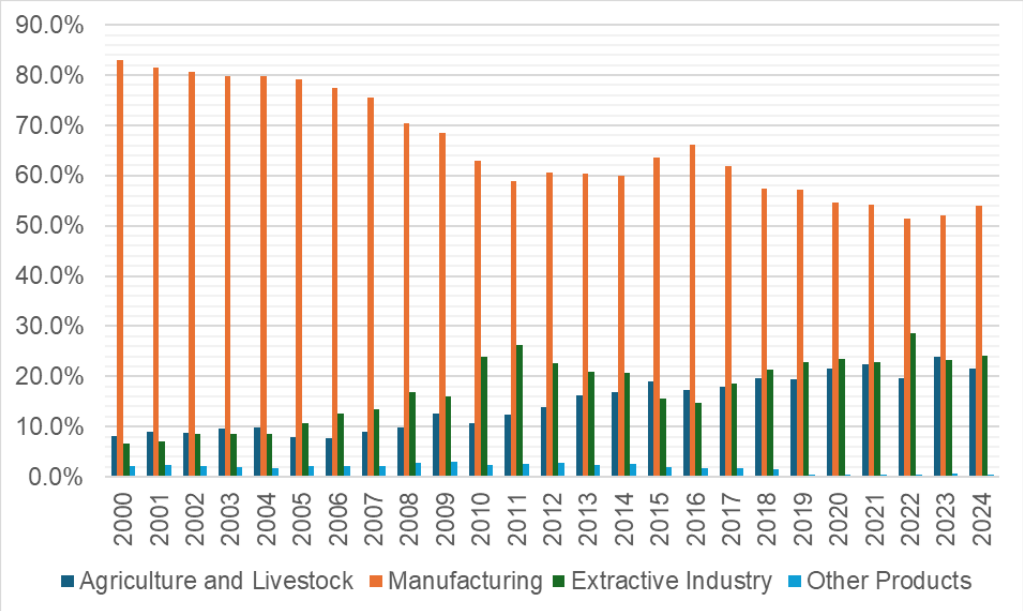

Chart 2. Composition of the Brazilian export basket by ISIC Classification (in %) (2000–2024)
Source: Own elaboration using data from Brasil [n.d.].

7. The International Standard Industrial Classification of All Economic Activities (ISIC) is the international statistical standard used by the United Nations for classifying economic activities.

Chart 3 corroborates the preceding arguments by demonstrating the growing share of national exports originating from regions whose export baskets is composed predominantly of primary products. The Central-West, for example, gained 10.8 percentage points over the period—the highest increase in the country. The region's main exports are agricultural and livestock products, particularly soybeans, maize, cotton, and beef, in addition to the sale of paper, pulp, and other wood-based products. The North also recorded significant gains, driven by exports linked to the extraction of metallic minerals, metallurgical activities, and the agriculture and livestock sector (beef, soybeans, and maize). The Northeast, however, experienced a decline in its share of national exports, falling from 8.1% of all Brazilian foreign sales in the period from 2000 to 2004 to 7.7% between 2020 and 2024. The region's export basket is based primarily on fuel production (manufacture of coke, refined petroleum products, and biofuels), intermediate goods (chemical and petrochemical products), and agricultural products from various segments (irrigated fruit farming, soybeans, maize, cotton, and sugarcane).

