FUNDAÇÃO GETULIO VARGAS
ESCOLA BRASILEIRA DE ADMINISTRAÇÃO PÚBLICA E DE EMPRESAS
DOUTORADO EM ADMINISTRAÇÃO

Beyond the Supply Side of the Distributive Politics: The Influence of Local Government Capacity and Policy Institutionalization on the Allocation of Intergovernmental Grants in Brazil

Tese apresentada à Escola Brasileira de Administração Pública e de Empresas para obtenção do título de Doutor

Flavio Santos Fontanelli

Rio de Janeiro – 2020

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Orientador: Prof. Cesar Zucco Jr., Dr.

RIO DE JANEIRO
2020

Dados Internacionais de Catalogação na Publicação (CIP)
Ficha catalográfica elaborada pelo Sistema de Bibliotecas/FGV

Fontanelli, Flavio Santos
Beyond the supply side of the distributive politics : the influence of local government capacity and policy institutionalization on the allocation of intergovernmental grants in Brazil / Flavio Santos Fontanelli. – 2020.
107 f.

Tese (doutorado) - Escola Brasileira de Administração Pública e de Empresas, Centro de Formação Acadêmica e Pesquisa.
Orientador: Cesar Zucco Jr.
Inclui bibliografia.

1. Ciência política. 2. Federalismo. 3. Administração municipal – Brasil. 4. Políticas públicas – Brasil. I. Zucco Júnior, César. II. Escola Brasileira de Administração Pública e de Empresas. Centro de Formação Acadêmica e Pesquisa. III. Título.

CDD – 352.081

Elaborada por Márcia Nunes Bacha – CRB-7/4403

FGV

FLAVIO SANTOS FONTANELLI

"BEYOND THE SUPPLY SIDE OF THE DISTRIBUTIVE POLITICS: THE INFLUENCE OF LOCAL GOVERNMENT CAPACITY AND POLICY INSTITUTIONALIZATION ON THE ALLOCATION OF INTERGOVERNMENTAL GRANTS IN BRAZIL".

Tese apresentado(a) ao Curso de Doutorado em Administração do(a) Escola Brasileira de Administração Pública e de Empresas para obtenção do grau de Doutor(a) em Administração.

Data da defesa: 10/07/2020

ASSINATURA DOS MEMBROS DA BANCA EXAMINADORA

Presidente da Comissão Examinadora: Profº **Cesar Zucco Jr.**

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To Celina and Sandro,

ACKNOWLEDGMENTS

For obvious and not so obvious reasons, I am very thankful for my advisor, Cesar Zucco Jr.

Likewise, I would like to acknowledge the various academics with whom I met during my years at EBAPE. Professors Alketa Peci, Octavio Amorim Neto, and Rafael Goldszmidt surely occupy a special position. I also owe special thanks to Antonio Sergio Fernandez, from the Federal University of Bahia, Eduardo Grin and George Avelino Filho, from the FGV/EAESP, Felipe Nunes, from Federal University of Minas Gerais, Natalia Bueno, from Emory University, and, obviously, Paulo Ricardo Reis, from the Federal University of Rio de Janeiro. I have no words to describe, once again, my gratitude to Paulo.

During my years at EBAPE, I had fantastic colleagues and made terrific friends. André Cabral, Arthur Catraio, Layla Mendes, Michelle Moretzsohn, Ricardo Santos, Rodrigo Donini, and Rodrigo Leite have been especially important to me.

Betânia Rodrigues, Emmanuelle Daltro, Mariana Bastos, and Nanci Nakamura were wonderful friends. In different ways, they offered me that kind of support and friendship that help us to cope with the torments and traps of the life. Likewise, I will forever be grateful to Elisa and Arnaldo Kosisnki.

For the only and truly worry-free moments of joy and happiness I had in these last four years, I am deeply grateful for Ana Beatriz, Thiagão and Nina Morena.

I am extraordinarily thankful to Fernanda Finotti, Renata Barbosa, and, especially, Edilma Souza.

RESUMO

Esta tese é composta por três artigos. O primeiro artigo desenvolve uma estrutura conceitual capaz de orientar a mensuração de índices multidimensionais de capacidade de governo local. Partindo de uma revisão teórica sobre o conceito de capacidades estatais, três dimensões de capacidade foram definidas para o caso brasileiro: capacidade fiscal; capacidade relacional; e capacidade administrativa. Utilizando bancos de dados oficiais disponíveis para o ano de 2009, análises fatoriais exploratórias foram empregadas para o cálculo dos três subíndices dimensionais. Após confirmar a consistência interna dos fatores, os três subíndices calculados foram agregados, para cada município brasileiro, em um índice final de capacidade de governo local. Por fim, apresentamos evidências empíricas de que características relevantes de governança local foram capturadas pelo constructo proposto. O segundo artigo complementa os estudos sobre política distributiva no Brasil ao testar a influência das capacidades do governo local nas alocações federais de recursos discricionários. Utilizando o índice de capacidade de governo local calculado no primeiro artigo, modelos econométricos multivariados foram estimados para a análise da influência das capacidades de governo e do alinhamento partidário nos recursos federais liberados no ano de 2010. O artigo oferece evidência empírica da existência de uma associação positiva e significativa entre capacidade municipal e liberação de recursos federais, revelando, ademais, que esse efeito é mais relevante para prefeitos não alinhados à coalização de partidos políticos que formam o governo federal. Aprofundando a análise do lado da demanda nos estudos sobre política distributiva no Brasil, analisamos, no terceiro artigo, a influência da institucionalização das políticas públicas em nível local nas transferências intergovernamentais de recursos. Utilizando o caso do Sistema Nacional de Cultura, analisou-se se os municípios que aderiram ao sistema em 2013 tenderam a receber mais recursos discricionários do Ministério da Cultura. Como a adesão formal dos municípios ao Sistema Nacional de Cultura requer, por definição, diversas ações e investimentos específicos, foi possível utilizá-la como uma proxy da institucionalização de política culturais em nível local. Os resultados demonstram que, por um lado, a hipótese principal da pesquisa não foi confirmada. Mas por outro lado, apresentam robustas evidências de que o processo de descentralização da política cultural ocorrido no Brasil durante o período 2005-2015 não apenas impulsionou a institucionalização de políticas culturais no nível municipal, como também influenciou a alocação de recursos do Ministério da Cultura.

Palavras-chave: Ciência política; Federalismo; Administração municipal; Políticas públicas

ABSTRACT

This thesis comprises three papers. The first article develops a conceptual framework to measure local government capacity in Brazil. Three capacity dimensions were conceptualized: fiscal capacity; relational capacity; and administrative capacity. Using official databases for the year 2009, exploratory factor analyses were employed to calculate, for each Brazilian municipality, sub-indexes for the three theorized dimensions. After aggregating these dimension into a final local government capacity index, we provide evidence that the calculated final index succeeds in picking up relevant local governance features by linking it to socioeconomic variables. The second paper complements the distributive politics agenda by testing a hypothesis accounting for the influence of local government capacity on discretionary funds allocation in Brazil. Utilizing the multidimensional capacity index calculated at the first paper, we employ multivariate econometric models to capture the conjoint influence of local capacity and partisan alignment on the grants' releases by the Brazilian federal government cabinet. We provide evidence of a positive and significant association between local government capacity and the grants released to the Brazilian municipalities, showing, moreover, that this effect is more important to non-aligned mayors than to mayors affiliated with the parties that belong to the federal government coalition. Further developing the analysis of the demand side of the distributive politics, we analyze, at the last article, the influence of public policy institutionalization on the federal intergovernmental transfers. Taking advantage of the implementation of the National System of Culture, we test if municipalities that adhere to this specific system tend to receive more discretionary funds from the Ministry of Culture. Because national systems' membership requires, by design, several actions and investments at the municipal level, we utilize it as a proxy of local policy institutionalization. Although not confirming the research main hypothesis, we provide preliminary evidences that the process of cultural policy decentralization that took place in Brazil during the 2005-2015 period not only boosted policy institutionalization at the municipal level but influenced the Ministry of Culture resources allocations as well.

Keywords: Political Science; Federalism; Local Government; Public Policy.

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GENERAL INTRODUCTION

Among many issues that have gained ground in academic studies about decentralized systems, the manipulation of discretionary intergovernmental transfers occupies a key position. Discretionary intergovernmental transfers constitute a unilateral act in which the upper-tier grantor government allocates resources without having a legal obligation to do so. Even though discretionary grants are not limited to federal systems, its utilization and importance assume more complex features in this system, given its innate tensions related to how to distribute authority, responsibilities and resources within a given territory. Discretionary transfers gain more importance in federations where the degree of resources centralization is high, as in the Brazilian case.

Nowadays, most of Brazilian local governments, if not all, seek to gain access to the federal system of discretionary grants, and according to several scholars, these voluntary transfers are strategically managed by political players. Following the lead of the international literature and the seminal research conducted by Brollo and Nannicini (2012) about the Brazilian case, the academic interest in investigating the logic behind the allocation of discretionary resources by the Brazilian central administrations have witnessed a renewed interest. Despite the enormous importance of such studies, most scholarship have focused on the "supply side" of this relationship, highlighting electoral biases and the partisan manipulation, by national officials, of the intergovernmental transfers.

Our work challenges and complement this argument by analyzing two "demand side" effects. Firstly, we analyze the influence of local governments capacity on the allocation of discretionary funds in Brazil. Secondly, we draw attention to the impact of local institutionalization of specific public policies on the federal sectorial transfers.

In order to capture the first demand-side effect, that is, the influence of local capabilities on the resources released by the federal government, we needed to conceptualize and measure a local capacities in the Brazilian municipalities. The first article of the present work – *Conceptualizing and Measuring Local Government Capacity in Brazil* – goal is, therefore, to develop a framework to measure a local government capacity (LGC) index in Brazil. After discussing the basic literature on state capacity, three capacity dimensions were defined and conceptualized to the Brazilian case: 1) fiscal capacity; 2) relational capacity; and 3) administrative capacity. Using official databases, exploratory factor analyses were thereafter employed to calculate our local government capacity construct. As an exercise of external validity, we also provide evidence that the calculated LGC index succeeds in picking up relevant local governance features by econometric linking it to social development indexes.

Having calculated a meaningful proxy of local government capacity in Brazil to the year 2009, we, at the second article – *The Demand Side of Intergovernmental Transfers: Local Government Capacities and discretionary intergovernmental grants in Brazil* – test three hypotheses accounting for the influence of local governance on the discretionary funds allocated in Brazil. More specifically we employ two econometric strategies (multivariate regressions with and without matching procedures) to infer the conjoint influence of local capacity and partisan alignment on federal grants releases. Our results, firstly, provide more evidence of the existence of the electoral motivations behind the allocation of federal funds in Brazil. Analyzing the discretionary grants released during 2010, we show that mayors affiliated with the same party as the minister responsible to the transfer do tend to receive more per capita funds. Secondly, we shown that amount of transfers is indeed influenced by the recipient government capabilities, regardless the mayor political affiliation. The net effect of high levels of government capacity is

lower, however, to the already benefited aligned municipalities. associated with political alignment were positive only after the matching procedures.

To analyze the third feature related to the Brazilian municipalities' ability to capture more federal resources, that is, the influence of local institutionalization of specific public policy areas, we rely on the existence of non-mandatory national systems of public policies in Brazil. National systems of public policies are cooperative institutional arrangements, coordinated by the Brazilian central government, designed to strengthen, and enhance the promotion of several public policies areas. They represent an arrangements that, at least in principle, can align the federated entities interests with broader policy goals and encourage a more balanced and technical allocation of discretionary funds, weakening the magnitude partisan-oriented allocations. This institutional arrangement, naturally, drove numerous municipalities to institutionalize public policies in several areas.

In particular, taking advantage of the implementation of a particular national system, the National System of Culture, we test if municipalities that adhere to this specific system tend to receive more discretionary funds from the Ministry of Culture, the system coordinator. Because national systems' membership requires, by design, several actions at the regional or municipal level, we may utilize it as a proxy of local policy institutionalization. Our results suggest, however, that the process of cultural policy institutionalization at the local level, coordinated by the Ministry of Culture, is, in reality, a process characterized by successive and sequential investments. For this reason, we capture, in our econometric models, a positive membership effect prior to the official local adhesions to the National System of Culture.

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CONCEPTUALIZING AND MEASURING LOCAL GOVERNMENT CAPACITY IN BRAZIL

1. Introduction

Understanding states capacities are critical to comprehend government performance, and efforts to scrutinize or isolate the effects of these capacities were undertaken by many theoretical fields, from public administration to political science. Since the 1970's, several authors have been dealing with the theme of state capacity, such as Mann (1984), Tilly (1975; 1996), Skocpol (1985), Evans, Rueschemeyer and Skocpol (1985), Geddes (1994), Grindle (1996), and Fukuyama (2013). In its multiple dimensions, state capacity has been linked to various outcomes, such as economic development and growth (Evans & Rauch 1999; Hamm et al., 2010; Dincecco & Katz 2016), performance of government programs (Skocpol & Finegold, 1982), democracy (Fortin, 2012), corruption (Bersch et al., 2017), intra-state war (Alagappa, 2011), among others. The scope of the literature on state capacity is derived, important to note, not only from its diversified theoretical portfolio but also from its political implications and relevance in all policy areas. Furthermore, the topic takes special importance in decentralized political systems, given the role of subnational units in policy implementation. As a result, studies on how subnational governments accumulate authority and capacity and influence public policy has acquired a central status, particularly on federal systems. At the municipal level outcomes such as federal grant receipts (Hall, 2008; Aragón et al., 2008), citizens satisfaction with public services (Harbers, 2015), tax enforcement (Fjeldstad, 2001; Kjær, 2009), social capital formation (Wallis & Dollery, 2002) are common outcomes partially explained by local government capacities.

There is, notice, a latent question trespassing all these studies and themes. The matter of how state capacity should be firstly conceptualized and secondly measured is at the core of all such studies, although several works in the field do not explicitly target this issue. In this respect, our article contributes to the literature on state capacity in decentralized systems of government by conceptualizing an index of local government capacity in Brazil, which federal structure defined by the Constitution gives to the municipalities the status of federative entities. The interest on municipal government capacity is pushed, moreover, by several motivations. The establishment of local levels of government enables the public administration, especially in contexts of geographic heterogeneity, to properly address local needs for public goods and services. Theoretically, local governments can be understood as the entity accountable to best interpret citizens' demands, given their best understanding of local demographic and socioeconomic peculiarities. Local governments would be, consequently, able to customize the portfolio of goods and services offered on their territories, guaranteeing a more accurate way to satisfy local needs.

In the Brazilian case, however, the process of municipal capacity building that followed the post-authoritarian Constitution exposes a series of flaws and reveals significant structural obstacles. Brazil is marked by profound socioeconomic inequalities, with municipalities largely differing in demographic profile, geographical scale, climatic conditions, and economic wealth. In this context of heterogeneity, insufficient financial resources, shortage of qualified bureaucracy and professional civil service cadres, and reduced capacity to effectively provide services to the citizens is the current situation for numerous Brazilian municipalities (Arretche, 2016; Grin & Abrucio, 2018b; Lima-Costa et al., 2018; Boing & Boing, 2019). The common sense has also diffused the opinion that one of the main problems of Brazilian federalism is the lack of local governments capacity to finance and implement public policies. The theme of subnational governments' capacity in Brazil demands, therefore, further theoretical and empirical

investigations, and this article contributes to the debate by conceptualizing, measuring and empirically testing a multidimensional index of local government capacity.

