



Reprimarization of Exports, Productive Structure, and Formal Employment in Brazil's Central-West Region: Territorial Effects of Peripheral International Integration

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Resumo

O artigo tem como objetivo analisar a estrutura das exportações da região Centro-Oeste do Brasil e verificar se as atividades mais dinâmicas no comércio internacional influenciam na estrutura produtiva e na geração de emprego formal das mesorregiões dos estados do Mato Grosso, Mato Grosso do Sul e Goiás. O estudo apoia-se em revisão bibliográfica sobre o papel de uma economia periférica como a brasileira na divisão internacional do trabalho e sobre as relações econômicas entre Brasil e China, mostrando que, para além do comércio, os investimentos chineses no Brasil crescem, sobretudo, em setores estratégicos para aquele país. Utilizando dados do Comexstat, das Contas Regionais e da RAIS, o artigo analisa a expansão das exportações das mesorregiões dos estados de Mato Grosso, Mato Grosso do Sul e Goiás, mostra a expansão das exportações de produtos primários, identifica a predominância de atividades agropecuárias na estrutura produtiva na maior parte das mesorregiões dos estados da região Centro-Oeste e aponta para a dificuldade das atividades mais dinâmicas nas exportações e na estrutura produtiva terem o mesmo dinamismo na geração de emprego formal. Trata-se de análise relevante para a compreensão do desenvolvimento regional brasileiro considerando as transformações na divisão inter-

regional do trabalho no período recente, em ma economia caracterizada pela inserção internacional periférica.

Palavras-chave: Divisão Internacional do Trabalho. China. Comércio Internacional. Especialização Regressiva. Desenvolvimento Regional.

Re-primarization of export, productive Structure, and formal employment in the Brazilian Central-West: Territorial Effects of Peripheral International Integration

Abstract

The article aims to analyze the export structure of Brazil's Central-West region and examine whether the most dynamic activities in international trade influence the productive structure and the generation of formal employment in the mesoregions of the states of Mato Grosso, Mato Grosso do Sul and Goiás. The study is based on a literature review on the role of a peripheral economy like Brazil's in the international division of labor and on economic relations between Brazil and China, showing that, beyond trade, Chinese investments in Brazil are growing, especially in sectors strategic to that country. Using data from Comexstat, Regional Accounts, and RAIS, the article analyzes the expansion of exports in the mesoregions of Mato Grosso, Mato Grosso do Sul and Goiás, highlights the growth of primary product exports, identifies the predominance of agricultural activities in the productive structure of most mesoregions in the Central-West states, and points to the difficulty of the most dynamic activities in exports and the productive structure having the same dynamism in generating formal employment. This is a relevant analysis for understanding Brazilian regional development, considering the transformations in the inter-regional division of labor in the recent period, in an economy characterized by peripheral international integration.

Keywords: International Division of Labor. China. International Trade. Regressive Specialization. Regional Development.

Reprimarización de las exportaciones, estructura productiva y empleo formal en el Centro-Oeste de Brasil: efectos territoriales de la inserción internacional periférica

Resumen

El artículo tiene como objetivo analizar la estructura de las exportaciones de la región Centro-Oeste de Brasil y verificar si las actividades más dinámicas en el comercio internacional influyen en la estructura productiva y en la generación de empleo formal en las mesorregiones de los estados de Mato Grosso, Mato Grosso do Sul y Goiás. El estudio se basa en una revisión bibliográfica sobre el papel de una economía periférica como la brasileña en la división internacional del trabajo y sobre las relaciones económicas entre Brasil y China, mostrando que, más allá del comercio, las inversiones chinas en Brasil están creciendo, especialmente en sectores estratégicos para ese país. Utilizando datos de Comexstat, de las Cuentas Regionales y de la RAIS, el artículo analiza la expansión de las exportaciones de las mesorregiones de los estados de Mato Grosso, Mato Grosso do Sul y Goiás, muestra el crecimiento de las exportaciones de productos primarios, identifica la predominancia de actividades agropecuarias en la estructura productiva en la mayor parte de las mesorregiones de los estados de la región Centro-Oeste y señala la dificultad de que las actividades más dinámicas en las exportaciones y en la estructura productiva presenten el mismo dinamismo en la generación de empleo formal. Se trata de un análisis relevante para la comprensión del desarrollo regional brasileño, considerando las transformaciones en la división interregional del trabajo en el período reciente, en una economía caracterizada por su inserción internacional periférica.

Palabras clave: División Internacional del Trabajo. China. Comercio Internacional. Especialización Regresiva. Desarrollo Regional.

1 Introduction

Over the past twenty years, trade relations between China and Brazil have expanded significantly. China, which used to play a minor role in Brazil's trade relations, has become the country's main trading partner (Leite & Rodrigues, 2024). This strengthening of trade relations between China and Brazil is closely linked, on the one hand, to China's economic reforms, its growth plans, and their effects on the demand for commodities. On the other hand, changes in Brazil's productive structure, with intensified agricultural and extractive industrial production, have contributed to making Brazil an important supplier of products demanded by the Chinese economy.

Throughout the first two decades of the 2000s, debates on the reprimarization of exports, deindustrialization, and the Dutch disease in Brazil began to point to a rising share of commodities—especially primary ones—in the country's export basket. In this sense, there is evidence of the participation of higher value-added and more complex segments in the industrial structure, resulting in a regressive specialization of the productive structure (Nascimento et al., 2009; Cano, 2012; Carneiro, 2008).

In addition to the strengthening of trade of goods and services between the two countries, China has also increased its investments in Brazil, directing them toward several sectors, including infrastructure (Werner, 2020), energy, and trade of commodities, among others (Freitas & Borghi, 2024).

Given these broader transformations in the Brazilian economy, we are interested in identifying the main territorial transformations triggered by the country's international integration. In other words, is it possible to detect changes in the interregional division of labor stemming from the connection of subnational spaces to the global market?

Based on this question, this article aims to analyze the export structure of Brazil's Central-West region and to examine whether the most dynamic activities in international trade have influenced changes in the productive structure and the generation of formal employment in the mesoregions of the states of Mato Grosso, Mato Grosso do Sul, and Goiás. The objective is to understand certain territorial aspects of the dynamics of accumulation, contributing to discussions on (under)development and territory within the context of the transnationalization of capitalism, in which Brazil maintains a subordinate and dependent position in the international division of labor.

Productive activities in the Central-West have shown significant dynamism in recent decades, leading this macroregion to increase its share of national GDP (from 8.6% in 2002 to 10.3% in 2021, according to Regional Accounts data). Thus, the Central-West was the region with the greatest increase in participation in Brazil's GDP over the past twenty years¹, with substantial growth in agriculture, industry, and services.

¹ The Northern region recorded the second-largest increase in its share of the national GDP. This performance is explained by the economic dynamics of the state of Pará, which gained 1.1 percentage

The increase in its participation in the national transformation industry was more intense (according to data from the *Pesquisa Industrial Anual*), increasing from 3.5% in 2007 to 7.2% in 2021.

The economic expansion of the Central-West region is related to the process of productive deconcentration in Brazil and was largely influenced by government programs that encouraged the expansion of the agricultural frontier and the occupation of new areas in the region. Over the past two decades, the rise in global demand for commodities has notably affected this region, particularly through the growing demand for soybeans. The region has greatly expanded its production of agricultural goods for export, thereby strengthening its connections with foreign markets—primarily with China.

Despite the extensive debate on the reprimarization of Brazil's export agenda and deindustrialization at the national level, as well as the existence of other studies examining the general impacts of Brazil–China relations, there remains a gap in analyses that explore the territorial nuances of these transformations at subnational scales—specifically in Brazil's Central-West—and how export dynamics translate—or fail to translate—into changes in productive structure and formal employment at the regional level. Important studies have analyzed changes in regional productive structures in the 21st century (Brandão, 2019) and have highlighted socio-spatial and sectoral transformations triggered by the expansion of export-oriented agribusiness across Brazil's macroregions in general (Macedo, 2010; Cardozo, 2018) and in the Central-West (or its federative units) in particular (Macedo, 2013; Mauro & Calaça, 2017; Paludo, 2018; Pires, 2019; Pires, 2022; Pires, 2023). This article, however, differs from those studies by presenting an analysis that examines the relationships between foreign trade dynamics (with special attention to the Chinese market), productive structure, and formal employment, using the mesoregions of the Central-West as way to fill this research gap. It is also a multi-scalar study, which considers the territorial diversity of the region as a set of spaces integrated at regional, national, and international levels.

In addition to this introduction and the final remarks, the article is organized into four more sections. The second section discusses the effects of China's relations with the periphery of the capitalist system, showing the phases of intensification of economic relations between that country and Brazil, and how these relations, beyond trade, have been strengthened through Chinese investments in Brazil—reinforcing the country's peripheral insertion in international trade. The third section addresses general aspects of Brazil's regional dynamics, emphasizing the role of the Central-West region in the interregional division of labor, as well as its export profile. The fourth section presents the territorial differences of this integration, analyzing the mesoregions of Mato Grosso, Mato Grosso do Sul, and Goiás. The fifth section provides information on productive structure and formal employment, in order to assess how the intensification of exports may influence these aspects in the mesoregions of the Central-West states.

points in the national GDP due to iron ore extraction activities—a sector that significantly expanded its exports to China.

