

# FINANCIALIZATION AND SPACE: THEORETICAL AND EMPIRICAL CONTRIBUTIONS

## *FINANCEIRIZAÇÃO E ESPAÇO:* CONTRIBUIÇÕES TEÓRICAS E EMPÍRICAS

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**ABSTRACT:** Financialization has evolved as a macro concept arising from the increased significance of finance in all aspects of social and economic relations. The present paper attempts to raise awareness on the importance of understanding financialization from a spatial standpoint. Drawing from the interactions between finance and space, the main idea put forward in this paper is to incorporate a multilayered perspective of relational space as a direct determinant of the process of financialization. Once such a suggestion is accredited, an improved, more refined concept may better inform research and public debate on the effects of financialization, expressly those related to land use (and value) and to urban social exclusion. A preliminary analysis is conducted for a number of municipalities in Brazil.

**KEY WORDS:** Financialization, Regions, Financial System, Financial Services, Development.

*RESUMO:* A financeirização tem evoluído como um conceito macro que indica uma maior importância das finanças em cada aspecto das relações sociais e econômicas. O presente artigo tem o objetivo de ressaltar a importância em compreender financeirização de uma perspectiva espacial. A ideia principal é incorporar o espaço, em qualquer escala, como um determinante direto do processo de financeirização. Uma vez que a partir dessa sugestão, um conceito melhor e mais refinado pode informar melhor tantos trabalhos de pesquisa como o debate público sobre os efeitos da financeirização, especialmente em termos das discussões sobre efeitos no uso (e valor) da terra e exclusão social urbana.

*PALAVRAS-CHAVE:* Financeirização, Regiões, Sistema Financeiro, Serviços Financeiros, Desenvolvimento.

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## INTRODUCTION

Finance has long been at the centre of modern economic development. In the thirteenth and fourteenth centuries, the commercial revolution was primarily financed by accumulated capital from the emerging class of merchants. In the nineteenth century, the industrial revolution empowered the haute finance to expand its influence over governments, which thereby guaranteed the required peace for realized profits from the economic expansion in the middle of the century (POLANYI, 1944). The unprecedented increase in capital flows is partly explained by the financial developments of the time, such as the establishment of central banks (BROZ, 1998), the development of local monetary systems (VERDIER, 1998) and the financial innovations that followed (fractional bank reserves, the diffusion of deposits as a means of payment, and short-term financial instruments). The twentieth century witnessed the growing importance of the international monetary system, with an increase in the speed of innovation and the development of financial centres, such as London and New York (DYMSKI and KALTENBRUNNER, 2017).

The historical development of financial institutions was also encapsulated by an increasingly dominant trend towards every aspect of the social relations within different societies. Finance has come to claim larger portions of these social interactions and also, more increasingly over time, to dominate them. The emergence of financialization attempted to deal with the perpetual need of the financial system to boost its profits. This was made apparent through the 2007-8 financial crisis, one of the causes of which was the spread of new financial services (debt instruments and securitization).

However, one specific attribute, frequently omitted from discussions on financialization, is space. FRENCH et al. (2011) reiterate the lack of spatial discussion in work exploring the characteristics of financialization. The present paper however, will argue that space, understood as a relational concept (HARVEY, 1996; MASSEY, 2005), and geography should necessarily be included as an explanatory category in the relationship between finance and social systems. Space is not just a location in which socio-economic relations occur, but rather, it is in fact (re)produced by these very relations. Furthermore, spatial processes also influence the manner in which such relations evolve. The present work therefore argues for the “spatialization” (GREGORY and URRY, 1985) of financialization studies. Moreover, by considering finance and the social system, it thereby becomes essential to discuss the manner in which financialization and space are mutually constituted.

In order to focus on the spatial interrelations of financialization, this paper takes EPSTEIN’s (2005) concept as a cornerstone for the analysis. The author considers that financialization is “the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies” (EPSTEIN, 2005, p.3). In order to analyse the spatial characteristics of the financialization concept, initially it is essential to consider how the increasing role of financial motives translates into spatial demand and supply, including the regional characteristics of markets and institutions. The customary approach to spatial demand and supply in regional economics was introduced by LÖSCH (1954), whereby a good (service) produced in a specific region is offered at rising distance costs (through transportation costs), with the spatial range of supply

being provided through consumer demand, which minimizes distance-related costs (RICHARDSON, 1972; HOLLAND, 1976). Consequently, spatial market areas are structured according to transportation costs and economies of scale (PARR, 2002), the outcome of which, is the uneven distribution of production and population throughout the space. The turning point in the theory is that the distribution of regional economic activities primarily evolves through given points in space. By combining the idea of financialization with insights from the Löschian approach to regional market areas, it is possible to comprehend financial issues from the perspective of financial goods (services) and a) their differentiated spatial demands, which integrate local social systems and their need for finance, and b) the spatial supply of financial services, which imposes limits onto a spatialized financialization process.

Additionally, this work also engages critically with Lösch's locational theory, examining the dialectical relation that emerges between space and socio-economic processes that shape and are shaped by space (HARVEY, 1982). What kinds of spaces are being produced by financialization? How does space enable/restrain the deepening of financialization processes? In order to explore such questions, the main contribution of this paper is to suggest a more encompassing spatial analytical approach, thereby overcoming the customary general, non-spatial concept of financialization employed in many studies on regional finance (FRENCH et al., 2011). In this regard, we also consider financial relations that are less complex and routinized, thereby making a distinction from the usual analyses encountered in the literature that focus solely on the financialization that comes from international markets and affects firms and individuals in a diversity of spaces. Less complex financial relations are inherently spatial and highly susceptible to financialization and, as such, should therefore not be hollowed out of studies. The main objective is to suggest a multilayered spatial concept, based on diverse relational aspects that would determine regional financialization processes. A second contribution is empirical. To the best of our knowledge, no studies have ever used data on the activities of financial institutions (scale and scope) in order to analyse spatial financialization, especially in Brazil.

Apart from this introduction and a conclusion, the paper contains two other sections. In the next, section 2.1, we present a brief literature review so as to highlight the theoretical contributions which assist in understanding financialization. In section 2.2 the argument turns to the relationship between space and financialization. First, in subsection 2.2.1, we examine the relations between finance and space, pinpointing certain concepts that will be central to the general discussion. This approach is developed further in subsection 2.2.2 by readdressing concepts discussed in section 2.1 and highlighting their adherence to spatial analysis. Such steps are taken in order to build a more encompassing definition for the spatiality of financialization, where the main idea is that financialization and space are mutually (re)produced. Financialization processes evolve unevenly throughout the territory, altering socio-spatial processes which in turn, become affected by them. Indicating the unevenness of financialized-spatial patterns also brings to the fore the idea that there is a relational element to the production of multiple spatial scales. Therefore, it is vital that studies on financialization consider its multiscalar dimension. Following such a hypothesis, section 2.2.3 suggests a theoretical approach to the object under

consideration. Moreover, it will be further suggested that financialization is spread unevenly throughout the territory due to the various profit-maximization strategies of the financial industry. Dialectically, differential spatial patterns will then either enable or restrain the spread of financialization.

Section 3 offers a preliminary data analysis on the distribution of financial institutions in Brazil and the different notions of financialization. Brazil provides the basis for a relevant case study due to two main reasons: first, the size and regional diversity of the country constitute a unique opportunity to analyse the differences in spatial financialization; and second, in regional terms, Brazil is also extremely unequal, especially with regard to financial development. For example, according to data from the Central Bank of Brazil the percentage of the adult population maintaining any kind of relationship with the financial system increased from 61% to 85% in the period between 2005 and 2015 (Banco Central do Brasil, 2016). However, access to the financial system is biased towards income, level of education, and, chiefly towards urban contexts in more developed regions, which have created uneven spaces of financialization. This is not to say that Brazil has not become financialized. On the contrary, the financial industry is one of the most lucrative in the country. It is therefore the intention of this paper to question how these islands of deep financialization and “empty” financial spaces have been produced in relation to one another. Under such conditions, a regional analysis of Brazil may well serve as a relevant case study, not only to better inform regional and urban studies throughout the country, but also to enable international comparison.