Several decisions were made for achieving these objectives. The first was to adapt some pivotal state capacity dimensions discussed on the literature to the Brazilian local governments. The next section, as follows, reviews key aspects of the state capacity literature, at national and subnational levels, and offers a local government capacity concept to be empirically measured in the Brazilian context. There is now a consensus that state capacity can be better understood as a multidimensional concept. States' different arenas, institutions and structures may reinforce or compensate each other, and this feature will be encapsulated in the "family resemblance" concept structure here utilized. This framework, together with a substitutable relationship between the capacity dimensions and their main indicators, becomes a more versatile approach to build an index of local government, since it incorporates the idea of equifinality to the concept.

The passage from conceptualizing to measuring, however, is not trivial. To find a suitable strategy to operationalize a concept is a complex task, and, for numerous reasons, the indicators used in such studies will always be subject to debate. Brazil offers, nonetheless, several databases that have being used in eclectic ways and this study will rely on such sources, as we explain at section four, after contextualizing the Brazilian case at the third section. We demonstrate that valid proxies of government capacity basic theoretical dimensions are available in the existing datasets by relying on exploratory factor analyses. Naturally, since several indicators capture similar phenomena and processes, it is important to demonstrate how a large number of indicators may be reduced to parsimonious sets. Factorial analysis allows one to understand indicators' associations, and to select those indicators that best represent the dimensions conceptualized, allowing, thereafter, the measurement of a meaningful index.

After analyze the local government concept internal consistency, we demonstrate, at the fifth section, that the measured index succeeds in picking up relevant local governments differences by linking it to three social development indicators: the Human Development Index produced by the Human Development Report Office of the United Nations Development Programme (UNDP), the IDEB educational performance index, and the prenatal care coverage, as a proxy of the local basic health care sector. In order to test these associations, a series of multivariate econometric analysis are performed. Finally, at the last section we summarize the main findings and results of the study.

2. State Capacity: A Multidimensional Concept

Although by no means a new topic, state capacity still receives vigorous attention. Cut-crossing various theoretical fields, the complex theme of state capacity building also shows the nuances of phenomena usually associated with socioeconomic development. Many features of state capacity, as a consequence, have been highlighted on the literature, but the variety of concepts and uses of the term still stands out. The literature has defined states, in its different historical levels of development, using several labels, such as patrimonial, rational-legal, neopatrimonial, rentier, developmental, predatory, limited, strong, or weak (Evans, 1989; Weiss, 1998, 2003; Besley, 2011; Roll, 2011). Similarly, it is possible to find an eclectic list of state capacity types, which do not always reflect conceptually distinct dimensions, such as institutional capacity, extractive capacity, fiscal capacity, administrative capacity, regulatory capacity, governance, relational capacity, problem-solving ability, bureaucratic capacity, adaptive capacity, legal capacity, enforcement capacity, transformative and distributive capacity, among others.

Despite this diversity of notions and views on state capacity dimensions, much of the discussion gravitates around identifying the mechanisms and instruments used to provide goods and services to society, or around the efficacy or efficiency of government policies. As Sikkink (1991) says, definitions of state capacity often rest on the ability of state institutions to effectively

implement official goals. Michael Mann (1984), for instance, associates the evolution of the state with its infrastructural power: the "institutional capacity" of the state "to penetrate its territories and logistically implement decisions" (Mann, 1988: 59). To Mann, therefore, state capacity relates to its ability in reaching individuals. The state should be able to establish its presence on the ground with institutions such as offices and personnel. The distribution of physical infrastructure, such as roads and electricity, is, furthermore, a reflection of state capacity. Pritchett et al. (2013: 1) also emphasizes this aspect stating that

> Successful implementation of most governmental endeavours requires capable organizations that induce and support productive day-to-day practices by large numbers of individuals: teachers must teach, policemen must police, engineers must engineer, regulators must regulate, tax collectors must collect taxes. The expansion of state capability through the creation and promotion of efficacy in public sector organizations is one component of the historical "modernization" of nation-states (Bayly 2004; Lindert 2004). State administrative capability for implementation is a distinct component of any definition of national development.

Historians have equally analyzed the modern processes of state-building. In his book about the Hapsburgs, Curtis (2013) argue, for instance, that dynasties were a prominent force behind the creation of the modern states, since they provided a powerful and durable "continuity of interests" that transcend individual rulers and "the slowly developing conceptions of the impersonal public state".[1] Judson (2016), focusing on 19th century administrative and institutional changes that took place in the Habsburg Empire, acutely highlighted the interactions between state and local society. The author argues that the top-down Hapsburgian process of social reforms was nevertheless influenced by population engagement. Accordingly to Judson (2016: 56) three components marked many revolutions in the Empire domains: *i*) noble elites attempts to expand their local power against the state by demanding political autonomy; *ii*) urban citizens attempts to subject the imperial bureaucracy to the society's will by the creation of a constitutional empire; and *iii*) violent uprisings to remove countryside vestiges of the agrarian feudalism. Even though the rebellions were mightily defeated, the Hapsburg regime implicitly recognized and handled several social demands behind the uprisings, such as peasant emancipation, and the implementation of reforms in the economy, administration and education system.

The discussion about state capacity and state modernization has been, important to notice, historically and theoretically influenced by Max Weber, to whom the modern capitalism would be characterized by the professionalization of the state bureaucracy and the quality of the administration (Hendrix, 2010). Consequently, many scholars located capacity in the context of managerial and bureaucratic quality. Measuring the human and financial resources of a government has become, thus, a common approach (Linke-Behrens et al., 2017). In special, the capacity to collect (extract) taxes from citizens has been widely recognized as a crucial state capacity feature. Tilly´s (1975) analysis of the emergence of national states in Western Europe, for instance, described taxation as intricately linked to the emergence of modern state. Dincecco (2011) also explores the historical determinants of fiscal capacity in Europe. The author assumes that states are predatory, and that parliaments and institutions help set limits to expropriation. His main hypothesis is that the recipe of wealthy countries relies on the creation of centralized extractive systems, and, in parallel, on the development of institutions to control the expenses of powerful central government. Besley and Persson (2010) also pointed the extractive role of the state, or fiscal capacity in their terms, as one of the two broad types of state capacities. The other type concerns the importance of regulations and legal services, such as the protection of property rights or the enforcement of contracts, which they refer to as legal capacity.

[1] Curtis (2013) argues, moreover, that the consolidation of the Austrian Habsburgs' state was also influenced by the necessity to defend Europe against Ottoman attacks.

The convincing extractive perspective, allied to the availability of panel data on tax collection for numerous countries, heavily influenced the understanding of states fiscal capacities and its influence on national development, allowing, furthermore, extensive comparative analysis. Operationalizing other capacity dimensions met further theoretical debates and data constrains, but the strategy of disaggregating state capacity into different types of capacity became a more fertile agenda. A typical disaggregation method relates to the understanding of activities and functions performed by the state, together with its tools, instruments, and processes, and a sizable number of empirical studies have indeed focused on multidimensional state capacity concepts.

Hanson and Sigman (2013), for instance, define state capacity with three dimensions theoretically necessary to carry out main state responsibilities: *i*) extractive capacity; ii) coercive capacity; and *iii*) administrative capacity. According to the authors, raising revenues (extractive capacity) demands a set of capacities foundational to state power: states must have the ability to reach their populations, collect and manage information, retain reliable agents to manage the earnings, and guarantee popular compliance with the tax policy (p. 4). Coercive capacity is directly related to the state's ability to protect its borders, maintain internal order, and impose its decisions. Lastly, administrative capacity includes the ability to regulate commercial activity and to deliver goods and services. To the authors, although these three dimensions of state capacity represent analytically distinct features of states, they surely are interrelated and mutually supporting.

Other authors that deal with multidimensional concepts of state capacities are Savoia and Sen (2012), proposing five dimensions to capture the major functions of the state – bureaucratic and administrative capacities; legal capacity; infrastructural capacity; fiscal capacity; and military capacity –, and Wang (1995), who defines four interrelated capacities: extractive and coercive capacity, but also the capacity to guide national development – steering capacity – and the capacity to create consensus – legitimation capacity. In special, Theda Skocpol, to whom state capacity can be understood as "the overall capacity of a state to realize transformative goals across multiple spheres" (Skocpol, 1985: 17), also analyzed and operationalized state capacity in its multiple dimensions. Skocpol (1985), noting the unevenness of the state's ability to achieve its goals across different functions or policy areas, focuses on three critical capacities: territorial integrity, financial resources, and administrative apparatus. These state capacities' asymmetries, regarding its different functions, sectors and agencies, were the origin of a pivotal study performed by Skocpol and Finegold (1982), in which the authors analyzed the implementation and performance of two United States government programs: the National Industrial Recovery Act and the Agricultural Adjustment Act. While the first program failed, the second successfully became institutionalized. The reasons for such outcomes was explained by the role of bureaucratic capacity. While the agricultural program relied on skilled "administrative leadership", "organizational unity" and "political learning", the industrial program lacked these factors.

State capacity theorizations are mostly related, as can be noticed, to the state ability to exercise territorial control, and formulate, implement, and enforce policies and decisions. Rueschemeyer and Evans (1985) and Evans (1995), for instance, suggest that a balanced combination of professional bureaucracy and state coordination are the crucial formula to "economic transformative capacity". Other authors, given the multifaceted nature of the state, and its implications to economic development, also highlighted the importance of the so-called relational capacity. As it is well known, states must have the capacity to establish policies and goals choosing among competing or antagonistic interests. This task necessarily involves multiple decision-making arenas and actors, and complex interrelationships (Balabanova, 2007), and, as a consequence, requires relational capacities to coordinate with non-state actors or with other government spheres (Robinson, 2008).

State building analyses also have a long tradition in the Brazilian academy, especially regarding the origins and characteristics of phenomena such as clientelism, corporatism or patrimonialism.[2] Recently, scholars have analyzed federal agencies' bureaucratic quality (Souza & Fontanelli, 2017), the connection between capacity and corruption (Bersch et al., 2017), spatial spillovers derived from public policy under limited state capacity (Slough & Urpelainen, 2018), tax collection (Marenco et al., 2017), the relationship between institutional arrangements, state capacities and policy outcomes (Pires & Gomide, 2016), among other subjects.

Naturally, to understand the range and the scope of such complex research field, one should develop comprehensive frameworks in which to place all this diverse concepts and views. One could sustain, therefore, a more pragmatic view in which the definition and the operationalization of state capacity depends on the specific research topic, as a state possesses different functions that demand different capacities, as described. According to Hendrix (2010) there can be two different tracks of analysis. The first attempts to measure state capacity relying on experts' assessments, such as Rauch and Evans (2000), that accessed bureaucratic quality features such as "career opportunities", "bureaucratic compensation" and "meritocratic recruitment" based on surveys.[3] The second track uses secondary data and proxies reflecting the capacity of an administration. Naturally, there will always exist a struggle between conceptualizing and finding proper proxies to measure the concept. Even though there seems to exist a certain consensus on several dimensions of state capacity, scholars keep diverging on the indicators inside these dimensions. Proliferate, thus, studies using different data and methodologies. Moreover, most analyses center on the national level, which is not surprising from a comparative politics or national development perspective, where comparisons between states are the main motivation. Multiple authors highlighted, however, that analysis on state capacity should not neglected that capacity is unevenly distributed within a state or a government (Foa & Nemirovskaya 2016; Ziblatt 2008; Harbers, 2015; Luna & Soifer, 2017; Skocpol & Finegold, 1982) as I will discuss at the next section.

2.1. Local Government Capacity: Developing a Concept

Given the evidence that state capacity is distributed unevenly within a state and within state organizations, an important line of works shifted the attention to the role of local governments on the provision of goods and services. According to Ziblatt (2008) the logic of this shift is supported by two reasons: *i*) an exclusive focus on the national level that does not examine the local arena, overlooks a major locus of political action where public goods are often created; *ii*) the link between social preferences and policy outcomes can be more easily identified at the local level. This second reason has led several studies to highlight how public policy is influenced by social preferences, but even though this line of work shed light to several aspects of policy making, it overlooks crucial stages in the processes by which goods and services are actually delivered by local governments (Ziblatt, 2008). In other words, such agenda overlooks whether or how local governments can implement the policies that reflect common interests or preferences. Ziblatt's statement draws attention, therefore, to the capacities of local governments to formulate and

[2] In a classical study of Brazilian state building, Nunes (1997) prescribes that four "institutional grammars" permeated the state and society relations in Brazil: clientelism, corporatism, procedural universalism and bureaucratic insularity. In the Brazilian history, formal institutions would have operated according to combinations of these "grammars". Raymundo Faoro, in his 1958 book *Os Donos do Poder*, also analyzes the roots of patronage in Brazil. According to Osiel (1986: 39), to Faoro, the real power in Brazil "rested with the state itself: the political elite, the administrative corps, their interpenetration and self-perpetuation. This political-administrative stratum had been set up by the Portuguese in the early years of colonial rule and had remained surprisingly intact down to the present". Faoro's book focus on a state highly centralized, where politicians and bureaucrats do not distinguish "the office from its holder".

[3] The World Governance Indicators (WGI), for instance, relies on surveys and several sources. The WGI is based on six dimensions of governance: voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption (Kaufmann et al., 2010).

implement public policies: not only governments with high capacities help translate social preferences into policy outcomes, but local governments with greater capacity will also aggressively pursue the creation of public goods and services (Ziblatt, 2008).

As expected, and because several government functions fall under the jurisdiction of local governments, especially in federal systems, the theme of local governance and the performance of local state institutions have in many ways flourished in the state capacity filed. As a result, the wide set of capacity concepts frequently used to characterize the central government ability to implement its policies started to be adapted to the local level.

Following the methodological path of defining conceptually distinct capacity dimensions, several authors faced the research challenge of formally defining local government capacity. Wolman (2008), for instance, identified nine important dimensions to compare systems of local governments, local government capacity among them. To Wolman (2008: 97), important dimensions are those that "relate to the essential functions of local government, its autonomy and relationship to other levels of government, its relationship to its residents, its outcomes, or dimensions that are related to any of these". Drawing upon these dimensions, Wolman et al. (2008) built a concept of "local autonomy", understood as a system in which local governments have an important role to play in the intergovernmental arena, have discretion in determining what they will do without unjustified constraint, and have the capacity to do so. The authors eventually define local autonomy based on three dimensions: *i*) local government importance (in relation to the national economy and to higher levels of government); *ii*) local government discretion (based on local governments' ability of raising revenues, spending, or incurring in debt); and *iii*) local government capacity. According to the authors, importance and discretion are key factors, but without capacity, which includes a broad range of attributes such as professional skills or management competence, a local government will not be able to accomplish its objectives.[4]

As in the case of state capacity, defining and managing a concept of local government capacity involve taking on the needs of a specific research objective. Several scholars, for example, empirically studied local government capacities conducting case studies related to specific policy areas, such as health care (Cahuas et al., 2015), or energy policy (Smedby & Quitzau, 2016). Aragón and Casas (2008), exploring technical capacity constraints in Peruvian local governments, sustain that the inability of local governments to spend short-term additional resources may be a consequence of insufficient project management and administrative skills: a local government with limited capacity to design and implement an investment project may be unable to complete the required steps to claim a grant to a project even if the resources are available. To measure capacity, the authors relied on self-reported data on training and technical assistance needs.[5]

In the Brazilian context, given the information available at official channels, the analysis of state capacities at the municipal level have also witnessed an increase in empirical studies using quantitative methodologies (Grin & Abrucio, 2017; Grin et al., 2018, Sátyro et al., 2016). Numerous authors dealing with quantitative studies on local capacities cover fiscal capacity or fiscal management. Marenco et al. (2017), for instance, examine to extent to which municipalities with professionalized bureaucracies were more able to profit from transferred fiscal authority. The operationalization of capacity considered the proportion of "statutory employees with higher education" among public servants in the Brazilian municipalities. Grin et al. (2018), analyzing the relationship between public management and fiscal performance in Brazil, offered a

[4] Wolman et al. (2008) operationalized only one aspect of the local capacity dimension, "resource sufficiency concern", which is based on the diversity of revenue sources, as a measure of the stability of local government finance in the face of decline of one source of revenue.