2 Capitalist Accumulation, Brazil–China Relations, and Primary-Based Trade Integration.

Since the 1970s, capitalism has undergone significant changes that culminated in processes of transnationalization which transformed the conditions for capital valorization. This period saw an intensification of inter-capitalist competition, resulting in unprecedented levels of capital concentration and centralization. The post-Bretton Woods scenario—marked by the rise of neoliberalism, financial deregulation, and a new international division of labor—redefined both space and the role of the State in peripheral economies. As Belluzzo (1995) points out, the growing dominance of financial capital imposed severe constraints on the autonomy of national policies.

In Brazil, beginning in the 1990s, these global trends took shape through the neoliberal reforms of the so-called “Washington Consensus,” which accelerated the internationalization of the economy. Cano (2014) analyzes how the rapid trade liberalization and exchange rate appreciation (used as an anti-inflationary anchor) exposed the national industry to foreign competition, resulting in a notable loss of competitiveness and clear signs of deindustrialization.

At the same time, financial deregulation and high interest rates discouraged productive investment, redirecting capital to the financial sphere and reconfiguring Foreign Direct Investment (FDI) toward specific sectors, generally those with lower industrial value added—such as services and commodities. Privatization policies, in turn, complemented this reorientation by facilitating the entry of foreign capital and fostering concentration in sectors such as agribusiness—strategic in global trade but with low incorporation of added value.

These domestic policies, guided by the Washington Consensus, decisively contributed to the consolidation of a model of subordinate integration, characterized by the “reprimarization” of exports and “premature deindustrialization”, as noted by Cano (2014). Similarly, Pinto and Cintra (2015) argue that neoliberal reforms reinforced the economic power of commodity-producing and banking-financial sectors, thereby intensifying the country’s external dependence and vulnerability.

Brazil’s insertion into the new international order emerging from the Washington Consensus was largely based on the expansion of trade in agricultural and mineral commodities. This linkage to globalized markets, as Pires (2023) highlights, leads to a new development model driven by “economic and financial mechanisms of globalized markets” (Pires, 2023, p. 6). The author emphasizes that scientific and globalized agriculture became the main channel for the dissemination of technical progress within the agricultural sector—a process that intensified with the integration, in 2001, of the Asian bloc (China, Hong Kong, and Macau) into international trade. In this context, that bloc became integrated into Brazil’s commercial expansion axis, becoming the main trading partner of the Central-West region.

The process of capital globalization that began in the 1970s and gained traction in peripheral economies through the implementation of neoliberal reforms from the 1990s onward thus constitutes an important backdrop for understanding the transformations being woven within the fabric of underdevelopment. It explicitly implies the creation of serious constraints on overcoming this condition, given

Brazil's increasingly subordinate insertion characterized by external vulnerability (due to the reprimarization of exports and dependence on volatile capital), the atrophy of the industrial and technological base, and the loss of state autonomy.

In this same context—of neoliberal ascendancy and capital globalization—the geographic displacements of capital expanded, moving from one location to another (between different national territories or within the same country) as a result of contradictions generated by accumulation processes in different national spaces (Harvey, 2014).

As Bourguignon (2012) notes, the process of geographical relocation of global production was directly influenced by the end of the Soviet bloc and the progressive transformations of the Chinese economy. This shift of productive activity to new geographic spaces relates to Wood's (2014) assertion about capital's need for geographic expansion in order to sustain its constant valorization. This perpetual need for valorization is both driven by and a driver of inter-capitalist competition, within which different capitals dispute larger shares of the globally produced surplus value.

Bourguignon points out that the relocation of production on a global scale and the changes in international trade were beneficial to “developing” countries—whether through industrial sector investments (as in China's case) or due to the increase in demand for primary commodities, as in Latin America's case.

The productive relocation of capital causes a kind of redesign of the International Division of Labor which, among other elements, is characterized primarily by China's emergence on the global stage—not only in trade but also in the realms of investment and lending. The importance of the Chinese economy in this restructuring process stems from the intensified incorporation of the population into its consumer market, alongside its heavy industrialization process—factors that ultimately resulted in increased Chinese demand for products from other countries, particularly food, minerals, and energy (Medeiros & Cintra, 2015).

China's opening process, which began in the late 1970s, was based on several pillars: the creation of Special Economic Zones in port regions allowed the entry of foreign capital under state control, enabling the growth of industrial production at low cost; an internationalization process encouraged Chinese investments in other countries, particularly in sectors linked to commodities; and there was a strengthening of diplomatic relations with peripheral countries (Silva et al., 2020).

Diplomatic relations between Brazil and China began in the 1970s, but the deepening of economic ties occurred effectively at the beginning of the 21st century, with China's accession to the WTO and the intensification of its industrialization process, making the country a major importer of commodities produced by Brazil. According to Pereira (2018), Brazil–China relations in the 21st century can be divided into two phases: the first phase is primarily based on the strengthening of trade relations between the two countries, with China becoming Brazil's main trading partner as of 2009; the second phase, beginning in 2010, is characterized by an expansion of Chinese investments in Brazil. Kupfer and Rocha (2018) emphasize that the greater presence of Chinese investment in Brazil is related to a strategic shift by China, which became the second-largest source of outward investment globally, behind only the United States as of 2015.

According to Kupfer & Rocha (2018), the expansion of Chinese investment in Brazil is directly linked to China's strategy of securing access to natural resources. The data analyzed by the authors correspond to the period from 2010 to 2016, showing that during this period, roughly half of Chinese investment in Brazil was directed toward the extractive industry, with petroleum and mining companies entering the country. Chinese investments in Brazil are also present in the marketing of agricultural goods, as well as in the generation and transmission of electric power.

Iasco-Pereira and Libânio (2018) highlight that Chinese investments, in addition to being tied to business strategies, are aligned with the country's interests in securing access to agricultural and mineral raw materials, as well as food and energy security. Chinese investments in Brazil are directed toward sectors strategic to China. According to the Brazil–China Business Council, 48% of the total confirmed investment stock between 2007 and 2020 was directed to the electricity sector, followed by oil and gas extraction (28%), metallic mineral extraction (7%), manufacturing (6%), infrastructure works (5%), agriculture, livestock, and related services (3%), and financial services activities (2%).

In the agricultural and livestock sector, Chinese investments are directed both toward the marketing and supply of agricultural products and toward the production of chemical goods for agricultural sector. In addition to new investments, China has also purchased foreign companies operating in Brazil across various areas—for example, the acquisition of the Swiss company Syngenta by the Chinese state-owned ChemChina (Cariello, 2021, p. 25).

In this new phase of economic connections with China, Brazil's Central-West region has become a destination for part of these investments. Some examples include: investment by the Molybdenum Company in mining, with niobium and phosphate extraction sites in the municipalities of Catalão and Ouvidor; the state of Mato Grosso attracting Chinese projects in agriculture and related services; and, in commodity trading, the global acquisition of Nidera and Noble by COFCO, which came to hold assets of trading companies already operating in Mato Grosso. In this case, it represents a form of connection between Chinese investment and Brazil's agricultural sector, particularly in the Central-West region (Cariello, 2021, p. 30).

The growing rapprochement between China and Brazil takes shape as a complex web of relations that extends far beyond trade and exports. Behind commodity exports—that is, the expansion of agricultural and mineral frontiers and the direct connection of territories to international trade—lie investments in strategic sectors that make this commercial deepening possible and serve China's developmental interests, which are growing rapidly in Brazil. In this sense, commercial, technological, and financial dependency relations are intensifying, reinforcing Brazil's peripheral position in the international division of labor. This position has become much more complex compared to the historical dependence on primary product exports and the need for foreign currency to access foreign technology, with production dominated by large foreign capital (Oliveira, 1977). This is a division of labor characterized by technological dependence (in a completely renewed logic, governed by Global Value Chains and new labor and production management relations within the Fourth Industrial Revolution) and, especially, financial dependence (with resulting pressures implying a constant transfer of resources abroad), also marked by capital inflows that enable the entire complex

circuit of production, storage, commercialization, and distribution of primary commodities.

More generally, this phenomenon has had diverse effects on Latin American economies, with the literature highlighting complementarities and rivalries, as well as demand and structural effects (Medeiros & Cintra, 2015; Pinto & Cintra, 2017). In the Brazilian case, the significant increase in demand for agricultural and mineral commodities resulted in higher prices for these goods and, considering Brazil's productive structure and export basket, led to an improvement in the country's terms of trade. At the same time, the increased income resulting from this structural shift, by raising the country's overall income, also contributed to a reduction in external vulnerability through the accumulation of reserves.

