

Received: 09/14/2021

Accepted: 12/04/2021

## **MEDIUM-SIZED CITIES, TERRITORY MANAGEMENT AND URBAN AND REGIONAL DYNAMICS IN THE CENTER-NORTH OF THE STATE OF RIO GRANDE DO SUL<sup>1</sup>**

## **CIDADES MÉDIAS, GESTÃO DO TERRITÓRIO E DINÂMICA URBANA E REGIONAL NO CENTRO-NORTE DO ESTADO DO RIO GRANDE DO SUL**

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### **Abstract**

The article aims to analyze the spatial relationships that medium-sized cities located in the northern region of Rio Grande do Sul establish in the Functional Region 09 of planning from the flows of public and private territorial management, as well as their reflections on the configuration and functioning of the urban network and urban and regional dynamics. Theoretically, the study is anchored in the contributions of SPOSITO (2018), BELLET and LLOP (2012) and CORRÊA (1996) regarding the centrality, the role, and functions of medium-sized cities in regional dynamics and their importance for territorial development. We used secondary data from the IBGE Demographic Census (2000, 2010) and IEDE-RS (2019) and the studies Region of Influence of Cities (IBGE, 2018) and Territory Management (IBGE, 2014), on the flows between public management establishments and between business management establishments. The results demonstrate the centrality and command relationships of the medium-sized cities of Passo Fundo and Erechim in the regional urban network.

<sup>1</sup> Paper presented at the V Seminar on Regional Development, State and Society (SEDRES/2021) - Innovation, Society and Regional Development: Repercussions and contradictions in the territories, held on March 24, 25 and 26, 2021. University of Taubaté/Taubaté /SP. ISSN 2358-5307.

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They also evidence a polynuclear behavior with monodirectional flows towards public management and a monocentric behavior with multidirectional flows towards business management.

**Keywords:** Medium-sized cities. Territory management. Regional urban network. Functional Planning Region 09.

## Resumo

O artigo objetiva analisar as relações espaciais que as cidades médias localizadas na região norte do Rio Grande do Sul, estabelecem na Região Funcional 09 de planejamento, que se estende por parte da porção centro-norte do território, a partir dos fluxos de gestão territorial pública e privada, bem como seus reflexos na configuração e funcionamento da rede urbana e na dinâmica urbana e regional. Teoricamente o estudo se ancora nas contribuições de SPOSITO (2007), BELLET e LLOP (2002) e CORRÊA (1996) quanto à centralidade, o papel e as funções das cidades médias na dinâmica regional e sua importância para o desenvolvimento territorial. Utilizou-se dados secundários do Censo Demográfico do IBGE (2000, 2010) e do IEDE-RS (2019) e dos estudos Região de Influência das Cidades (IBGE, 2018) e Gestão do Território (IBGE, 2014), sobre os fluxos entre estabelecimentos de gestão pública e entre os de gestão empresarial. Os resultados demonstram a centralidade e as relações de comando das cidades médias de Passo Fundo e Erechim na rede urbana regional. Evidenciam também um comportamento polinuclear com fluxos monodirecionais para a gestão pública e um comportamento monocêntrico com fluxos multidirecionais para a gestão empresarial.

**Palavras-chave:** Cidades médias. Gestão do território. Rede urbana regional. Região Funcional de Planejamento 09.

## Introduction

In the beginning of the 21st century, contemporary urbanization has presented new urban and regional scenarios on the global, national, and sub-regional scales that involve concurrent processes of capital concentration, deconcentration and re-concentration in territories. In periphery countries such as Brazil, these new scenarios are added to a growing pre-existing socio-spatial inequality, but also to an inequality in the dynamics of territorial development, on the inter- and intra-regional scales. In this process, there is an intensification of hierarchies between cities, both for those integrating metropolitan areas and between cities located in different regions of the Brazilian countryside. In the latter, we can observe a growth in urbanization and the prominent role of medium-sized cities, which are regional hubs and therefore have a relevant intermediating function in their regions of influence, thus contributing to the development of more balanced and cohesive regional urban networks. This process is paramount for regional development (FERRÃO, 2012; SILVEIRA et al., 2016).

Such growth has sparked interest in new studies involving multi-scalarities on the urbanization process of medium-sized cities. Their relations with regional networks regarding territorial management emerge as important perspectives that relate command roles, conditions of attraction and intermediation. With regard to territorial management, recent studies have sought to reflect upon and present information transformed into content (graphs, tables and analytical synthesis cartographies) showing the territorial management capacity that these cities exercise in their spatial contexts (IBGE, 2014; SILVEIRA et al., 2018; SILVEIRA and FACCIN, 2021).

Besides, in addition to the identification of fixed management objects and components, such as the spatial structures and facilities for public and private management in the territory, the material and immaterial elements that dynamize such management have gained importance, notably demarcated by flows of diverse nature (people, goods, inputs, capital) and by the hierarchical relations of order, information and power that dynamize the spatial organization.

The article aims to present the polarization and territorial management of medium-sized cities in their immediate regional spaces located in the center-north area of the State of Rio Grande do Sul. More specifically, the spatial scope of this study is the Functional Planning Region 09 of the

State – (RF 09)<sup>9</sup>. This is the region where the medium-sized cities of Passo Fundo and Erechim are located, both having strong centrality, diversified urban economy and a significant degree of intermediation in the regional urban network.

These cities play the role of intermediaries in the urban network as articulating nodes, attracting diverse commercial flows, providing services to individuals or businesses in a wide geographic space in the context of the regional territory.

The objectives of this study are: to analyze the intra-regional relationships that these cities establish based on public management flows (resulting from the decentralized action of the State, at the federal and state levels) and private management flows (resulting from the strategies and operating actions of companies with a marketing, financial and economic function) in the regional geographic space; and to evaluate the effects of territorial management flows on the configuration and dynamics of the functioning of the urban network, as well as on the regional development process.

In methodological terms, secondary data were collected from the Demographic Census of the Brazilian Institute of Geography and Statistics – IBGE (2000, 2010), the Spatial Data Infrastructure of the State of Rio Grande do Sul – IEDE-RS (2019), and from the studies Territory Management – IBGE (2014) and Region of Influence of Cities (REGIC) – IBGE (2018). After collecting and organizing the data in electronic spreadsheets, graphs, charts, and thematic maps were prepared using QGis and Adobe Illustrator, and these were subsequently analyzed and interpreted.

The article is structured in three topics, in addition to this introduction and the final considerations: 1) the concepts of medium-sized city and territorial management used in this work are presented, emphasizing the relationship of the medium-sized/intermediary city with the region and the urban network; 2) a brief characterization of the territory of FR 09 is carried out, with emphasis on the medium-sized cities of Passo Fundo and Erechim; 3) an analysis of the main characteristics of public and private territory management carried out by and through these cities is developed, as well as of its relationship with territorial development and with the regional urban network.