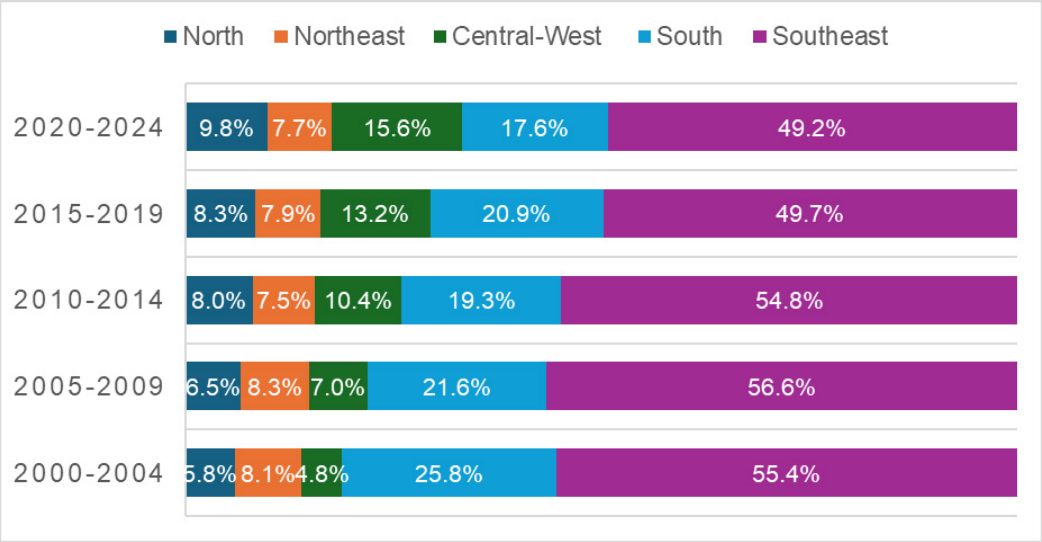

Chart 3. Regional Shares of Brazilian Exports (US$) (Three-Year Average, 2000–2024)
Source: Own elaboration using data from Brasil [n.d.].

The South and Southeast, although they still account for more than 60% of all Brazilian exports, lost share during the period analyzed, with declines of 8.2 and 6.2 percentage points per year, respectively. The decline of the country's main export regions is also associated with the reprimarization of the export basket and with deindustrialization. As the locus of manufacturing production and higher value-added industry, these regions are also the ones that lose the most from the decline in industrial activity. In the South, the situation is further aggravated by

the prolonged economic crisis in Argentina, the main destination for the industrial segments with higher technological content predominant in the region, as noted by Fernández and Curado (2019).

With respect to state-level dynamics and the new regionalization of Brazilian economic production, Table 5 presents the variation in the GDPs of the main states, as well as the highest and lowest growth rates between 2002 and 2022.

Largest GDPs by state				State GDP growth rates (2002-2022)			
State	% GDP	State	% GDP	UF	Growth rate (%)	UF	Growth rate (%)
	2002		2022	Five highest		Five lowest	
São Paulo	34.9	São Paulo	30.1	Mato Grosso	5.9	Alagoas	1.9
Rio de Janeiro	12.4	Rio de Janeiro	11.8	Tocantins	4.7	Distrito Federal	1.8
Minas Gerais	8.3	Minas Gerais	9.2	Piauí	4.4	Rio Grande do Sul	1.7
Rio Grande do Sul	6.6	Paraná	6.2	Mato Grosso do Sul	4.2	São Paulo	1.6
Paraná	5.9	Rio Grande do Sul	5.9	Rondônia	3.6	Sergipe	1.1
Total for largest states	68.1	Total for largest states	63.2	**Average GDP Growth Rate of Brazil**	**2.2**		
Other states	31.9	Other states	36.8				

Table 5. State-Level GDP Growth Rates (2002-2022)
Note: Values deflated using the implicit GDP deflator.
Source: Own elaboration using IBGE (2025b) data.

The table reveals that the five states with the largest GDPs in 2002 remained the same in 2022, due to factors such as installed industrial capacity, the size of the consumer market, a qualified labor force, and the availability of infrastructure. Despite maintaining their top position, these states lost share in the national aggregate, declining from 68.1% in 2002 to 63.2% in 2022. Moreover, they were also among the least dynamic in the country: two of them—São Paulo and Rio Grande do Sul—recorded some of the lowest growth rates, and neither appeared among the states with the highest growth rates.

At the same time, the "other states" increased their share in the national GDP, rising from 31.9% to 36.8%. Among the five states with the highest growth rates, two are located in the Central-West (Mato Grosso and Mato Grosso do Sul), two in the North (Tocantins and Rondônia), and one in the Northeast (Piauí)—all outside the industrial-metropolitan core of the South and Southeast that previously guided

the direction of productive deconcentration during the earlier accumulation cycle. The expansion observed in these states is largely linked to global demand for agricultural and mineral commodities.