However, the exchange rate effects (appreciation of the national currency) resulting from this phenomenon ended up reinforcing productive specialization in primary products, making the Brazilian economy less price-competitive in the manufacturing market. Furthermore, imports of Chinese manufactured goods increased competition with domestic industries producing these goods in the region. This structural or sectoral effect is highly significant for understanding the regression of the productive structure in Latin America and generally fuels debates about relative (and premature) deindustrialization and the (re)primarization of exports (Pinto & Cintra, 2018).

Consequently, this process implied—for Brazil, alongside progressive deindustrialization and the increased degree of denationalization of the remaining industrial structure—the strengthening of national agricultural and mineral production chains, resulting in greater structural dependence of the Brazilian economy on commodity exports to overcome the historical external constraint on national product growth (Delgado, 2012). As Hiratuka (2024) notes, based on UNCTAD (2021), China's relations with peripheral countries have sparked debates about the commodity dependence trap, since large-scale commodity exports have caused, among other issues, difficulties in productive diversification and productivity growth.

In this context, the Brazilian economy has deepened the primary nature of its trade insertion while simultaneously attracting direct investments into sectors with lower technological intensity and into the service sector. Reflecting on Brazil's role in the global economy, it seemed necessary to emphasize the movement of capital accumulation, which occurs spatially in an irregular, selective, and unequal manner, in order to investigate how the interregional division of labor has been altered by external insertion since the 2000s, with the Central-West region as the analytical focus.

We approached this study with the understanding that “space is a social production, seeking to analyze the conflicts that are structured and the struggles that take place around this socially constructed environment” (Brandão, 2007, p. 65).

3 The Central-West Region and the Expansion of Agricultural Production's Trade Links with Foreign Markets

The Brazilian regional dynamics are marked by the intensification of regional disparities, with a significant concentration of production in the Southeast, particularly in São Paulo. However, despite unequal regional development, the

Brazilian industrialization process integrated and diversified the national economic space. Industrial growth after 1930, in addition to industrial diversification, stimulated other economic activities, including the expansion of agriculture and livestock in regions that progressively dialogued with the dynamics of national accumulation.

Cano (2011) highlights that between 1930 and 1970, at smaller scales compared to the processes occurring in Paraná and Santa Catarina, colonization and the beginning of agricultural production took place in southern Goiás and, to a lesser extent, in the southern part of what is now Mato Grosso do Sul. The “March to the West,” important for this process, was established as a public policy to encourage the occupation of territorial spaces that today form the Central-West region. The construction of Brasília and the Belém-Brasília highway later became additional factors that stimulated the Central-West region, promoting the expansion of the agricultural frontier and significant migratory flows.

In the early 1960s, there were important changes in the logic of implementing regional policies. As Santos and Missio (2020) note, with the creation of the Superintendence for the Development of the Central-West (SUDECO), state institutions began to play a leading role in planning and executing regional development policies. SUDECO implemented several programs in the region, with specific investments in each state aimed both directly at infrastructure—to expand the road network and integrate the region into the domestic market—and at diversifying the productive structure of the region, with incentives for industry and agriculture.

The occupation of the region, therefore, is directly linked to migratory processes and spatial occupation stimulated by public policies since the March to the West, in addition to the construction of Brasília, which resulted in the development of a road network integrating the Central-West with the rest of the country. Notably, as mentioned, policies through SUDECO and other programs encouraged productive expansion, with agricultural production playing a major role. The occupation of the Central-West and its integration into the domestic market was closely linked to national industrialization plans, being promoted through projects under the Goals Plan (construction of Brasília), the First National Development Plan - IPND (investments in road infrastructure), and the Second National Development Plan - IIPND (projects aimed at reducing regional imbalances and modernizing agriculture).

According to Pires (2020, p. 16),

Among the projects that demonstrated the greatest capacity to transform agricultural activities in the Central-West region, the Cerrado Development Program – Polocentro (1975) and the Japan-Brazil Cerrado Development Program – Prodecerr (1985) stood out, as they created the objective conditions for the process of conservative modernization in the Central-West region.

According to the same author, the programs aimed at agriculture and livestock in the Central-West region led to a modernization of production, with a set of institutions and policies promoting improvements in production conditions in the cerrado and investment in agricultural expansion. Since then, soybean cultivation has expanded across large areas, already integrated into the international market, supported by credit systems and research programs to improve production.

As Pires illustrates (2020, p. 18),

This means that, during the period 1970–1985, the growth rate of paddy rice production in Mato Grosso was 3.2% per year, while in Goiás it was -1% per year. In the case of beans, Mato

Grosso showed a growth rate of 3% per year, whereas in Goiás it was 1.2% per year. Meanwhile, corn production in Mato Grosso grew at 0.6% per year, and in Goiás at 7% per year. Soybean cultivation, in turn, expanded by 37% per year in Mato Grosso and 37.1% per year in Goiás. These data indicate a strong increase in soybean production in the Central-West states, alongside a reduction in the production of crops typical of the domestic market, such as paddy rice and beans.

There is, therefore, a direct relationship between the occupation of the Central-West region and the process of capital accumulation driven by industrialization, as the region gradually assumed strategic functions within the Brazilian industrialization model. During the industrialization plans (*Plano de Metas*, *IPND*, *IIPND*), this region was occupied and integrated into the domestic market, while a modern export-oriented agriculture was being structured.

This modern export-oriented agriculture was strategic in the 1980s, when the country implemented an export adjustment to mitigate the negative impacts of the external debt crisis. The expansion of agricultural production, as Pires (2020) highlights, was accompanied by industrial investments in seed processing, commercialization, and food sectors.

In the 1990s, with trade liberalization and financialization, the Central-West region expanded its international insertion, largely driven by agro-industrial conglomerates and large foreign companies in international trade. In the 2000s, this process of integrating the Central-West into globalized markets intensified, with a significant role played by the State in enabling the modernization of grain production for export. The National Integration axes, still under the FHC government, defined export corridors, following a logic of connecting fractions of the national territory to international markets.

In 2007, the Growth Acceleration Program (PAC) was launched, with several transportation and energy infrastructure projects, directing investments in highways, railways, airports, and hydroelectric plants across various parts of the Central-West region. These infrastructure investments also aimed to create alternatives for grain outflow through the North of the country, reducing dependence on the Southeast ports. Complementing these investments was the role of BNDES in providing subsidized credit and infrastructure financing, alongside the Constitutional Fund for the Central-West (FCO) and the Central-West Development Fund (FDCO) (Dentz, 2018; BNDES, 2014). Another key factor sustaining the expansion of the agricultural frontier in the globalized and transnational capitalist phase was the intensification of mechanization, the use of scientific knowledge, and technology in agricultural production, with improvements in seeds, intensified use of agricultural implements and pesticides, resulting in increased productivity (Bernardes, 2015).

In the first decade of the 21st century, the project initiated in the 1970s of expanding grain production in the Brazilian Cerrado for export was consolidated (Freitas et al., 2023). As these authors note, in the 2000s, projects involving partnerships between foreign and national capital for land acquisition advanced, highlighting the objective of controlling strategic resources (soil and water) for capital accumulation. In this context, discussions and practices for relaxing environmental laws progressed, aiming to facilitate the expansion of land use for export-oriented agricultural commodities.

In this sense, the growing integration with the Chinese economy is anchored in a “conservative modernization” of the Central-West region, enabled by a set of

policies ranging from infrastructure construction, agricultural credit, and tax incentives, while maintaining land concentration, environmental flexibilization, and infrastructure investments which often disregard demarcated lands of Indigenous peoples. Added to this is the weakening of internal decision-making centers, as this process is articulated, in multiple ways, with transnational capital: which commands the purchase and processing of seeds, financing, futures markets, part of the infrastructure (including Chinese investments), operates transshipment terminals, and participates in commercialization through trading companies. In other words, scientific, modern, and globalized agriculture is another arm of our peripheral, dependent, and transnationalized capitalism.

Transformations in capitalist accumulation over the past four decades, together with neoliberal reforms in Brazil, led to the country's insertion into what Pires (2023) calls globalized scientific agriculture—a process that, in addition to the clear orientation of much of agricultural production toward exports, relies on imported modern technology, maintains links with international finance, and channels commercialization through large trading companies. Soybean production, since the beginning of the occupation of the Cerrado, has been the most prominent crop, and as changes in the capitalist system intensified and international demand for this product grew, production of this crop also expanded, connected in various ways with foreign markets.

Table 1 illustrates the increasing importance of the states in the Central-West region in the country's international trade. Special attention should be given to exports from the state of Mato Grosso, which in 2003 accounted for 1.5% of the national total, rising to 8% in 2020. This state is also the main exporter in the region, with 56.3% of regional exports in 2020.