## Medium-Sized Cities and Territory Management

One can say that there is still no single or consensual definition of a medium-sized city. We understand that the concept is still under construction, partly due to its geographic specificities and, on the other hand, to the diversity of current classifications and the urban typology adopted in each country. Sometimes its definition is based on the demographic criterion, while in other cases it is based on the centrality and urban functions performed by the cities (SPOSITO and SILVA, 2017; SPOSITO, 2018). In addition, the criteria used for definition often vary according to the objectives of experts in the analysis and implementation of specific public policies (MOTTA and MATA, 2008).

In any case, we believe that rather than remaining restricted to population size, the definition should also consider the framework proposed by the IBGE for cities with populations between 100 and 500 thousand inhabitants. Although demographic size is an important variable to be considered, the definition of the average city must also be linked to the role and function that the city plays in the territory, having a strong relationship, intermediation and interaction with the region where it is located (SANTOS and SILVEIRA, 2001; OLIVEIRA and SOARES, 2014).

The definition of a medium city generally emphasizes the relational perspective, considering the particularities of the territorial and regional context where the city is located, as well as of the regional urban network where it is inserted (BELLET, MELAZZO, SPOSITO and LLOP, 2015). Aspects such as historical formation, institutional context, demographic dynamism, economic structure, administrative borders, and connections with infrastructure networks can also reveal important analyzes and interpretations for the concept (MICHELINI and DAVIES, 2009).

Herein we generally understand medium-sized cities as cities that, in addition to having a significant population, in the regional context, also present economic concentration and centralization and a consolidated function of commercial intermediation, public and private services,

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<sup>9</sup> It should be clarified that, since 2006, for regional planning purposes, the state of Rio Grande do Sul has presented a specific regionalization which divides its territory into nine Functional Regions, which, in turn, are composed by Regional Development Councils – Coredes. These councils were officially created by Law 10,283 of October 17, 1994 and constitute forums of discussion for the promotion of policies and actions aimed at regional development.

and diverse flows such as those of people, capital, products and ideas, between its countryside and the metropolis. Furthermore, one should also consider the levels of economic activities resulting from the confluence of transport, logistics and communication systems, as well as the spatial reconfiguration arising from the incorporation of new activities into the agricultural sector, which redefine and reshape the hierarchies between different urban functions (SPOSITO, 2007 and 2018).

Cities that normally present a high degree of intermediation between their management structure and regional mediation with global flows often adopt metropolitan denominations for themselves. In recent years, however, some medium-sized cities have also shown a high degree of intermediation in dispersed and inland locations, while also participating in regional and global urban networks through their economies and production activities, thus subverting the excessively verticalized traditional logics of classic urban hierarchies.

Cities, as centers for the organization of social life, in the economic and political dimensions, and spaces for the concentration of population and productive activities and public and private services, constitute reference units in the territory, in and from which different management strategies and actions are performed by both the State and the Market. Corrêa highlights that an aspect of territorial management as “economic, political and social management, subordinate to it, but also conditioning it [...] is the spatial dimension of the general management process, confined to the space under control of a State or of a given company” (CORRÊA, 1996, p. 35).

These seek to ensure their reproduction, through a given spatial organization of their fixed or geographic objects, and their flows or actions from a multi-scale perspective: concurrently and unequally combining management actions at the scales of the municipality, region, country, and the global space. Just as metropolises play an important role in territorial management on a global scale, so do medium-sized cities have a relevant role in territorial management at multiple scales, notably at the regional scale where they are spatially inserted and where they act through their function of intermediating flows of diverse natures.

By interconnecting private and public fixed objects in each of these centralities with the studies of networks, as the IBGE's Land Management study (2014) points out, two dimensions can be perceived in territorial management: a material one, which includes the physical headquarters of companies, the accumulation of government and financial agencies and institutions; and an immaterial one, which also exerts great power in spatial organization. This second dimension refers to management flows that incorporate orders, hierarchies, information, power, and financial resources among agents that are organized multilocally (IBGE, 2014).

Centralities that have juxtapositions between the physical headquarters of private companies/governmental and financial institutions are geographic examples that highlight important organizational, production and command capacities in the country's space. The flows that they mediate occur asymmetrically, developing important elements for spatial analysis regarding their hierarchies and weights in relation to their areas of influence.

Private business management increasingly reflects such multilocal relationships as those occurring between headquarters and branches, represented in business networks, franchises, business associations, joint stock companies, etc. Public management has increasingly developed similar characteristics of capillarity and hierarchization of organizational structures through the relationships of decentralized bodies such as the INSS (National Social Security Institute), Federal Justice, Receita Federal (Brazilian Internal Revenue Service), Post Offices, public banks, among others, at the federal level, but also with the Secretariats of government, public security institutions, environmental agencies, infrastructure, etc., at the state level.

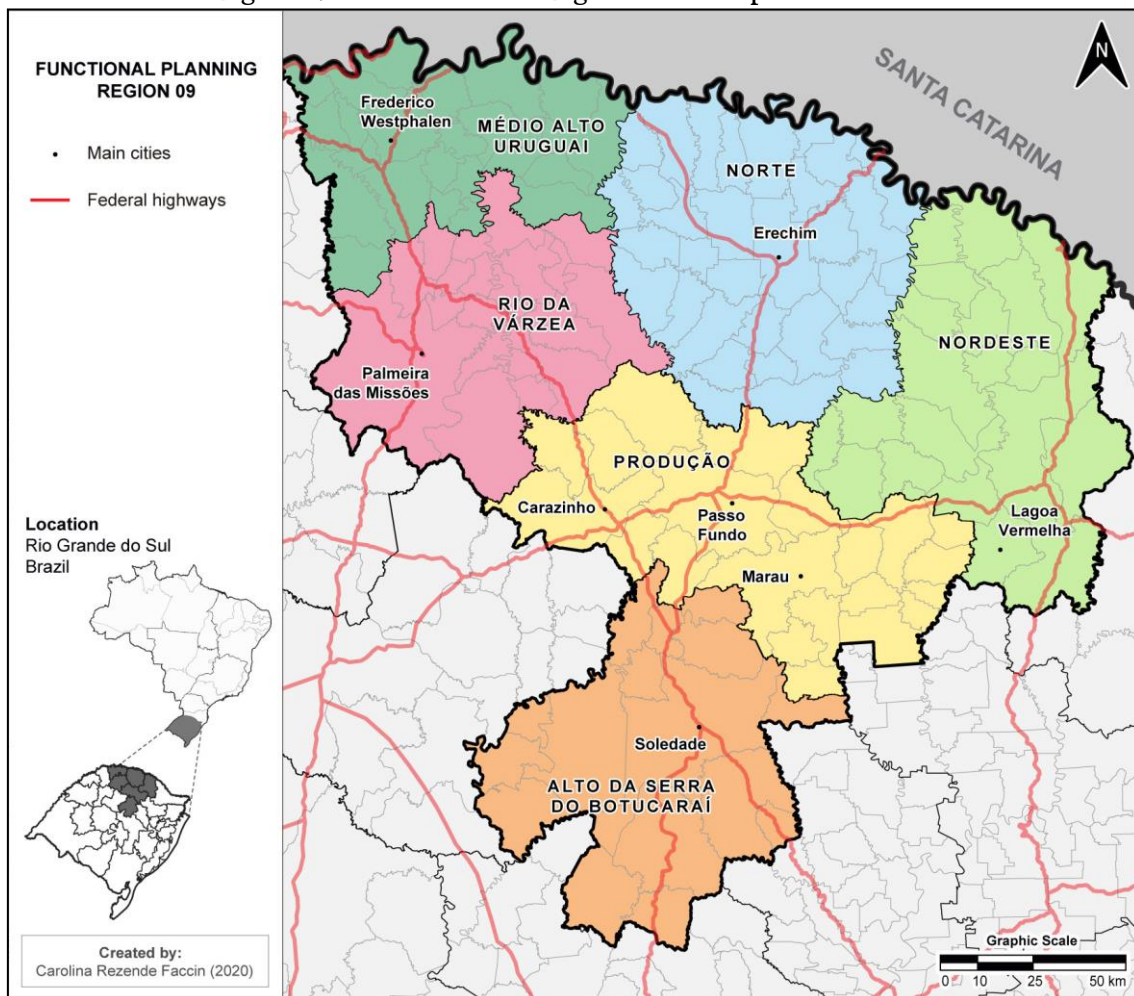
### **The Functional Planning Region 09, the regional urban network and its medium-sized cities: a brief characterization**