[5] Dummies to indicate if the municipality requested or not assistance or training. The authors considered four categories of technical assistance related to "project management", "accounting and finance", "planning", and "coordination with other government agencies".

comprehensive set of indicators to measure local capacities. The authors defined capacities based on four dimensions: administrative, technical, institutional, and political.[6]

Even though the operationalization of local capacity may be controversial, there is no doubt that municipal administrations do differ in their ability to deal with local problems and demands. Whether the emphasis is on the general performance or on the implementation of specific public policies, some administrations are more capable than others. Local government capacity needs, consequently, to be accurately defined.

Goertz (2006), dealing with social science concepts, proposes the construction of multilevel and multidimensional concepts using a three levels structure: basic, secondary and indicator levels.[7] Using Goertz's framework, and, based on the previous discussion, the three following dimensions of local government capacity are defined here:

1) Fiscal Management Capacity;
2) Relational Capacity; and
3) Administrative Capacity.

Each of these three dimensions, equivalent to Goertz framework's secondary level, were conceptualized to encompass different arenas and purposes, as we discuss bellow.

Our first capacity dimension, fiscal management capacity, is defined as extractive capacity combined with the ability to maintain a certain level budgetary freedom. The absence of budget discipline undermines the achievement of fiscal targets, what can weaken the local government ability to cope with new demands and economic volatility. Justice (2009) discusses, for instance, some fiscal management strategies examined in the literature such as avoiding fixed expenses, performing long-term financial planning, and deploying a range of revenue sources to fund government.

Our second dimension of local capacity, the relational capacity, relates to the government ability to engage civil society on the local administration and the municipality ability to cooperate with other levels of government. This dimension overlaps to what Grindle (1996) and Grin et al. (2018) labeled "political capacity". In Grindle's (1996: 10) words,

> Political capacity, as used here, refers to the ability of states to respond to societal demands, allow for channels to represent societal interests, and incorporate societal participation in decision making and conflict resolution. It refers to the effectiveness of everyday interactions between government and citizens, rather than to the broader rules of the game that comprise institutional capacity.

Organski and Kugler (1980: 208) suggest, though, that political capacity consists of factors such as the level of penetration of government power into society, the capacity to extract resources, and the performance of government in delivering the extracted resources to their intended ends. Kugler and Arbetman (1997) and Feng et al. (2000) also relate "relative political capacity" to the government's ability to enforce revenue collection. According to Cingolani (2013: 32), political capacity is also referred as "the level of power accumulation by elected leaders in order to enforce their policy priorities across the different institutional players (party, Congress, etc.)". Within this broader concept of political capacity, we decided to use the concept of relational capacity instead of political capacity: relational capacity as the state's ability to engage with civil society and other

[6] Number of computers connected on the internet, existence of internet procurement processes, municipal civil servants per capita, educational level of civil servants, existence of real estate cadastre, for instance, are examples of the indicators used by the authors.

[7] The basic and secondary levels are the concept theory. The indicator level is the connection to indicators' selection.

levels of government. This understand is common in the literature, especially in political sociology studies. As Cingolani (2013: 31) says, state's relational capacity

> Seeks to capture the extent to which the state actually permeates through the society and is able to internalize social interactions within its actions. The work of Migdal (1988) reflects some of this concern by assessing state's strength as a result of the type of interaction with the society. Relational capacity looks at socio-economic engagement, as opposed to the 'command-hierarchy' traditional view of the state (Robinson 2008). For example, the idea of infrastructural power (Mann 1986 1993) – the capacity to implement decisions throughout the jurisdiction – as something opposed to the despotic power to dictate legislation reflects this dimension of state capacity, perhaps closely related to implementation. […] Because of all these interpretations, relational capacity often encompasses several of the other dimensions.

Our third dimension of local government capacity, the administrative capacity, is formed by four factors, or subdimensions:

i) Technological Capacity;

ii) Bureaucratic Capacity;

iii) Legal Capacity; and

iv) Architectural Capacity.

While technological and bureaucratic capacities have a straightforward interpretation, the legal and architectural capacities need further clarification. Legal capacity encompasses the availability of institutionalized instruments, in form of municipal laws, plans and regulations.[8] Architectural capacity relates to the creation of "municipal systems of public policies" on basic areas of public policy (in our case, in health, education and social assistance sectors). The basic "architecture" of local systems of public policy rely on the conjoint existence of sectoral secretariats/offices, councils, funds and strategic plans. These local systems of public policy enhance the administrative capacity because they reinforce the ability to design, formulate and manage public policy with a more planned, permanent, and accountable framework.

Figure 1 displays the local government capacity concept formulated based on a "family resemblance" structure. While it is possible to construct hybrid structures, most concepts can be seen as variants of two prototypical concept structures (see Goertz, 2006). The first is the necessary and sufficient structure, which understands concept's formative dimensions (secondary level) as necessary and jointly sufficient (multiplicative interaction). The second is the family resemblance structure, that is characterized by sufficiency without necessity (additive interaction).

As we mentioned, governments' different arenas and structures may compensate each other, meaning that the absence of one specific type of capacity does not necessarily imply a government without the ability to deliver goods and services to society. Likewise, different municipalities will rely on different capacities, since its socioeconomic and historical determinants are different. These features fit, therefore, the family resemblance structure, which incorporates this notion of dimensions' substitutability. Additionally, the relationship between the three defined dimensions and the local capacity concept is ontological, that is, it is assumed that there is no causal relationship between the secondary and the basic level. In other words, the dimensions defined to the secondary level constitute what the phenomenon is (an identity relationship). Our capacity concept is, thus, a combination of an ontological approach with a family resemblance structure, using Goertz terms.

[8] Some authors may refer to this capacity as "institutional capacity".

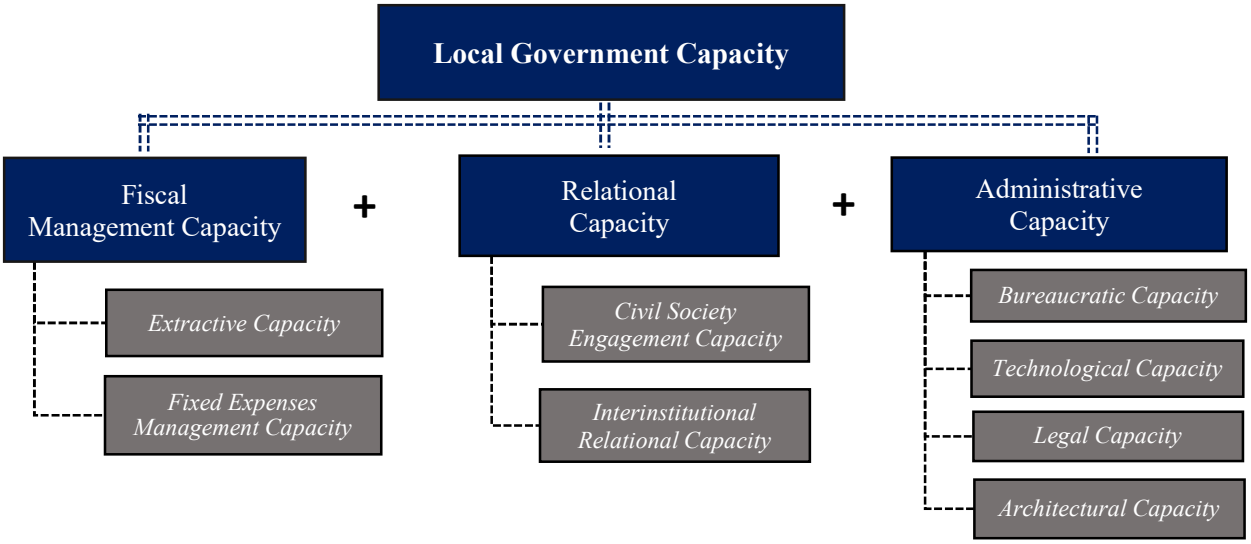

Figure 1. Local Government Capacity Concept based on Goertz's Family Resemblance Structure

Legend:
+ Logical OR
Ontological: ==========
Substitutability: ----------

Important to notice, figure 1 also shows the noncausal relationship between the indicator level and the concept structure. As Goertz (2009: 62) says, the basic and secondary levels "are too abstract to give guidance in actual data gathering; hence the indicator/data level is where the concept gets specific enough to guide the acquisition of empirical data". Goertz suggests that, at the indicator level, a substitutability relationship may be more indicated as a "central organizing and conceptual tool". As it can be seen, the concept constructed incorporates the substitutability logic also at the indicator level (and its corresponding family resemblance logic). In the next section we present the Brazilian context.

3. The Context: The Brazilian Municipalities

Brazil is a federal country with a presidential system in which the municipalities are a constitutional part of the federation. States and municipalities have become the main entities responsible for the provision of public services to the citizens, therefore, a high administrative decentralization may be considered as one of the most important features of the Brazilian federalism. Amendments to the 1988 constitution, though, have imposed limits on local governments' freedom to spend their resources, and have also earmarked specific resources to be spent on health care and basic education services.

Municipal governments are responsible for providing education and health care services, urbanization and urban planning, garbage collection and waste management, public transportation, among other services. Regarding the provision of education and health services, municipalities share responsibilities with the states and the federal government. The municipality is typically the responsible for fundamental education and basic health care, although they often maintain small hospitals. Regarding municipalities non-financial expenses, they are basically subdivided into current, which includes personnel expenses, and capital spending. Personnel spending comprises salaries, pensions, among others. Other types of current expenses include items such as the non-durable goods necessary to the running of the administrative machine. Capital spending is mainly associated with public investments. Municipalities, after the creation of the Unified Social Assistance System (SUAS), have also become the main responsible for the local management of

social assistance programs, such as the federal conditional cash transfer program known as *Programa Bolsa Família*.

To finance such array of public services, apart from upper levels mandatory and discretionary transfers, better discussed below, municipalities mainly rely on a tax charged from companies and businesses providing services (ISSQN), and on a tax charged on real estate and urban land property (IPTU). Brazilian municipalities are also authorized to tax real state transmissions (ITBI) and impose fees on specifics public services, if such services are offered to the citizens. Brazilian municipalities collect numerous fees for services such as issuing licenses, public cleanliness, public lightening, among others. These fees, since established by municipal laws, can only be modified with the approval of the local legislative council. Local tax authorities may also charge betterment contributions wherever there is an increase in the value of a real estate property that can be attributed to the public investment (limited to the investment cost of the executed project). Collection of betterment contributions is, however, a revenue source seldom used by Brazilian mayors, for it is characterized by a system of complex evaluations and judicial interpretation. Municipalities' budgets may also rely on capital revenues, derived from credit operations or assets selling. The relationship between revenues and expenditures in Brazilian municipalities, however, became strongly controlled after the Fiscal Responsibility Law (LRF), ensued in 2000. The two main constraints included in the LRF are borrowing and debt restrictions, and limits for personnel expenditures (60% of the Net Current Revenue).

Brazilian mayors face, therefore, several challenges to implement and sustain public policies in a context of substantial variation in social demands and conditions. Among others features, the 5,570 Brazilian municipalities differ in population size, geographical scale, and economic wealth. Only 62 Brazilian municipalities, for instance, concentrate almost half of all economic activity (data from 2013), while 68.4% of Brazilian municipalities have less than 20 thousand inhabitants and account for no more than 16% of the country's 206.1 million inhabitants (IBGE, 2016). It is reasonable to expect that municipal governments will reflect these economic and demographic disparities.

Most of the Brazilian municipalities became, therefore, dependent on constitutional upper-level transfers, especially the fund called "*fundo de participação dos municípios*" (FPM). The FPM is funded by federal taxes (the income tax and the tax on industrialized products) and is redistributed to municipalities according to sharing rules determined by population parameters. The Federal Government also transfers to some Brazilian municipalities a percentage of the *royalties* collected, in order to compensate negative externalities derived from petroleum and minerals production. State governments are likewise obliged to share revenues – from the state value-added tax and the vehicle tax – with their municipalities.

Brazilian municipalities also receive voluntary transfers from higher level governments, especially the federal government. The distribution of such revenues by the federal government is discretionarily allocated to subnational governments, and political factors' influence on this allocation, such as the mayors' partisanship, is considered decisive (Bueno, 2018; Meireles, 2019). Even so, a mayor, to have access to a discretionary federal grant, ought to formally request the resources to ministries or ministry-level offices using a system called *Sistema de Gestão de Convênios e Contratos de Repasse* (SICONV), created in 2008 by the federal government. Even though the technical procedures to formally request discretionary grants are not prohibitive to small municipalities, the local administration should have at least a group of civil servants to follow up the federal programs schedules, being able, furthermore, to formulate basic projects to be sent by the SICONV online system. In other words, a local administration must have not only a minimum technological structure, but also civil servants able to use the SICONV system to search programs of local interest, and to elaborate projects fitted to these federal programs. If

approved, there will be further needs, including the capacity to elaborate account reports. From 2008 to 2018, for instance, the Brazilian federal government received more than 750 thousand requests from mayors, governors, public consortia, public enterprises, and non-state providers. From this total, 685,948 proposals (20.4% approved) were made by mayors, totalizing almost R$ 800 billion requested (11,7% approved) (see next article).

Several studies have analyzed the fiscal and administrative situation of the Brazilian municipalities, and their dependency on federal and state funds. The general conclusion is that most of Brazilian municipalities are suffering from fiscal stress or serious administrative difficulties in delivering public services (Fernandes & Araújo, 2015; Cruz & Afonso, 2018; Marino et al., 2018). This is even more serious in the municipalities in poorer regions of Brazil. But even though there are several case studies, only few scholars tried to formulate and operationalize multidimensional concepts of state capacity applied to the Brazilian municipalities, as did Grin et al. (2018). In the next section, we explain the strategy used to measure our concept of local government capacity.

4. Local Government Capacity Index: Indicators and Methodological Procedures

As explained, this paper defines and measures a local government capacity index, thereafter LGC, to the Brazilian municipalities. The index was constructed for the year of 2009, given its higher data availability. Important data regarding administrative, technological, and organizational indicators are unavailable for other years.

The data were extracted from three official sources. The primary source is the MUNIC database, from the Brazilian Institute of Geography and Statistics (IBGE). The MUNIC offers a comprehensive profile of Brazil's municipalities and their public administrations. The MUNIC historical datasets comprise, however, a set of informational gaps. This problem prohibited the use of a large time series.[9] The other sources used here were the National Treasury Secretariat (STN) and the Covenants System of the Federal Government (SICONV). The indicators selected and calculated are described in the next subsection.

4.1. LGC Indicators: Operationalization and Aggregation Formulas

Using a sample of 5,440 Brazilian municipalities, all indicators calculated were subsequently standardized (subtracted from the mean and divided by the standard deviation). After the indicators' standardization, we employed exploratory factor analysis (EFA) to measure factors structure of each capacity dimension.

Since the EFA allows the indicators to be grouped according to the degree of correlation between them, the procedure offers a robust alternative to test the multidimensionality of the LGC dimensions, in correspondence with the conceptual framework discussed. The EFA is a statistical method that also increases the reliability of the scale by identifying unfitting items that can be subsequently removed.

[9] Fontanelli (2019) developed a similar study, calculating a local government capacity index for the years 2009, 2012 and 2015, but with fewer data and complementing some information with 2011 and 2014 datasets.

