

Chapter 2

Productive and Spatial Changes

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Abstract Since the early 1990s, Rio de Janeiro State has undergone major changes in its economic dynamics, in sharp contrast to the severe economic and social crisis that marked the 1980s. The expansion of the oil extraction sector and the macroeconomic policies of the 2000s are important elements of its recent history. This chapter aims to analyze the nature and determining factors of those changes, considering the main quantitative and qualitative trends in the production structure (sectoral and regional) and in the spatial division of labor in Rio de Janeiro State and in the Metropolitan Region of its capital.

Keywords Rio de Janeiro economy • Economic dynamics • Production structure • Spatial division of labor • Territorial reorganization

2.1 Introduction

Similarly to the national context, the 1980s were a period of low growth of the gross domestic product (GDP) and employment, both in Rio de Janeiro State (RJ) and the Metropolitan Region of Rio de Janeiro (*Região Metropolitana do Rio de Janeiro*—RMRJ). However, since the early 1990s, and especially as of 2004, Rio de Janeiro State has undergone major changes in its economic dynamics, in sharp contrast to the severe economic and social crisis that marked the previous decade. Prominent in this scenario are the performance and expansion prospects of oil extraction and refining activities as well the preparations to host international mega-events (2014 World Cup and 2016 Olympic Games, among others).

Such changes warrant an analysis of the nature and the determining factors of this process, considering the main quantitative and qualitative trends and the potential changes in the social-spatial structure of Rio de Janeiro State, especially in

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its metropolis. An extensive account of the history of said state is beyond the scope of this chapter; however, it is important to underline the specificities of its socioeconomic and territorial formation, founded on two very distinct political and administrative units, from an economic, social, demographic, and fiscal point of view, among others (Lessa 2000).

Throughout its process of economic development, the industrial sector failed to play a central role in structuring the urban and regional space, both metropolitan and state, in terms of generating effects of inter-sectoral linking (back and forth). According to Ribeiro (1997), the underlying causes would be related to the political hegemony of the “secondary circuit of urban accumulation,” with the predominance of social groups interested in the appropriation of income, formed by public works contractors and urban services concessionaires, real estate developers, and landowners.

Due to these “inherited” territorial characteristics, the process of territorial integration and spatial organization of Rio de Janeiro State was not accompanied by a deeper spatial division of labor. The Metropolitan Region of Rio de Janeiro, with a strong ascendancy of the city of Rio de Janeiro, based on its historical role as political capital, main port and trade center, and national metropolis, failed to attain a significant economic position in its own hinterland, capable of unfolding into a significant “sprawl” of economic activities, as is characteristic in the formation of urban agglomeration economies. The fact that the municipalities in the metropolis’s area of influence were under the jurisdiction of a distinct federation unit prevented a greater complexity of the intra-metropolitan division of labor, despite the transference of production units from the capital city to peripheral municipalities (Davidovich 2010; Santos et al. 2012).

The improvement in economic performance, especially in the 2000s, motivated the emergence of new studies on the production and territorial dynamics of the Rio de Janeiro State (hitherto very scarce).¹ Despite the divergences as to the nature and determining elements of the process, there is consensus in identifying clear changes in relation to the historical pattern of development in the state, indicating a certain level of sectoral diversification, and territorial reorganization of economic activities.

This chapter seeks to examine the major changes in the production structure (sectoral and regional) and spatial division of labor of Rio de Janeiro State and its Metropolitan Region, situating them in the context of more general transformations in the country, since the 1980s. The main hypothesis being examined is that the transformations undergone by the Metropolitan Region and the state as a whole, despite being positive in terms of their potential, have not yet given signs of promoting an economic and territorial diversifying integration trend capable of significantly changing the specialization in oil industry and the historical pattern

¹Natal (2005), Oliveira (2007), Lago (2009), Urani and Giambiachi (2011), Osório da Silva (2011), Piquet (2011), Santos et al. (2012), Silva (2012), Pinheiro and Veloso (2012), Sobral (2013).

of high economic concentration in the RMRJ, especially in its Metropolitan Capital, the city of Rio de Janeiro.

The chapter is divided into three sections. The first section seeks to characterize the main factors determining the state's economic dynamics between 1980 and 2010 and the changes in Rio de Janeiro State's position within the Brazilian economic context. The second and third sections focus on examining the main changes and quantitative and qualitative trends in the state and metropolitan production structure.

2.2 Changes in the Economic Dynamics of Rio de Janeiro State (1980–2010)

The 1980s were a particularly difficult period for Rio de Janeiro State. Amidst the severe national economic crisis and the fiscal and financial crisis of the state, important industrial sectors (steel, machinery, shipbuilding, textiles, and chemicals) dependent on the domestic market and direct state stimulus (through purchases, tax incentives, among others), for example, the shipbuilding industry, were negatively affected. The trade and services sectors, highly concentrated in the Metropolitan Region and Metropolitan Capital (public administration, finance, transport, and others), suffered harshly from the effects of low domestic growth and reduction in state investment and spending. In the public administration sector, within the hyperinflation context of the decade, the civil service wage squeeze weighed heavily on the urban economic dynamics of the city of Rio de Janeiro (capital) and the other metropolitan municipalities (Dain 1990).