The Functional Planning Region 09 is located in the center-north portion of Rio Grande do Sul, bordering the state of Santa Catarina. Its geographic space is constituted by the territories of six Corede, which together comprise 130 municipalities: Alto da Serra do Botucaraí, Produção, Nordeste, Norte, Rio da Várzea, and Médio Alto Uruguai (Figure 1). A large part of these municipalities (approximately 94%) have a rural economic base (primary sector), with a population of less than 20 thousand inhabitants and small urban areas. The region has a total population of 1,069,269 inhabitants, which corresponds to 10% of the population of the state of Rio Grande do Sul; 29% of these people live in rural areas, while 71% reside in urban areas (IBGE, 2010).

In 2010, the urban population of Passo Fundo was of 180,120 inhabitants, which represented 97.5% of the total municipal population. In the same year, the city of Erechim had 90,552 urban inhabitants, i.e., around 94% of the municipal demographic contingent (IBGE, 2010). In 2020, the estimated total population for these municipalities was 204,000 and 106,000, respectively (IBGE, 2020).

In the last decade, FR 09 had an average population growth rate of 0.13% per year. This rate, however, does not reflect the high rates of demographic decline in most municipalities in the region, since, among the 20 municipalities with the highest rate of population decline between 1990 and 2010 in the entire State of Rio Grande do Sul, half of them were concentrated in FR 09. In the municipal context, the cities of Passo Fundo, Marau, Erechim, Tapejara and Frederico Westphalen have the highest positive rates of population growth, thanks to their privileged positions in the regional urban hierarchy.

**Figure 1:** Functional Region 09 – Location and Regional Development Councils



Source: Created by Carolina Rezende Faccin.

The region is the main producer of grains in the state, with a predominance of soy, corn and wheat crops. However, there is great agricultural variation in each Corede, depending on the range of possible crops for each soil. These activities are partly developed on small properties, which use family labor and contribute to the maintenance of a significant population in rural areas (RIO GRANDE DO SUL, 2017). In the parts of the territory with gentler hills, the properties are larger (locally called “granjas”) and have agribusiness characteristics, with extensive mechanization, precision technologies, specialized and temporary workers.

In the surroundings of Passo Fundo, there is an axis formed by Marau (towards the southeast) and Carazinho (towards the east and northwest) that stands out in the service provision sector (health, education, public services and support to agribusiness) and also by strategic position that it plays due to the centrality of transport logistics and the regional dynamics promoted by agribusiness

(linked to the provision of supplies to the activities of the productive sector of the grain chain and of the poultry and pork agroindustries).

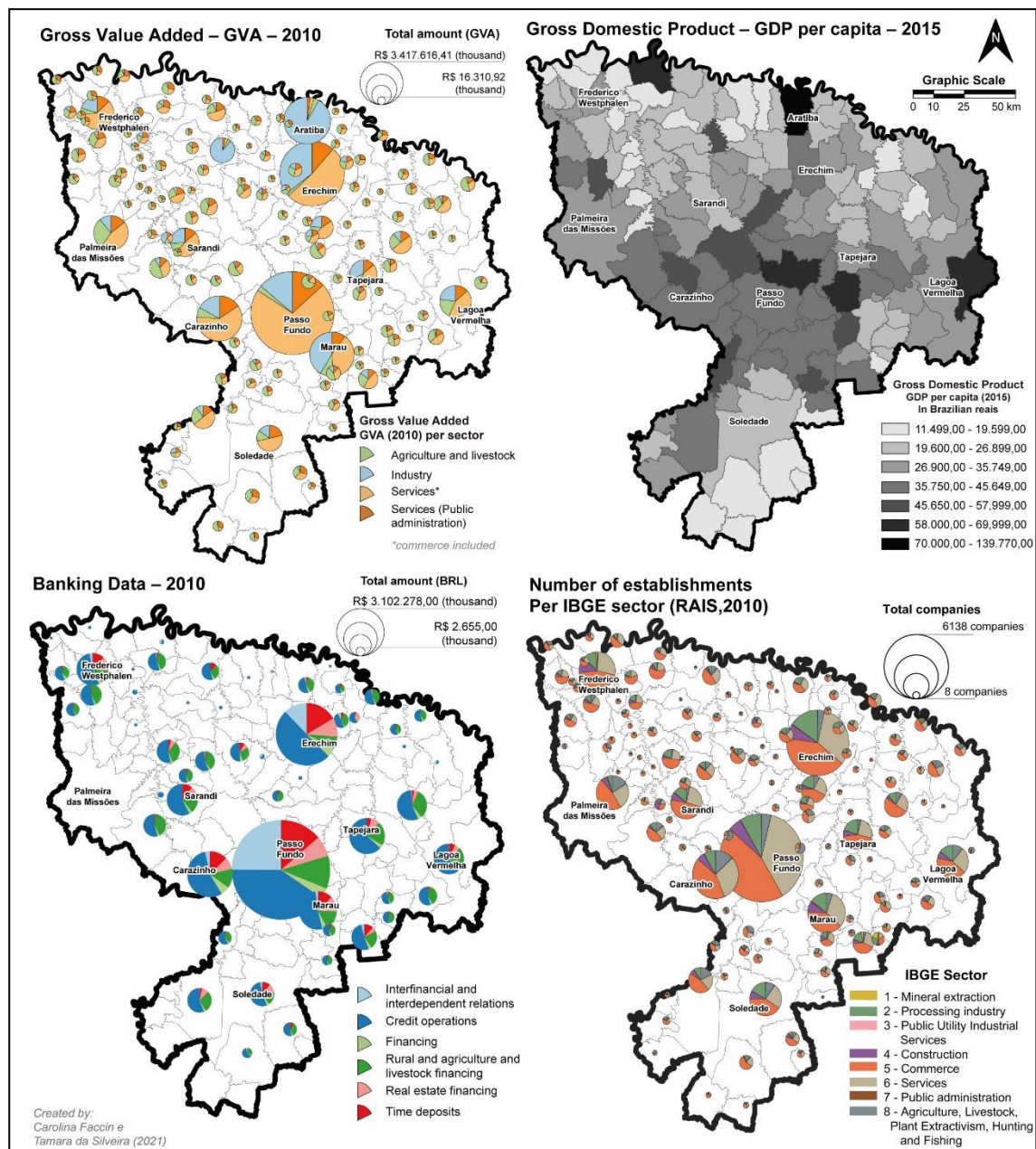
In the FR 09 region, there is great socio-spatial inequality. While it has some municipalities among the top 20 Gross Domestic Product – GDP values in the State – such as Passo Fundo, Erechim and Carazinho –, it also has a considerable number of municipalities among those with the lowest GDPs, including: Benjamin Constant do Sul, Novo Xingu, Carlos Gomes, São Pedro das Missões, Lajeado do Bugre and Cerro Grande.