4.1.1. Fiscal Management Capacity Indicators

The fiscal management capacity first subdimension relates to the municipal-based extractive capacity – capacity to organize information on taxpayers and to collect revenues under municipal jurisdiction. Table 1 shows the extractive capacity indicators. Except for one indicator, LGC_F3, all data refers to 2009.

Table 1. Fiscal Management Capacity: Extractive Capacity Indicators

Description	Indicator	
Existence of Electronic Registers: 1) Real Estate Values Register; 2) Services Business Tax Register; 3) IPTU cadastre (Source: MUNIC)	LGC_F1	Sum of existing electronic registers *Ranging from 0 to 3*
Existence of the following fees and taxes**:** 1) Public Lighting Fee; 2) Garbage Collection Fee; 3) Fire-Fighting Fee; 4) Urban Cleaning Fee; 5) Police Power Fee; 6) Other Types of Fees. (Source: MUNIC)	LGC_F2	Sum of existing fees *Ranging from 0 to 6*
2008 Revenues from municipal taxes. (Source: STN/2008)	LGC_F3	% of total revenues
Revenues from total taxes and fees (Source: STN)	LGC_F4	% of total revenues
Revenues from municipal taxes (IPTU, ITBI, ISSQN). (Source: STN)	LGC_F5	% of total revenues
Revenues from fees and betterment levy. (Source: STN)	LGC_F6	% of total revenues
Per capita revenues from municipal taxes (IPTU, ITBI, ISSQN). (Source: STN)	LGC_F7	In Brazilian Reais
Per capita revenues from fees and betterment levy. (Source: STN)	LGC_F8	In Brazilian Reais
Revenues from municipal taxes and from fees and betterment levy. (IBGE; STN)	LGC_F9	% of municipal GDP

Fiscal management capacity, as explained, surpasses the municipal-based extractive capacity. It is, instead, based on a broader notion of fiscal management that includes the capacity to manage expenses difficult to be re-allocated in the short run, such as personnel expenses and debt services. High levels of this kind of expense, *ceteris paribus*, reduce the government ability to deal with economic volatility and to formulate new policies and infrastructure projects. The main item of this type of "rigid" expense affecting municipal public budget, the active and inactive personnel expenses, was utilized considering the margin limit imposed by the LRF, as explained above. A personnel expense construct was created to emphasize the municipalities that were uncarefully close or exceeds the legal requirement of 60% of the municipal "net current revenue". For this reason, the formula not only uses the 60% limit, but also square the indicator, as showed below.

Table 2. Fiscal Management Capacity: Fixed Expenses Management Indicators

Description	Indicator	
Personnel and social security expenditures. (STN)	LGC_F10	$(60\% \div \%$ of the net current revenue$)^2$
Debt services expenditures. (STN)	LGC_F11	(1 - % of total municipal expenses)
Reserve of contingency. (STN)	LGC_F12	% of total municipal revenues

An exploratory factor analysis using principal component extraction with varimax rotation was conducted for the fiscal capacity indicators. Using the Kaiser Guttman retention criterion for eigenvalues greater than 1, three factors were obtained. Together, they account for 78.79% of the variance extracted. Table 3 show the items loadings. The Kaiser Meyer Olkin (KMO) test for sampling adequacy measure was 0.741, indicating that data were suitable for principal component analysis (Hair et al., 2007). Similarly, Bartlett's test was significant (χ^2 (45) = 78825.0, $p < .001$), indicating sufficient correlation between the indicators (Meyers et al., 2006). The result, however,

do not corroborates the expected two fiscal capacity factors. The indicators related to electronic taxes registers and existing taxes and fees (available at MUNIC database) grouped on a different factor of the actual collected municipal taxes indicators, even though they correlate to the fees collected. A possible explanation may be the practical difference between managing taxpayer's information (in the form of existing electronic registers), such as IPTU and ISSQN taxes, and collecting them from society. Another interesting point is that almost all municipalities, contrary to obliged by law, do not comply with the "reserve of contingency" requirement. This fact was captured by the EFA analysis, given the indicator exclusion on the final model. Internal consistency was assessed by Cronbach's alpha (0.8713), with all items' coefficients above 0.70. Table 3 shows the EFA performed to the fiscal capacity standardized indicators.

Table 3. Exploratory Factor Analysis: Fiscal Management Capacity

Variable	Factor 1	Factor 2	Factor 3	Uniqueness
LGC_F1		0.7733		0.3844
LGC_F2		0.8193		0.3219
LGC_F4	0.9178			0.1099
LGC_F5	0.9287			0.1135
LGC_F3	0.8978			0.1869
LGC_F6	0.9628			0.0673
LGC_F7	0.9606			0.0765
LGC_F8	0.5308	0.4527		0.5128
LGC_F9	0.8082			0.3459
LGC_F10			0.999	0.002
Eigenvalues	5.31745	1.56031	1.00127	
Cumulative	0.5317	0.6878	0.7879	

blanks represent abs(loading) < .4
Rotation: orthogonal varimax
Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) = 0.741

4.1.2. Relational Capacity Indicators

The municipal relational capacity is based on two subdimensions. The first subdimension captures the civil society engagement. The LGC_REL1 and LGC_REL2 relate to agreements for partnership with the private sector and programs and projects with support from the private sector and communities. The third indicator, LGC_REL3, refers to the existence of incentives or restrictions to the implementation of new enterprises. We consider it as a proxy of the local government strategy of involving and attracting new economic and social players. The LGC_REL4 is based on the existence of municipal city councils in 15 policy areas. Municipal councils may be consultative (offering choices and evaluations to subsidize public authorities' decisions), deliberative (taking decisions regarding public policies), normative (establishing norms) or supervisory (supervising the execution of public policies), and these competencies are not mutually exclusive. The indicator used is based on the number of existing councils, with normative, deliberative and supervisory functions, in the municipality. The more councils operating in the municipality, the higher, *ceteris paribus*, the relational capacity. The last indicator, the LGC_REL5, refers to the existence of "river basin committees". According to Abers (2007: 1453), "basin Committees, with municipal, state, and civil society representatives, are responsible for river basin planning and conflict resolution and, most importantly, would have the formal power to define the prices for and allocate revenues produced by a new bulk water use charging system".

Table 4. Relational Capacity: Civil Society Engagement Indicators

Description	Indicator/Formula	
Existence of projects/programs in association with the private sector in the following policy areas: 1) Urban Development; 2) Employment/labor Market; 3) Education; 4) Culture; 5) Tourism; 6) Housing; 7) Transport; 8) Health; 9) Environment; 10) Social Assistance. (MUNIC)		
Based on private sector and communities support	LGC_REL1	Sum of existing agreements per policy area *Ranging from 0 to 10*
Based on formal agreements/agreements for partnership	LGC_REL2	Sum of existing agreements per policy area *Ranging from 0 to 10*
Existence of formal incentives or restrictions to the implementation of new enterprises: 1) Industrial; 2) Commercial and services; 3) Tourism, sport and leisure; 4) Farming; 5) Others. [MUNIC variables: A94-A98]	LGC_REL3	Sum of economic sectors affected by incentives or restriction *Ranging from 0 to 10*
Existence of municipal councils - *with meetings in the last 12 months* - in the following policy areas: 1) health; 2) education; 3) environment; 4) culture; 5) sport; 6) housing; 7) shipping; 8) public safety; 9) human rights; 10) rights of children and adolescents; 11) racial equality; 12) youth rights; 13) rights of the elderly; 14) rights of the disabled person; 15) Lesbian, gay, bisexual, transvestite and transgender rights (MUNIC)		
Deliberative councils	LGC_REL4a	Sum of existing per policy area *Ranging from 0 to 15*
Normative councils	LGC_REL4b	Sum of existing per policy area *Ranging from 0 to 15*
Supervisory councils	LGC_REL4c	Sum of existing per policy area *Ranging from 0 to 15*
Average of scores on Deliberative, Normative, and Supervisory Municipal Councils	LGC_REL4	Average of LGC_REL4a, LGC_REL4b and LGC_REL4c
Member of River Basin Committees (MUNIC)	LGC_REL5	Dummy variable

The second subdimension is related to municipal interinstitutional articulation. It is based on the existence of consortiums in ten policy areas. The consortiums can involve the federal government, the state government, or other municipalities. For each government sphere, the indicator was based on the existence, in each policy area, of a consortium. In other words, if a municipality formed consortiums with the federal governments in, for instance, the education, health and urban development, the indicator of consortiums with the federal government would equal to 3. If no consortium were established, the same indicator would be zero.

Table 5. Relational Capacity: Interinstitutional Relational Capacity Indicators

Description	Indicator/Formula	
Public Consortium in the following policy areas: 1) Urban Development; 2) Employment/labor Market; 3) Education; 4) Culture; 5) Tourism; 6) Housing; 7) Transport; 8) Health; 9) Environment; 10) Social Assistance. (MUNIC)		
Public Consortium between municipalities	LGC_REL6	Existence of consortia *Ranging from 0 to 10*
Public Consortium with the State Government	LGC_REL7	Existence of consortia *Ranging from 0 to 10*
Public Consortium with the Federal Government	LGC_REL8	Existence of consortia *Ranging from 0 to 10*

Table 6 shows the items loadings. The KMO was 0.705 and Bartlett's test of was significant (χ^2 (28) = 8949.987, p < .001). The EFA result validates the expected two factors of this dimension. However, the indicator related to intermunicipal consortiums grouped with the civil society engagement indicators. An investigation to analyze such result goes beyond the scope of this analysis, and it was decided to incorporate the indicator in the first factor to the calculation of the LGC index. Internal consistency was assessed by Cronbach's alpha (0.6772).

Table 6. Exploratory Factor Analysis: Relational Capacity

Variable	Factor 1	Factor 2	Uniqueness
LGC_REL1	0.7297		0.4107
LGC_REL2	0.6818		0.4842
LGC_REL3	0.6214		0.5999
LGC_REL4	0.6633		0.5578
LGC_REL5	0.4531		0.7925
LGC_REL6	0.4336		0.8054
LGC_REL7		0.9094	0.1601
LGC_REL8		0.9155	0.1532
Eigenvalues	2.69029	1.34594	
(%) Cumulative	0.2798	0.5045	

blanks represent abs(loading) < .4
Rotation: orthogonal varimax
Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) = 0.705

4.1.3. Administrative Capacity Indicators

To capture the bureaucratic capacity, besides the indicator related to the per capita number of public employees[10] and public servants[11] at the municipality, it was included three other indicators: *i*) the relation between the number of public employees and servants and the number of temporary civil servants in the local administration; *ii*) expenses with temporary employees; and *iii*) the total value of the 2009 total "SICONV requests" sent to the federal government divide by the number of civil servants. Temporary working contracts are seen here as likely to display the fragility of the bureaucracy at the local administration. The reason why they might weaken bureaucratic capacity is that there is neither transparency in recruitment procedures nor guarantee of working continuity. This type of workers, therefore, brings instability and discontinuity risks to the local bureaucracy. The last indicator used is a proxy of the public administration ability to requests funds to the central government. *Ceteris paribus*, the higher the quality of the bureaucracy, the higher the expected discretionary grants requested to the central government.

Table 7. Administrative Capacity: Bureaucratic Capacity Indicators

Description	Indicator/Formula	
Per capita number of public employees and public servants (MUNIC)	LGC_BUR1	
Total number of temporary employees - % of total number of public employees and public servants (MUNIC)	LGC_BUR2	%
Expenses with temporary contract works - % of Total Expenses (STN)	LGC_BUR3	%
2009 total value of proposals sent to the federal government divided by the total number of public employees and public servants (SICONV/MUNIC)	LGC_BUR4	In Brazilian Reais

[10] Hired under the CLT labor. Although they are not entitled to tenure and full pension after retirement, the reasons for including them are threefold. Firstly, public employees are submitted to a selection process, although more simplified. Secondly, scholars affiliated to Administrative Law argue that both are considered public agents because they are bonded by the rule of Public Law in their activities (CARDOSO and PEDRO, 2011).
[11] Civil servants governed by the RJU (*Regime Jurídico Único*, Single Juridical System) rules.

The technological capacity is based on the technological tools available at the local administration, and available to the local society as well. Features such as online services offered to citizens or businesses, or online procurement, denotates higher levels of technological capacities, therefore, *ceteris paribus*, higher levels of administrative capacity.

Table 8. Administrative Capacity: Technological Capacity Indicators

Description	Indicator/Formula	
Online services available: 1) electronic bidding, and 2) online procurement (MUNIC)	LGC_TEC1	Sum of Services Available *Ranging from 0 to 2*
Online services available: 1) access to documents and forms; 2) scheduling of consultation in the public health system; 3) ombudsman, citizen service; 4) information and news services; 5) process consultation; 6) official gazette, municipal legislation and public finances; 7) public procurement for personnel recruitment; 8) school enrollment; 9) issuance of negative certificate of debit and license; 10) others (MUNIC)	LGC_TEC2	Sum of Services Available *Ranging from 0 to 10*
City office's website adapted to people with disabilities (MUNIC)	LGC_TEC3	Dummy variable
The city government guarantees public access to the services available on its website through: 1) computerized counter in places of great public circulation; 2) government public facilities; 3) others (MUNIC)	LGC_TEC4	Sum of Services Available *Ranging from 0 to 3*
City Hall develops digital inclusion policy installing computers in municipal public schools with internet access (MUNIC)	LGC_TEC5	Dummy variable

The legal capacity relates to institutionalized tools utilized to regulate local development and growth, and to the existence of sectoral funds in five police areas. Municipalities regulate economic activity, real estate and urban development backed by laws, funds, or formal restrictions to entrepreneurship and business activities. Table 9 shows the indicators used. The more specific legislation and the higher the number of economic sectors affected by formal laws or programs, the higher, *ceteris paribus*, the administrative capacity.

Table 9. Administrative Capacity: Legal Capacity indicators

Description	Indicator/Formula	
The municipality is formally part: 1) urban agglomeration; 2) area of tourist interest; and 3) area of influence of projects with significant environmental impact. [MUNIC variables: A34-A36]	LGC_LEG1	Sum of existing instruments *Ranging from 0 to 3*
The municipality has specific legislation on zone of socioeconomic interests. [MUNIC variables: A38-A50]	LGC_LEG2	Sum of existing laws *Ranging from 0 to 13*
Urban policy formal instruments. [MUNIC variables: A51-A55]	LGC_LEG3	Sum of existing instruments *Ranging from 0 to 5*
Municipal planning instruments. [MUNIC variables: A56-A69]	LGC_LEG4	Sum of existing instruments *Ranging from 0 to 14*
Existence of Municipal Funds in 1) Sports; 2) housing; 3) public safety; 4) human rights; and 5) environment.	LGC_LEG5	Sum of existing funds *Ranging from 0 to 5*

As explained before, the architectural capacity is related to organization of local systems of public policies on three areas: education, health care, and social assistance. Under these three areas

falls most of main responsibilities to the Brazilian municipalities, specially the smaller ones The indicator was constructed based on the conjoint existence of: 1) specific secretariat or a shared secretariat responsible to the police area; 2) a policy municipal fund; 3) a policy municipal council; and 4) a strategic policy plan. In the jargon this structure is known as CPF model (council, plan and fund). To this model, I added the existence of a secretariats, for the policy secretary is the formal coordinator of the local system of the public policy at the local level. Table 10 details the indicators used.

Table 10. Administrative Capacity: Architectural Capacity indicators

Description	Indicator/Formula	
Conjoint Existence of Municipal Secretariat, Financial Fund and Strategic Plan in Education	LGC_ARC1	Dummy variable
Conjoint Existence of Municipal Secretariat, Financial Fund and Strategic Plan in Public Health	LGC_ARC2	Dummy variable
Conjoint Existence of Municipal Secretariat, Financial Fund and Strategic Plan in Social Assistance	LGC_ARC3	Dummy variable

Table 11 shows the items loads. The KMO test totaled 0.799 and the Bartlett's test of was significant (χ^2 (91) = 12695.261, p < 0.001). The EFA result validates the expected four factors of this dimension. Internal consistency was assessed by Cronbach's alpha (0.6976).