However, during that decade, the oil industry gained greater prominence in the state's economy with the strong and sustained expansion of production in the Campos Basin, in Northern Rio de Janeiro State, thanks to consolidated investment programs of the II PND—II National Economic Development Plan (1974–1979) of the military governments. Production in the Campos Basin began in 1977 when Petrobras expanded investment in deepwater drilling technology, and, in the 1980s, the huge Albacora, Marlim, and Barracuda oil fields were discovered. In the 1990s there was a substantial increase in domestic production with the discovery of oil in the Roncador field (1996), considered the largest in the country in the post-salt layer (Tolmasquim and Pinto 2011).

This resulted in intense growth in oil production since 1985, with Rio de Janeiro State accounting for approximately 82% of domestic oil production (offshore) and about 52% of natural gas production (data from the National Agency of Petroleum, Natural Gas and Biofuels/ANP for 2012).

Between 1985 and 90, according to National Accounts data of the Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística*—IBGE), the relative share of Rio de Janeiro State in the national manufacturing industry GDP had a slight increase (from 9.5 to 10.2%). On the other hand, the state's percentage in the extractive industry, which was 1.4% in 1980, expanded to 13.3% in 1985, and reached 50% in 1990.

Overall, since the mid-1990s the Rio de Janeiro State economy has shown positive GDP growth rates, following the course of national economic cycles. Amid production restructuring processes, greater selectivity of investment, and privatization of state enterprises, economic growth rates were low in the 1990s, below 2%. However, in the 2000s, Rio de Janeiro State showed higher growth rates, following the national economic cycle (3.2% in 2004; 3.0% in 2005; 4.0% in 2006; 3.6% in 2007), falling from 4.1% in 2008 to 2.0% in 2009 after the outbreak of the international crisis.

Regarding its importance in the national economy, according to IBGE National Accounts data, the state's share in the national GDP was approximately 11% between 1995 and 2011. In comparison to other Brazilian States, the relative share of São Paulo State in the national GDP dropped from 37.3 to 32.6%, while Minas Gerais State increased its relative percentage from 8.6 to 9.3%.

The steady share of Rio de Janeiro State and the increased percentage of Minas Gerais state in Brazil's GDP are clearly associated with national economy trends. The production of commodities plays an important role in the production structures of some of Brazilian States, which in turn are affected by the commodity boom, strongly influenced by the high level of the prices and the expansion of Chinese demand in the 2000s.

Accordingly, it can be inferred that the extremely robust expansion of oil production in the Campos Basin was the sole reason preventing Rio de Janeiro State from losing its status of the second largest economy in the country. The state GDP was influenced by the increase in actual production and also by prices, thanks to the strong expansion of the international market in the 2000s.

Changes in the production structure of Rio de Janeiro State resulted from both international factors and domestic market policies implemented during the second term of President Luiz Inácio Lula da Silva's government (real increase of the minimum wage, employment growth, expansion of consumer credit, conditional cash transfers and, housing construction programs, among others).

According to Pereira (2012), the dynamism of the oil sector led to a sharp reprimarization of the state's exports. The relative share of primary products in Rio de Janeiro State exports increased from approximately 40–70% between 2001 and 2011. As a result, the relative percentage of Rio de Janeiro State in Brazilian exports increased from 3.3 to 11.5% over the same period, ranking third among the country's top exporting states.

The following section examines the main productive changes and quantitative and qualitative trends in the state and metropolitan production structure of Rio de Janeiro, triggered by these broader movements.

2.3 Changes in the Production Structure and Spatial Division of Labor of Rio de Janeiro State

This section analyzes information on the state's production and territorial structure in order to identify quantitative and qualitative trends in the spatial division of labor of Rio de Janeiro State and the Metropolitan Region of the city of Rio de Janeiro.

The 1990s brought some improvement in the state's investment attractiveness. In addition to the substantial amount of investment in oil sector in Northern Rio de Janeiro State, there have also been significant investments in auto plants in Southern Rio de Janeiro State (Peugeot Citroen in Porto Real and Volkswagen in Resende) and in a chemical industry plant in the Metropolitan Region (Rio Polímeros). In the 2000s, future and/or ongoing investment projects were intensified with the launch of the infrastructure projects from the federal government's Growth Acceleration Program (*Programa de Aceleração do Crescimento*—PAC), along with the preparations for international sports mega-events, and the discovery of oil in the pre-salt layer. In general, this occurred in the context of more “cooperative” political relations between national, state, and municipal governments.