In Figure 2, we can see that, in relation to the Gross Domestic Product – GDP *per capita* data, only 05 municipalities have high values and 26 municipalities have the lowest level (less than R\$ 19,599.00). Among the municipalities with higher GDP *per capita*, some have low population and are associated with large infrastructure works, such as the hydroelectric plants in Alpestre and Aratiba. Since it is in the central portion of the region that the most economically integrated portion is located (in relation to business flows and road networks), this is where the most balanced values for distribution of GDP *per capita* are observed.

In the analysis of the regional Gross Added Value – GVA, which is the final outcome of the production activity, throughout FR 09 the commerce, services, public administration and agricultural sectors predominate. Again, the regional hub cities of Passo Fundo, Erechim and Carazinho stand out with the highest GVA values, particularly geared to commercial and service activities (Figure 2).

In Figure 2 we observe a concentration in terms of the total presence of companies, which are located mainly in Passo Fundo, followed by Erechim, Carazinho, Frederico Westphalen, Marau and Palmeira das Missões. The high productivity rate of the primary sector in the region is connected to a mechanized chain of industries that provide support and process a large part of the raw material produced.

**Figure 2:** Functional Region 09 – Socioeconomic indicators: GVA by sector (2010), GDP per capita (2015), Bank details (2010) and Number of companies by sector (2010).



Source: Prepared by Carolina Faccin and Tamara da Silveira, based on IBGE (2017), RAIS (2010) and BACEN (2010).

When analyzing the territorial distribution of companies according to IBGE sectors, in Figure 2, the preponderance in municipal economies of companies in Commerce and Services is noted. In this regard, the centrality of the medium-sized cities of Passo Fundo and Erechim stands out, which present themselves as attractive hubs in the consumption region of the other municipalities. Large markets, supermarkets, galleries, wholesalers, and, specifically in Passo Fundo, two shopping malls are located in these cities. These companies geared at daily/frequent consumption are large employment basins and are of paramount importance to understand the concentration/deconcentration of work and the commuting networks in the region, as already analyzed by Spinelli and Mesquita (2020).

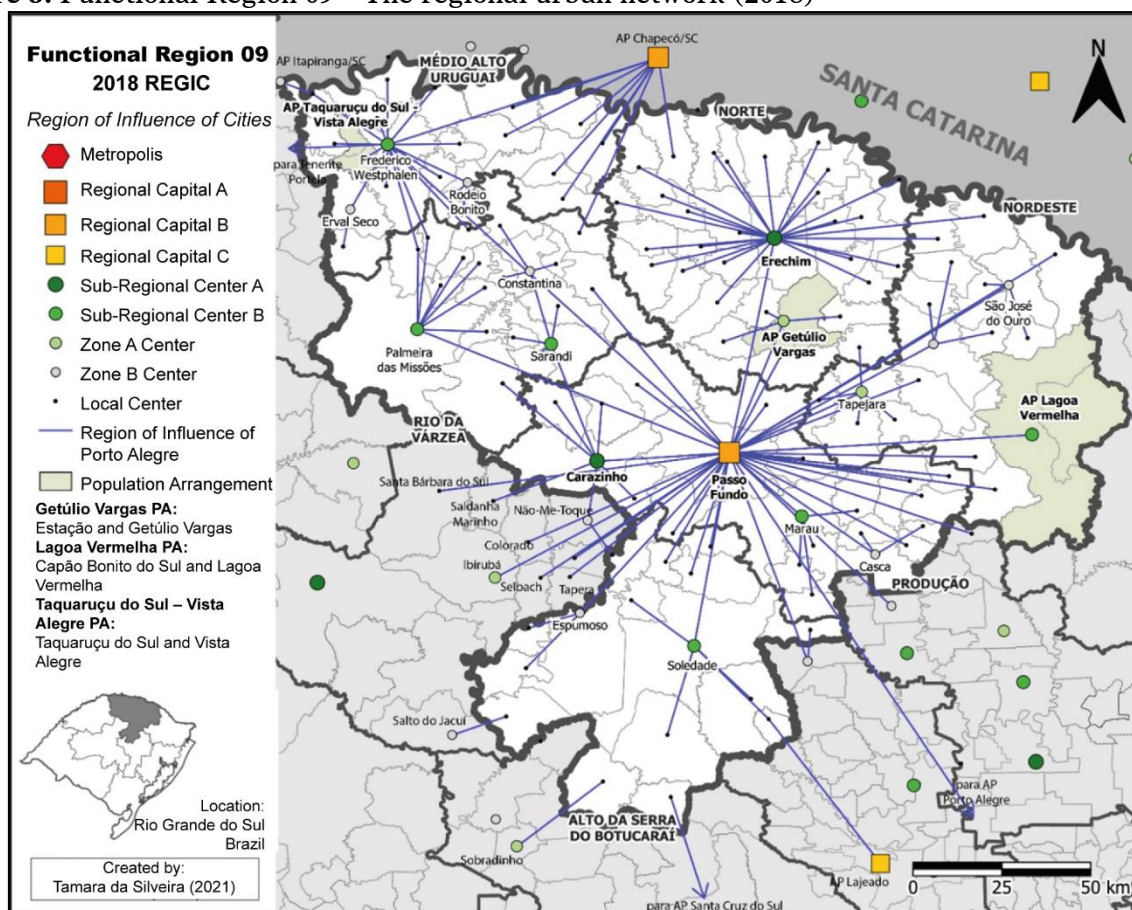
In Figure 2 we can also observe the spatial distribution of banking and financial data, whose regional importance is great in the funding and functioning of the agriculture and livestock production chain in the region. In fact, in Functional Region 09, there is an important presence of Credit Cooperatives that work with rural producers. There is also a concentration of investments

and more expressive financial transactions in the cities of Passo Fundo and Erechim, where bank branches and cooperative headquarters are located.