## **FINANCIALIZATION AND SPACE**

### **FINANCIALIZATION**

The aim of this section is to highlight the theoretical approaches to financialization. The main objective here is to demonstrate that, given the complexity of the subject, there is no precisely defined concept for financialization. This section succinctly addresses the concepts for financialization, dividing them into two strands: a) one related to the Regulation School and Critical Accounting Approaches, which emphasize the changes in the capitalist system and their effects on the behaviour of economic agents (e.g. the growing relevance of capital markets for discussions on shareholder value and financial products); and b) another that corresponds to the idea of financialization in daily life, in the sense of changes that occur in the financial aspects of social and economic relations. After a short appraisal of the features involved in financialization, a third concept will then be suggested in section 2.2.3, in which the spatial character of economic and social relations takes front stage in explaining the dynamics of financialization. Such a framework relates to the idea of (diverse) spaces of financialization, first suggested by FRENCH et al. (2011) as a necessary analytical tool with which to understand contemporary processes emerging in a world increasingly driven by finance.

Financialization has been discussed from a number of different viewpoints. First, in the Regulation School (ARRIGHI, 1994; BOYER, 2000; DUMÉNIL and LEVY, 2001; BRAUDEL, 1992; AGLIETTA, 2000), financialization is interpreted

as an economic phenomenon representing a systemic change in the process of capital accumulation, which becomes regulated by finance. This systemic approach is downplayed by studies based on the Critical Accounting approach (ERTURK et al., 2008; WILLIAMS, 2000; FROUD et al., 2000, 2006), which emphasize a microeconomic analysis, defining financialization as the growing influence of capital markets (products, agents and processes) over the behaviour of firms and families. Thus, financialization has been addressed according to modifications in the management of both family budgets and the assets and liabilities of firms.

This strict economic view was complemented by a more encompassing analysis, which led to the Sociocultural Accounting approach to financialization (LANGLEY, 2006, 2007, 2008; PRIKE and GAY, 2007). In this strand of the literature, individuals become increasingly more responsible for the financial management of their future (retirement plans, pension funds, private insurance, etc.) as state-provided services are gradually replaced by private enterprises. The common ground for these approaches is that financialization may be generally conceived as the growing (systemic) power of finance and financial engineering (BLACKBURN, 2006; EPSTEIN, 2005; CROTTY, 2009; EVANS, 2009), whereby financial motives become increasingly present in the decision-making process of families, firms and corporations, making individual actors more concerned with efficient costs and revenue management. HALL and SOSKICE (2001) reiterate that such a situation extends the power amassing from financial actors and interests, acting as a new form of capitalism.

In sum, financialization may be treated as a phenomenon by which financial relations in the socioeconomic system permeate other relations. These financial relations may be limited to the industrial or financial circuits within the economy. As observed in FRENCH et al. (2011), these financial relations also become an integral part of the daily social relations amongst individuals.

In a more general context, financialization may be narrowed down by simply considering it as an interrelational process permeated by credit and debit interactions. Economic and social agents convey their financial relations by means of managing specific transactions, throughout time. In daily life, simple exchanges, or even more intricate production relations, individuals are constantly dealing with mutual exchanges in financial claims and commitments. Financialization permeates the capitalisation of financial and non-financial firms, the realization of profits, and the required intermediation in production and exchange processes. Financialization is also present in the credit-debit intermediation of routine financial transactions, and in the simplest daily transactions of households. Thus, in general terms, it may be stated that the expansion of financialization appears from the on-the-spur daily credit-debit relations between individuals.

Moreover, these credit-debit relations have increasingly been subjected to changes caused by financialization. More and more, many financial-related activities have become privatized, thereby demanding that individuals manage ever-increasing financial issues, which they may not necessarily be prepared for. The reduction of social security networks all over the world has laid pressure on workers to manage their savings and retirement plans, sometimes under restrictive conditions imposed by private financial systems, which are not accessible to the general population (PEREIRA, 2015). Another case is that of financial innovations that eventually support the dissemination of financialization. On the

one hand, these innovations have broadened the scope of possibilities to access products and services, while on the other, the possibilities of predatory practices have increased, especially for those unable to deal with more technologically advanced devices that manage credit-debit relations.

The objective of this brief review is to determine a basic framework in which to build a spatial conceptualisation of financialization. Over recent decades, financialization has permeated spatially constructed relationships more and more, especially in urban land settings (MORENO, 2014; ROLNIK, 2015). This paper argues that space and finance necessarily reinforce one another's dynamics. Space and finance are dialectically linked: financialization does not evolve in an empty space and neither does its development leave space unaltered. Moreover, the links between different spatial scales should also be considered: financialization unfolds both globally and locally (MORENO, 2014). Between the two, this paper also draws attention to the regional scale, whereby regions are regarded not as bounded entities, but as being "constituted from spatialized social relations" (HUDSON, 2007, p. 1155). It will be further argued, in the following sections, that the idea of centralization (CHRISTALLER, 1966) may enhance the notions under construction. The uneven spatiality of finance is noted by the concentration of more complex types of financial services in certain areas of the globe (CORPATAUX et al., 2009). We argue that in order to understand the phenomena of financialization it is necessary to be attentive to the way in which these highly financialised spaces are constructed not only in relation to global financial markets, but also to national contexts, regional dynamics and seemingly less financialised localities. Before proceeding further, the following section outlines some theoretical approaches so as to better support the spatial characterization of financialization.

## **THE SPATIAL DIMENSION OF FINANCIALIZATION**

### **THE SPATIAL NATURE OF FINANCE**

One common feature of all the aforementioned works is that spatial dynamics have not been included as a significant factor in the discussion. Therefore, one of the main arguments of this paper is that financialization has a synergic relationship with space, herein understood as a relational concept (HARVEY, 1996; MASSEY, 2005). Current works on financialization (PIKE and POLLARD, 2010; FRENCH et al., 2011) and its effects over the spatial economy, frequently address the issue by referring to degrees of financialization, or the stage of development towards the Anglo-Saxon model of financialization, as being the main tool in order to comprehend the different aspects of the process. In a sense, it would seem that financialization is a one-way process affecting space. It is our contention however, that the socio-economic and cultural environment also determines the characteristics of financialization, in a mutual interaction, especially in terms of diverse regional sets. Before proceeding to further discussions, in order to understand the spatial character of financialization, it is essential to comprehend the interaction between space and finance.

In recent years, the relations between space and finance have received considerable attention from the economic and geography literature. A seminal work by DOW (1993) highlighted the importance of different financial institutions as a determinant of virtuous and vicious regional economic cycles. Within such a

contribution, diverse liquidity preference over the territory embodies regions with different degrees of credit availability, which reinforce the disparities in regional income that contribute to uneven regional development. Central and more developed regions are consequently in a better position to generate growth and development since monetary leakages reinforce centrifugal forces in peripheral areas. Within such a context, the regional centralization of financial institutions is prominent in determining the spatial differences in liquidity preference and in the availability of complex financial services (CROCCO et al., 2005; CROCCO, 2010).

The spatial centralization of financial services is an unbalancing force for regional growth, where only a few central regions reap the benefits of financial and economic growth. Banks give preference to transactions with liquid bonds and securities in less developed regions that are assumed to be of greater risk, thus reinforcing the low availability of long-term assets in these regions (such as productive loans). Alternatively, more illiquid assets are favoured in regions that contain more developed markets (CROCCO et al., 2010a). Higher income, wealth and well-structured production and consumption systems reduce the uncertainty and expected risks in local financial assets, thereby supporting the formation of more favourable expectations that enhance growth within the centre. This strategy reinforces the central-periphery dynamics and increases the development gap between regions. CAVALCANTE (2012) has investigated financial development within a regional context by introducing regional financial concentration and centralization as determining the polarisation of resources throughout the territory, which in turn affects regional economic growth.