According to information of the Industrial Development Company of Rio de Janeiro (*Companhia de Desenvolvimento Industrial do Estado do Rio de Janeiro*—CODIN), systematized by Silva (2012), the main areas receiving industrial investment in the state between 1996 and 2006 were as follows: Metropolitan Region (63%), Mid-Paraíba River Valley (15.4%), and Northern Rio de Janeiro State (11.6%).

As observed in the composition of the state GDP by sector in Table 2.1, the industrial sector showed the highest gain in relative share between 1995 and 2011. That was due to the increase of the extractive industry percentage (1.2–14.5%), since the percentage of the manufacturing industry decreased from 10 to 8%. Overall, although Rio de Janeiro State has received large industrial plants, a specialization of production can be observed in its industrial structure.

On the other hand, despite the reduction in the relative share of the tertiary sector in the state's GDP (80–70%), its contribution to the regional economy remains high. The most important tertiary subsectors are: “Administration, public health and education, and social security;” “Trade;” “Real estate activities and rentals.” Service activities such as of the so-called “advanced” tertiary sector (“Financial intermediation” and “Business services”) showed no growth trend and together account for 12% of the Rio de Janeiro State's GDP.

In spatial terms, municipal GDP data for the period between 1999 and 2011 indicate a significant decentralization trend of the state domestic product toward the state hinterlands, more precisely from the Metropolitan Region to Northern Rio de Janeiro State. The Metropolitan Region's share in the state domestic product fell from about 80–63%, with the most significant drop recorded in the state capital, from 54 to 41% (Chart 2.1). This was due to the increase in the relative percentage of Northern Rio de Janeiro State (from 4.2 to 15%), the largest onshore base for oil extraction. The Coastal Lowlands region, also strongly influenced by oil extraction activities (including Rio das Ostras and Cabo Frio), increased its relative share from 3 to 7%, while the Mid-Paraíba River Valley region, despite investments from the automotive industry, lost one (1) percentage point in its share of the state GDP.

Table 2.1 Rio de Janeiro State GDP, by economic sectors and subsectors, in % (1995 and 2011)

Economic sectors	1995	2000	2005	2011
Agriculture	0.8	0.7	0.5	0.4
Industry	19.6	24.0	30.2	30.4
Extractive industry	1.2	5.7	12.0	14.5
Manufacturing industry	9.8	9.8	10.2	8.0
Building	6.5	6.1	5.0	5.7
Prod. and distribution of electricity and gas, water sanitation, and urban cleaning	2.0	2.5	2.9	2.2
Services	79.6	75.3	69.3	69.2
Trade and repair and maintenance services	10.6	9.3	9.1	10.7
Accommodation and food	–	–	2.0	2.8
Transport, storage, and mail	–	–	4.6	5.4
Information services	–	–	5.3	4.6
Financial intermediation, insurance, and complementary pension plans and related services	9.4	5.7	5.8	6.1
Services provided to families and associations and domestic services	–	–	3.0	3.9
Business services	–	–	6.4	6.0
Real estate activities and rentals	–	–	10.7	8.4
Administration, public health, and education, and social security	20.3	18.4	17.8	18.1
Private health and education	–	–	3.2	3.1
Domestic services	–	–	1.4	–
Other services	39.4	41.9	–	–
Total	100	100	100	100

Source Ceperj [State Foundation Center for Statistics, Research and Instruction of Civil Servants of Rio de Janeiro (*Fundação Centro Estadual de Estatísticas, Pesquisas e Formação de Servidores Públicos do Rio de Janeiro*)]

Sectors in bold are the major economic sectors, which makes a total of 100%, and the others are subsectors

Despite the oil revenues significant effects on fiscal budget, the impact on the state labor market and production chain is still below expectations, considering the substantial amount of financial resources involved. The oil industry is capital intensive and its effects on the labor market (and, therefore, on income) are only expanded when investment is directed to its production chain and other sectors such as petrochemicals. A case in point is the investment project in the Petrochemical Complex of Rio de Janeiro (*Complexo Petroquímico do Rio de Janeiro*—Comperj) in the Metropolitan Region.