Table 11. Exploratory Factor Analysis: Administrative Capacity

Variable	Factor 1	Factor 2	Factor 3	Factor 4	Uniqueness
LGC_BUR1				0.5704	0.5806
LGC_BUR2				0.6796	0.5308
LGC_LEG1	0.6271				0.5995
LGC_LEG2	0.8198				0.2892
LGC_LEG3	0.7097				0.4775
LGC_LEG4	0.6799				0.4715
LGC_LEG5	0.4811				0.5937
LGC_TEC1		0.7544			0.4048
LGC_TEC2		0.8126			0.2557
LGC_TEC4		0.7415			0.4325
LGC_TEC5		0.4279			0.6545
LGC_ARC1			0.4486		0.6843
LGC_ARC2			0.6079		0.6052
LGC_ARC3			0.7039		0.4947
Eigenvalues	3.3973	1.3346	1.1528	1.0407	
(%) Cumulative	0.1731	0.3312	0.4197	0.4947	

blanks represent abs(loading) < .4
Rotation: orthogonal varimax
Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) = 0.799

4.1.4. LGC Final Index

The LGC three dimensions' scores were calculated based on the post-estimation regression method, computed subsequently to the exploratory factor analyses[12]. The final LGC Index was calculated averaging its three dimensions scores, and then standardized (mean=0 and standard deviation=1) to eliminate the effect of varying measurement scales. Figure 2 displays the standardized LGC indexes histograms.

[12] Bartlett factor score method provided very similar results.

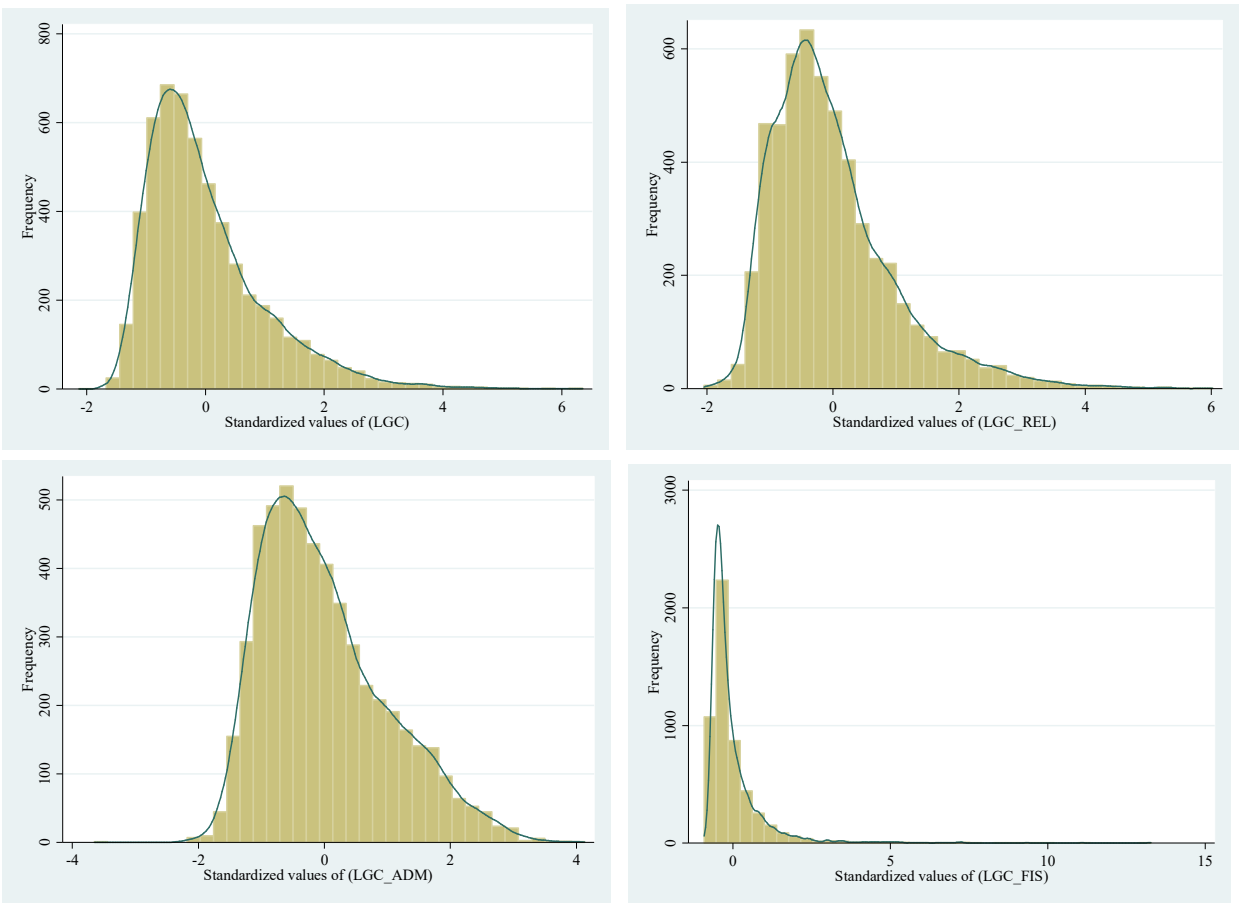

Figure 2. Standardized Local Government Capacity Indexes Histograms

5. Local Government Capacity and Local Development

The present section aims to investigate associations between the calculated LGC index and the following socioeconomic development indicators: the United Nations HDI index; the Basic Education Development Index – IDEB (first years of municipal primary schools); and, as a health care indicator, the proportion of prenatal care coverage (>7 prenatal visits). Attendance of prenatal visits is used here as an indicator of population access to a primary medical service.[13] The objective of this analysis is not to capture causal relations between government capacity and development, for socioeconomic development is a complex and historical process. It is expected, though, that higher levels of local capacity are positively associated with higher development levels: better governance improves policy implementation, and dynamic economic environments demand enhancements in state capacities.

As can be seen from figure 3, but specially from table 12, there is a positive relationship between the LGC index and local development indicators (all correlations significant at the 0.05 level). These associations, as expected, preset different patterns when we disaggregate the LGC by its sub-indexes, with the relational capacity standing out among the three measured dimensions.

[13] It is officially recommended a minimum of six visits, starting in the first trimester of pregnancy, conducted by family physicians and nurses.

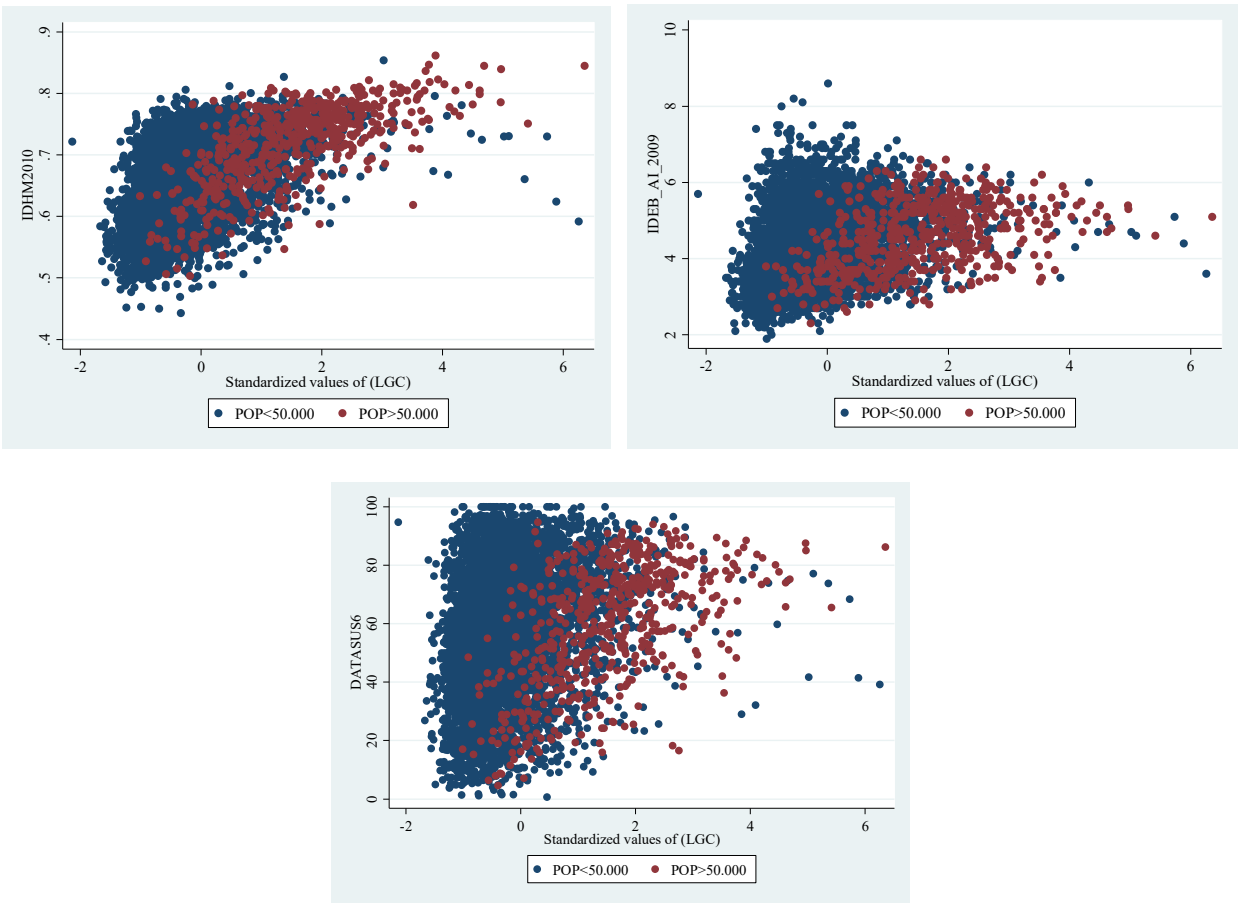

Figure 3. Development Indicators and LGC Index: HDI-2010, IDEB-2009, and Prenatal Coverage. Below 50,000 inhabitant municipalities in blue

Table 12. Pearson Correlation Coefficients

	HDI-2010	IDEB-2009	Prenatal Cov	LGC	LGC_REL	LGC_ADM	LGC_FIS
HDI-2010	1.00						
IDEB-2009	0.7295*	1.00					
Prenatal Cov.	0.6860*	0.6360*	1.00				
LGC	0.5535*	0.3042*	0.2550*	1.00			
LGC_REL	0.5113*	0.3305*	0.2885*	0.8046*	1.00		
LGC_ADM	0.3508*	0.1575*	0.1107*	0.7796*	0.5014*	1.00	
LGC_FIS	0.4106*	0.2169*	0.1872*	0.7154*	0.3500*	0.2926*	1.00

* $p \leq 0.05$

This preliminary data analysis can also be visualized through the boxplots presented at figure 4. The development indicators performance exhibits a regular increase when we move from the first to the last quartile group. This trend is stronger to the HDI indicator, especially when comparing the first and last quartile groups. Differences in development patterns is less evident, though, when comparing the second and third quartiles. Another interesting feature relates to the occurrence of outliers in the first and last quartiles. Several municipalities scoring high on the LGC index show low human developing and prenatal care coverage indicators. By another side, many municipalities characterized by low LGC levels scored relatively high on the IDEB indicator. After presenting our regressions estimations results, we show some of these outlier cases.

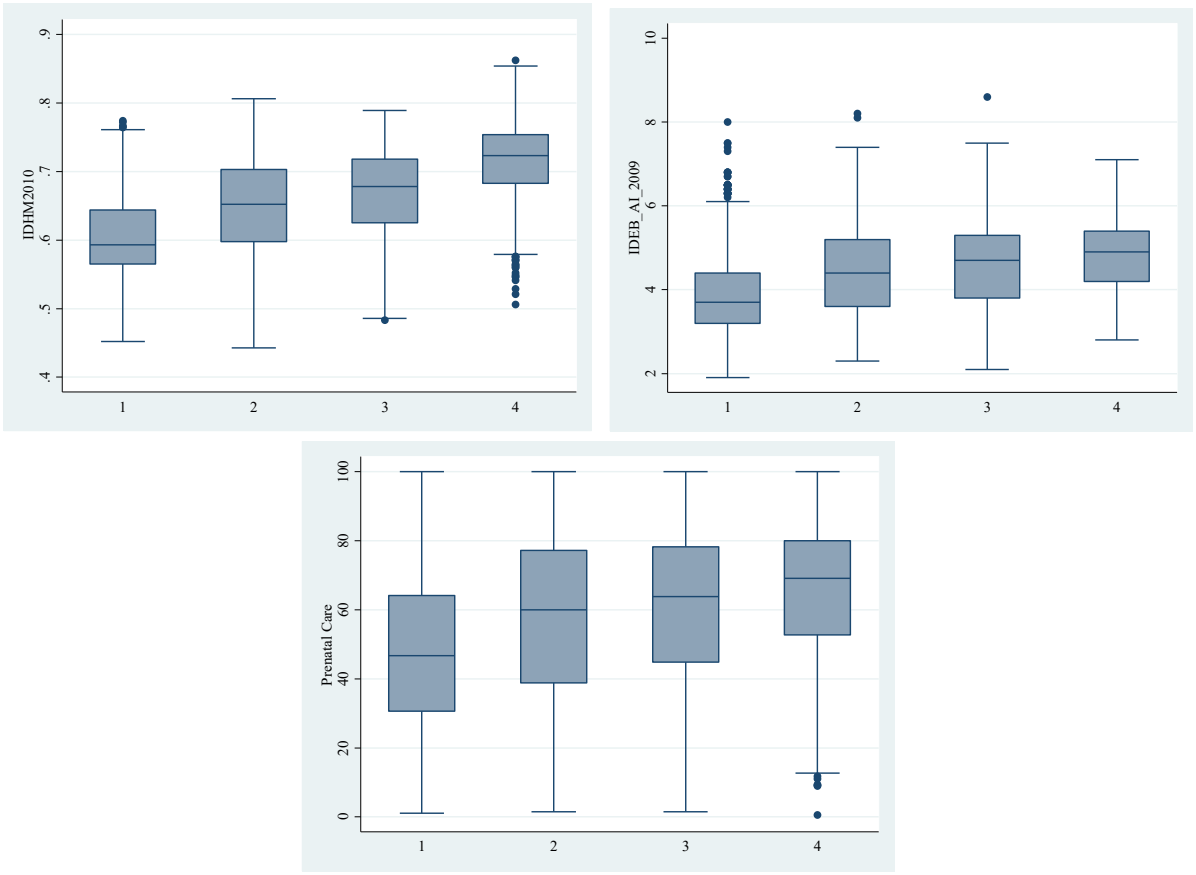

Figure 4. Boxplots of Development Indicators by LGC Index Quantile Groups

In order to better understand the previously discussed associations, several multivariate econometric models were estimated. The dependent variables utilized were the three social indicators selected: HDI, IDEB and Prenatal Care Coverage. The independent variables of interest were the LGC Index and its three dimensions: the fiscal management capacity (LGC_FIS); the relational capacity (LGC_REL); the administrative capacity (LGC_ADM). The natural logarithm of the municipality population and the per capita GDP were used as control variables. We also used, when indicated, dummy variables for the Brazilian states. For the IDEB performance models, we also used the 2005 IDEB indicator as a control variable (models 11 to 21).