CORPATAUX et al. (2009) presents a perspective whereby finance is not simply a reflection of the real economy and, with regard to territory, the mobility of (international) capital provokes regional changes that are of paramount importance to the functioning of the financial sector. The underlying logic is that the financial industry has a growth strategy driven by the complexity of financial products, which in turn are influenced by the increasing division of labour (including the financial sector,) and the centralization of skills. As the financial accumulation regime is based on the mobility and liquidity of capital within space, financial services differentiate in order to attend a diversity of demands within the territory, thereby altering financial flows that ultimately transform the geographies of production and spatial hierarchies. CORPATAUX et al. (2009) indeed offer a very similar approach to that under construction in this study: as territorial transformations (networks and nodes) rule real and financial interactions, changes in technologies (information and communication), institutions (legislations), and specialized agents (central complex services), which are all rooted in space, “allow the financialization of economic activities” (p.318). However, as will become clearer in the following sections, the analytical approach of the authors is narrowly focused on a financialization process derived from the behaviour of upper scale, international financial actors, omitting daily routine and less complex activities (financialization of daily life) from the analysis.

MARTIN (1999) brings a slightly different approach to the relationship between financial institutions and space. By drawing specifically from the geography literature, the author favours the discussion on money as a social construct<sup>1</sup>, shaping the development of regional institutions over time. Although debates have advanced

1 Money may be assumed as a social construct, since the origin of any currency (money) is based on a community in a specific space ruling its acceptance as a means of exchange in a socially determined convention (Wray, 1990). As such, it is eventually included in any given spatial social interaction.

in exploring how space and finance are mutually linked, little effort has been given in an attempt to incorporate recent debates into human geography with regard to the concept of space. In the 1970s, the field of geography experienced a period of self-critique led by a new generation of geographers connected to the Marxist tradition (MASSEY, 2005). These interpretations sought to reject the Kantian ontology of space as being “absolute”, i.e., as the field where “natural and social events happen” (SMITH, 2003, p. 12). It became an aphorism of the time to affirm that space was a social construct, meaning that “space is constituted through social relations and material social practices” (MASSEY, 2005, p. 70). Nonetheless, Massey argues that conceptualisation was still inadequate and one-sided for considering geographical space as a product of social relations, while not paying sufficient attention to the influence of spatial processes in society.

Other geographers such as LEFEBVRE (1991) and HARVEY (1996) have made similar points. HARVEY (1996), for example, has argued against approaches that regard both space and time as absolute, or external factors impacting a series of socio-economic variables. In other words, from his perspective, a relational approach to space must move away from “spatial fetishism”. Notably, Harvey’s critique was directed at “location theorists” who tended to “neglect how their preoccupation with exogenous, unbounded and homogeneous space determines their ‘specification of equilibrium’” (HARVEY 1973 *apud* SHEPPARD, 2006, pp. 123).

Harvey’s theorization of space draws from classical Marxism and Lefebvre to discuss the spatial dynamics of capital accumulation. He argues that the production of space has replaced the production of commodities as the main dynamic driving contemporary capitalism. Central to his theory is the concept of “spatial fix” which emphasises the movement of capital around space as a means to overcome the continuous crisis of accumulation. Capital must be fixed on space so that capital accumulation may be realized. Nonetheless, as soon as it becomes situated in the form of built environments, capital also becomes “fixed”, which restrains its ability to move in search of more profitable investments. To overcome this barrier, “capital accumulation lurches from one location to another, in cycles of what he [Harvey] dubs geographical uneven development, or spatial economic restructuring.” (SHEPPARD, 2006, pp. 126)

MASSEY (2005, 2007) provided yet another seminal contribution to the discussion on space and the relationship between time and space. Her radical relational approach to theorizations of space rejects dualistic narratives that conceptualise space as static and opposite of time. Instead, she argues that time and space are mutually constituted.

‘Space’ is created out of the vast intricacies, the incredible complexities, of the interlocking and the non-interlocking, and the networks of relations at every scale from local to global. What makes a particular view of these social relations specifically spatial is their simultaneity. It is a simultaneity, also, which has extension and configuration. But simultaneity is absolutely not stasis. Seeing space as a moment in the intersection of configured social relations (rather than as an absolute dimension) means that it cannot be seen as static. There is no choice between flow (time) and a flat surface of instantaneous relations (space). Space is not a ‘flat’ surface in that sense because the social relations which create it are themselves dynamic by their very nature. (MASSEY, 1992, p. 80-81).



This article therefore, engages with such a concept of relational space, seeking to understand how the multiple spatial scales are produced by financialization while also fuelling or restraining its deepening process. From Harvey we adopt the discussion on the spatial dynamics of capitalism, cross-examining the manner in which the increasing financialization of capital accumulation at a global level is mediated through national, regional and local contexts. Additionally, we explore how the spatiality of financialization is produced relationally through such distinct scales. Space, we argue, is nothing like a flat surface where financial processes evolve, but rather a dynamic dimension essential to the understanding of contemporary financialization. Centralization is paramount here, as worldwide financial capital accumulation is conducted globally from financial centres, normally located in “global cities” (SASSEN, 2001) around the world. Capital flows from international financial centres to lower order national spaces in search of profits from a diversity of local assets, including even formerly immobile assets, such as land. The financial interactions produced by these international flows are reproduced in different places, generating changes in social interactions, while also being affected by local contexts. The main point is that, ultimately, it is spatial interactions that actively drive and define the processes of financialization. Accordingly, we explore how the spatiality of financialization is produced relationally through such distinct scales, which function as a multiple set of layers altering relations throughout different regional sets. Space, we argue, is nothing like a flat surface where financial processes evolve, but rather a dynamic dimension essential to the understanding of contemporary financialization.

#### REVISITING THE FINANCIALIZATION CONCEPT: SPATIAL RELATIONS

The objective of this section is to revisit the general concepts introduced in section 2.1 in order to emphasize certain aspects that are of paramount importance to building a consistent spatial approach to financialization. While EPSTEIN (2005) stresses financialization as the growing importance of financial motives, actors, markets and institutions in a general perspective, the concept of the financialization of daily life in MARTIN (2002) is more related to less complex credit-debit relations that are universally spread across the territory. There is, then, a direct relationship between the increase in financial intermediation activities (as in EPSTEIN, 2005) and the territorial diffusion of financialization. Moreover, such a spread may be limited by rigid regional social constructs and institutions that work as barriers against the penetration of financial relations into daily life. Nonetheless, the evolution of new social institutions derived from general human development has, over time, brought about a change in social barriers, which in turn may or may not be supportive to the domination of financial relations over other forms of social connections.

Moreover, the financialization concept that highlights the specific relations of firms to capital markets (ERTURK et al., 2008; WILLIAMS, 2000; FROUD et al., 2000, 2006) is also necessarily related to space and the evolution of new social institutions. In general, the kinds of financial services that satisfy capital market-firm relations are of a higher complexity and are also sparsely spread across the territory. Indeed, innovations in communication have led some authors to claim the end of space (O'BRIEN, 1992; FRIEDMAN, 2005). However, a more careful appreciation of regional contexts indicates the importance of the spatial nature of firm decisions

<sup>2</sup> Hard information is quantitative, which means it can be stored. The content of information does not depend on the collection process, being easily transmitted in impersonal ways. In opposition, soft information is personally transmitted via face-to-face contacts and social interaction, and cannot be fractioned and easily transmitted (LIBERTI and PETERSEN, 2017).

and the different degrees of regional information available. See for example the case of real estate companies and their limitations on establishing business in certain regions (FIX, 2011). Soft and hard information<sup>2</sup> are not ubiquitously spread across the territory, which thereby renders local economic and social characteristics important discussion topics in the literature.