In 2000, approximately 3% of Mato Grosso's exports were destined for China. By 2003, the importance of the Chinese market for Mato Grosso had risen to 12.9%, reaching 19.8% in 2008 and 31.7% in 2013, a level that has remained stable in recent years. The same pattern of expansion of exports to China can also be observed for Goiás and Mato Grosso do Sul. In the case of Goiás, China's share of state exports, which was 4.6% in 2003, rose to 43.8% in 2020. The state of Mato Grosso do Sul saw the importance of the Chinese market as a destination for its exports increase from 5.9% in 2003 to 45.4% in 2020.

Beyond the growth of the Chinese market as a commercial partner for these states, the pattern of commercial insertion is characterized by low export diversification, with a heavy weight of primary products. Furthermore, from a territorial perspective, connections with China occur from specific fractions of these states, showing that the gains from foreign trade are spatially concentrated.

Table 1 – Relative share of exports from the states of MT, MS, and GO in Brazil's total exports, in exports from the Central-West region; relative share of exports to China in total state exports (in %), selected years 2003 to 2020.

States	% in national exports					% in exports in the Central-West region					% in exports to China				
	2003	2008	2013	2018	2020	2003	2008	2013	2018	2020	2003	2008	2013	2018	2020
Mato Grosso	1,5	2,5	5,1	4,5	8,0	57,6	55,2	55,8	54,8	56,3	12,9	19,8	31,7	33,6	29,9

Mato Grosso do Sul	0,4	0,8	1,6	1,7	2,1	13,1	14,8	18,4	19,2	18,0	5,9	18,2	31,0	50,2	45,4
Goiás	0,9	1,4	2,0	2,3	3,5	28,9	28,9	24,8	25,1	25,1	4,6	18,8	27,6	38,8	43,8

Source: ComexStat, 2024 (Authors' elaboration).

The Central-West region, in the 2000s, was one of the most impacted by the commodities boom. As illustrated in Table 1, excluding the Federal District, the region came to account for approximately 14% of national exports and more than 17% of exports to China. Considering more recent data, not included in the table, the Central-West's share of Brazilian exports to China reached about 25%.

This growth in Central-West exports, linked to the development of a modern and globalized agriculture and the expansion of the agricultural frontier, was accompanied by a process of regional deconcentration. Diniz and Mendes (2021), through the analysis of Relevant Industrial Areas (RIAs), highlight the expansion of industrial agglomerations that extend the original polygon defined by Diniz (1993), identifying new RIAs in the Central-West, with some predominantly focused on agro-industrial sectors. The author notes three new RIAs in the southwest of Mato Grosso do Sul (Três Lagoas, Dourados, and Iguatemi) and one in the southwest of Goiás (Rio Verde), with agro-industrial characteristics similar to the agro-industry in the western regions of Paraná and São Paulo states. With a slightly more diversified profile, the author highlights the Catalão microregion, which produces automotive products, tractors, and agricultural inputs. Diniz emphasizes two important points: these five RIAs can be considered as a "broadening of the country's densest and most consolidated industrial area, following the agro-industrial frontier moving into the Central-West" (Diniz, 2021, p. 18). With a production dynamic different from these five RIAs, being more linked to agro-industry and presenting higher industrial density and diversification, the state of Goiás contains the RIAs of Goiânia and Anápolis.

In short, the Central-West is the fastest-growing region in the 2000s, shaping a process of productive deconcentration whose main explanatory factor is the expansion of the agricultural frontier driven by large-scale export-oriented activities with high land concentration. As Macedo (2010) observes, there are multiple dimensions to the urban and regional issues in Brazil. The author highlights that international trade is an important dimension for analysis because...

(...) even though it has not guaranteed a macroeconomic pattern of sustained economic growth, the expansion of Brazilian foreign trade has been important for the country's urban-regional configuration, reinforcing regional specializations and leading to territorial adaptations to connect decentralized local productions to the external market, thus reinforcing the process of regional productive deconcentration. Macedo (2010, p. 90)

Recognizing international trade as an important dimension of regional development, the following sections present a qualitative analysis of export data, productive structure, and employment in the mesoregions of the states that make up the Central-West region, in order to identify possible processes of primarization of productive structures triggered by the integration of these territories into international trade. Additionally, the analysis aims to examine formal employment status by sector of activity to verify whether the expansion of exports and primary production is reflected in the generation of formal employment.

4 Analysis of Foreign Trade in the Mesoregions of the States in the Central-West Region

To understand the deepening of the Central-West region's trade connections with foreign markets, particularly with China, we analyze the export profile of the mesoregions in the states of Mato Grosso, Mato Grosso do Sul, and Goiás. The choice to focus on mesoregions was made in order to identify how the territorial transformations triggered by this greater external integration occur heterogeneously, allowing us to pinpoint and understand which areas within the Central-West region are most connected to foreign markets. Furthermore, it becomes possible to identify transformations regarding the productive structure and the labor market, helping to answer the central question of this article: what territorial changes might the strengthening of economic ties between the Central-West region and the international market—especially trade with China—cause in terms of productive structure and formal employment?

Regarding these transformations, it is important to emphasize that they are a direct reflection of a model of peripheral international insertion, as discussed in Section 2, which is linked to the neoliberal reforms implemented in Latin America in the 1990s, as well as to the growing Chinese demand for commodities over the following two decades, provoking a significant reconfiguration of the inter-regional division of labor.

For the analysis of foreign trade conducted in this study, the data were classified according to the Harmonized System (HS)², in sections. For Tables 3, 4, and 5, we mapped the HS sections to the sections of the National Classification of Economic Activities (CNAE), indicating whether the exports corresponded to agricultural production, extractive industries, or manufacturing industries³.

Exports from all mesoregions of Mato Grosso showed vigorous growth starting in 2009, with intensified exports to China; however, trade connections with foreign markets remain uneven. In this process, the Northern Mato Grosso mesoregion expanded its exports, becoming the state's largest exporter. This mesoregion shows low diversification in its export profile, with around 77.5% of its exports in 2020 corresponding to products from the vegetal kingdom (HS Section II, as illustrated in Table 3), predominantly soybeans. The growth in soybean exports from the Northern Mato Grosso mesoregion coincides with the intensification of trade relations with China, with particular emphasis on municipalities with important

² “The Harmonized Commodity Description and Coding System, or simply the Harmonized System (HS), is an international method for classifying goods based on a structure of codes and corresponding descriptions, created in 1988. This system was established to promote the development of international trade, as well as to improve the collection, comparison, and analysis of statistics, particularly those related to foreign trade.”. (SECEX, 2020, p. 21).

³ According to Oliveira (2022, p. 14), “The IBGE makes an important clarification by explaining that the classification of economic activities organizes production units, while product classifications organize transactions of intermediate consumption, final consumption, capital formation, and the flows of imports and exports of goods and services. The institute points out that it is not possible to establish a one-to-one correspondence between activities and products, since the classification of economic activities, even in its most detailed form, is not intended to measure the production of products—this is exclusively the role of product classifications. However, product classifications, even when organized according to principles different from those of the originating economic activity, take into account the origin of production, thus allowing a correspondence to be established between the classifications of activities and products”.

international trade linkages, such as Sorriso and Sinop. According to Santos (2019, p. 77),

Being the Northern Mato Grosso mesoregion (...) the hottest zone in the geography of Brazilian soybean production – and perhaps in the world, considering that Brazil has been the largest global frontier for soybean expansion in recent decades (together with Argentina and Paraguay, though on a much smaller scale) – the dynamics of occupation of this region by soybeans have direct implications for the establishment of the Cerrado as a global region and for the pressures on the development of logistical spaces radiating from Central Brazil.

This means that the expansion of soybean production, although driving significant export volumes—which, in turn, have a notable impact on the trade balance as well as the current account balance—also generates territorial contradictions, as discussed by Harvey (2014) regarding the geographic expansion of capital, and raises concerning questions about the socio-environmental costs of such a development model.

The Southeast Mato Grosso mesoregion is the state's second-largest exporter, with around 50% of its exports coming from vegetal products (Table 3), mainly soy and corn, with more than 75% of its exports destined for China.

Continuing the analysis of the expansion of exports in the Central-West region, the state of Mato Grosso do Sul also expanded its connections with foreign markets, although it is the Federation Unit in the Central-West region with the smallest share of Brazilian exports. Even though its participation in national exports is not as significant (2.1% in 2020, according to Table 1), its connections with China increased, explaining the growth of international trade in this state.

The mesoregion that stands out the most in Mato Grosso do Sul's exports is the Eastern Mesoregion, responsible for over 65% of the state's exports (Table 2). In this mesoregion, the municipality of Três Lagoas has been receiving significant investments in the paper and pulp manufacturing sector, investments that benefit from important tax incentives offered by the state government. Although Mato Grosso do Sul's commercial integration has characteristics different from those of the state of Mato Grosso, with a share of products showing some degree of industrial processing, dependence on the Chinese market is evident. Since the beginning of pulp and paper production activities in the Eastern Mesoregion of Mato Grosso do Sul, exports to China have been growing, and in 2020, China accounted for 60% of the mesoregion's exported paper and pulp market. Although it involves some degree of industrial processing, this production—heavily linked to raw material (eucalyptus)—illustrates how even industrial investment in the region can manifest in a profile of low technological complexity and subordinate integration into global value chains, characteristics of a peripheral international insertion.