In order to better qualify this trend of relative decentralization it is essential to consider the “oil effect” in these GDP statistics, ranging from the strong expansion of production to the high level of international prices in the last decade. The analysis would be more appropriate if the industrial GDP were broken down into

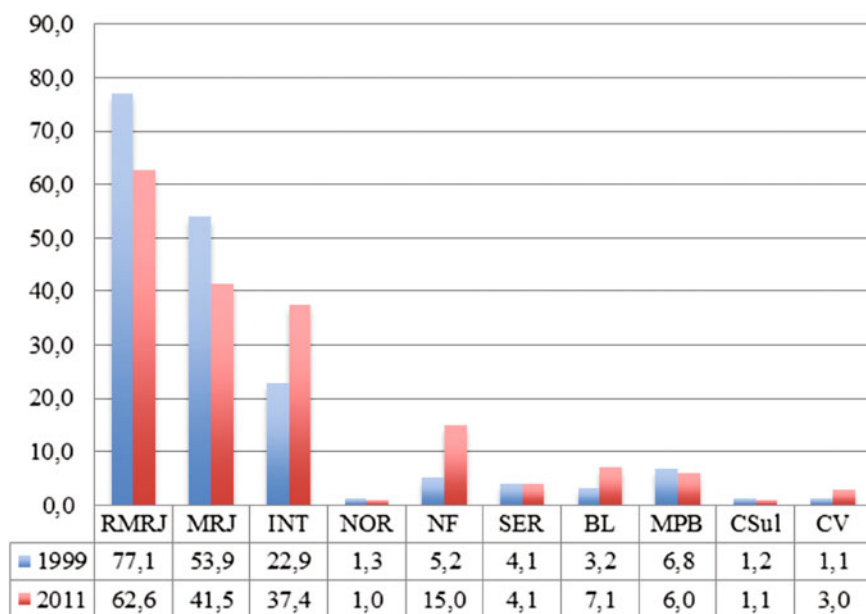


Chart 2.1 Composition of Rio de Janeiro State's GDP by selected regions and municipalities, in % (1999 and 2011). *Note* INT: Rio de Janeiro State Inland Region; NOR: Northwestern Rio de Janeiro State; SER: Highlands Region; NF: Northern Rio de Janeiro State; BL: Coastal Lowlands; MPB: Mid-Paraíba River Valley; CSul: Mid-South Rio de Janeiro State; CV: Green Coast Region. *Source* Municipal GDB, Ceperj

two categories, Extractive Industry and Manufacturing Industry, but this information is not available in Ceperj data by region.

As a result of the “oil effect,” the analysis of the regional composition of the state's industrial GDP reflects an even greater decentralization than that observed for the total GDP. Chart 2.2 shows a fall in the relative shares of the Metropolitan Region and of the capital city from 63.5 to 35% and from 42.8 to 20%, respectively. The percentage of the Rio de Janeiro State hinterlands increased from 37 to 65%, surpassing the Metropolitan Region. Since oil extraction has a heavy influence in these results, Northern Rio de Janeiro State reached a GDP percentage equivalent to that of the Metropolitan Region (increase from 12 to 35.3%). The Coastal Lowlands region also stands out, increasing from 5 to 14%. The contribution of the Mid-Paraíba River Valley region, one of the main manufacturing regions in the state, decreased from 13 to 7.6%.

These data suggest that the decentralization trend of economic activities in Rio de Janeiro State, especially when considering charts related to the extractive industry, has not been accompanied by a greater regional spread of the manufacturing industry and the services sector, which, it should be noted, is a typically urban sector. Thus, it appears that the reorganization of production in the territory

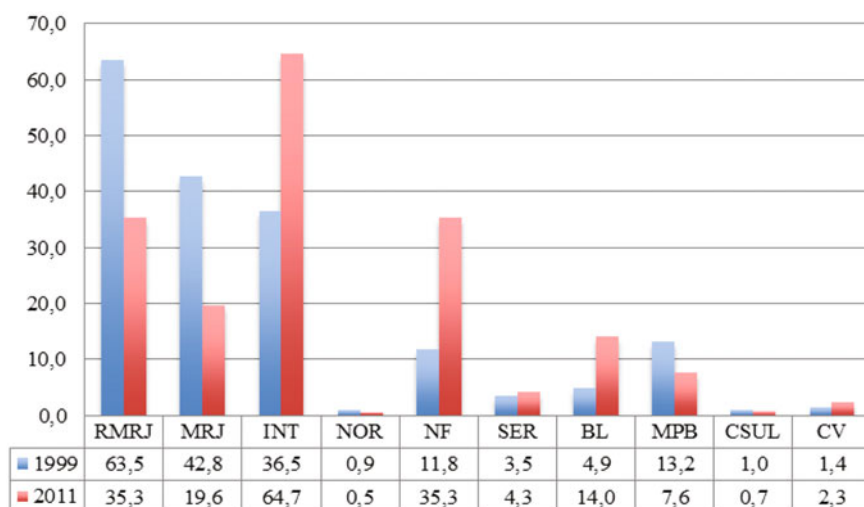


Chart 2.2 Composition of Rio de Janeiro State's industrial GDP by selected regions and municipalities, in % (1999 and 2011). *Note* INT: Rio de Janeiro State Inland; NOR: Northwestern Rio de Janeiro State; SER: Highlands Region; NF: Northern Rio de Janeiro State; BL: Coastal Lowlands; MPB: Mid-Paraíba River Valley; CSul: Mid-South Rio de Janeiro State; CV: Green Coast Region. *Source* Municipal GDB, Ceperj

has not been widely based on an interaction between different sectors, at least from the point of view of the major economic sectors.