The spatiality of financialization arises from the previously discussed framework. Financial activities are deeply embedded by spatial features, from the differences in the liquidity preference of economic agents in different spatial sets and their demands, to the supply of services and the uneven distribution of financial products and firms throughout the territory (CROCCO et al. 2005; FIGUEIREDO, 2009; CROCCO, 2010). There is a mutual correlation between the regional social and economic conditions, which affect the demand for financial services, and the distribution of financial activities across the territory, which is directly related to the regional supply of financial services. More complex financial services are usually offered from nodal points within the territory, while less complex services have a larger territorial range (CROCCO, 2012).

Thus, it is our contention that financialization, as in any financial relation, comes to grips with the intrinsic credit-debit relations that are determined by the dominant spatial conditions that rule social and economic aspects. A spatial financialization process is, then, the spread and deepening of finance motives in the spatially conditioned actions and behaviour of agents. As such, financialization becomes a spatially circumscribed process. The spur in financialization, as a continuous breach of social relations and mutual exchanges embedded within regions into more intricate financially dominated relations, may be initially limited by the degree of spatial diffusion of each specific financial relation. As long as financial services may be categorically separated by their complexity and territorial range, it may also be inferred that financialization will have a multiscaling spatial component driving its diffusion all over the territory. The degree of financialization, therefore, depends on the regional social contexts that either favour or not, the spread of more or less complex financial relations.

The spatial features of the financial system indicate that the centralization of complex services imposes a differentiated regional supply of these services, given the conditions of the recipients of these services. These conditions are partly determined by the very particular spatial conditions surrounding these recipients. Not only does the availability of complex services differ from region to region (CROCCO, 2012), but also the charges on these services are also determined by the regional demand conditions of those receiving the services (HIRAKAWA and BUENO, 2009; CAVALCANTE, 2012). Complex credit-debit relations are more sensitive to uncertainty, lack of information, and risk, and vary from region to region. The process of financialization is therefore, ruled by the specific demands of each agent and the availability of conditions to fulfil such demands, both of which are fundamentally ruled by space. In respect to the financial relations linked to shareholder value and capital markets, for example, geographic distance becomes a barrier. Space, then, may directly limit the diffusion of financialization.

By now, it should be clear that any analysis of financialization must not be disembedded from spatial and geographic dimensions. A process of financialization is more or less limited, depending on the capacity of the financial system to spread

its services across the territory and the regionally diverse capacity to absorb them. Therefore, this diffusion is impaired by the very particular social and economic conditions that characterize different regional contexts. In the section below, we suggest an overview of the spatial character of financialization in which different relational spaces are taken into consideration.

#### THE MULTILAYER SPATIALITY OF FINANCIALIZATION

Within a spatial approach, the inclusion of financialization requires an understanding of the intrinsic conditions that rule social and economic relations in different regions. Space rules the diversity of characteristics that affect the spread of financial relations: different degrees of available information may impede the establishment of specific complex financial activities (FURLONG and KREINER, 2007; CROCCO, 2012); various economic conditions change the liquidity and prospects for the region (CROCCO et al., 2010b; CAVALCANTE, 2012), which may also affect the dynamics of financialization; more importantly, the social and cultural regional identities also permeate the credit and debit relations, thereby affecting the pace of financialization throughout the territory. By following such a framework, while considering the spatial properties of financialization processes, it may be assumed that the financial motives, actors and services behave in different manners throughout the territory. Financialization expands according to a multilayered degree of sophistication in the credit-debit relations, which are basically ruled by spatial-social interactions. As financialization evolves, it will depend on these relations, promoted throughout different spaces, to expand as a dominant process and, at the same time, to generate other spatial interactions. As a multilayered process driven by the complexity of credit-debit interactions, we may thus refer to two processes of spatial financialization: soft and hard.

Notions on the regional scale and scope of financialization are highly interconnected. CHRISTALLER (1966) clearly demonstrates that a region may be characterised by a hierarchy of services that present different levels of complexity. Moreover, this hierarchy is fully inclusive, which signifies that regions with a higher centrality (complex services) also contain services that are characterised by being less complex (lower levels of centrality). Therefore, it is feasible that a developing region may present two types of growth in the overall industry of services: one that increases the number of services of the same order (movements of scale) and another which increases the complexity of services being offered within the region (movements of scope).

A certain type of financialization is involved in both growth cases (scale and scope). As financial motives become more significant in social relations, the size of financial markets increases along with the number of actors and institutions. Financialization, therefore, begins to permeate different spaces. However, the degree of financialization differs amongst the spaces according to the complexity of the financial motives behind the decisions of the actors. The spread of less complex financial services is directly connected to an increase in the financial aspects of social relations forming a basic, yet incomplete layer. Financialization, in this sense, is of the soft type, permeating simpler forms of credit-debit relations amongst economic agents. A rise in this type of financialization denotes that people and different spaces are increasingly financially interconnected. The financial dimension begins to

dominate every aspect of daily social interaction, from simple payment services, bank accounts, microinsurance, to general access to other services and goods. Indeed, for some people, not being able to use a financial service may even represent a form of social exclusion. The consideration of soft spatial financialization enlarges the notion proposed by CORPATAUX et al. (2009), which only considers financial relations that emerge from high-end international financial actors that drive financial flows across different territories.

[The] definition of the finance industry is restrictive. Traditionally, the financial sector has been defined by actors (e.g. banks, insurance companies, financial companies, and pension funds) or by functions (providing financial means to companies). Our definition stresses the role of financial markets and the mobility/liquidity of capital. For example, a local bank that provides traditional property loans that are based on traditional long-term deposits would not be included in this definition. (CORPATAUX et al., 2009, p. 318).

A more encompassing definition must accordingly consider every aspect of financial relations. Moreover, developments in soft financialization are closely related to changes in the complexity of services (scope) being offered in the region. A spread in the scale of services and the local economic development may trigger the demand for more complex services, thus favouring regional increases in centrality (CAVALCANTE, 2012). One notable case is the mortgage industry in the US. From a traditional financial service put into place so as to foster housing in the US (and, of course, capital accumulation in diverse spaces), mortgages became highly securitized, and, according to CORPATAUX et al. (2009), while this enabled the (spatial) expansion of financialization, increasing the mobility of capital, it also changed the daily life social relations of mortgage owners, with some of them, after the financial crisis, eventually losing their homes.

Since complex financial services are usually supplied from places with higher degrees of centrality, financialization may even lead to the development of (new) regional centralities. The spread of (new) financial centralities throughout the territory indicates that more complex services are being offered locally, which is clearly related to the deepening of a hard type of spatial financialization. In this type of financialization, credit-debit relations are marked by an increased level of complexity, with firms and households searching for more sophisticated assets and debt services in order to realise their liquidity preference and the demands for new sources of financial profits.

This dynamic process of deepening financial motives has a very particular spatial component. As actors and institutions interact in their financial relations, they compound different spaces that respond to the level and degree of financial services in use. However, when these types of financialization are projected into different spaces, the resulting picture is not as clear as it may seem. National financial and banking systems have their own logic of regional expansion (CROCCO et al, 2010a), which means that soft and hard multilayered financialization may be fully territorially differentiated; the network of soft financialization presents larger territorial limits. Yet, it is still possible that such a network would not necessarily reach all regions, or it may only be slightly present in certain spaces, which consequently creates regional gaps in the financialization process. In this sense, some regions might lag

behind others, either presenting a slower pace in the financialization processes or even decreasing their degree of financialization. This is an expected result from the financial process, which creates inequalities, producing marginalized spaces of social exclusion, where individuals are either forced to live with a lack of services and goods (financial exclusion) or comply with prohibitive financial products (higher prices, more collateral, reduced maturity for assets). Under these terms, a deepening of those financially excluded in a diversity of places would reinforce local disparities, thereby tightening social relations. Hard financialization is even more selective, extending its limits to fewer and fewer places as the complexity of financial services increases. Nonetheless, it is possible for the hard financialization network to spread, as long as the region creates favourable conditions for it to do so.