In the state of Goiás, exports are highly concentrated in the South Goiás mesoregion, a region strongly characterized by large-scale, low-diversity agricultural production, where soybean cultivation has expanded significantly. Among the three states of the Central-West region, Goiás exhibits the highest concentration of exports in a single mesoregion, with approximately 67.2% of the state's exports originating from the South Goiás mesoregion in 2020 (Table 2).

Table 2: Share of mesoregion exports in the total exports of the states in the Central-West region (in %)

	2003	2008	2013	2018	2020	2021	2022
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Mesoregions Mato Grosso							
Central-South Mato-grossense	49,0	12,5	8,9	11,8	4,7	5,4	6,2
Northeastern Mato-grossense	4,5	9,1	10,3	10,5	14,8	15,1	16,4
Northern Mato-grossense	18,9	47,1	53,2	48,8	51,4	49,7	47,8
Southeastern Mato-grossense	24,0	25,8	21,5	23,6	23,2	23,7	23,9
Southwestern Mato-Grossense	3,5	5,5	6,0	5,4	6,0	6,1	5,8
Mesoregions Mato Grosso do Sul							
Central-Northern Mato Grosso do Sul	11,4	26,2	21,5	15,8	19,0	22,8	25,1
Eastern Mato Grosso do Sul	4,9	9,8	50,3	71,5	71,7	67,1	64,9
Pantanal Mato Grosso do Sul	5,8	17,5	15,4	9,4	8,0	9,0	9,1
Southwestern Mato Grosso do Sul	77,9	46,5	12,8	3,4	1,3	1,2	0,9
Mesoregions Goias							
Central Goiano	27,4	14,9	25,9	25,6	18,5	18,9	16,1
Eastern Goiano	2,8	11,1	10,2	4,4	8,7	7,8	7,9
Northwestern Goiano	7,0	5,0	4,5	10,6	9,4	9,4	4,1
Northern Goiano	7,0	20,5	11,9	9,3	6,7	8,1	4,7
Southern Goiano	55,9	48,5	47,5	50,2	56,7	55,9	67,2

Source: ComexStat, 2024 (Authors' elaboration)

Table 2 illustrates how the different mesoregions of the Brazilian Central-West states are integrated into the international trade circuit, showing that in each state some mesoregions stand out more than others. All these mesoregions, including the East of Mato Grosso do Sul, which is an important exporter of paper and cellulose products — classified as manufacturing industry— have China as the main destination for their exports.

Tables 3, 4, and 5 present the main sections of the Harmonized System, according to which the exported products are classified. In addition to the North Mato-Grossense, in Mato Grosso the Central-South, Northeast, and Southwest Mato-Grossense mesoregions also have a highly primarized export profile. One can observe the primarization process of the exports from the Mato Grosso mesoregions over the first two decades of the 21st century, intensified by the strengthening of trade relations with China. Furthermore, exports are concentrated in a few products, characterized by large-scale agricultural production.

The only mesoregion that shows some participation of industrialized products is the Southeast Mato-Grosso, with Sections IV and XI—food and beverages, and textiles, respectively—representing lighter industry, with lower added value and significant linkage to agricultural activities.

Table 3: Sections with the largest share of total exports from the mesoregions of the state of Mato Grosso (in %).

Mesoregions	Economic Sectors *	Sections**	2003	2008	2013	2018	2020
Central-Southern Matogrossense	Agricultural	Section I	5,0	1,8	5,0	12,9	36,3
		Section II	60,1	63,4	65,1	59,7	2,1
	Extractive Ind.	Section XIV	0,0	0,6	0,1	2,8	29,1
Northeastern Matogrossense	Agricultural	Section I	51,1	28,6	17,0	24,5	9,5
		Section II	33,9	55,4	66,7	68,9	90,4
Northern Matogrossense	Agricultural	Section I	1,1	1,5	5,9	5,8	4,6
		Section II	33,6	70,9	77,3	74,5	77,5
Southeastern Matogrossense	Agricultural	Section II	16,4	36,7	49,8	39,7	46,6
		Manufacturing Ind.	Section IV	52,0	37,4	36,5	41,6
			Section XI	20,9	12,1	5,2	12,7
Southwestern	Agricultural	Section I	58,7	27,7	33,7	64,0	72,8

Matogrossense		Section II	2,6	31,6	26,6	19,6	10,9
	Manufacturing Ind.	Section XIV	0,0	26,0	38,5	14,7	13,1

Source: ComexStat, 2024 – authors' elaboration

* Based on the National Classification of Economic Activities – CNAE

** Sections of the Harmonized System – HS

In the state of Mato Grosso do Sul, in addition to a strong spatial concentration of exports in the Eastern mesoregion, a low diversification of exports across the state's mesoregions can be observed, just like in the other states. Based on Table 4, in the Southwest of Mato Grosso do Sul there is a growing concentration of exports in Sections I and II (products of the animal and vegetable kingdoms, respectively), with an expansion in Section II exports. In the Pantanal mesoregion of Mato Grosso do Sul, the highlight is more on Sections V and XV (mineral and metal products, respectively), consolidating an extractive character. In the Central-North mesoregion of Mato Grosso do Sul, the great importance of exports from Section I is evident.

Table 4: Sections with the highest participation in total exports of the mesoregions of the state of Mato Grosso do Sul (in %).

Mesoregions	Economic Sectors *	Sections**	2003	2008	2013	2018	2020
Central-Northern Mato Grosso do Sul	Agricultural	Section I	38,9	38,3	61,5	63,5	60,0
		Section II	8,3	9,1	15,1	16,7	16,1
	Manufacturing Ind.	Section IV	0,5	13,0	7,7	9,0	14,9
Eastern Mato Grosso do Sul	Agricultural	Section I	45,5	37,9	13,2	9,4	9,8
		Section II	0,3	16,6	9,5	4,2	6,7
	Manufacturing Ind.	Section X	1,1	0,2	65,9	80,6	70,9
Pantanal Mato Grosso do Sul	Agricultural	Section I	0,2	0,0	0,1	11,6	19,0
		Section V	71,1	75,0	91,3	73,9	46,5
	Manufacturing Ind.	Section XV	20,1	11,5	0,6	3,7	24,8
Southwestern Mato Grosso do Sul	Agricultural	Section I	22,9	36,7	24,7	28,4	23,7
		Section II	18,5	27,5	35,4	58,0	52,6
	Manufacturing Ind.	Section IV	35,1	19,6	32,3	7,7	19,6

Source: ComexStat – authors' elaboration

* Based on the National Classification of Economic Activities – CNAE

** Sections of the Harmonized System – HS

Table 5 shows the sections with the highest prominence in exports from the mesoregions of the state of Goiás. The state of Goiás has an urban network with a high concentration of municipalities and more diversified economic activities in the Central Goiás mesoregion, which includes the Goiânia metropolitan area and the municipality of Anápolis. In this mesoregion, in 2020, approximately 30.8% of exports came from the animal kingdom (meat), and 12% were from the manufacturing industry, such as food and beverages (Section IV).

The Eastern Goiás mesoregion, despite having a significant population density near Brasília, shows low export diversification, with a predominance of agricultural products. In the Southern Goiás mesoregion, which concentrates most of the state's exports, more than 50% of exports came from the plant kingdom.

Table 5: Sections with the highest share in total exports of the mesoregions of the state of Goiás (in %).

Mesoregions	Economic sectors*	Sections**	2003	2008	2013	2018	2020
Central Goiano	Agricultural	Section I	56,6	49,8	26,5	25,3	30,8
		Section II	12,6	0,2	3,7	12,3	2,0
	Manufacturing Ind.	Section IV	12,9	12,3	24,8	6,4	12,0
		Section VIII	12,1	27,2	9,6	7,4	2,3

Eastern Goiano	Agricultural	Section II	36,1	77,2	88,9	67,3	89,7
Northwestern Goiano	Agricultural s	Section I	66,8	96,4	95,9	70,3	71,6
	Manufacturing Ind.	Section XIV	33,1	0,0	0,0	29,6	28,3
Northern Goiano	Manufacturing Ind.	Section V	80,6	96,5	100,0	98,9	86,4
Southern Goiano	Agricultural	Section II	51,1	34,9	38,4	36,9	56,6
	Manufacturing Ind.	Section IV	30,9	25,2	25,5	25,7	17,5

Source: ComexStat – authors' elaboration

* Based on the National Classification of Economic Activities – CNAE

** Harmonized System Sections – HS

In summary, given the growing importance of Brazilian exports to China from the beginning of the 21st century, there has been an expansion of the connections between the various mesoregions of the Brazilian states in the Central-West region with that country, particularly among the grain-producing mesoregions, with a special emphasis on soy. In the Central-West region, the primarization of the export profiles of the mesoregions within the federative units is clearly evident. It is also noticeable that even those mesoregions with a significant relative share of exports of manufactured products trade goods closely linked to the agricultural sector—such as food, beverages, and paper and pulp—and that these products are largely destined for the Chinese market.