Tables 13, 14 and 15 present the estimated coefficients after correction for heteroscedasticity and testing for multicollinearity. As can be seen from the tables, ordinary least squares regressions reveal the positive relationship between the standardized LGC index and all social development indicators (at the 0.01 level). In other words, as expected, high government capacities are indeed statistically associated to high human and social development. This result holds to the relational capacity sub-index, the only sub-index statistically significant at the .01 level in all models. The relational capacity, furthermore, presents the highest associations with the development indicators, followed by the administrative capacity, notwithstanding its coefficient insignificance in relation to IDEB when state dummies are included. In other words, comparing the three standardized sub-indexes estimated associations with our dependent variables, we can identify a first evidence that fiscal capacity, approximately understood as financial power, may not be the main factor behind better governance and government performance, even though we do not attempt to explain here such outcomes. It is a suggestive result, nevertheless, and endorse the necessity to better investigate government capacities other than fiscal capabilities.

Table 13. OLS Regression models for HDI-2010

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
LnPop	0.00718***	-0.0139***	-0.00772***	-0.00248***	0.00240***	0.0155***	0.00712***	0.0101***	0.0117***	0.0137***
	(0.000773)	(0.00105)	(0.000822)	(0.000925)	(0.000843)	(0.000544)	(0.000697)	(0.000610)	(0.000644)	(0.000571)
GDPpc	0.00271***	0.00146***	0.00195***	0.00240***	0.00211***	0.000852***	0.000587***	0.000744***	0.000800***	0.000704***
	(0.000315)	(0.000242)	(0.000264)	(0.000291)	(0.000299)	(0.000108)	(9.28e-05)	(0.000102)	(0.000102)	(0.000103)
zLGC		0.0426***					0.0152***			
		(0.00175)					(0.000872)			
zLGC_REL			0.0345***					0.0109***		
			(0.00116)					(0.000692)		
zLGC_ADM				0.0210***					0.00775***	
				(0.00122)					(0.000661)	
zLGC_FIS					0.0192***					0.00625***
					(0.00211)					(0.000803)
Constant	0.565***	0.776***	0.713***	0.659***	0.616***	0.546***	0.626***	0.600***	0.581***	0.562***
	(0.00722)	(0.0111)	(0.00867)	(0.00953)	(0.00884)	(0.00533)	(0.00682)	(0.00609)	(0.00627)	(0.00560)
Dummies for States						Yes	Yes	Yes	Yes	Yes
Observations	5,338	5,338	5,338	5,338	5,338	5,338	5,338	5,338	5,338	5,338
R-squared	0.213	0.403	0.370	0.272	0.269	0.740	0.759	0.752	0.747	0.746

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 14. OLS Regression models for IDEB/2009

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
LnPop	-0.0773***	-0.316***	-0.277***	-0.178***	-0.121***	-0.00891	-0.0422***	-0.0522***	-0.0159	-0.0106
	(0.0121)	(0.0158)	(0.0132)	(0.0138)	(0.0127)	(0.00839)	(0.0112)	(0.0102)	(0.00997)	(0.00890)
GDPpc	0.0257***	0.0126***	0.0164***	0.0229***	0.0206***	0.00436***	0.00334***	0.00352***	0.00428***	0.00422***
	(0.00359)	(0.00283)	(0.00292)	(0.00337)	(0.00352)	(0.000974)	(0.000953)	(0.000931)	(0.000969)	(0.00102)
zLGC		0.453***					0.0590***			
		(0.0230)					(0.0129)			
zLGC_REL			0.429***					0.0847***		
			(0.0168)					(0.0114)		
zLGC_ADM				0.209***					0.0138	
				(0.0172)					(0.0106)	
zLGC_FIS					0.165***					0.00605
					(0.0229)					(0.0101)
Constant	4.910***	7.306***	6.898***	5.894***	5.374***	4.727***	5.043***	5.158***	4.791***	4.743***
	(0.114)	(0.164)	(0.135)	(0.138)	(0.129)	(0.0884)	(0.112)	(0.106)	(0.101)	(0.0928)
Dummies for States						Yes	Yes	Yes	Yes	Yes
Observations	4,754	4,754	4,754	4,754	4,754	4,754	4,754	4,754	4,754	4,754
R-squared	0.094	0.205	0.219	0.124	0.115	0.654	0.655	0.657	0.654	0.654

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 14. OLS Regression models for IDEB/2009 – continuation

Variables	Model 11	Model 12	Model 13	Model 14	Model 15	Model 16	Model 17	Model 18	Model 19	Model 21
IDEB_AI_2005	0.893***	0.865***	0.855***	0.886***	0.891***	0.581***	0.579***	0.575***	0.582***	0.581***
	(0.0112)	(0.0123)	(0.0122)	(0.0115)	(0.0115)	(0.0191)	(0.0191)	(0.0191)	(0.0191)	(0.0191)
LnPop	-0.0731***	-0.120***	-0.125***	-0.0901***	-0.0757***	-0.0323***	-0.0485***	-0.0577***	-0.0301***	-0.0341***
	(0.00744)	(0.0106)	(0.00962)	(0.00889)	(0.00800)	(0.00733)	(0.00992)	(0.00917)	(0.00871)	(0.00780)
GDPpc	0.00389***	0.00210**	0.00248***	0.00360***	0.00363***	0.00209***	0.00162**	0.00161***	0.00211***	0.00194***
	(0.000913)	(0.000852)	(0.000841)	(0.000889)	(0.000951)	(0.000622)	(0.000633)	(0.000606)	(0.000625)	(0.000658)
zLGC		0.0863***					0.0282**			
		(0.0126)					(0.0112)			
zLGC_REL			0.107***					0.0487***		
			(0.0107)					(0.00976)		
zLGC_ADM				0.0339***					-0.00443	
				(0.01000)					(0.00942)	
zLGC_FIS					0.00994					0.00638
					(0.00916)					(0.00857)
Constant	1.941***	2.508***	2.589***	2.129***	1.976***	2.683***	2.844***	2.961***	2.661***	2.700***
	(0.0839)	(0.126)	(0.114)	(0.101)	(0.0930)	(0.106)	(0.126)	(0.124)	(0.114)	(0.109)
Dummies for States						Yes	Yes	Yes	Yes	Yes
Observations	4,100	4,100	4,100	4,100	4,100	4,100	4,100	4,100	4,100	4,100
R-squared	0.695	0.698	0.702	0.696	0.695	0.755	0.755	0.756	0.755	0.755

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 15. OLS Regression models for Prenatal Care Coverage

Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**	**Model 7**	**Model 8**	**Model 9**	**Model 10**
LnPop	-2.898***	-7.494***	-6.828***	-4.798***	-3.693***	-0.691***	-1.491***	-1.549***	-1.042***	-0.725***
	(0.249)	(0.333)	(0.276)	(0.299)	(0.264)	(0.179)	(0.252)	(0.228)	(0.220)	(0.193)
GDPpc	0.644***	0.373***	0.445***	0.585***	0.545***	0.168***	0.143***	0.151***	0.164***	0.166***
	(0.0745)	(0.0608)	(0.0610)	(0.0706)	(0.0734)	(0.0239)	(0.0237)	(0.0231)	(0.0236)	(0.0245)
zLGC		9.270***					1.447***			
		(0.497)					(0.302)			
zLGC_REL			9.104***					1.721***		
			(0.359)					(0.261)		
zLGC_ADM				4.122***					0.710***	
				(0.378)					(0.255)	
zLGC_FIS					3.201***					0.120
					(0.481)					(0.231)
Constant	78.46***	124.6***	117.6***	96.98***	86.98***	70.69***	78.25***	79.20***	73.90***	71.00***
	(2.335)	(3.389)	(2.771)	(2.965)	(2.635)	(1.884)	(2.495)	(2.341)	(2.212)	(1.987)
Dummies for States						Yes	Yes	Yes	Yes	Yes
Observations	5,338	5,338	5,338	5,338	5,338	5,338	5,338	5,338	5,338	5,338
R-squared	0.120	0.208	0.227	0.142	0.135	0.584	0.585	0.587	0.584	0.584

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

5.1. A Preliminary Outliers' Analysis

As previously explained, although we do not intend to discuss causal relations in this study, our results certainly leave much variation unexplained, indicating that our analysis can be seen as a first step towards explaining the phenomena of local government performance. Several interesting questions spin off from our results, such as the mechanisms through which the relational capacity may be translated in better policy outcomes, even though this is a question difficult to be empirically addressed with quantitative research.

In the context of our research, nonetheless, a primary looking at the earlier signaled outliers' cases may be worth. The following boxplots displayed by figure 5 show the distribution of data for the three development selected indicators in two clusters based on our LGC ranking. The first cluster shows the 100 municipalities with the lowest LGC indexes, while the second cluster shows the 100 municipalities with the highest levels (see tables A1 and A2 for the complete list of municipalities in each cluster).

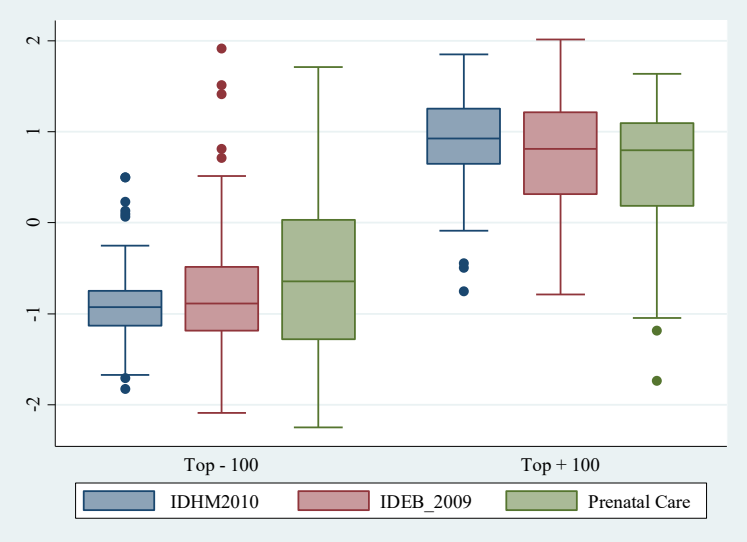

Figure 5. Boxplots of Development Indicators by the 100 Top and Bottom Ranked Scorers' Municipalities

As can be seen form figure 5, the first cluster achieved lowest means and medians for all three outcomes analyzed, but, nonetheless, several municipalities have achieved relatively high levels of performance, especially regarding the IDEB indicator, an indicator particularly sensible, important to notice, to the local and regional governance. Likewise, some municipalities inside the second cluster presented a relatively poor performance, especially regarding the prenatal care coverage.

Tables 16 and 17 list some of these outliers. In order to avoid comparisons between state capitals and small cities, we restrict the list to top and bottom ranked municipalities with less than 50 thousand inhabitants. Table 16 shows selected municipalities inside the first cluster (100 bottom-ranked LGC) exhibiting superior social outcomes while table 17 shows some municipalities inside the second cluster (100 top-ranked LGC) displaying mediocre social outcomes. The five municipalities inside the tables' blocks were selected based on the social outcomes' indicators. At table 16, for instance, the first five municipalities displayed are the five municipalities inside the first cluster with the highest HDI values (and population under 50 thousand inhabitants). Inside the second block, we display the five municipalities inside the first cluster with the highest IDEB values. Finally, the last five municipalities at table 16 are the Prenatal care coverage outliers.

Table 16. Top-Ranked Development Indicators Municipalities among the 100 Bottom-Ranked LGC Municipalities *

					High HDI performance				
#	*Municipalities*	*Region*	*State*	*Population*	*LGC_REL*	*LGC_ADM*	*LGC_FIS*	*LGC*	*IDHM*
5278	ARCO-ÍRIS	Southeast	SP	2,010	-0.58	-2.03	-0.44	-3.05	0.72
5339	TRABIJU	Southeast	SP	1,664	-0.92	-3.65	-0.33	-4.90	0.72
5242	ASTOLFO DUTRA	Southeast	MG	13,109	-1.10	-1.19	-0.66	-2.96	0.69
5277	ROCHEDO DE MINAS	Southeast	MG	2,137	-0.83	-1.36	-0.86	-3.05	0.68
5259	MIRADOR	South	PR	2,371	-0.89	-1.63	-0.47	-2.99	0.68
5311	HIDROLINA	Center-West	GO	4,195	-2.01	-0.85	-0.43	-3.29	0.68
Average of the 5 municipalities					**-1.15**	**-1.74**	**-0.55**	**-3.44**	**0.69**
					High IDEB performance				
#	*Municipalities*	*Region*	*State*	*Population*	*LGC_REL*	*LGC_ADM*	*LGC_FIS*	*LGC*	*IDEB*
5277	ROCHEDO DE MINAS	Southeast	MG	2,137	-0.83	-1.36	-0.86	-3.05	6.10
5339	TRABIJU	Southeast	SP	1,664	-0.92	-3.65	-0.33	-4.90	5.70
5242	ASTOLFO DUTRA	Southeast	MG	13,109	-1.10	-1.19	-0.66	-2.96	5.60
5254	CASTELO DO PIAUÍ	Northeast	PI	19,142	-1.04	-1.27	-0.67	-2.97	5.00
5311	HIDROLINA	Center-West	GO	4,195	-2.01	-0.85	-0.43	-3.29	4.90
Average of the 5 municipalities					**-1.18**	**-1.66**	**-0.59**	**-3.43**	**5.46**
					High Prenatal Care Coverage				
#	*Municipalities*	*Region*	*State*	*Population*	*LGC_REL*	*LGC_ADM*	*LGC_FIS*	*LGC*	*PNC*
5339	TRABIJU	Southeast	SP	1,664	-0.92	-3.65	-0.33	-4.90	94.74
5277	ROCHEDO DE MINAS	Southeast	MG	2,137	-0.83	-1.36	-0.86	-3.05	88.00
5271	CAMPO DO BRITO	Northeast	SE	16,745	-1.49	-0.94	-0.60	-3.04	84.31
5336	MACAMBIRA	Northeast	SE	6,554	-1.50	-1.53	-0.67	-3.70	81.82
5316	SÃO JOSÉ DO SABUGI	Northeast	PB	4,115	-1.21	-1.65	-0.52	-3.37	80.49
Average of the 5 municipalities					**-1.19**	**-1.83**	**-0.60**	**-3.61**	**85.87**
Average of the 100 Bottom-Ranked Municipalities					**-1.25**	**-1.41**	**-0.54**	**-3.20**	

Note: * For the cities with population lesser than 50,000

Similarly, the first five municipalities displayed at table 17 are the five municipalities inside the second cluster with the lowest HDI values, while the second block lists the IDB outliers (high LGC and low IDEB), and the third lists the prenatal care coverage outliers.

The most noteworthy evidence presented at table 17 is related to municipalities' fiscal capacity. As can be seen, all listed top-ranked LGC city halls consistently out-performed the average fiscal capacity of the 100 top-ranked LGC municipalities, while consistently present below the average relational and administrative capacities, with the exception of the *Ourilândia do Norte* and *Mangaratiba* administrative capacities. This two municipalities, however, present relatively low degrees of relational capacity, even when compared with the average of its under-performance listed peers.

The analysis of the bottom-ranked smallest municipalities with remarkable social outcomes, however, shows no obvious capabilities patterns, excepting the noticeable southeast geographical concentration. As can see form table A2 at the appendix, the north and northeast municipalities predominate among the LGC under-performance cities.