More importantly, the particular economic and social characteristics of a region mould the demand for financial motives. A specific region that is socially, culturally and economically evolving may trigger a faster hard financialization process, thereby spreading a more developed network of financial relations. Alternatively, another region may be more reticent in absorbing new financial forms and behaviour, which may impede or even halt a financialization process. In this case, a soft, rather than hard, financialization process may be more present in the region, compounding intertwined layers of spatial interactions.

The approach being suggested herein is built around the idea that some financial institutions, which usually offer less complex services, are widely spread throughout space and, therefore, may be considered as characterising *soft* spatial financialization. By providing services that are less complex, the economic conditions for the existence of such institutions are usually simpler, thereby making their presence significant throughout different spaces. Alternatively, *hard* spatial financialization is correlated with more specialised institutions and the more complex services that they offer. These institutions are usually located at specific nodal points of the territory, where particular economic conditions allow the financialization process to develop more deeply. Highly complex financial services require more intricate networks of information and superior instances of decision, which are more promptly attained in places of a higher order (centralised). According to THRIFT (1994), the dissemination of information in financial markets (and the related volatility it brings about) makes it crucial to form a social network so as to track and process all the necessary information for generating interpretative schemes of information. The financial place is, thus, the locus where such flows of information concentrate, and which may ultimately lead to an uneven spread of interpretations and information through the regional network.

In between these two regional networks (hard and soft) of financialization lies a multitude of regions that represent a diversity of meanings within the financial structure. In hybrid cases, space is one of the most important determinants, since it is the main driver that expands (or not) the financialization networks. Nodes in the fabrics of financialization are usually spaces where the financial system concentrates; furthermore, the relations among the different spatial nodes are crucial for the movements (expansion) of the financial networks. The approach developed herein also incorporates a third category of financial institutions in between the soft and hard categories. This middle group is formed of financial institutions that offer services, which demand moderate requirements of complex information. In this sense, they

are more widespread than the *soft*, but their existence depends on more developed spatial sets of economic, social, institutional and cultural conditions.

## **A PRELIMINARY EMPIRICAL ASSESSMENT OF SPATIAL FINANCIALIZATION IN BRAZIL**

Following the discussion in the previous section, this section offers a preliminary analysis of spatial financialization in Brazil. Since the economic liberalization of the 1990s, Brazil has experienced a deepening process of financialization, especially from the year 2000 onwards, with an increasing significance of capital markets and capital mobility and an expansion of the banking system. According to BRUNO and CAFFÉ (2015), Brazil is outstanding for the higher shares of interest income in the national GDP, which is clearly correlated to its national interest rate, one of the highest in the world. Thus, Brazil may be regarded as being highly susceptible to financialization processes, a characteristic, which is confirmed by its dependence on international capital inflows and the recurrent growth of national banking profits over the years. In order to undertake an analysis of Brazil, the authors have computed general macroeconomic indicators of financialization, namely the shares of interest income of the total GDP, the sectoral composition of interest rates (which accounts for the different interest rates for different economic agents), the operational revenues of the financial sector (which deals with the source of income of the financial industry), and the macroeconomic rate of financialization (which computes the national income derived from financial services and products).

In relation to spatial financialization, a more thorough empirical analysis is still unavailable, which is mostly due to the lack of (regional and local) information as well as the difficulties involved in formulating indicators to evaluate the phenomenon. Moreover, to the best of our knowledge, all studies in Brazil have focused on the effects of financialization in real estate markets, which is justifiable since this is the most direct link between international capital markets, financialization and space (land). SANFELICI (2013) discusses the links between the global financial circuits and Brazilian publicly traded real estate companies. The latter are considered significant mediators between international financial capital and the (re)production of urban space, with explicit territorial strategies that meet the demands of (international) investors for profit.

Within such a specific approach, KLINK and DENALDI (2014) analyse the public housing program known as *Minha Casa, Minha Vida* (My Home, My Life), in order to understand the role of the state in providing liquidity and reducing the risk for the private sector. The program is well-known for facilitating financialization in the Brazilian real estate markets, with construction firms increasingly responding to the logic of the financial markets and producing space accordingly. RUFINO (2015) extends this logic to the production of space in Fortaleza. In FIX (2009), financialization in Brazil is linked to the financial arrangements for infrastructure investment and development, which thereby reinforces accumulation and social disparities. Empirical analysis is conducted by evaluating capitalization, IPOs, ownership, and balance sheet data from homebuilders and construction firms in the capital markets, linking the latter to the offer of new housing facilities. ROYER

(2016) discusses the administration of a public fund known as FGTS (a Severance Indemnity Fund for employees) from the viewpoint of functioning as a liquidity mechanism that guarantees real securities markets in Brazil, a clear example of how public intervention is capable of affecting financialization and changing the landscape. In international studies, we may highlight DELGADO and LÜHL (2013) and THEURILLAT et al. (2016) who have conducted analyses on financialization and real estate in Namibia and China, respectfully.

The empirical analysis presented herein is to a certain extent innovative, since it is directly related to the theoretical discussion from the previous section, which considers two distinct dynamics regarding the spatial financialization process (soft and hard). These interrelated spatial processes evolve through the development of financial relations that may be characterised by local financial processes of scale and scope. Scope refers to the diversity and degrees of complexity of financial institutions and services and, scale, to the quantity of financial institutions and services throughout the space. Inasmuch as financial services are supplied in tandem with various regional demands, in a simultaneously determined relation, this paper addresses financialization from the perspective of supply, investigating the spatial distribution of financial institutions and the complexity of services they offer.

In order to proceed with such an analysis, our initial approach is to examine data on financial establishments in Brazilian municipalities<sup>3</sup>. In line with the idea that there are different processes of spatial financialization, financial institutions have been classified into three different categories, as discussed in the previous section: *soft*, *medium* and *hard*. Table 1 presents the thirty-two types of financial establishments and their classification according to the above explanation. While the list is not intended to be exhaustive, it should serve as a means to promote debates on the subject.

The institutions classified as promoting *soft* financialization provide the most common intermediation services - credit and debit relations - (commercial banks, credit cooperatives etc.) as well as services that are available throughout most regions, such as insurance and health plans. It may be considered that this type of financial services portrays the characteristics of the daily life type of financialization (as discussed above).

*Medium* financialization is also associated with services that indicate the growing presence of finance in daily life (life insurance and other specific kinds of insurance, private pensions, etc.), but additionally considers certain specific finance services that are frequently applied to particular situations and institutions, such as microcredit, factoring, development agencies, amongst others. This group, although pertinent to the usual credit-debit relations, also contains slightly more complex services that require specialised assistance, and which are not found everywhere across the territory. Finally, institutions included in the *hard financialization* category have very complex types of services. The regions containing such institutions may be regarded as possessing an advanced degree of financialization of social relations, including the highly complex financial services offered by stock markets and investment funds.

According to this description, the present paper has categorised the existent Brazilian financial institutions into three categories of complexity, ranging from the more to the less intricate services that they offer. This work follows the discussion of TER HART and PIERSMA (1990) and KLAGGE and MARTIN (2005) concerning

<sup>3</sup> Data available in RAIS (2010), the Annual Report of Social Information, produced by the Brazilian Ministry of Labor.

the spatial distribution of financial firms. When submitted to its spatial distribution, this categorisation provides an indicator of the regional scope of financial activities. After this qualitative division, a scale dimension is added to the analysis by considering the number of each type of financial institution to be found in each Brazilian region. The scale and scope indicators may then provide an approximate idea of the spatial conditions of financialization. Table 1 below demonstrates the types of institutions and the categorisation used to build the indicators.