It is important to consider that, despite the strong impact of the Chinese market on this primarization dynamic in the Central-West mesoregions, from a historical-structural perspective, the Brazilian economic model, although advancing to an industrial phase under Vargas and Juscelino, remained structurally dependent (from the 1960s onwards) particularly on agricultural sector to generate foreign exchange through international trade (Nascimento et al., 2023). This dependence, according to Delgado (2012), stems from a political-economic pact between the State and capital (industrial, agrarian, etc.), which, according to this author, was renewed under the neoliberal-financial wave of the 1990s and persists into the 2000s. In this context of profound dependence on external demand for primary commodities, the role of China merely confirms and accentuates this pact.

In the following sections, we will analyze the extent to which the international insertion of these mesoregions may influence the productive structures and employment patterns in the mesoregions of the Central-West states.

5. Productive Transformations and Changes in the Formal Labor Market in the Mesoregions of the Central-West States

With the aim of understanding how foreign trade relations—strengthened over two decades through closer connections with China—can trigger processes that generate internal dynamic effects, Table 6 presents the composition of Gross Value Added (GVA) for the mesoregions of the states of Mato Grosso, Mato Grosso do Sul, and Goiás.

In the state of Mato Grosso, there is evidence of strong links between the primarization of the export structure of its mesoregions and the high share of agricultural activities in the state's productive structure. The trends observed in Mato Grosso's mesoregions differ from the national average: while agricultural activities accounted for about 7.7% of Brazil's GVA in 2020, all the mesoregions of Mato Grosso had a much higher share of the agricultural sector than the national average, except

for the Centro-Sul mesoregion. In this sense, the state's integration into international trade has reinforced a regressive productive specialization and, in fact, a primarization of the production structure.

In the cases of Mato Grosso do Sul and Goiás, similar trends to Mato Grosso are observed, with the agricultural sector being much more significant than in the national productive structure. However, overall, the agricultural sector's share is slightly lower in these states compared to Mato Grosso. Specifically in Mato Grosso do Sul, there is a tendency toward primarization of the productive structure in most of its mesoregions. This increase in the agricultural share of GVA, coupled with the export structure described earlier, supports the thesis of regressive specialization (Cano, 2012; Carneiro, 2008) and the consolidation of a productive model that, although dynamic in terms of volume, reveals its inability to promote long-term balanced and diversified regional development. In Mato Grosso do Sul, the Leste mesoregion shows the highest share of industry in its productive structure (around 40% of total GVA), both in the state and in the entire Central-West region. However, this significant participation does not correspond to productive diversification, but rather to the prominent presence of paper and pulp companies, which benefit from state tax incentives.

In Goiás, the state with the most diversified productive structure in the Central-West, the mesoregions with the highest industrial share in GVA are Center, South, and North Goias. The Center Goias region, due to its higher economic and demographic density, presents a greater diversification of productive activities, with emphasis on automotive and pharmaceutical production in Anápolis. South Goias hosts important meatpacking plants and industrial production closely linked to agriculture, but also includes automotive and tractor manufacturing in Catalão. Despite the prominence of industry in North Goias's productive structure (Table 6), it shows different characteristics compared to South and Center Goias. North Goias accounts for approximately 4% of the state GDP, while Center Goias and South Goias concentrate about 48% and 34% of the state GDP, respectively. Industrial activity in North Goias mainly comprises extractive industry and light manufacturing, with links to agricultural activities.

Table 6: Composition of Gross Value Added (GVA) for Brazil and the Mesoregions of the Central-West (in %).

Brazil and mesoregions	Large sectors	2003	2008	2013	2018	2020
Brasil	Agricultural	7,2	5,4	5,3	5,2	6,6
	Industry	27,0	27,3	24,9	21,8	22,5
	Services	65,8	67,3	69,9	73,0	70,9
Northern Mato-grossense	Agricultural	43,3	35,9	33,5	30,3	40,2
	Industry	12,1	11,5	15,8	14,4	16,0
	Services	44,6	52,6	50,8	55,4	43,8
Northeastern Mato-grossense	Agricultural	40,3	32,1	36,0	31,8	42,8
	Industry	8,6	7,9	10,1	9,0	8,9
	Services	51,2	60,0	53,9	59,2	48,3
Southwestern Mato-Grossense	Agricultural	28,8	21,0	28,6	20,0	22,7
	Industry	23,2	22,2	18,3	20,5	22,7
	Services	48,0	56,7	53,1	59,5	54,5

Central-South Mato-grossense	Agricultural	4,2	3,1	3,7	3,7	4,2
	Industry	19,0	15,6	20,2	14,7	17,7
	Services	76,7	81,3	76,1	81,6	78,1
Southeast Mato-grossense	Agricultural	38,5	24,7	25,9	21,4	26,9
	Industry	14,9	20,1	20,1	21,7	22,6
	Services	46,6	55,2	53,9	56,9	50,5
Pantanal Mato Grosso do Sul	Agricultural	28,4	19,3	15,4	14,7	18,7
	Industry	8,2	15,7	20,0	12,6	11,1
	Services	63,5	65,0	64,6	72,7	70,2
Central-Northern Mato Grosso do Sul	Agricultural	14,4	9,8	8,3	9,6	12,4
	Industry	15,2	14,4	16,2	14,0	14,6
	Services	70,5	75,8	75,4	76,3	72,9
Eastern Mato Grosso do Sul	Agricultural	38,8	24,3	22,1	21,8	26,2
	Industry	28,1	31,4	38,5	42,0	39,0
	Services	33,1	44,3	39,5	36,2	34,8
Southwestern Mato Grosso do Sul	Agricultural	37,8	27,4	25,6	27,4	32,4
	Industry	11,1	11,7	16,3	16,0	15,7
	Services	51,1	60,8	58,1	56,7	51,9
Northwestern Goiano	Agricultural	32,7	27,2	28,2	25,7	30,8
	Industry	13,9	14,3	18,7	15,0	18,2
	Services	53,3	58,5	53,1	59,3	51,0
Northern Goiano	Agricultural	12,9	10,8	14,9	15,2	22,0
	Industry	45,3	44,5	35,0	28,5	24,8
	Services	41,9	44,7	50,1	56,2	53,2
Central Goiano	Agricultural	4,3	2,9	3,2	2,9	3,8
	Industry	23,4	25,4	25,3	20,4	23,2
	Services	72,2	71,7	71,5	76,7	73,0
Eastern Goiano	Agricultural	18,2	13,6	15,4	12,9	18,4
	Industry	13,9	17,1	16,9	13,6	16,1
	Services	67,9	69,3	67,8	73,5	65,5
Southern Goiano	Agricultural	27,0	19,8	24,1	23,0	26,4
	Industry	28,7	33,3	28,9	23,5	27,3
	Services	44,2	46,9	47,0	53,6	46,3

Source: IBGE, Municipal GDP, 2024 (Authors' elaboration).

Table 7 shows how agricultural activities—which stand out the most in exports and in the productive structures of the states and several mesoregions of the Central-West—do not generate formal employment in the same proportion. Brazilian agricultural activities, especially those aimed at international trade, have, since the 1960s, undergone continuous rounds of modernization based on the increasing intensive use of mechanical, chemical, and biological innovations. On the one hand, these innovations raise total factor productivity in agriculture; on the other hand, they significantly reduce the labor employed in these activities (Balsadi, 2007; Staduto, et al., 2004; Gasques, et al., 2012).

This “labor-saving” inherent to capital-intensive agricultural modernization reveals one of the main contradictions of the regional development model driven by reprimarization: the productive dynamism of the sector does not translate into an equivalent capacity to absorb labor, creating a mismatch between economic growth and social inclusion.