Table 17. Bottom-Ranked Development Indicators Municipalities among the 100 Top-Ranked LGC Municipalities *

					Low HDI performance				
#	*Municipalities*	*Region*	*State*	*Population*	*LGC_REL*	*LGC_ADM*	*LGC_FIS*	*LGC*	*IDHM*
2	JURUTI	North	PA	35,530	0.80	0.37	13.26	14.43	0.59
3	OURILÂNDIA DO NORTE	North	PA	21,327	0.41	1.97	11.18	13.57	0.62
23	MATA DE SÃO JOÃO	Northeast	BA	39,585	1.82	1.08	6.54	9.44	0.67
29	SÃO FRANCISCO DO CONDE	Northeast	BA	31,699	0.97	0.67	7.23	8.87	0.67
74	ARAPEÍ	Southeast	SP	2,582	0.55	-0.88	7.30	6.97	0.68
Average of the 5 municipalities					**0.91**	**0.65**	**9.10**	**10.66**	**0.65**
					Low IDEB performance				
#	*Municipalities*	*Region*	*State*	*Population*	*LGC_REL*	*LGC_ADM*	*LGC_FIS*	*LGC*	*IDEB*
29	SÃO FRANCISCO DO CONDE	Northeast	BA	31,699	0.97	0.67	7.23	8.87	3.50
2	JURUTI	North	PA	35,530	0.80	0.37	13.26	14.43	3.60
93	CANDIOTA	South	RS	8,576	0.96	1.01	4.54	6.50	4.00
69	CHIADOR	Southeast	MG	2,974	0.34	0.03	6.75	7.12	4.10
68	MANGARATIBA	Southeast	RJ	32,533	0.33	1.71	5.20	7.24	4.20
Average of the 5 municipalities					**0.68**	**0.76**	**7.39**	**8.83**	**3.88**
					Low Prenatal Care Coverage				
#	*Municipalities*	*Region*	*State*	*Population*	*LGC_REL*	*LGC_ADM*	*LGC_FIS*	*LGC*	*PNC*
29	SÃO FRANCISCO DO CONDE	Northeast	BA	31,699	0.97	0.67	7.23	8.87	29.04
23	MATA DE SÃO JOÃO	Northeast	BA	39,585	1.82	1.08	6.54	9.44	32.20
2	JURUTI	North	PA	35,530	0.80	0.37	13.26	14.43	39.27
3	OURILÂNDIA DO NORTE	North	PA	21,327	0.41	1.97	11.18	13.57	41.47
8	BERTIOGA	Southeast	SP	44,233	-0.23	0.71	11.10	11.58	41.70
Average of the 5 municipalities					**0.75**	**0.96**	**9.86**	**11.58**	**36.74**
Average of the 100 Top-Ranked Municipalities					**2.44**	**1.70**	**4.24**	**8.38**	

Note: * For the cities with population lesser than 50,000

6. Final Remarks

The performance of state institutions depends largely on the management of available financial, human, and technological resources. It also depends on the effectiveness of their actions, meaning the real benefits to the targeted population. Likewise, the topic takes special importance in decentralized systems, given the role of subnational units in policy implementation. The theme of local governance and the performance of local state institutions have expanded, therefore, within the state capacity filed.

This article assesses government capacities of the Brazilian municipalities conceptualizing and measuring a multilevel and a multidimensional concept of local government capacity. As John Stuart Mill properly claimed, to start an investigation by constructing a concept is a logical choice since they are some of the main building blocks for constructing theoretical propositions. In this way, and after described the theoretical foundations of our concept, we crafted an original index able to capture local government capacity disparities in the Brazilian context.

Two contributions were achieved with the present work. Firstly, a substantive and replicable concept of local government capacity was proposed, measured and empirically tested. Another contribution relates to some key hypotheses of the State capacity research field. The literature claims that state capacity varies across and within governments. Our LGC index shows that municipalities with high capacity scores presents better socioeconomic indicators. When the index is broken down into different dimensions, and when they are confronted to different socioeconomic indicators, the intensity of the associations differs. The relational capacity, for instance, presents the highest influences on the human and social development indicators analyzed. These empirical results suggest, moreover, the importance of the multidimensionality of state capacities.

From an empirical point of view, the LGC Index here conceptualized creates a solid framework that can be replicated, or adapted, for other years, if data is available. The empirical application of multidimensional capacity indexes may expand, as flows, our knowledge about why some public policies performed in association with municipalities are more likely to succeed than others, hence providing the researchers with a more comprehensive and systematic analysis on the role of the local government in charge of policy implementation. Furthermore, the framework here applied may be expanded to the state level, another Brazilian subnational sphere critically important in policy making and public goods delivering.

Our study, as already highlighted, does not seek to establish causal relationships between local government capacity and development outcomes. Brazil is a large and heterogeneous country in which several features may contribute to differences in socioeconomic outcomes, such as geographical and climatic conditions. One must remember, moreover, that the development of state capacities is an ongoing process. Our analysis attempts to capture, important to notice, one specific moment in time, even though some capabilities may be maintained for several years. The exploratory factor analysis performed, and our estimation results appear, nonetheless, to be solid. The LGC Index here calculated can be considered, thus, a reasonable framework to guide the calculation of similar indexes for other years, and a good proxy of local government capacity to be utilized as dependent or independent variable in several research fields, such as public administration, economics, or political science.

7. References

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APPENDIX I

Table A1. LGC Ranking: 100 Top-Ranked Municipalities

#	MUNICIPALITY	REGION	STATE	#	MUNICIPALITY	REGION	STATE	#	MUNICIPALITY	REGION	STATE	#	MUNICIPALITY	REGION	STATE
1	Balneário Camboriú	S	SC	26	Curitiba	S	PR	51	Indaiatuba	SE	SP	76	Bagé	S	RS
2	Juruti	N	PA	27	São Caetano do Sul	SE	SP	52	Campos do Jordão	SE	SP	77	Guarulhos	SE	SP
3	Ourilândia do Norte	N	PA	28	Itapema	S	SC	53	Aracruz	SE	ES	78	Cubatão	SE	SP
4	Anchieta	SE	ES	29	São Francisco do Conde	NE	BA	54	Blumenau	S	SC	79	Maringá	S	PR
5	Guarujá	SE	SP	30	Valinhos	SE	SP	55	Belo Horizonte	SE	MG	80	Bento Gonçalves	S	RS
6	Jeceaba	SE	MG	31	Barro Alto	CW	GO	56	Bauru	SE	SP	81	Ribeirão Preto	SE	SP
7	Rio Quente	CW	GO	32	Florianópolis	S	SC	57	Cuiabá	CW	MT	82	Paranaguá	S	PR
8	Bertioga	SE	SP	33	Diadema	SE	SP	58	Congonhas	SE	MG	83	Matinhos	S	PR
9	Santos	SE	SP	34	Salvador	NE	BA	59	Paracatu	SE	MG	84	Mogi das Cruzes	SE	SP
10	Barueri	SE	SP	35	Niterói	SE	RJ	60	Araraquara	SE	SP	85	São Vicente	SE	SP
11	Vitória	SE	ES	36	São Bernardo do Campo	SE	SP	61	Resende	SE	RJ	86	Lucas do Rio Verde	CW	MT
12	Ilha Comprida	SE	SP	37	Praia Grande	SE	SP	62	Vila Velha	SE	ES	87	Arroio do Sal	S	RS
13	Rio de Janeiro	SE	RJ	38	Recife	NE	PE	63	Ilhabela	SE	SP	88	Araucária	S	PR
14	São Paulo	SE	SP	39	Rio Bonito	SE	RJ	64	Cotia	SE	SP	89	Franca	SE	SP
15	Caxias do Sul	S	RS	40	Goiânia	CW	GO	65	Ubatuba	SE	SP	90	São Carlos	SE	SP
16	Xangri-Lá	S	RS	41	Itajaí	S	SC	66	Uberaba	SE	MG	91	Fortaleza	NE	CE
17	Santana de Parnaíba	SE	SP	42	Chapecó	S	SC	67	Pontal do Paraná	S	PR	92	Camaçari	NE	BA
18	Bombinhas	S	SC	43	Vinhedo	SE	SP	68	Mangaratiba	SE	RJ	93	Candiota	S	RS
19	Macaé	SE	RJ	44	Manaus	N	AM	69	Chiador	SE	MG	94	Caldas Novas	CW	GO
20	Campinas	SE	SP	45	Nova Lima	SE	MG	70	Teresina	NE	PI	95	Jundiaí	SE	SP
21	Poá	SE	SP	46	Ipojuca	NE	PE	71	Cabo de Santo Agostinho	NE	PE	96	Bragança Paulista	SE	SP
22	Jaboticabal	SE	SP	47	Duque de Caxias	SE	RJ	72	Itaguaí	SE	RJ	97	Candeias	NE	BA
23	Mata de São João	NE	BA	48	Lages	S	SC	73	Águas de São Pedro	SE	SP	98	Iguatu	NE	CE
24	Gramado	S	RS	49	Peruíbe	SE	SP	74	Arapeí	SE	SP	99	Imbé	S	RS
25	Santo André	SE	SP	50	Porto Alegre	S	RS	75	Uberlândia	SE	MG	100	Ilhéus	NE	BA

Table A2. LGC Ranking: 100 Bottom-Ranked Municipalities

#	MUNICIPALITY	REGION	STATE	#	MUNICIPALITY	REGION	STATE	#	MUNICIPALITY	REGION	STATE	#	MUNICIPALITY	REGION	STATE
1	Sítio Novo do Tocantins	N	TO	26	Barra de São Miguel	NE	PB	51	São Bento do Norte	NE	RN	76	São Rafael	NE	RN
2	Pinhão	NE	SE	27	Sento Sé	NE	BA	52	Crisópolis	NE	BA	77	São José do Sabugi	NE	PB
3	Astolfo Dutra	SE	MG	28	Major Isidoro	NE	AL	53	Pedro Avelino	NE	RN	78	Contendas do Sincorá	NE	BA
4	Bonito de Santa Fé	NE	PB	29	Senador Alexandre Costa	NE	MA	54	Ibipitanga	NE	BA	79	São João do Soter	NE	MA
5	São José do Piauí	NE	PI	30	Juru	NE	PB	55	Afonso Bezerra	NE	RN	80	São José do Campestre	NE	RN
6	Choró	NE	CE	31	Serra Negra do Norte	NE	RN	56	Monte das Gameleiras	NE	RN	81	Pedra Preta	NE	RN
7	Pilõezinhos	NE	PB	32	Campo do Brito	NE	SE	57	São Luís Gonzaga do Maranhão	NE	MA	82	Cantanhede	NE	MA
8	Peixe-Boi	N	PA	33	Belo Campo	NE	BA	58	Gonçalves Dias	NE	MA	83	Lagoão	S	RS
9	Jacaraú	NE	PB	34	São Miguel do Aleixo	NE	SE	59	Santana do Matos	NE	RN	84	Araçagi	NE	PB
10	Jandaíra	NE	RN	35	Riachão do Bacamarte	NE	PB	60	Buriti do Tocantins	N	TO	85	Manoel Vitorino	NE	BA
11	Adustina	NE	BA	36	Barão de Grajaú	NE	MA	61	São João do Carú	NE	MA	86	Caetanos	NE	BA
12	Pedro Régis	NE	PB	37	Cocal	NE	PI	62	Lagoa de Pedras	NE	RN	87	Caiçara do Norte	NE	RN
13	Messias Targino	NE	RN	38	Rochedo de Minas	SE	MG	63	Salgadinho	NE	PB	88	Monteirópolis	NE	AL
14	Brejinho	NE	RN	39	Arco-Íris	SE	SP	64	Senador La Rocque	NE	MA	89	Angicos	NE	RN
15	Castelo do Piauí	NE	PI	40	Ipixuna	N	AM	65	Tangará	NE	RN	90	Heliópolis	NE	BA
16	Marcos Parente	NE	PI	41	Fátima	NE	BA	66	São José dos Basílios	NE	MA	91	Palmeirândia	NE	MA
17	Jaçanã	NE	RN	42	Ouro Branco	NE	AL	67	Centro do Guilherme	NE	MA	92	Pedra Grande	NE	RN
18	Feira Nova	NE	SE	43	Bom Sucesso	NE	PB	68	São Bento do Trairí	NE	RN	93	Caldas Brandão	NE	PB
19	Barra de Guabiraba	NE	PE	44	Casserengue	NE	PB	69	Sebastião Barros	NE	PI	94	Terezinha	NE	PE
20	Mirador	S	PR	45	Nossa Senhora Aparecida	NE	SE	70	Ourém	N	PA	95	Montadas	NE	PB
21	Buenos Aires	NE	PE	46	São João da Ponta	N	PA	71	Peritoró	NE	MA	96	Olivença	NE	AL
22	Serra Dourada	NE	BA	47	Governador Newton Bello	NE	MA	72	Hidrolina	CW	GO	97	Macambira	NE	SE
23	Lagoa de Dentro	NE	PB	48	Altamira do Maranhão	NE	MA	73	Cacimbinhas	NE	AL	98	Mirante	NE	BA
24	Sucupira do Norte	NE	MA	49	Barro Duro	NE	PI	74	Elísio Medrado	NE	BA	99	Lajedo do Tabocal	NE	BA
25	Galinhos	NE	RN	50	Porto Calvo	NE	AL	75	Arara	NE	PB	100	Trabiju	SE	SP

THE DEMAND SIDE OF INTERGOVERNMENTAL TRANSFERS: LOCAL GOVERNMENT CAPACITIES AND DISCRETIONARY INTERGOVERNMENTAL TRANSFERS IN BRAZIL

1. Introduction

Political targeting of discretionary intergovernmental transfers is a key topic in the literature on decentralized political systems, and several authors have employed an eclectic set of theoretical frameworks and methodologies to investigate the political rationale driving intergovernmental grants. Though discretionary grants also exist in unitary states, its utilization and importance are larger in federal systems, where there exist innate tensions related to the distribution of authority, responsibilities, and resources within a given territory. The theme is particularly significant in the Brazilian federation, where the post-authoritarian constitution redefined the political competences of both states and municipalities. In federations where the degree of resources centralization is high, such as in the Brazilian case, tactical allocation of federal funds gains even more importance. Most scholarship tends, however, to focus on the supply-side of this relationship, highlighting the federal officials' electoral motivations. From this perspective, the simplest research hypothesis is that co-partisans' subnational governments receive more funds than unaligned ones, but several other supply-side effects were extensively tested, such as swing or core supporter effects, term limit effects, election cycles effects, among others.

This article challenges and complements this argument by introducing an alternative hypothesis to account for the influence of local government capacity on the allocation of federal funds in Brazil. By doing so, the article draws attention to what one might call the "demand side" of intergovernmental grants: the local governments' capacities to design better projects, offer higher financial matching requirements, and capture more discretionary upper-level grants. The main research question we intend to answer is, therefore, to what extent local governments' capacity influence the allocation of discretionary funds by the Brazilian central government.

The remainder of this article is organized as follows. In Section 2, we review the major theoretical frameworks used by authors who scrutinize the logic of discretionary transfers, highlighting why and how the concept of local government capacity may be included in the research agenda. In Section 3, we introduce the Brazilian context, presenting basic facts on the process of discretionary grants allocation in Brazil, providing, moreover, basic information of the country's political system. In Section 4, we present the paper hypothesis and research methodological procedures used. In Section 5 we discuss the empirical results, whereas section 6 concludes by summarizing our main findings.