In summary, the strongest regional GDP performances are found in regions with lower levels of industrialization. As Macedo (2023) notes, the national dynamic is shifting toward the country's agricultural and mineral frontiers, characterizing the current process of national productive deconcentration outside metropolitan and industrial areas—a movement driven by economic activities with lower levels of technological complexity and productive sophistication.

3. Interpretations of regional productive deconcentration and reconcentration

The recent trajectories of regional dynamics and productive articulation in Brazil have been shaped by multiple, complex vectors, many of which appear contradictory. The geographer Milton Santos, for example, identified a simultaneous movement of metropolization and "demetropolization" in socio-spatial organization: "the largest cities will continue to grow, while new large cities will emerge" (Santos, 2013, p. 13).

For Cano (2008; 2011), since the shift in the pattern of accumulation in the 1980s, regional productive deconcentration has been driven by the harmful fiscal competition among states and municipalities, by the relocation of production to new areas (the national periphery) in search of regionalized exports of commodities, food products, and semi-manufactured goods, and by the sharp decline of São Paulo as the center of national industry. Cano refers to this process as "spurious deconcentration", which does not arise from the integration of the national territory or from the strengthening of the domestic market, but rather from dynamics linked to sectors with low technological content, low value added, and weak interregional and intersectoral articulation.

Based on this analytical foundation, four new interpretative strands within the structuralist field have been developed to explain regional dynamics in the twenty-first century, as described below.

3.1. "Polygonal development" and spatial reconcentration in the traditional core

Diniz (2019) and Abdal (2017), the main proponents of this interpretation, argue that the changes brought about by the techno-informational productive paradigm favor the spatial reconcentration of the industrial base in the polygonal development area (the São Paulo Macrometropolis, Belo Horizonte, Uberlândia, Londrina, Maringá, Porto Alegre, and Florianópolis). They maintain that this is the only area in Brazil capable of attracting international capital flows with the high economic and technological density associated with modern Industry 4.0.

The polygonal area possesses a set of factors favorable to capital attraction, including the size of the consumer and producer markets, higher levels of per capita income, a qualified labor force, and the logistical support provided by extensive urban, transportation, and communication infrastructure networks. With these elements, the territory maintains a direct connection to productive and financial globalization, characterized by intense spatial fluidity that facilitates—albeit in a volatile manner—the attraction of foreign investment and high-technology firms.

The polygon thus becomes the main vector of Brazilian regional and urban dynamics, since it hosts the most complex and advanced productive processes, configuring a pattern of concentrated deconcentration in the new regional determinants of the twenty-first century.

The authors further argue that the vectors of productive deconcentration outside the polygonal area—driven by extractive activities, agriculture, and non-durable consumer goods—are insufficient to promote a new territorial configuration for large-scale industry in Brazil, given their limited capacity to generate sectoral and regional complementarities.

Along the same lines, authors outside the field of economics, such as Luiz Cesar de Queiroz Ribeiro and Marcelo Gomes Ribeiro (2010), Luciana Proença and Orlando Alves dos Santos Jr. (2019), and Suzana Pasternak and Lucia Maria Machado Bógus (2019), have emphasized the process of industrial reconcentration in the São Paulo Macrometropolis (MMP), an area that encompasses the metropolitan regions of São Paulo, Campinas, São José dos Campos, Sorocaba, and Santos, in addition to the urban agglomerations of Jundiaí and Piracicaba and the Bragantina microregion. For these authors, the MMP is capable of receiving and connecting to the internationalized circuits of production, circulation, and consumption because it has two ports, twenty-two airports, and several highways crossing and interconnecting the area in all directions. In other words, the MMP would constitute the locus of modern Industry 4.0 and represent the territorial reconcentration of productive activities in the state of São Paulo.

In general terms, these interpretations emphasize the industrial sector as the main dynamic element of regional economies. As a result, industry—especially manufacturing—occupies a central place in analyses of Brazil's territorial reconfiguration. Little attention is given to the transformations occurring in the service sector, the extractive industry, and agriculture, thereby downplaying the impact of mineral and agricultural commodities on the trajectories of Brazil's socio-spatial organization.