These data on urban and regional economic dynamics demonstrate that the medium-sized cities of Passo Fundo and Erechim have high centrality and important functions in articulation and intermediation in the regional urban network. Such a role of command in the regional urban network is attested by recent IBGE studies (2014 and 2020). According to the 2018 REGIC (IBGE, 2020), Passo Fundo currently plays a role of regional command, as regional capital B, while Erechim is positioned at an intermediate hierarchical level, as a sub-regional center A, as seen in Figure 3. This figure represents, through icons of different shapes, sizes and colors, the hierarchy of cities in the urban network; the blue lines represent the area of influence of urban centers, while the darker grey lines indicate the Population Arrangements (PAs)<sup>10</sup>.

In addition to having strong regional centrality, the cities of Passo Fundo and Erechim act as intermediaries for the flows that circulate between the Porto Alegre metropolis and other cities and local hubs in the region. The outstanding influence of these two medium-sized cities in the region occurs through the concentration of a great part of the industrial companies and commercial and service establishments that make up the territorial division of regional labor.

**Figure 3:** Functional Region 09 – The regional urban network (2018)



Source: Prepared by Tamara da Silveira, based on the REGIC 2018 study (IBGE, 2020).

At an intermediate level, also as sub-regional center A, is Carazinho, and as sub-regional centers B are the cities of Palmeira das Missões, Sarandi, Soledade, Frederico Westphalen, Marau, and the Lagoa Vermelha PA. These centers are characterized by their complementary role in the regional urban system, by their urban centrality in relation to their immediate surroundings, and by the presence of some important headquarters of companies and industries. (IBGE, 2020).

The status of hub and command center that the cities of Passo Fundo and Erechim hierarchically exercise in their regional urban network, as well as in the regional territory, is due to

<sup>10</sup> Population Arrangements are composed of groups of municipalities which are highly integrated because their populations are in frequent mobility for work and study, according to the criteria of the study Population Arrangements and Urban Concentrations in Brazil, published by the IBGE in 2016 (IBGE, 2020b).



their diversified urban economies based on commercial, service and supporting industrial activities, as well as to complementary agricultural and agro-industrial activities that are undoubtedly the regional economic mainstay. These cities are regional public sector management centers, at both the federal and the state level, as well as important business management centers due to the presence, in these medium-sized cities, of numerous headquarters and subsidiary companies, as we will see in the following topics.

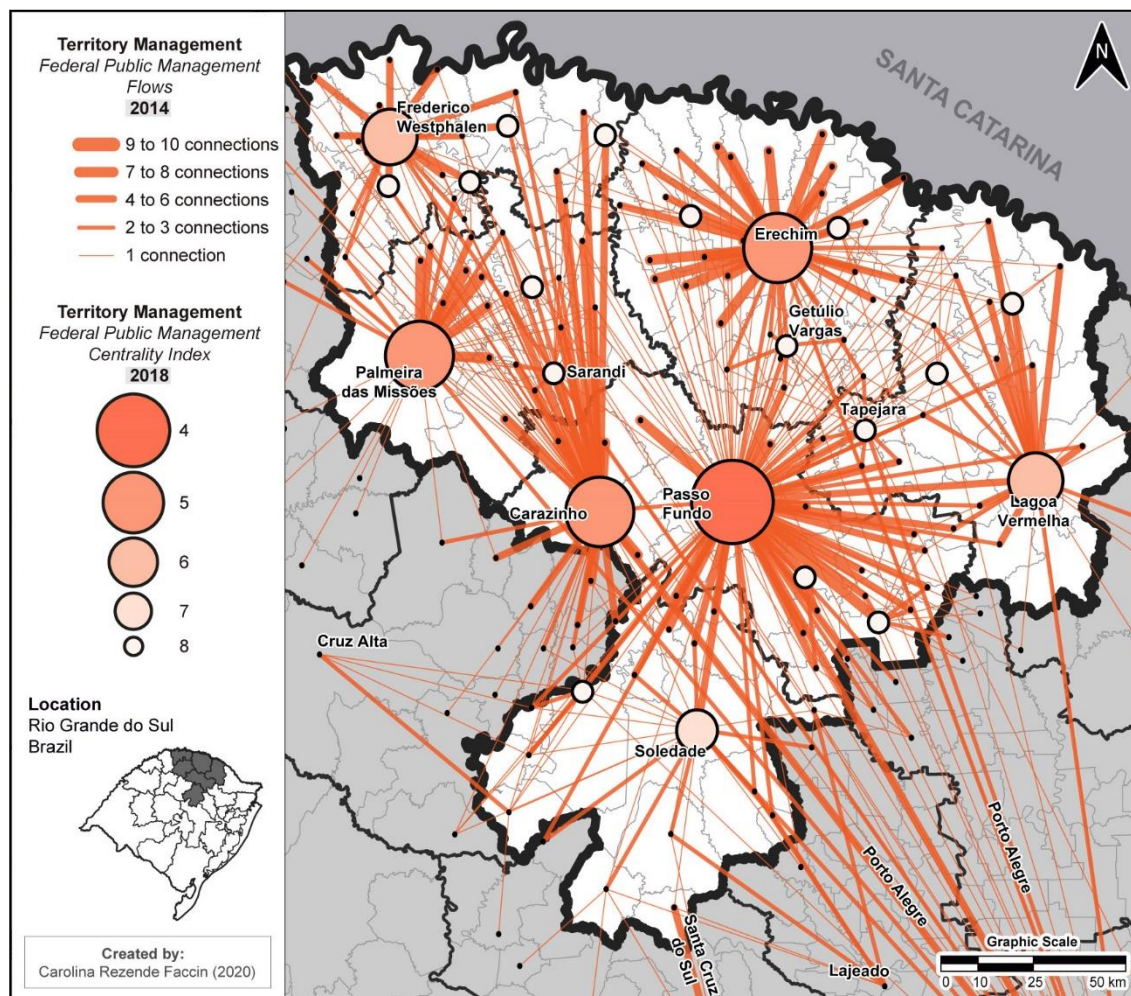
### **Medium-sized cities and federal and state public management of the territory in FR 09**

Public territory management takes place mainly through the actions of the State. It is the State that produces and organizes the space, both through its role in planning and in the economic sphere, and through the promotion of different sectoral public policies, seeking, through its structure and services, to serve the population, gather information and organize public resources. In order to act, State public institutions are generally spatially organized multi-locally, with different facilities and departments throughout the Brazilian territory. They present an internal hierarchical structure that reflects a certain form of State territorial management, through its various administrative instances and the way the territory is managed (SILVEIRA et al., 2018).