2.4 Changes in the Production Structure in the Metropolitan Region of Rio de Janeiro

Concerning the productive changes within the Metropolitan Region, in terms of the major sectors, a main point is that this decentralizing trend in production, based on the decentralization of GDP, was far more limited than that observed between the Metropolitan Region and other state regions, as analyzed in the previous topic. That is expressed in the reduction of the state capital's share in the total metropolitan GDP in the 1999–2011 period, of only four (4) percentage points (Chart 2.3). Among the other municipalities, the only one with a more significant increase in relative percentage was Duque de Caxias, precisely the municipality with the greater share in the final stages of the oil production chain.

The figures showed in the following charts give a clearer view of the intra-metropolitan productive changes. Regarding the GDP of the agriculture sector, the most important municipalities are Rio de Janeiro, São Gonçalo, Magé, and Itaguaí (Chart 2.4). It should be noted that, as a whole, agriculture has an insignificant share of GDP in Rio de Janeiro State, the hinterlands contribute most

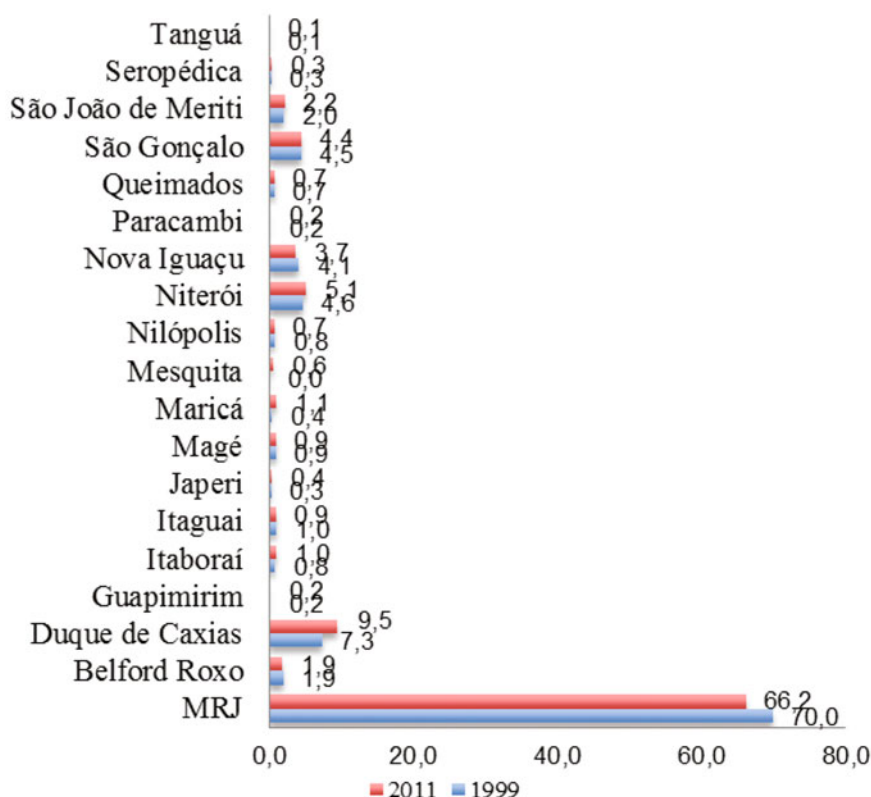


Chart 2.3 Composition of the Rio de Janeiro metropolitan region's GDP by municipalities, in % (1999 and 2011). *Source* Municipal GDP, Ceperj

to this sector. In the metropolitan area, agriculture is in the outskirts and, despite being a source of occupation and income for a significant number of families, has no relevance in metropolitan and state production. The metropolitan agricultural sector consists mainly of small-scale production of goods for the local consumer market (cabbage, lettuce, cassava, coconut, chayote, among others).

Regarding the metropolitan industrial GDP, the decrease in the share of the capital city was more pronounced, with percentage changes restricted to a small group of municipalities (Duque de Caxias, Niterói, and Maricá) (Chart 2.5). These three municipalities have been directly influenced by the dynamics of investment in the oil sector. In the case of Duque de Caxias, besides the expanded production of the Reduc refinery, new companies related to refining activities have been established, composing a gas-chemical complex (Rio Polímeros). Niterói, in turn, has benefited from the recovery of the state shipbuilding industry boosted by vigorous federal policy and guidance based on Petrobras investments and commissions. Maricá has increased its importance due to new investments related to Comperj.