Financial System Service	Classification
Commercial and Universal Banks with commercial portfolio	Soft
Federal Savings and Loan Bank - CEF	Soft
Credit Cooperative	Soft
Health Insurance	Soft
Auxiliary Activities of Non-specified Financial Services	Soft
Risk and Loss Assessment	Soft
Insurance Broker	Soft
Auxiliary Activities of Insurance, Pensions and Health Insurance	Soft
Development Banks	Medium
Mortgages	Medium
Development Agencies	Medium
Savings and Loan Societies	Medium
Commercial Leasing	Medium
Factoring	Medium
Microcredit Societies	Medium
Administration of Credit Card	Medium
Administration of Consortium for Acquisition of Goods and Assets	Medium
Other Financial Services Activities	Medium
Life Insurance	Medium
Non-Life Insurance	Medium
Medical - Hospital Coverage	Medium
Closed Private Pension	Medium
Open Private Pension	Medium
Multiple Banks, without commercial portfolio	Hard
Investment Banks	Hard
Capitalization Societies	Hard
Investment Fund	Hard
Securitization of Credit	Hard
Re-Insurance	Hard
Administration of Stock Markets and organized spot markets	Hard
Intermediation Activities of Bonds, Equities and Goods	Hard
Fund Administration by Contract or Commission	Hard

Source: Produced by the authors with data from RAIS/MTE.

### SCOPE INDICATOR

The first indicator considered for the analysis was constructed in a simple manner: if a municipality has no financial institution it scores 0 (zero); 1 (one), if there is only a *soft* type of financial institution; 2 (two) if there is a *medium* type of finance establishment, and finally, 3 (three) if there is a *hard* financialization institution. The scope indicator () for region  $j$  may, thus, be represented by the following:

$$SI_j = \max_{1 \leq b \leq 3} b_{ij}$$



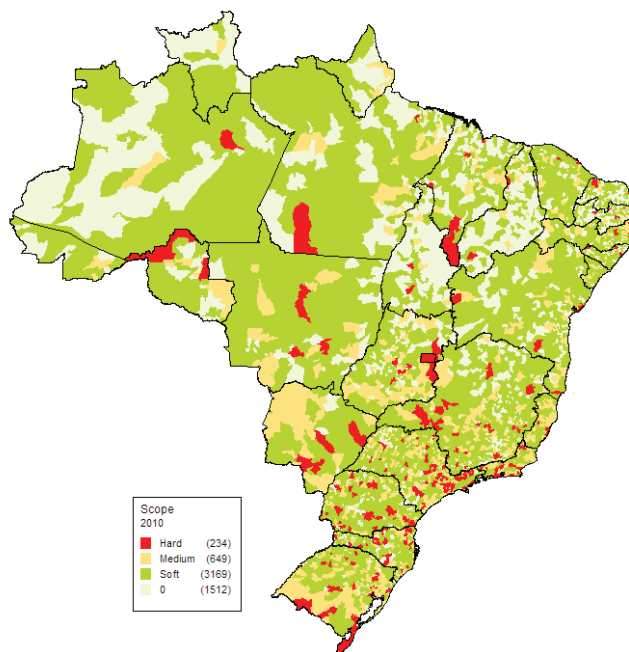
Where:

- $b_{ij}$ , is the highest order ( $i$ ) financial institution in the  $j$  municipality.
- $i = 1, 2$  or  $3$ , for, respectively, *soft*, *medium* and *hard* institutions,

Figure 1 presents the Scope Indicators for the Brazilian municipalities in 2010. The picture, as one could expect, displays the intense fragmentation of the Brazilian territory. There are very few red points, which indicate cities with institutions characterized as offering services of the *hard* financialization type. Furthermore, they are mostly located in the South-eastern and South regions, which are considered to be the most developed. Also, as demonstrated in the upper section of Figure 1, the white spaces are more frequent and larger, and the red points are scarcer, and mostly pinpoint state capitals.

Almost 43% of the total municipalities classified as *hard* are located in the Southeast, another 30% are located in cities of the South, as presented in Table 2 below. Moreover, almost half the municipalities with no financial institutions are located in the Northeast.

Figure 1 – Financial Scope Indicators (2010)



Source: Created by the authors with data from RAIS (2010).

From an analysis of Figure 1, it may be inferred that the financialization process is not equally distributed across Brazilian territory. It may be observed from the spatial distribution that financial institutions offering the most common financial services are most commonly present in various municipalities. Alternatively, highly complex services from specialised institutions (hard financialization) are found only in specific places (in 4% of all cities). This distribution indicates the differentiated penetration of financialization across the space, as discussed in the sections above. Soft financialization is more widely spread across the space, as simple intermediation services become increasingly

present. The permeation of soft financialization however, is not homogeneously spread across the entire territory, as may be observed from the blank spaces in Figure 1. Some very small, underdeveloped municipalities have still resisted incorporating dynamics from this sort of financial institution, mostly because of the very poor local social and economic conditions. This imposes limits onto the most common, simpler financialization process.

As we move to more complex webs of spatial financialization, it may be observed in Figure 1 that there are very few places, mostly located in more developed regions, containing institutions offering the medium and hard types of services. The regional spread of the upper layers of financialization may then be regarded as coming from nodal points and limited by a maximum reach given by the lower layer (soft) of the network. This is because locally diverse conditions, such as underdeveloped markets, remoteness and a lack of reliable information, hamper the penetration of complex financialization into most places across the territory.

Table 2 – Financial Scope Indicator and Regions (2010)

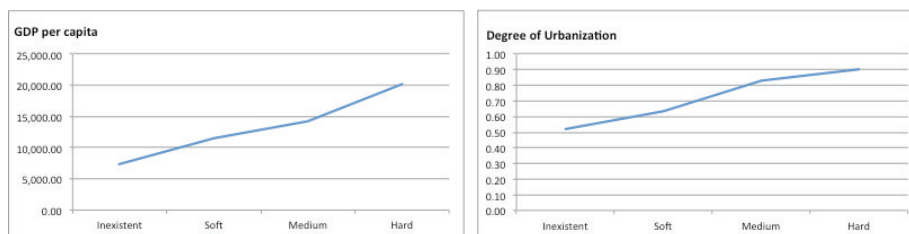
Region	Number of municipalities by type of financialisation				
	<i>Inexistent</i>	<i>Soft</i>	<i>Medium</i>	<i>Hard</i>	<i>Total</i>
Central-West	120	263	65	18	466
Northeast	752	864	139	38	1.793
North	224	188	30	7	449
Southeast	270	1.050	248	100	1.668
South	146	804	167	71	1.188
Brazil	1.512	3.169	649	234	5.564
Region	Percentage of municipalities by type of financialisation				
	<i>Inexistent</i>	<i>Soft</i>	<i>Medium</i>	<i>Hard</i>	<i>Total</i>
Central-West	7,9	8,3	10,0	7,7	8,4
Northeast	49,7	27,3	21,4	16,2	32,2
North	14,8	5,9	4,6	3,0	8,1
Southeast	17,9	33,1	38,2	42,7	30,0
South	9,7	25,4	25,7	30,3	21,4

Source: Created by the authors with data from RAIS/MTE.

The absence of complex financial relations may be represented, in some cases, by the complete unavailability of the service or, in other cases, even if the services are offered, their costs are prohibitive for most of the local consumers. This discussion offers new insights to the literature, such as the importance, the necessary conditions and the relations for a deeper financialization process to evolve in particular regions.

Chart 1 presents a graphical analysis of the correlation between the types of spatial financialization and the average per capita GDP and the degree of urbanization of municipalities allocated to each category investigated.

Chart 1 – Spatial Financialization, GDP per capita and the Degree of Urbanization (2010)



Source: Created by the author with data from IBGE (2010). The degree of urbanization is the share of urban population in relation to the total population of the municipality.

The results have shed some light on the determinants of spatial financialization and it may be realized that the presence of financial institutions with services of a higher order of complexity are associated with higher production and urban population. Such features are connected with both the demand and supply sides of financial services and, although they are clearly connected to the process, they probably do not exhaust the possible determinants of the phenomenon.

Therefore, it could be argued that financialization is not widespread across Brazilian territory. We may perceive small islands of centrality, which concentrate the majority of the financial fluxes that coexist within “empty” spaces. Nonetheless, we would argue that such a differentiated financial space is produced through relational interactions across different localities and scales.