3.2. Productive Deconcentration originating in the state of São Paulo.

Monteiro Neto and Silva (2018), and Monteiro Neto, Silva and Severian (2020), using the concept of relevant industrial agglomeration (AIR), identify evidence of a slow, weak, and continuous process of regional productive deconcentration, marked by deindustrialization and by the decline of the national industrial sector. They argue that this process originated in São Paulo, with the relocation of industrial dynamism to two new vectors: industrial activities move toward areas to the north of the state (the northern vector) and toward areas to the south of the state (the southern vector).

The northern vector, directed toward states in the Southeast Region (Minas Gerais) and the Central-West Region (Goiás, Mato Grosso and Mato Grosso do Sul), is driven primarily by activities linked to the expansion of global demand for mineral and agricultural commodities. This industrial deconcentration is therefore associated with the country's competitive advantages in foreign trade. In this regard, Marcos Pires (2021) converges with these authors by identifying a continuous productive shift away from São Paulo, particularly toward the state of Goiás.

The southern vector comprises the states of Rio Grande do Sul, Santa Catarina and Paraná, where the deconcentration of manufacturing industry is more intense, with particular prominence given to activities characterized by higher technological and productive intensity.

What emerges, therefore, is that the trajectories of deconcentration radiate outward from a central axis (São Paulo) toward other territories. As a result, São Paulo continues to occupy a crucial role in the process of productive deconcentration, while the emergence of new regional dynamics beyond the state of São Paulo is also recognized.

3.3. Productive Deconcentration and Regional Social Cohesion on a Constitutional Basis

In this group, the principal exponents are Tânia Bacelar de Araújo (2014) and Juliana Bacelar de Araújo (2017). The basis of this interpretation lies in the normative framework of the 1988 Federal Constitution (CF-88), which is seen as a crucial milestone for regional productive deconcentration.

The CF-88 articulates universal policies in health, education, and social assistance, the federal system, sectoral policies, and the financing instruments of public banks in support of the country's most vulnerable regions, thereby promoting greater dynamism in peripheral areas. In this sense, it constitutes a form of welfare federalism and provides a virtuous institutional framework for national integration.

With the resumption of economic growth, the recovery of public spending, and the implementation of the social-developmentalist model in the 2000s, the principles of universality and the social security network established by the CF-88 were reaffirmed, revitalizing the process of productive deconcentration grounded in regional cohesion. Peripheral regions that had historically lagged behind the country's Central-South began to experience significant qualitative transformations and increasingly emerged as loci of national economic dynamism.

For this interpretation, therefore, the main vector of productive deconcentration and of new regional and urban dynamics is linked to the guarantees established by the CF-88 and to the expansion of the domestic market in the 2000s. This process was further leveraged by federal government programs of sectoral and social stimulus, whose impacts on household income and on the structure of local consumption varied across regions.

These measures constitute a set of "implicit" policies that promote transformations in the dynamics of Brazil's regional development.

3.4. Regional "fragmentation" and productive deconcentration

Macedo (2010; 2015; 2023) argues that industrial deconcentration and territorial restructuring are driven by foreign trade, which is organized around the country's passive insertion into the IDL through sectors in which it holds the greatest competitive advantages.

Thus, regions have begun to adapt their production to external demand, transforming productive structures and reinforcing regional specializations, thereby generating "productivity islands" (Pacheco, 1998). As a result, the foundations of a cohesive and unified national economy gradually erode, giving way to an asymmetric pattern of economic fluctuations across segmented regional markets.

The differing interregional and intraregional dynamics, combined with the direct connections between local production and the global market, propel the country toward a fragmentation of production linkages. The outcome is a pattern of national disintegration: on the one hand, spaces that are non-competitive and disconnected from the international market; on the other, competitive spaces articulated "outward", subject to the decisions of international agents.