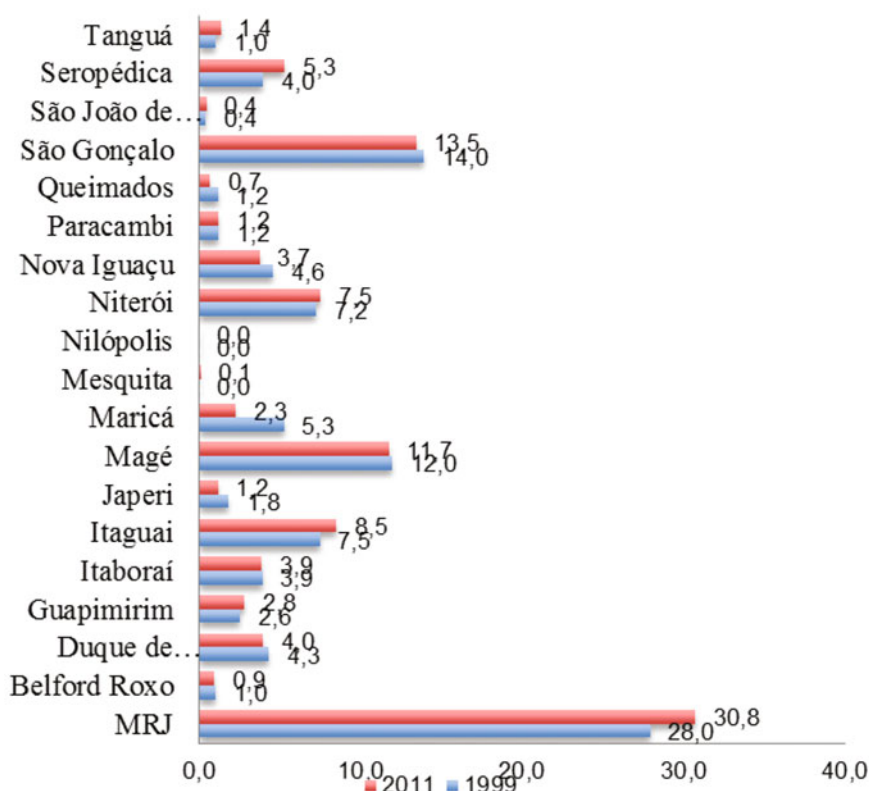


Chart 2.4 Composition of the agriculture GDP of Rio de Janeiro's metropolitan region by municipalities, in % (1999 and 2011). *Source* Municipal GDP, Ceperj

Although it has not yet been captured by the statistics, it is important to note that other municipalities of the so-called *Baixada Fluminense*, Rio de Janeiro State Lowlands, have shown a more robust expansion of investment than in the recent past, given that Queimados, Nova Iguaçu, and Belford Roxo have been gaining prominence at state level. Queimados has benefited from the recovery of the municipal industrial district, and the other two from investments in sectors related to chemicals (Bayer) and the production of cosmetics (Embelleze, Nielly, Natural Beauty).

Similarly, large investment projects in the oil and steel production chains and export logistics such as Comperj (São Gonçalo and Itaboraí), Sepetiba Port (Itaguaí), and the Metropolitan Beltway (linking the cities of Itaboraí and Itaguaí via the Rio de Janeiro State Lowlands), when implemented,² will be important

²There is a certain degree of uncertainty concerning Comperj: Petrobras has indicated that, contrary to the initial objective of producing petrochemicals, the project will be restricted to the installation of a Premium Refinery.