Data relating to the federal sphere were collected from the studies Region of Influence of Cities (IBGE, 2018) and Territory Management (IBGE, 2014). For the preparation of the centrality index, only the Legislative Power (located in Brasília only), is excluded, and institutions belonging to the Executive and Judiciary powers are used. As examples of public institutions used in the study, the National Social Security Institute – INSS, the Ministry of Labor and Employment, the Internal Revenue Service, the Federal Justice, the Regional Electoral Courts, the Regional Labor Courts, and IBGE itself can be highlighted. The location of the offices of indirect administration bodies with a single location but of national scope (national agencies, foundations and institutes) is also included.<sup>11</sup>

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<sup>11</sup> The selected federal agencies have different levels of internal management, each with its own spatial scope; 5 levels of management were established, with 5 being the highest hierarchy level. The number of public entities in the cities was added, at each level, to calculate the Public Management Centrality Index. To weigh the centrality of each city, weights were assigned to each of the levels, so that a level will have a weight that is twice as much as the level immediately preceding it (IBGE, 2020).

**Figure 4:** Functional Region 09 – Federal Public Management (2018)

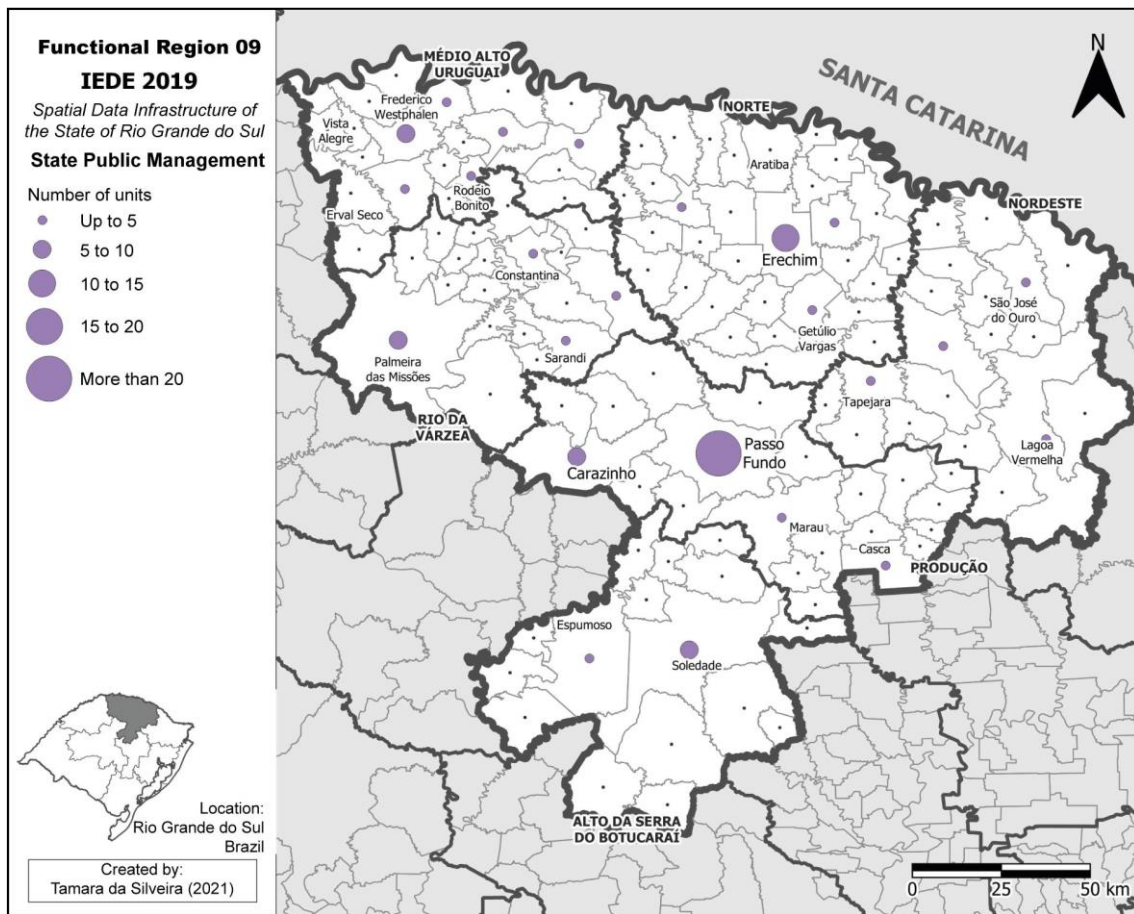
Source: Prepared by Carolina Faccin and Tamara da Silveira based on IBGE (2014; 2020).

When analyzing the data regarding the centrality of medium-sized cities in the provision of federal public services, and the importance of these cities in relation to the number of state facilities they present, a relative polycentric spatial configuration can be observed, in which the city of Passo Fundo has a centrality index of 4, the highest among the cities in the region. It is also observed that the flows resulting from the search for federal public services in the region present monodirectional connections, with displacements towards the main regional hubs (Figure 4) (IBGE, 2020).

The flow of people seeking federal public management services has greater occurrence and intensity with destination to Passo Fundo, which had connections with 97 municipalities; Carazinho, with connections to 70 municipalities; and Erechim, with connections to 45 municipalities, the three hubs exerting great command in the urban network in terms of federal public management. To a lesser degree, flows to the cities of Palmeira das Missões and Frederico Westphalen are also noted (IBGE, 2014).

These centralities related to the public territorial management in the region had already been identified as regional hubs in previous IBGE studies on the urban hierarchy and spatial relations between the cities in the region, carried out in 1978, 1993 and 2007 (IBGE, 2008; 2020).

At the state level, territorial management was analyzed based on data from the IEDE-RS (2019) on spatial distribution in the region, notably among its cities, and from bodies linked to state secretariats, public bodies such as Public Security and Civil Defense, Emater, Fepam, State Social Security Institute (IPE), State/County Attorney General Offices, State Justice and State University of Rio Grande do Sul (UERGS), considering its administrative structure and the decentralization of its actions in the region (Figure 5).

**Figure 5: Functional Region 09 – State public management establishments (2019)**

Source: Prepared by Tamara da Silveira based on IEDE (2019).

The great centrality of the cities of Passo Fundo and Erechim in terms of their larger quantities of public service offers with state establishments is highlighted. Palmeira das Missões, Frederico Westphalen, Carazinho and Soledade also stand out, respectively, in quantity of public services offers with state establishments located in these cities in the region.

The medium-sized city of Passo Fundo, with 21 state establishments, and Erechim, with 13 establishments, jointly account for 37.5% of the total state establishments located in the FR 09 region.

Table 1 shows in more detail the state establishments located in the medium-sized cities of Passo Fundo and Erechim, showing the centrality and role as articulation and intermediation hubs that these cities perform for the provision of these public services in their regional context.