Table 7: Distribution of Employment Stock by Economic Sector in the Mesoregions of the Central-West (in %)

Reprimarization of Exports, Productive Structure, and Formal Employment in Brazil's Central-West Region: Territorial Effects of Peripheral International Integration

Mesoregions	Setores	2003	2008	2013	2018	2020
Northern Mato-grossense	Agricultural	19,3	20,8	19,7	22,1	21,7
	Industry	29,2	26,1	24,9	20,6	21,5
	Services	51,5	53,1	55,4	57,3	56,8
Northeastern Mato-grossense	Agricultural	24,9	23,7	24,1	25,8	27,5
	Industry	16,4	22,7	20,6	17,8	12,8
	Services	58,6	53,6	55,2	56,4	59,7
Southwestern Mato-Grossense	Agricultural	16,8	19,8	17,8	20,0	19,9
	Industry	34,5	29,0	28,3	24,3	24,6
	Services	48,7	51,2	53,9	55,6	55,5
Central-South Mato-grossense	Agricultural	2,7	3,0	2,9	3,4	3,5
	Industry	14,8	17,8	18,6	13,4	14,9
	Services	82,5	79,2	78,5	83,2	81,6
Southeast Mato-grossense	Agricultural	28,1	22,6	17,3	18,1	17,4
	Industry	11,4	17,7	19,2	17,5	17,4
	Services	60,5	59,7	63,5	64,3	65,2
Pantanal Mato Grosso do Sul	Agricultural	21,6	18,5	18,2	19,0	20,4
	Industry	10,9	14,8	12,5	12,4	13,9
	Services	71,0	67,6	67,9	69,1	65,7
Central-Northern Mato Grosso do Sul	Agricultural	6,5	5,5	4,7	5,1	5,1
	Industry	13,7	15,8	16,8	14,1	14,3
	Services	79,8	78,7	78,5	80,8	80,5
Eastern Mato Grosso do Sul	Agricultural	26,7	26,7	26,7	26,7	17,9
	Industry	20,9	28,6	34,5	30,6	28,8
	Services	52,4	48,9	46,2	52,8	53,2
Southwestern Mato Grosso do Sul	Agricultural	20,1	16,3	13,4	13,5	13,0
	Industry	18,6	23,0	25,7	22,8	23,3
	Services	61,3	60,7	60,8	63,7	63,7
Northwestern Goiano	Agricultural	26,0	25,5	21,7	24,3	25,4
	Industry	15,5	17,1	23,7	21,6	22,4
	Services	58,5	57,4	54,7	54,0	52,2
Northern Goiano	Agricultural	9,0	11,1	9,4	11,0	11,9
	Industry	20,9	21,7	19,7	16,2	19,1

	Services	70,1	67,2	70,8	72,9	69,0
Central Goiano	Agricultural	2,2	2,1	1,8	2,0	2,0
	Industry	19,9	22,1	23,0	19,8	21,5
	Services	77,9	75,9	75,1	78,2	76,5
Eastern Goiano	Agricultural	12,4	11,0	11,6	11,8	12,4
	Industry	12,5	15,3	13,8	11,9	12,1
	Services	77,9	75,9	75,1	78,2	75,6
Southern Goiano	Agricultural	17,3	15,2	14,3	15,2	14,1
	Industry	20,3	28,8	28,7	24,4	27,3
	Services	62,4	56,0	57,0	60,4	58,5

Source: RAIS, 2024 (Authors' elaboration)

The expansion of exports to China, in a peripheral economy such as Brazil's, has led to the primarization of the export profiles of several mesoregions in the Central-West, which is also reflected in the high relative share of agricultural activities in the productive structure of these mesoregions (with levels far above the national average). As agriculture modernizes and labor productivity increases, the growth in exports of agricultural products and their share in the productive structure is not matched proportionally by formal employment generation, highlighting a key dilemma of this regional development model: on the one hand, it generates wealth, but on the other, it limits workers' appropriation of surpluses and, consequently, the improvement of living conditions for the population in general.

Although the relative importance of the agricultural sector in generating formal employment is lower than its share in Gross Value Added, Table 7 shows that the sector's share of total formal employment increased in the following mesoregions: Northern Mato Grosso, Northeastern Mato Grosso, Southwestern Mato Grosso, and Northern Goiás. These are also, as illustrated in Table 6, the regions with a large share of agriculture in total GVA, with some showing a trend of further growth in this share (Northwestern Mato Grosso and Northern Goiás).

Table 8, in turn, presents data on the growth of formal employment status for the economic macro-sectors in the mesoregions of the Central-West states. The growth rates of formal employment in these mesoregions show a positive trend, even during sub-periods when the Brazilian economy experienced a slowdown.

For the period 2002 to 2013, the first point to highlight is the high growth rates of formal employment status in the agricultural sector of Central-West mesoregions, with high statistical significance (Table 8). This period coincides with significant growth in the Brazilian economy and the commodities boom. In this context, all mesoregions showed positive employment growth across all economic sectors. The mesoregions of Northern, Northeastern, Southwestern, and Central-Southern Mato Grosso, as well as Northern Goiás, exhibited a higher employment growth in agriculture than other activities. This reveals that, despite the growth of agriculture, other activities also showed dynamism, largely due to economic growth stimuli triggered not only by exports but also by improvements in income distribution, such as government income transfer programs, increases in the minimum wage, and

public investments, among others. This demonstrates that international trade stimulated agricultural activities, but industrial and service sectors also showed significant dynamics in formal employment growth. In the mesoregions where the state capitals are located, the service and industrial sectors were more dynamic in generating employment; these are more diversified mesoregions, with denser urban networks and lower participation of agriculture in their productive structure (as shown in Table 6).

Table 8: Growth rate of formal employment ties, mesoregions of the Central-West, 2002 to 2023.

Mesorregião	IBGE Setor	2002	2013	2017	2023	Tx Cresc. 2002 a 2013		Tx Cresc. 2013 a 2017		Tx Cresc. 2017 a 2023		Tx Cresc. 2002 a 2023	
Northern MT	Total	89410	230793	243833	319508	8,6	***	0,7		5,5	***	5,9	***
	Industry	28497	57522	51295	74243	6,6	***	-4,2		6,3	***	4,0	***
	Manufacturing Ind.	26240	42040	40846	54360	4,2	***	-1,8		5,2	***	3,0	***
	Services	46085	127831	140185	166467	9,2	***	1,8		4,4	**	6,4	***
Northeastern MT	Total	21649	49200	53975	68208	7,1	***	1,9	*	5,1	***	5,4	***
	Industry	3612	6627	7133	9504	4,5	***	1,3		3,4	*	3,8	***
	Manufacturing Ind.	3385	5095	5664	6245	2,9	*	2,2		-0,1		2,4	***
	Services	13084	29620	31633	36079	7,2	***	1,1		4,1	*	5,3	***
Southwestern MT	Total	30856	67569	64957	72967	6,8	***	-1,3	*	3,0	**	3,8	***
	Industry	10142	19151	15014	21616	4,3	***	-6,6	*	6,2	***	2,2	***
	Manufacturing Ind.	8983	13580	12135	17277	1,9	**	-4,4		6,3	***	1,7	***
	Services	15448	36398	36673	36639	7,9	***	-0,1		2,1		4,5	***
Central-Southern MT	Total	181767	325717	315497	290839	5,3	***	-1,2	*	0,4		2,7	***
	Industry	27181	60677	44971	58537	8,1	***	-8,6	**	5,1	***	2,7	***
	Manufacturing Ind.	16581	30791	24043	32852	5,8	***	-6,9	**	5,8	***	2,1	***
	Services	149969	255580	260010	220001	4,8	***	0,3		-0,7		2,6	***
Southeastern MT	Total	55470	119589	122123	151141	6,7	***	0,0		4,4	***	4,5	***
	Industry	7718	22989	21704	30323	11,6	***	-1,7	*	5,6	***	6,1	***
	Manufacturing Ind.	5383	17155	15561	20204	12,5	***	-2,1		4,6	***	5,9	***
	Services	32281	75923	78158	91711	7,1	***	0,2		3,8	**	5,0	***
Pantanal in MS	Total	22532	35190	35844	36905	3,9	***	0,0		2,1		2,5	***
	Industry	2771	4405	4626	7898	5,6	***	1,0		9,3	***	3,3	***
	Manufacturing Ind.	1568	2112	2586	3534	1,6		5,8	**	5,8	***	3,0	***
	Services	14586	24395	23834	19278	4,3	***	-1,3		-1,0		2,2	***
Central Northern MS	Total	193755	313709	308426	274778	5,0	***	-0,8		0,0		2,4	***
	Industry	26822	52760	43840	53252	7,4	***	-5,0	***	3,0	***	2,8	***