By referring to a specific example, the argument becomes clearer. With regard to the banking system, a previous analysis of Brazil demonstrated that the average return on assets is higher in less developed regions (NOGUEIRA et al 2010). Although there is a higher concentration of assets in certain parts of the country, it has been argued that banks have differentiated spatial strategies regarding asset allocation. Such strategies are affected, for example, by the distinct degrees of centrality in cities where branches of different banks are located (NOGUEIRA et al, 2015). Therefore, generalizing this argument to the whole range of financial services under analysis, we must comprehend the pattern illustrated by the map as the result of multiple strategies of profit maximization. These strategies are mutually determined by global and local contexts, which as a result, produce an “uneven” financialized space.

Investigation into the regional financial aspects of the financialization process is also important so as to understand the dynamics of such a process. In order to verify these other possible determinants, especially those related to the regional financial dimension, the next section brings relative indicators for the regional availability of bank deposits and claims on loans.

#### **HARD, MEDIUM AND SOFT SPATIAL FINANCIALIZATION**

The variable most often cited as being responsible for determining the distribution of financial services across space is income, and it is this type of generalization that frequently keeps financial variables from being included in regional economic analyses. If income were to determine finance, there would be no need for concern over finance, and analysis could be focused on real variables.

However, over recent decades, the literature on money and space has demonstrated that there is a cumulative process between real and financial variables and, therefore, their interaction must also be investigated.

The Locational Quotient (LQ) was calculated to provide us with information on the relation between income and financialization in the terms thus far discussed. It is computed as the ratio between the total number of financial institutions in a given category (soft, medium or hard) of a specific municipality and the share of that same municipality in the total income of all cities within the same category. Thus, three specific indicators were constructed, one for each type of financialization. The LQ may be expressed as follows:

$$LQ_i = \frac{SF_{ij}}{\sum_{j=1}^n SF_{ij}} \bigg/ \frac{Y_{ij}}{\sum_{j=1}^n Y_{ij}}$$

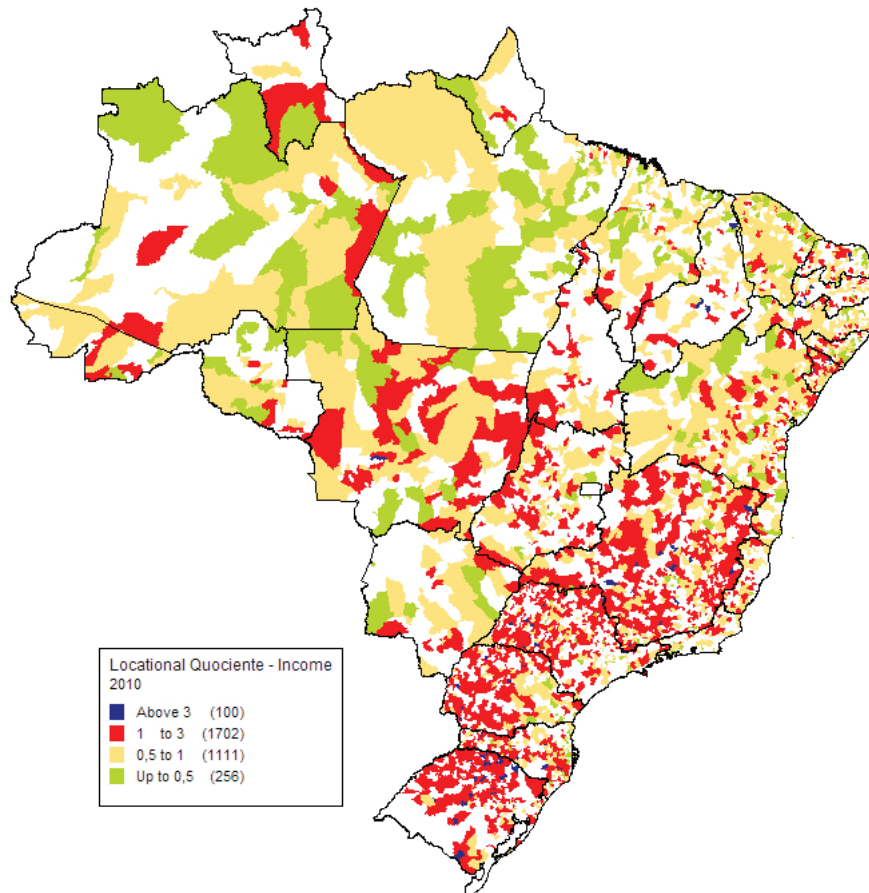
where

- $SF_{ij}$  is the total number of financial institutions of type  $i$  located in municipality  $j$ .
- $\sum_{j=1}^n SF_{ij}$  is the total number of financial institutions of type  $i$  located in the group of municipalities with  $i$ , where  $i$  is the scope indicator.
- $Y_{ij}$  is the income value generated by municipality  $j$ .
- $\sum_{j=1}^n Y_{ij}$  is the total income generated by the group of municipalities with  $i$ .

If the value of LQ for a particular city is higher (lower) than another, this indicates that this municipality has a larger (smaller) number of financial institutions than would normally be expected, given its participation in the income of the group. On the other hand, if the indicator is equal to one, this would mean that the share of the specific municipality is consistent with its group. If income were the only relevant explicable variable, it would be expected that all municipalities in the group should present a value close to one.

Figure 2 displays the results for the soft financialization category. The red and blue key colours represent cities with LQs higher than one, i.e., cities that in some form or another concentrate more financial services than expected from their income levels. As observed in the figure, most of the red and blue areas are concentrated in the South-eastern and South regions. The Central-West region also presents a large number of red spots, while the North and North-eastern regions are almost entirely composed of green, beige and white spots. As soft financialization is the most widespread, it may be inferred that such a financial network operates with excess capacity (above the local levels of income) in South-eastern regions, where cities are more urbanized and economically developed. This fact also illustrates the spatial hierarchy that permeates the financialization process, since this excess capacity may be correlated to higher demands on more complex financial services.

Figure 2 – Locational Quotient: Soft financialization (2010)

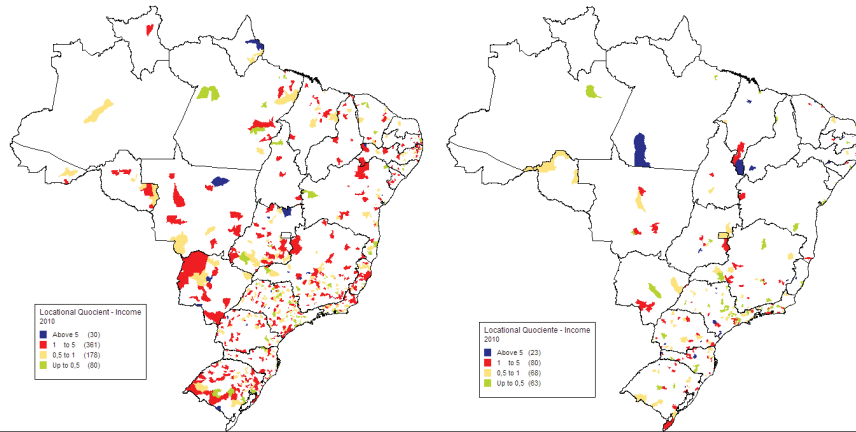


Source: Created by the authors with data from RAIS (2010).

The scenario becomes even more illustrative on examination of the LQ results for the medium and hard financialization. Figure 3 presents the results for the municipalities with financial institutions providing medium and hard financialization. The most outstanding feature here is the emptiness observed in the Northern regions. The variation of colours would also act as a further indication that income is insufficient to explain the allocation of financial institutions across space.

The analyses of Figures 2 and 3 reveal that besides income, other features, probably connected to deeper characteristics of the regions, may be determinant in understanding the spatial financialization process. Historically, the South and South-eastern regions are more developed than the remaining regions of Brazil, boasting higher income levels and better social indicators. However, even after considering the share of income as a control, it is possible to infer that such regions tend to concentrate financial services.