Within this fragmented pattern of articulation, other emerging territories become visible, spatially concentrated in areas associated with the expansion of agro-mineral production frontiers, in non-metropolitan cities of the Central-West Region and the North Region, and in the Cerrado areas of the Northeast Region. These spaces exemplify the country's passive insertion into the IDL, combining abundant natural resources with a large supply of low-wage labor.

Thus, Macedo (2023) identifies a new pattern in Brazil's socio-spatial organization, increasingly less metropolitan and characterized by more dispersed urbanization. Regional productive articulation is shaped by processes—albeit slow—of economic deconcentration driven by multiple fronts. The vectors of this territorial movement are:

> greater interiorization; stronger local–global articulation in areas integrated into foreign trade flows; potential territorial fragmentation; growth of medium-sized cities beyond traditional metropolitan areas; emergence of new territorialities in zones of agricultural and mineral expansion; a decline in rural–urban migration rates and increasing urban–urban migration; the predominance of large corporations in structuring regional and urban spaces; the establishment of infrastructure to increase external productive integration; the development of regional and urban policies aimed at enhancing competitive integration within the country; and the greater organization of social movements defending diversity and alternative modes organizing life in the territories. (Macedo, 2023, p. 36)

Thus, the slow, complex process of regional productive deconcentration continues, occurring beyond the central industrial core. Driven by international capital, these emerging dynamic activities foster neither sectoral or regional articulation, nor do they generate unifying and integrated elements to support domestic market growth. The adoption of orthodox macroeconomic policies reinforces these fragmenting tendencies by reducing the density of the industrial productive fabric and redefining interregional and intersectoral linkages.

Once these four historical-structural interpretative lines have been identified and presented, it becomes possible to observe that Brazil's regional dynamics have been assuming increasingly complex forms, shaped by multiple vectors of dispersed, heterogeneous trajectories. The common thread underlying these divergent movements is orthodox macroeconomic policy, based on the "macroeconomic tripod" that governs Brazil's new regional and urban determinations. As Maricato (2008, p. 170) summarizes: "the macroeconomic framework determines, not entirely, but to a large extent, the production and appropriation of the built environment".

Final remarks

This study contends that exports of primary and low value-added products have emerged as the most impactful factors in Brazil's territorial organization under the current cycle of capital accumulation—a role formerly occupied by industry. The external sector's influence has become increasingly significant for the

country's economic dynamics, reflecting Brazil's subordinated insertion into the IDL, the maintenance of the macroeconomic tripod, premature deindustrialization, and the regressive specialization of the national productive structure.

Consequently, foreign trade has become one of the principal drivers of Brazil's economic agenda, reshaping the trajectories of industry, the country's socio-spatial organization, and regional productive articulation. This has generated a process of deconcentration stemming from the growth of peripheral regions based on the production and export of minerals, foodstuffs, semi-manufactured goods, and commodities. Such dynamics weaken productive chains and prompts the disintegration of the national and regional industrial base, as well as the associated production and knowledge systems.

Thus, in the twenty-first century, a new territorial configuration has been established, resulting from the ongoing dismantling of the manufacturing industry and the rise of low value-added production and export sectors. This trend is particularly evident in the expansion of commodity- and mineral-producing regions with low technological content, as exemplified by the Cerrado regions of the Central-West and Northeast (agricultural commodities) and areas of the state of Pará (mineral commodities), whose integration with international markets is stronger than with the domestic market, creating potential forces of fragmentation.

There has also been growth in small interior cities benefiting from the guarantees established by the 1988 Federal Constitution and from social policies and the decentralization of public services—particularly in health and education—which have stimulated greater monetary circulation and strengthened local trade and services.

In other words, Brazil is undergoing a new process of regional productive deconcentration marked by significant contradictions, in which forces oriented toward the export of agro-mineral commodities predominate. These dynamics, in turn, disrupt the intersectoral linkages of the weakened national industrial base and point to a growing tendency toward regional productive fragmentation.

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Information on the use of Artificial Intelligence

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c) Final text review for grammar and spelling improvement, in order to comply with formal language standards: No.

Open Data

The entire dataset supporting the results of this study has been published within the article itself.

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