	Manufacturing Ind.	14695	26675	25050	32639	6,3	***	-2,0	**	4,3	***	3,4	***
	Services	155769	246184	248572	200904	4,7	***	-0,2		-1,0		2,4	***
	Agricultural	11164	14765	16014	20622	2,5	***	2,1	***	4,3	**	1,8	***
Eastern MS	Total	52451	116727	110571	138379	7,2	***	-1,0		4,6	***	4,3	***
	Industry	11759	40226	31453	49090	11,9	***	-4,5		7,0	**	5,9	***
	Manufacturing Ind.	10232	28447	25982	34474	10,1	***	-2,7	*	4,1	***	5,3	***
	Services	26301	53936	57553	60908	6,5	***	1,1		2,6		4,3	***
	Agricultural	14391	22565	21565	28381	3,6	***	-0,6		5,7	**	2,3	***
Southwestern MS	Total	80862	169999	184546	192149	7,2	***	1,5		2,2		4,4	***
	Industry	15295	43758	40401	51271	10,9	***	-2,5	*	4,2	***	5,3	***
	Manufacturing Ind.	13444	38527	35441	42620	11,0	***	-2,4	**	3,4	***	5,1	***
	Services	49723	103378	119750	109366	7,3	***	3,0		0,8		4,6	***
	Agricultural	15844	22863	24395	31512	2,5	***	1,6	**	4,8	**	2,3	***
Northwestern GO	Total	18455	34689	35098	32091	5,7	***	-0,4		0,7		3,3	***
	Industry	3370	8207	7128	8456	8,1	***	-3,0		2,7	***	4,5	***
	Manufacturing Ind.	2507	5748	5164	5561	7,8	***	-2,1		1,1	*	4,1	***
	Services	10779	18967	19740	12509	5,6	***	-0,6		-3,3		2,7	***
	Agricultural	4306	7515	8230	11126	4,2	***	2,4	*	5,4	***	3,7	***
North GO	Total	20069	39671	37558	41785	6,4	***	-2,5		3,8	*	3,4	***
	Industry	3900	7835	5533	13357	6,4	***	-9,4	*	16,5	***	3,4	***
	Manufacturing Ind.	1952	3531	2473	4519	4,7	***	-8,3	**	9,1	***	1,7	***
	Services	14385	28093	27802	22089	6,3	***	-1,5		-1,2		3,0	***
	Agricultural	1784	3743	4223	6339	6,6	***	3,0	***	8,1	***	4,8	***
Central GO	Total	541751	989635	980438	906050	6,0	***	-0,7		0,2		2,9	***
	Industry	110788	227787	192988	248397	7,7	***	-4,8	**	4,7	***	3,2	***
	Manufacturing Ind.	79186	152420	136811	167600	6,3	***	-3,3	**	3,9	***	3,1	***
	Services	419285	743566	767429	634563	5,6	***	0,5		-1,3		2,8	***
	Agricultural	11678	18282	20021	23090	3,9	***	2,3	**	2,8	*	2,8	***
Eastern GO	Total	53456	124383	134342	145669	8,4	***	1,6	*	3,2	*	4,9	***
	Industry	7057	17118	15736	24495	8,8	***	-2,2	**	7,9	***	4,5	***
	Manufacturing Ind.	4826	10227	10257	13506	7,1	***	-0,4		5,1	**	3,6	***
	Services	40390	92864	102622	98059	8,5	***	2,0	*	1,4		4,9	***
	Agricultural	6009	14401	15984	23115	7,3	***	3,6	*	7,5	***	5,4	***
Southern GO	Total	147712	321017	327986	357651	7,2	***	-0,1		2,7	*	4,3	***
	Industry	30101	92068	84251	105013	11,0	***	-3,1	*	4,5	***	5,2	***
	Manufacturing Ind.	24057	76713	74409	87433	11,3	***	-1,7		3,5	***	5,5	***
	Services	93233	182913	196448	194456	6,1	***	1,1		1,4		4,1	***
	Agricultural	24378	46036	47287	58182	5,6	***	0,8	*	3,8	*	3,4	***

Source: RAIS, 2024 (Authors' elaboration).

Note: (a) Estimate of the coefficient from a log-linear regression against time. In this case, the t-test indicates the presence or absence of a trend in the data. ***, **, * indicate significance at 1%, 5%, and 10%, respectively.

The crisis period (2013–2017) exhibited growth rates of formal employment status in the economic sectors that differed from the rates observed during the more dynamic period of the Brazilian economy (2002–2013). For 2013–2017, the growth rates of formal employment in industry and services were negative in almost all

mesoregions of the Central-West states, while the growth rate of employment in agriculture was positive and higher than that of other economic activities in nearly all mesoregions, with the exception of Eastern Mato Grosso do Sul (-0.6%) and Southern Goiás (0.8% in agriculture and 1.1% in services). This indicates that in highly primarized territories, where agriculture has a large share of the productive structure, this sector was less affected, possibly due to its strong connections with the external market, whereas the Brazilian crisis impacted growth pillars based on the domestic market.

In the period 2017–2023, characterized by low growth rates from 2017 to 2019, a recession in 2020, and a modest recovery from 2021 onwards, all sectors contributed significantly to the growth of formal employment status. In the mesoregions where agriculture is most important in exports, in the productive structure, and in the sectoral employment structure, it was the sector with the greatest dynamism in generating employment. This was the case in the Northern and Northeastern Mato Grosso, Central-North and Southwestern Mato Grosso do Sul, and Northwestern Goiás mesoregions.

This resilience of the agricultural sector during national crises positions it as an “employment buffer” in the Brazilian labor market, due to its structural disconnection from the domestic market and strong export orientation. However, this apparent resilience not only fails to address the issues of income concentration and low productive diversification but also exacerbates the challenges for achieving genuine development.

5. Final Considerations

The results presented throughout this article are expected to contribute to studies that seek to highlight fundamental specificities of Brazil's position in the international division of labor (IDL). This position had been partially altered with industrialization during the Vargas and Kubitschek eras, extending through the *IIPND*, but from the 1980s onward—and particularly with a series of neoliberal policy reforms in the 1990s—this alteration shifted toward a regressive reintegration of the country into the IDL. This trend continued into the 2000s, reflected in the deepening (re)primarization of both exports and the productive structure.

From this perspective, the article allows us to infer that aggregated analyses at the national or even macro-regional level may lead researchers to conclusions that obscure important territorialized dynamics with potentially revealing differentiated results. By conducting disaggregated analyses at smaller scales—as done in this study, focusing on the mesoregions of Brazil's Central-West—the research captures processes that broader studies, due to their methodological choices, would not detect. Specifically, it reveals a territorialized process of primarization not only of export patterns but also of productive structures, with both dimensions articulated.

In other words, analysis at smaller spatial scales allows for a more detailed understanding of regional specificities. In the Central-West, this highlights the clear process of regressive specialization. This process is driven by the progressive advance of neoliberal policies implemented since the 1990s, which contributed, on one hand, to national deindustrialization and, on the other, reinforced the political-economic pact between the state and industrial, agrarian, and financial capital connected to large-scale monoculture commodity production for export.

From a methodological standpoint, this article analyzed the export structure of the Central-West region and examined whether the most dynamic international trade activities influenced productive structures and, consequently, formal employment generation. From this investigative lens—focusing on the mesoregions of Mato Grosso, Mato Grosso do Sul, and Goiás—the study revealed the growing integration of the Central-West into Brazil-China trade circuits, with an increasing share of animal and plant-based products in exports, a phenomenon we term the primarization of exports. It was observed, therefore, that the integration of the Central-West region into international trade occurs in a heterogeneous manner.

It is possible to note that some mesoregions have integrated into international trade more intensely than others. On the other hand, though beyond the scope of this article, it is necessary to mention that export-oriented agriculture is progressively expanding into environmentally protected areas and lands belonging to indigenous peoples. This expansion occurs both directly, through production, and indirectly, via the construction of necessary infrastructure for exporting products, particularly in Mato Grosso.

Regarding productive structures, almost all mesoregions analyzed exhibited regressive specialization. Data indicate a progressive increase in the share of agricultural sector in the Gross Value Added (GVA), with shares above the national average. This underscores the increasing significance of agricultural sector in the productive structures of the Central-West mesoregions. Beyond the primarization of export patterns, some mesoregions (North and Northeast Mato Grosso, Southwest Mato Grosso do Sul, Northwest Goiás) show trends of productive primarization, with the relative share of agricultural exceeding one-third of GVA. This suggests that foreign trade, particularly the intensification of primary exports to China, influences internal productive dynamics.

Regarding the analysis of the dynamics of the formal labor market, it was found that, in general, the growth of agriculture and livestock in the relative participation of both exports and the total GVA of the economic sectors — across the different mesoregions studied — was not equally reflected in the share of formal employment in the agricultural workforce of those mesoregions. The main explanation for this is that the modernization (increasingly widespread and sophisticated mechanization) of the agricultural sector leads to higher productivity gains, which, in turn, slow down the growth rate of formal labor demand. This finding, combined with evidence of regressive specialization, calls for a more critical perspective on the discourse that emphasizes only the success of the expansion of rural wealth generation based on the growing assimilation of a scientific and productivist agriculture.

In summary, this article aims to contribute to understanding how regressive processes in export patterns and productive structures occur territorially, leading to debates on deindustrialization and re-primarization. Even as the Central-West has expanded its industrial production, significant portions of its territory remain highly primarized, with agriculture dominating productive structures.

The increasing primarization of exports, productive structures, and formal employment presents challenges to regional development, which requires, in addition to economic growth and employment, the socio-environmental

preservation of local biomes, improvements in income distribution, and better living conditions for the population.

For future research, it is important to study the consequences of deeper integration into international trade circuits across the various spaces of the Central-West on labor income and job quality. Additionally, advancing analyses of sectoral linkages is essential to better understand how the growth of agricultural sector affects other sectors—for instance, to assess the extent to which industrial and service activities are connected to agricultural sector.

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