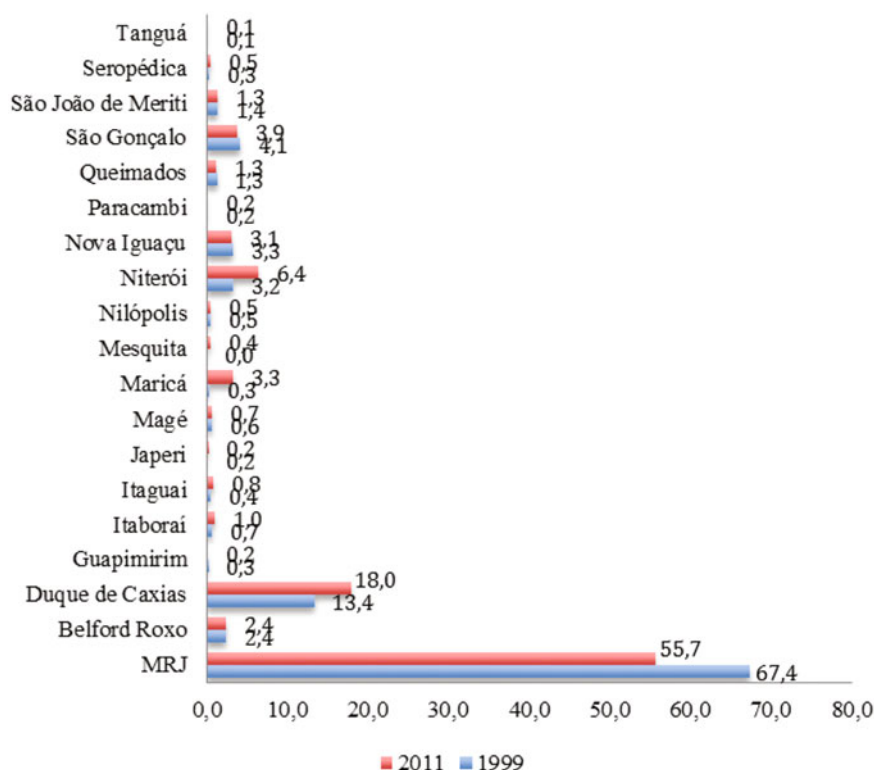


Chart 2.5 Composition of the industrial GDP of Rio de Janeiro's metropolitan region by municipalities, in % (1999 and 2011). *Source* Municipal GDP, Ceperj

vectors of decentralization and greater inter-sectoral integration in the metropolitan production structure. Such projects, if combined with industrial, regional, and urban development policies, may have an impact on improving investment attractiveness and creating jobs in the eastern area of the Metropolitan Region and the Rio de Janeiro State Lowlands.

At the same time, in the Metropolitan Capital, important changes stem from the strategy to transform the city of Rio de Janeiro into a hub of international mega-events and its impact on infrastructure, as well as from oil industry investments. It is worth mentioning that oil industry research centers were installed by international companies at the Technology Park in Ilha do Fundão/UFRJ³ which already houses the Petrobras Research Center (*Centro de Pesquisas e Desenvolvimento Leopoldo Américo Miguez de Mello*—Cenpes). Besides the expansion of the Gerdau steel

³Baker Hughes, FMC Technologies, Halliburton, Usiminas and Tenaris, Vallourec, General Electric, L'Oréal, among others.

hub (Cosigua) in 2010, the industrial district of Santa Cruz, in the West Zone of the city of Rio de Janeiro, received a steel manufacturing plant (production of steel plates for export) of the Atlantic Steel Company (*Companhia Siderúrgica do Atlântico*—CSA), which is a joint venture between ThyssenKrupp and Vale.⁴ According to information from Codin, this district will also house the Center for Final Manufacturing of Vaccines and Biopharmaceuticals (of Biomanguinhos/Fiocruz⁵) and supply industries for the oil extraction sector (of Rolls Royce, Champion Technologies, Jeumont Electric, and Oil States) and the building industry (Gypsum), among other sectors. In addition to state tax incentives, since these companies are exporters and suppliers for oil extraction in the Campos Basin, the proximity to Sepetiba Port, in Itaguaí, was an essential factor in attracting these companies to invest in the area. Itaguaí has also received investments in port terminals and nuclear submarines and, along with the industrial district of Santa Cruz, is yet another dynamic hub in the Metropolitan Region.

With regard to the services sector GDP's composition, changes were not very significant. The Metropolitan Capital preserved its share of around 70%, followed by Duque de Caxias, Niterói, São Gonçalo, and Nova Iguaçu. As noted earlier, the capital is dominant not only at metropolitan, but also at state level. The other four prominent metropolitan municipalities are sub-regional service centers with a certain degree of “peripheral” centrality, both in the eastern metropolitan area and in the two main communication hubs of the Rio de Janeiro State Lowlands (Washington Luiz and Presidente Dutra highways) (Chart 2.6).

Similarly, considering the changes in the spatial division of labor at state level, there was a certain degree of increase in inter-sectoral and spatial complexity within the Metropolitan Region. However, these changes are still inserted in a spatial context of strong concentration in the Metropolitan Capital and relative “scarcity” of production, services, and employment in intra-metropolitan terms.

According to data from CEMPRE⁶/IBGE on the distribution of the employed population and local business units in the Metropolitan Region, the Metropolitan Capital concentrates 70% of local units and 74.5% of the employed population. In the other metropolitan municipalities, only Niterói presents a more significant percentage of total metropolitan local units (6.2%); and Niterói and Duque de Caxias, each with 5.5% of the employed population.

⁴The Project received funding from the Brazilian Development Bank (*Banco Nacional de Desenvolvimento Econômico e Social*—BNDES) and the German company ThyssenKrupp tried repeatedly to sell its share in the business, given the accumulated losses. In addition, great environmental damage has been caused by CSA operations.

⁵Oswaldo Cruz Foundation (*Fundação Oswaldo Cruz*).

⁶Brazilian Business Commitment for Recycling (*Compromisso Empresarial para Reciclagem*—CEMPRE).