**Table 1:** State public management establishments located in the middle-sized cities of Passo Fundo and Erechim – 2019

State Management Establishments	Passo Fundo	Erechim	TOTAL
Security and Civil Defense	7	1	8
Infrastructure Bodies	4	2	6
State Secretariats	4	4	8
Regional Institutional Office of EMATER (Technical Assistance and Rural Extension Enterprise)	1	1	2
Regional Institutional Office of Fepam (State Foundation for Environmental Protection)	1	0	1
Regional Institutional Office of IPE (Institute of Social Security of the State of Rio Grande do Sul)	1	1	2
Regional Headquarters and Institutional Service Office of JUCISRS (Board of Trade, Industry and Services of the State of Rio Grande do Sul)	1	1	2
Institutional Offices and Regional Institutional Office of the PGE (State Attorney General) District	2	2	4
Regional Institutional Office of UERGS (University of the State of Rio Grande do Sul)	0	1	1
<b>TOTAL</b>	<b>21</b>	<b>13</b>	<b>34</b>

Source: Prepared by Brenda Eckel Machado and Cheila Seibert, based on IEDE (2019)

**Security and Civil Defense:** Regional Institutional Office for Civil Defense, Regional Institutional Office for the Civil Police, Regional Institutional Office of Firefighters, Regional Institutional Office of the IGP (General Institute of Forensics), Regional Institutional Office of the Military Brigade, Regional Institutional Office of Susepe (Superintendence of Penitentiary Services), Regional Institutional Office of Fase (Socio-Educational Service Foundation); **Infrastructure Bodies:** Regional Institutional Office of CORSAN (Sanitation Company of the State of Rio Grande do Sul), Regional Institutional Office of DAER (Autonomous Department of Highways), Regional Institutional Office of the Public Works Secretariat and Regional Institutional Office of Procergs (Data Processing Company of the State of Rio Grande do Sul); **State Secretariats:** Regional Institutional Office of the Department of Agriculture, Regional Institutional Office of the Secretariat of Finance, Service Office of the Secretariat of Finance, Regional Institutional Office of the Secretariat of Health, Regional Institutional Office of the Secretariat of Education.

The region has a certain “endogeny” in the sense that its establishments and flows have strong intra-regional behavior, with only few external flows, which occur with the Capital, with the Serra Gaúcha region, with the Valleys region (Lajeado) and FR 08 (Santo Ângelo region).

Finally, it can be concluded that there is a certain balance in the offer of public management services in FR 09, with the exception of Corede Alto da Serra do Botucaraí, with its hub in Soledade, which has few insertions of service flows from the federal sphere, which is consistent with its somewhat isolated character and lowest socioeconomic indicators in the entire FR 09. Corede Alto da Serra do Botucaraí comprises a region located between the centralities of Passo Fundo, Lajeado, Cruz Alta and Santa Maria, therefore at a certain distance from these important centralities of State Management, which places it in a peripheral situation in relation to all these centralities. Thus, it appears that there is a gap in this portion of FR 09 in terms of public management services, a fact that is apparently fed back by its socioeconomic indicators (Figure 2) and by its low infrastructure density, for example, in its road system, which would allow to improve the integration of this Corede to the centralities in its surroundings.

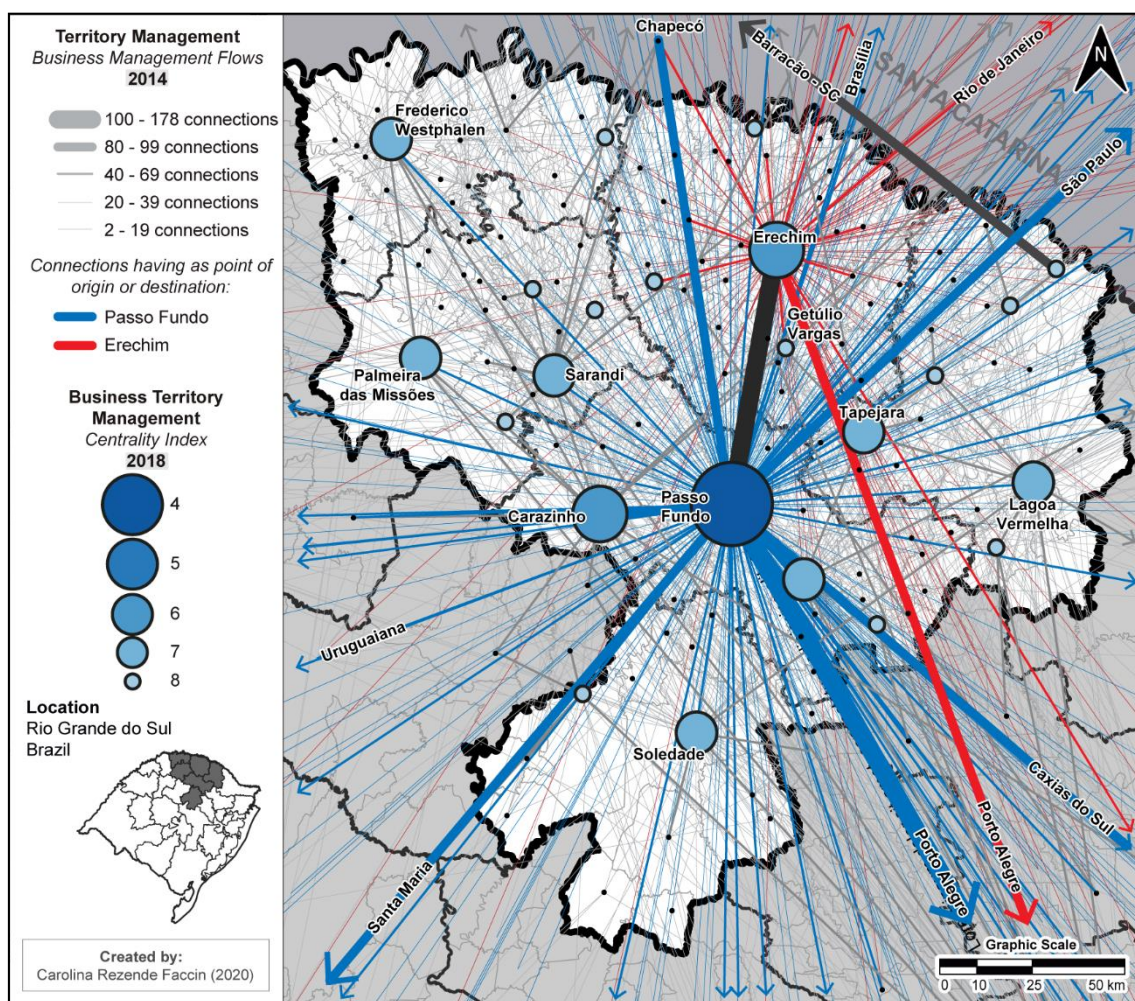
### Medium-sized cities and business territory management in FR 09

The private or business territory management can be expressed by the flows arising from the dynamics of market organization and functioning, through the relationships between manufacturing companies, suppliers, financial institutions, and logistics companies. The relationships between company headquarters and their branches are also a source of urban centrality. Its location is selective and unequal in space, as are the flows that articulate these different private economic and public agents in the development process (SILVEIRA et al., 2018).