Figure 3 – Locational Quotient: Medium and Hard Financialization (2010)



Source: Author's calculation using data from RAIS (2010)

Using the LQ as an indicator of spatial financialization, we have computed a matrix of correlations to help understand the determinants of such a process. A relative indicator of local credit and the proportion of bank deposits for loans are also included in the table. The former index, the Regional Quotient of Credit (RQC), was first proposed by CROCCO and SANTOS (2006) and was constructed to test the hypothesis that credit availability is determined by income. The indicator is computed as the ratio between the region's total share of bank loans and the region's share within the country's GDP. If the RQC is equal to one, this indicates that both shares are equal and, thus, the region receives the expected amount of credit, demonstrating its participation in the country's total wealth. On the other hand, if it is higher (lower) than one, the indicator reveals a concentration (rationing) of financial resources. The authors concluded that, in Brazil, the most developed regions concentrate loans above their share of total income while peripheral regions suffer from credit rationing.

The second ratio included in the table, the LPB – the liquidity preference of banks, was proposed by CROCCO et al. (2005) to measure the liquidity positions of banks in specific regions. The index is a ratio between banks' demand deposits and loan operations within a region, which thereby indicates the capacity of the region to create deposits given its loan base. In other words, the LPB indicates the degree to which banks are willing to lend, given the amount of resources collected in a particular region. The authors analysed the behaviour of the LPB for Brazilian regions, and concluded that the indicator is usually higher for underdeveloped regions.

Table 3 – Matrix of correlations: Financialization *versus* selected variables

Variables	GDP	GDP per capita	Income	Population	Degree of Urbanization	Financialization	Number of Firms	RQC	LPB
<b>GDP</b>	1.00	-	-	-	-	-	-	-	-
<b>GDP per capita</b>	0.19	1.00	-	-	-	-	-	-	-
<b>Income</b>	0.98	0.20	1.00	-	-	-	-	-	-
<b>Population</b>	0.96	0.19	0.98	1.00	-	-	-	-	-
<b>Degree of Urbanization</b>	0.12	0.49	0.12	0.16	1.00	-	-	-	-
<b>Financialization</b>	0.18	0.50	0.19	0.25	0.47	1.00	-	-	-
<b>Number of Firms</b>	0.97	0.20	0.99	0.98	0.13	0.21	1.00	-	-
<b>RQC</b>	0.20	0.18	0.20	0.19	0.05	0.09	0.20	1.00	-
<b>LPB</b>	-0.03	0.14	0.04	0.03	0.04	0.05	0.03	-0.49	1.00

Source: Created by the authors with data from IBGE, RAIS/MTE and LEMTe.

The results presented in Table 3 demonstrate that there is a positive, albeit small correlation between financialization and regional GDP and income. This may be explained by reasons other than the economic structural conditions for distributing the financial network, such as population density, the hierarchy of cities and the spatial features of the network. Undeniably, the correlations are higher between financialization, local GDP per capita and urbanization levels. A positive relation between the financialization indicator and the regional quotient of credit (RQC) is also reported, which signifies that municipalities with higher degrees of financialization are probably related to an increased availability of (higher than average) bank credit. Such a feature is reinforced by the negative correlation between financialization and the liquidity ratio (LPB). This signifies that municipalities with higher degrees of financialization also present banks with lower deposit bases in relation to their claims on loans. This is an expected characteristic, since localities within a hard financialization process serve as hubs for the regional dispersion of complex services across the territory. Therefore, financial institutions in these regions operate with a lower liquidity preference, managing financial assets portfolios whose reach is extended towards other localities. In this process, the volume of bank loans is larger than the deposits created locally, which characterizes the negative correlation between PLB and financialization.

By examining the manner in which asset allocation by bank branches is influenced by distinct degrees of centrality, NOGUEIRA et al. (2015) demonstrates that, in comparison with spaces of lower centrality, the Brazilian city of São Paulo suffered the highest impact regarding returns per asset after the 2008 crisis. This example may be used to illustrate an essential point being put forward. Financial services of higher specialisation are concentrated in very few localities in Brazil. While these locations in the territory are more porous to global flows they also polarise a large portion of the income and financial flows of the country (CAVALCANTE, 2012) and, therefore, we would expect that the socio-economic processes occurring in São Paulo would spread to such polarised localities. The impacts, however, are mediated by their own dynamics. Although arguably to a smaller degree, processes evolving in the places of lower financialization are prone to influence from polarising economies.

Therefore, we not only argue that the production of a financialized space is mediated by local contexts, but also that these dynamics reinforce one another. Moreover, space does not function as a field in which financial assets simply flow, and space and the uneven geography of the territory may not be fully understood without comprehending financial dynamics. As financialized strategies of capital accumulation become increasingly more relevant globally, these geographies mediate the manner in which financialization as a process evolves both on a national and local level. Furthermore, as a global process, financialization is also fuelled by processes that are evolving on smaller scales.

## CONCLUSIONS

The objective of this paper is to offer fresh insights to the discussion on the spatial features of financialization. In order to achieve this, it has been argued

that financialization, as an intrinsic credit-debit relationship, is strongly tempered by regional conditions. The literature on regional finance offers insights into understanding the spatial conditions of demand and supply for financial services. Regional idiosyncrasies and the behaviour of local agents impose characteristics onto financial motives that differ throughout the space. As financial services intermediate the credit-debit relationships that characterize financialization, then it is imperative to fully understand the role played by the regions.

Under such circumstances, financialization is, above all other characteristics, a spatialised phenomenon, a dialectical relation that emerges between space and financial processes that shape and are shaped by space. As these spatially shaped relations evolve, financialization (re)produces its dynamics across the territory, forming diverse layers of interactions. The basic layer is determined by the range of spatial interactions that involve less complex financial relations. The discussion has revealed that, from a daily life perspective, where financialization takes over basic social relations, regions are not homogeneously covered by simpler intermediation services. Moreover, there are some specific localities where the basic credit-debit relations are still performed outside the formal financial system, from loan sharks to alternative monetary systems (social money). Analysis is, therefore, highly correlated to a regional process that is unequal by nature.

The spatiality of the process is also present when financialization is assumed to be the deepening of financial capitalism and of the income extracted from financial activities. In the upper layers, where financial relations involve more complex activities (stock markets, investment banks) a hard financialization process, whereby more specialized institutions extract profit, is usually more fragmented across the space, reinforcing centralities and limiting the possibilities of financial interactions in certain spaces that, in turn, affect the expansion of such a type of financialization.

The analysis, although preliminary, presents a number of perceptions towards understanding how the financialization process is spread across regions, especially in Brazil. As the sharp edge of the capitalist reproduction system, spatial financialization also carries with it a character of inequality. Brazil has a dual economy, characterized by the existence of a dynamic centre and a large dependent periphery. This duality is transposed to the financialization process in an integrated manner: the centre presents an advanced financialization process of its social relations, captured by the existence of hard financialization, i.e., sophisticated financial services offered to both firms and individuals; while the periphery, on the other hand, is composed of either empty financial spaces or a simple network of soft financial relations. The centre is highly spatially connected, not only to other peripheral regions but also to international markets. Nevertheless, such a relation is characterized by integration, in which the financial services offered on the periphery are supplied by financial institutions from the centre, in turn draining most of its financial resources.

Such an analysis may be highly informative for public policy and regional and urban planners. On one side, financialization not only affects certain regions by limiting their prospects of development, but may also, given its nature to search for profits, provoke predatory practices that could make living conditions worse for many individuals and even prompt (financial) exclusion, especially for the poor. This situation is characteristic of land expropriation and a lack of access to housing, as well as basic services. When exclusion is paramount, public intervention is needed



to amend the regional gaps produced by financialization. On the other hand, as a spatial multilayered process, financialization also affects geographies on differing regional scales, promoting spatial imbalances that may put pressure onto productive and social systems (concentration, agglomeration, suburbanization), and increase the challenges to regional and urban planning.

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