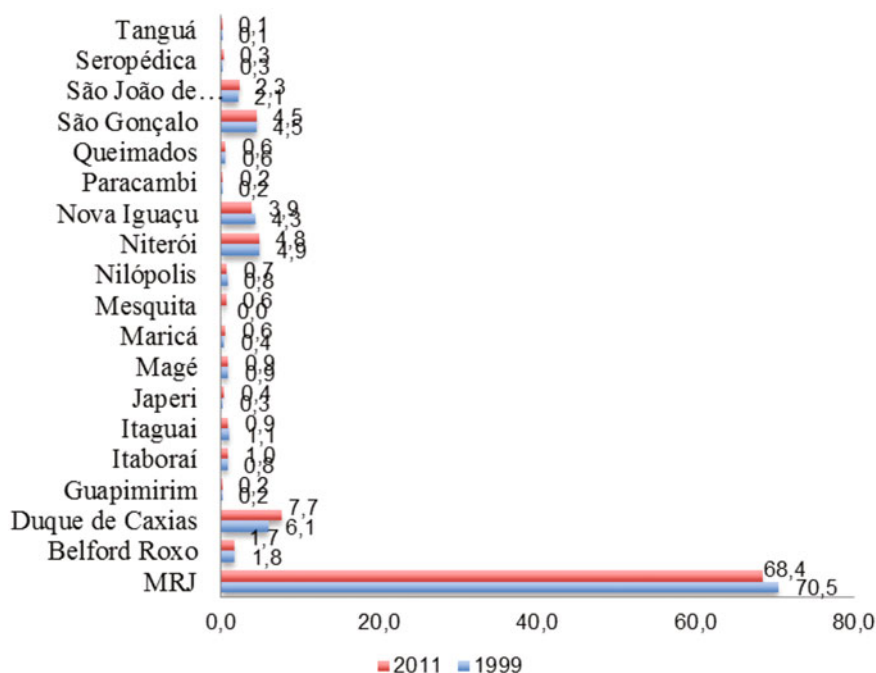


Chart 2.6 Composition of the services sector GDP of Rio de Janeiro's metropolitan region by municipalities, in % (1999 and 2011). *Source* Municipal GDP, Ceperj

2.5 Conclusions

This chapter aimed to examine the configuration and recent changes in state and metropolitan production structures in Rio de Janeiro State. The analysis contextualized such changes in a wider panorama of Brazil as a whole. The state and its Metropolitan Region reveal the contradictions, challenges, and potential of the national and international contexts, which must be examined in light of their specific productive and territorial characteristics.

The national economic crisis and the fiscal and financial crisis of the state in the 1980s strongly affected Rio de Janeiro State, given the importance of investment and expenditure of state enterprises and of the public administration in its economy, especially in the Metropolitan Capital. However, in this same period, as a result of the investment programs of the military governments during the 1970s, the expansion in oil production since the 1990s was decisive for the subsequent recovery of the state's economic growth in the following decades.

In the 1990s and 2000s, Rio de Janeiro State began to show positive GDP growth rates, following national economic cycles, and improved its investment attractiveness. Thus, it preserved its rank as the second largest economy in the country. However, it is important to note that Rio de Janeiro State was only able to

maintain this relative position due to the substantial growth of oil extraction in the Campos Basin (influenced by both physical production and high level of international prices), which did not occur with the manufacturing and tertiary sectors. On the other hand, the state's rate of economic growth, while positive in recent decades, was lower compared to other Brazilian states such as São Paulo and Minas Gerais.

Regarding the analysis of production structures (state and metropolitan) in recent times, it was observed that concluded and/or ongoing investments in the manufacturing industry contribute to a certain level of sectoral diversification (automotive sector in Southern Rio de Janeiro State) and to strengthen previously established sectors in the state: steel (West Zone of the capital city and Itaguaí), shipbuilding (Niterói and Angra dos Reis), and oil (Northern Rio de Janeiro State, Duque de Caxias, São Gonçalo, and Itaboraí in the Metropolitan Region). Despite the economic concentration in the Metropolitan Capital, other trends also contribute to greater territorial complexity in the state, such as the increased growth of local units and employed population in medium-sized municipalities.

However, there is strong evidence that the changes have not occurred within a framework of consolidated production chains integrated in a more complex spatial division of labor. Specialization of the production structure has proved to be a stronger trend. That could be seen in the analysis of the composition of the state's GDP by economic sectors. The industrial sector now accounts for a third of the state domestic product; however, the increased share of the oil extraction sector (in Northern Rio de Janeiro State and Coastal Lowlands) was not accompanied by an increase in the share of the manufacturing industry (heavily concentrated in the Metropolitan Region, more specifically in the capital). Moreover, the contribution of the tertiary sector is still quite significant in the state economy (also concentrated in the capital). Overall, despite these quantitative and qualitative changes, it can be argued that the industrial sector has not yet shifted the sectors linked to the "secondary circuit of urban accumulation," as termed by Ribeiro (1997), with regard to the territorial organization of Rio de Janeiro State and the Metropolitan Region.

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