Such selective and unequal location denotes the need for planning and for an interpretation of the need for a better distribution of these material (infrastructures and establishments) and immaterial (flows and relationships) elements that set the dynamics of the spatial arrangements, in order to provide a certain balance and qualify the relationships aiming at intra- and inter-regional development.

Figure 6 shows that, considering the business territory management data, again the cities of Passo Fundo and Erechim stand out, ranking, respectively, as hubs of centrality class 4 and 5 in the urban network (IBGE, 2020).

**Figure 6:** Functional Region 09 – Private business management (2018)



Source: Prepared by Carolina Faccin and Tamara da Silveira based on IBGE (2014; 2020).

By analyzing business management (Figure 6), we can generally consider that FR 09 does not present polycentrality sustained by several nuclei, since there is a high level of concentration in Passo Fundo. However, when the centralizing role of this regional capital is relativized (Regional Capital B according to the REGIC 2018 study), it is possible to perceive important secondary hubs of no lesser importance in the regional context, namely: Erechim, which stands out as Sub-regional Center A, and, to a lesser degree, Carazinho, adjacent to Passo Fundo and in the same hierarchy level as Erechim according to the REGIC urban network. Lagoa Vermelha, Sarandi, Getúlio Vargas, Palmeira das Missões and Frederico Westphalen also participate in Management scenarios and as

municipalities that attract flows from other companies, as in command-municipalities scenarios (IBGE, 2020).

It is worth highlighting the significant spatial interrelation, evidenced by the business management flows between the two medium-sized cities (Passo Fundo and Erechim).

Passo Fundo has strong and intense business relationships with Porto Alegre and its metropolitan region, with Caxias do Sul, Santa Maria, and with the axis of municipalities along the BR-285 highway, which connects Carazinho to cities in FR 08, such as Panambi, Santa Rosa, and Santo Ângelo. The BR-285 axis is an important route for the structuring, maintenance, and development of the mechanized rural production chain, with fixed objects of metalworking industries, feed industries, slaughterhouses and meat processing plants, associative or banking rural capitals and offer of agro-industrial expert services. The city of Passo Fundo is also closely related to other cities in other states of the country, establishing strong business flows, for example, with São Paulo/SP and Brasília/DF. Regarding such interstate business flows, it worth highlighting the intense interconnection of the northern portion of FR 09 with cities with significant centralities located in the west of Santa Catarina, such as Chapecó/SC, Concórdia/SC and Xanxerê/SC.

In the city of Erechim, flows of significant and interregional dimensions are toward Passo Fundo, as mentioned above, as well as Porto Alegre/RS and Rio de Janeiro/RJ. There are also expressive flows toward cities in Santa Catarina, including Chapecó and Concórdia.

Territory Management data (IBGE, 2014) also enable us to analyze the command and business attraction capacity of cities in the Brazilian urban network through private management flows. Data analysis shows that the medium-sized cities of Passo Fundo and Erechim are the ones leading the process of business territorial management in the FR 09 region. The former controls 235 municipalities, through 180 companies headquartered in the city, which have 845 branches distributed in the controlled municipalities. Besides, companies headquartered in Passo Fundo have 8,516 external salaried workers who work in other municipalities. Erechim, on the other hand, controls 99 municipalities, through 115 companies headquartered in the city, and which have 247 branches located in the controlled municipalities, with 1,727 external employees. Such data evidences the expressive capacity of business territory management of both cities in the region.

Regarding the business attraction capacity of these two medium-sized cities in the region, the centrality and power of attraction of Passo Fundo (with 512 company branches attracted) and Erechim (with 190 company branches attracted) is identified (IBGE, 2014). In a secondary position, the cities of Carazinho, Marau and Frederico Westphalen also stand out in business territory management. Carazinho and Marau exercise a centrality that is more related to their complementarity with Passo Fundo, in relation to both business sectors and spatial contiguity. Frederico Westphalen, on the other hand, is more linked to the immediate spatial surroundings, with intra-regional flows in the northwest of Rio Grande do Sul.

## Final Considerations

The growing urbanization, inland expansion, and the increased circulation of diverse flows in the Brazilian territory point to the need to advance research on different topics. The analysis of the spatial configuration, content, and territorial repercussions of these flows on the dynamics of the functioning of regional urban networks, and on territory organization and management, are examples of advances in this regard.

The State and the Market are institutions with great territorial structuring and management power, exerted through their actions and through the flows that generate and attract people, goods, services, businesses and income through their institutions and organizations.

If, on the one hand, we have public territory management aimed at serving the population, providing infrastructure, collecting data and information, and collecting taxes, on the other hand there is private or business management aimed at the reproduction of capital. Medium-sized cities play a prominent role in this process by effectively participating in the intermediation of these flows, and by serving as a support and condition for these two dimensions of territorial management in regional spaces.

Based on the analysis of data collected by the IBGE studies Region of Influence of Cities – REGIC, of 2018, and Territory Management, of 2014, and by IEDE-RS, of 2019, we found that the medium-sized cities of Passo Fundo (Regional capital B) and Erechim (Sub-regional Center A) constitute the main centralities, intermediation and command centers in public and private territory management in Functional Region 09. These centers take command by centralizing the flow of

displacements in seeking access to federal and state public services in the region, as well as economic flows and relationships between parent companies based in these cities and their branches located in other municipalities in the region and elsewhere.

Because they host decentralized structures of state and federal public institutions operating in the region, and because they host local and regional companies, they have command and decision-making power over the entire regional urban network. Therefore, they are positioned at the highest hierarchical level in FR 09. Thus, they also show a polynuclear behavior with monodirectional flows for public management and a monocentric behavior with multidirectional flows for business management. Therefore, they actively influence the dynamics of territorial development at the scale of the Center-North region of Rio Grande do Sul.

As centers of second-level hierarchical importance, the cities of Carazinho, Marau and Frederico Westphalen also have relative centrality and dialogue in regional public and private territory management and contribute to a greater distribution in the regional territory of public and private management flows, establishing a regional territorial polycentricity.

This study allows to clearly conclude that FR 09, despite socioeconomic indicators showing its development and importance in the urban network of Rio Grande do Sul, presents strong intra-regional inequalities, especially in business management, a fact that impacts certain municipalities given the dependence on regional hubs. Infrastructural factors, such as road networks and population density, also need greater balance, with a view to reorienting the regional organization and strengthening production capacity.

Finally, it is also worth highlighting the importance of recognizing the configuration and intensity of spatial interactions arising from the location of federal and state public services, as well as the economic links between companies for the analysis of territorial management networks. This insight allows us to interpret the dynamic(s) of development in the urban and regional space.

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