2. Literature Review: The Political Economy of Intergovernmental Transfers

Studies about the relationship between political systems and public policy implementation have been undertaken under several theoretical frames covering a vast range of themes. In special, the fiscal federalism literature provided a relevant set of research avenues on several issues surrounding decentralized systems, with several scholars helping the understanding of "which functions and instruments are best centralized, and which are best placed in the sphere of decentralized levels of government" (OATES 1999: 1120).[14] The primary assumption backing up

[14] To Oates (2005), three references mark the foundation of the fiscal federalism theory: Samuelson concepts of public goods; Kenneth Arrow's conceptualization of the private and public sectors; and Musgrave's works on public finance. The Arrow-Musgrave-Samuelson perspective established the groundwork to the understanding of central governments' role in correcting market failures, pursuing equitable distributions of income, and stabilizing the macroeconomy at adequate levels of employment and inflation.

the fiscal federalism agenda was that benefits of decentralization, in the absence of negative spillovers effects[15], are positively correlated with geographic variance in demands for public goods and services. As Rodden (2005) explains, in cases of preferences' heterogeneity across jurisdictions, local governments are thought to be in a better position to understand costs and benefits of tailored policies and projects. Other scholars went further, suggesting that decentralization can also be recommended when preferences are geographically homogeneous. They argue that decentralization depends not only on disparities in demands, but also on the advantages derived from a local accountability system. Seabright (1996) suggests, for instance, that even though centralization allows a greater coordination in policy implementation, decentralization promotes greater accountability, for the welfare of a given jurisdiction may influence elections results.[16]

However, as Dellmuth and Stoffel (2012) point out, countries are continuously confronted with unequal socioeconomic conditions and fiscal capacity among its jurisdictions, what demands, as follows, central government intervention. In this context, several types of intergovernmental transfers were created to address the vertical and horizontal imbalances that may distress decentralized systems. According to De Borger and Proost (2012), two main (normative) motivations guiding the prescription of federal grants appear in the origins of the fiscal federalism theory. The first is related to the insufficient fiscal capacity at the lower levels, a problem that could be addressed by unconditional grants or tax revenue sharing. The second is related to the existence of spillover effects, what may justify the use of federal targeted grants, since they can provide an appropriate set of standards to guide local government decisions.

The understanding of the rationale behind intergovernmental transfers in decentralized democratic systems, though, has evolved within the fiscal federalism literature. Oates (2005) and Weingast (2008), for instance, suggest that a "first-generation theory of fiscal federalism" (OATES, 2005) or "first generation fiscal federalism" (WEINGAST, 2008) was, as De Borger and Proost (2012) suggested, mainly normative, assuming that policy makers sought welfare maximization. These first-generation authors showed that intergovernmental transfers could enhance equity (financing basic public services, for instance), increase efficiency (providing public goods with positive externalities), and smooth volatilities (reacting to local/regional shocks). However, political factors can distort such normative motivations. To Oates (2005: 352), the first-generation authors ignored key contributions of the public choice literature. In the author's words, "a central tenet of the public-choice approach is the view that public decision-makers are utility maximizers with their own objective functions. And this has produced, in certain instances, a rather different view of the normative properties of fiscal decentralization". Terman and Feiock (2015: 1061), for instance, highlight problems that can emerge when "policy preferences differ across the different layers of government, which means that the preferences of governments receiving grants diverge from that of the federal government". To the authors, success in achieving federal policy goals will depend, consequently, on the set of mechanisms established to overcome conflict of goals. Likewise, public officials' interests can and often diverge from voters' preferences.

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[15] The issue of spillovers is less relevant when the public goods are more local, as in local roads, local health clinics, or identification of beneficiaries of public transfer programs (BARDHAN, 2002: 190).

[16] To Keefer and Khemani (2005: 22), this type of decentralization, however, "may not succeed if local voters are apathetic to local elections and have little or no information about the resource availability and capability of local governments, if social polarization is more intense at the local level, or if clientelist promises to a few voters are easier to make and fulfill at the local level because of closer social relations between the elected representatives and their clients". To Golden and Min (2013: 90), this alleged pitfall of decentralization, that is, the political capture of local governments by local elites, a phenomenon usually related to poverty and socio-economic inequality, "is not likely to prove enduring over the long term".

These types of political processes, not properly addressed by the fiscal federalism first-generation, were absorbed by second-generation authors, to whom public officials have goals not necessarily aligned to the pursue of social welfare maximization (WEINGAST, 2009).[17] As Oates (2005: 356) further explains, the second generation literature is built on the assumption that participants in political processes, respecting the existing set of behavior constraints, indeed seek to maximize their utility functions. This perspective encompasses, thus, the understanding of political institutions and the incentives they comprise, since redistributive policies are in fact decided by public officials with electoral motivations.[18] As Timmons and Broid (2013: 556) claim, if politicians prioritize political goals, "social objectives will only be served when politician's private benefits are congruent with social welfare criteria". Weingast (2007: 289) goes further, stating that "for democracy to serve as a mechanism of freedom and choice, it must be embedded in institutions that constrain the government's use of discretionary fiscal authority to threaten voters who vote for the opposition".

Weingast's claim is indeed pertinent since government officials, as the literature shows, do tend to politically manipulate the allocation of the limited funds available. Partisan-oriented allocations of discretionary grants are, in fact, common in multi-level democratic governments. Local politicians frequently obtain electoral returns when they abnormally receive high levels of grants and funds and, if they recognize the federal responsibility for such allocations, national representatives will also tend to be electorally benefited. Consequently, federal officials have strong incentives to strategically allocate resources to their allies, since they tend to be loyal "political brokers".

This supply-driven point of view, based mainly on the electoral reasons behind national fund managers decisions, predominates in the empirical agenda, as we discuss bellow. It is important to note that first-generation authors can also be looked at as supply-driven, since they were mainly interested in grasping the logic and the practice of those responsible for grants provision to local governments, using socioeconomic criteria, nonetheless. The subnational governments, the actual grants receivers – and beneficiaries alongside the local community –, were similarly regarded, by both generations, as mere passive administrative machines in this macroeconomic and political theatre.

The merits, worth and accomplishments of the supply-oriented research is, nevertheless, unquestionable. A valuable set of studies within this frame, employed, for instance, principal-agent models (BOADWAY et al., 1995; BODDINGTON et al., 2001; POTRAFKE, 2013; BRACO et al., 2015). As it is well known, an agency relationship between two or more groups of actors arises when one, identified as the agent, "acts for, on behalf of, or as representative for the other, designated the principal, in a particular domain of decision problems" (Ross 1972: 134). In the standard agency framework, the main task is to make principals and the agents, overcoming the inherent information asymmetry between them, to behave in a way that maximizes both utility functions. In Public administration and politics, several types of arrangements – as between voters and politicians, federal officials and local political leaders, or bureaucrats and elected politicians – contain collective decision-making challenges that fit in the agency theory. These challenges drove scholars to study incentive systems that may be used by principals to produce the desired goals. The "mechanism design" perspective has been especially useful in this task, since, as Mookherjee (2008: 239) states, it extends the classical general equilibrium theory to non-classical

[17] The second-generation of fiscal federalism, according to Oats (2005: 356) is prolific and eclectic not only in terms of its sources, but also in term of its applications. "It reaches not only across fields in economics but across disciplines with important contributions from political scientists and others. This makes it difficult to characterize in a simple and systematic way".

[18] Inman and Rubinfeld (1997) have characterized the first-generation fiscal federalism as "economic federalism", which they contrast with posterior models accounting for political processes.

environments. Mechanism-design will be related, consequently, to optimal and efficient decision-making systems, which include communication, enforcement and rewarding rules. Optimal design of intergovernmental grants (HUBER & RUNKEL, 2006), or supranational investment aids and grants (De RUS & SOCORRO, 2010; PROOST et al., 2011), have been studied, in this way, also as mechanism-design problems.[19]

However, it is not trivial to evaluate political interactions based on the agency theory. An example of this complexity is Blom-Hansen's (2005) analysis of the European Commission's capacity to control how member states spend funds. To the author, the Commission, the principal, seeks to structure the transfers in ways that promote European Union funding goals. Delmuth and Stoffel (2012) perceive, on the contrary, another agency relationship. They suggest that the EU is characterized by a more complex chain of delegation and the member states would be the principals and the Commission the agent. This disagreement is understandable. Considerable efforts are required to translate principal-agent models to electoral settings with multiple levels of government, as Wildasin (2004) argues.[20] The use of agency models to understand policy outcomes in decentralized multiparty systems must deal with highly complex environments, given the multiple responsibilities, relationships and layers associated with policy implementation. In such contexts, it is usually witnessed situations where principals have numerous agents, and agents are related to several principals. In addition, the multiprincipals' interests may or may not be aligned, what amplifies the problems of moral hazard and adverse selection.

Formal principal-agent models occupy, nevertheless, a supporting position in this supply-driven research on intergovernmental grants[21]. Intertangling with the fiscal federalism literature, a more prolific strand of literature scrutinizing the rationale of central governments allocative strategies was built over the distributive politics perspective. Essentially, the distributive politics analyzes tax policies and governmental decisions on the time and volume of resources allocations to specific localities. In other words, it assesses how public authorities geographically target benefits and spread costs. Taxation and resources' allocation may be analyzed, naturally, based on how redistributive strategies affect inequality patterns. According to Golden and Min (2013) this perspective investigates the benefits to voters rather than the electoral returns to politicians. As Johansson (2003: 883) states, "a welfare maximizing government might want to transfer money from richer regions to poorer using lump-sum grants, or to correct for externalities by using matching grants". This line is, hence, closely related to the first-generation authors of the fiscal federalism theory.

Most distributive politics studies focus, however, on electoral aspects of allocative strategies. Though still within the supply-side strand, it exponentially amplified the understanding of the political strategies used by governments to conquer voters' support and to build and sustain political coalitions. Golden and Min (2013) call this political-oriented view as the "accountability perspective"[22] of distributive politics, a perspective clearly related to the fiscal federalism second-generation. Underlying this strand is the assumption that the motivations of politicians responsible to the resources' allocation is mainly electoral, and Golden and Min distinguish four types of works

[19] Other themes in political science equally analyzed as problems sensitive to mechanism-design solutions are electoral systems, voting mechanisms, or voter turnout (GERARDI & YARIV, 2008; GROßER & SCHRAM, 2010; GROßER & GIERTZ 2014; GROßER & SEEBAUER, 2016; KWIEK, 2017).

[20] Some fiscal federalism authors have handled this issue ignoring the electoral dimension, treating the public sector structure like that of the firm (LEVAGGI, 2002). Inman (2003) calls this approach "administrative federalism", in which local governments are considered agencies responding to central directives.

[21] Within the political economy of intergovernmental grants, the principal-agent theory may be better understood as a formal guide to accurately understand the set of actors and stakeholders present, the possible actions they can take, and the possible consequences of their interactions.

[22] This perspective implies, consequently, that voters have the ability to hold politicians accountable for government performance.

inside this perspective. The first asks whether politicians allocate goods to their core constituents or whether they target swing voters. The second asks whether politicians allocate disproportionately to population subgroups. A third set of studies, closely related to the theory of political business cycles[23] (Nordhaus, 1975; Lindbeck, 1975), investigates the timing of the allocations in relation to the electoral cycle, questioning if politicians deliberately increase allocations in periods just prior to the elections. A final group of works analyzes if politicians are rewarded by their strategic allocations, that is, if "incumbent politicians are rewarded by voters for distributive allocations, and in particular for those that are clientelistic and from which recipients can be excluded" (GOLDEN & MIN, 2013: 84).

Building on these "supply-side" perspectives and frameworks, empirical studies analyzing the political rationale of intergovernmental transfers has proliferated, and the discretionary fiscal authority of politicians have been strongly recognized in several countries, contexts, and political systems. Grounded on different methodologies and methods, all mentioned hypotheses had some opportunity to be tested: *i*) co-partisan's alignment effect (LARCINESE et al., 2006; SOLÉ-OLLÉ & SORRIBAS-NAVARRO, 2008; BRACCO et al., 2015; BROLLO & NANNICINI, 2012); *ii*) swing voter hypothesis (JOHANSSON, 2002; GARRETT & SOBEL, 2003; SOBEL & LEESON, 2006; VEIGA & PINHO, 2007; ARULAMPALAM et al., 2009; BANFUL, 2011; SORRIBAS-NAVARRO, 2011; SOLÉ-OLLÉ, 2013); *iii*) core supporter hypothesis (ANSOLABEHERE & SNYDER, 2006; FRANCKEN et al., 2012; FIRPO et al., 2015; KAUDER et al., 2016)[24]; *iv*) term limit effects (AIDT & SHVETS, 2012; NOGARE & KAUDER, 2017; GONSCHOREK et al., 2018); *v*) districts' over-representation effect (PORTO & SANGUINETTI, 2001) *vi*) election cycles effects (BRENDER & DRAZEN, 2005; KWON, 2005; VEIGA & PINHO, 2007; COLE, 2009; De HAAN & KLOMP, 2013); among others.[25]

In the Brazilian context, several authors have equally studied central government allocations and allocative political biases. Brollo and Nannicini (2012) identified a positive effect of partisan alignment, since the federal government favors aligned mayors, especially before elections (see also FERREIRA & BUGARIN, 2006). Nunes (2015), discussing strategical allocations in federations with different degrees of centralization, supports that national politicians in more decentralized federations such as Brazil allocate public goods relying on co-partisans' mayors, regarded as trustworthy political brokers. According to Nunes, information asymmetry, stronger in decentralized than in centralized countries, allow mayors to claim the credit for policy outcomes, leading voters to reward the credit-claiming party. Non-aligned mayors in decentralized countries have, thus, more opportunities to profit from the community welfare improvements resulting from national policies.[26] Bueno (2017), following this path, studied a distributive strategy that allows

[23] According to political business cycle approach, incumbents tend to strategically manipulate the fiscal policy – increasing public expenditures or cutting taxes – before elections.
Rogoff (1987), for instance, predicts that politicians tend to increase easily observed consumption expenditures, while Drazen and Eslava (2006) predicts targeting on public goods more desired by voters on swing constituencies. The political business cycles literature also shows that the cycles tend to be strong in less mature democracies.

[24] Rodden and Wilkinson (2004) argue that untying swing and core supporter is complex. Nunes (2015) states that the swing-core approach applies properly to countries like US, given its single-member district electoral system. According to Nunes, this conception relies on the notion that voters have ideological positions, but there is little support that Latin American voters weigh their welfare using ideology.

[25] Brender and Drazen's (2005) and Veiga and Pinho (2007) are interesting works with contradictory findings about the relation between opportunistic election cycles and democracy strengthening.

[26] In more centralized federations, credit-claiming from political adversaries is not a significant risk. As Nunes (2015: 69) argues, "local politicians in these countries cannot credibly free-ride on federal resources to extract electoral advantages. Voters know that presidents are responsible for allocations, and that mayors make very small contributions to the outcomes they see". In more centralized federations, thus, presidents tend to invest in "direct linkages with voters, thereby choosing to target municipalities with core presidential voters, regardless of the party affiliations of the local officials" (NUNES, 2015: 64-65)

Brazilian presidents to minimize credit-claiming costs of spending in opposition-controlled jurisdictions: funding non-state organizations. She found evidences that incumbents strategically allocate resources to NGOs, enabling the president to supply goods and services to voters in municipalities ruled by the opposition.

Brazilian presidents, however, are not the solely responsible for the central government's allocative decisions. They share the federal stock of discretionary funds with their ministers, their coalition partners. Meireles (2018) calls this perspective as the "coalition's distributive politics". It is important to note that the Brazilian political system strongly pushes presidents to offer ministries to other parties in exchange for a stable legislative support. From the coalition partners perspective, this arrangement is advantageous since it provides access to several types of tools and resources, including the discretionary funds frequently used to benefit co-party local politicians. As Chaisty et al. (2018: 141) argue, "coalitions are a two-way relationship, and demand-side factors (i.e. what legislators want) affect the *type* of costs that presidents face". Presidents usually deals with policy-seeking parties, which aim to maximize its influence over public policy, and office-seeking parties, which aim to maximize their cabinet portfolios while sharing it with as few partners as possible. Partisan-oriented allocations, nonetheless, are undertaken by policy-seeking parties as well, since they also seek funds and resources to apply in non-programmatic projects. By leading ministries in a multiparty cabinet, political parties in Brazil not only control resources but also allocate them in a discretionary non-programmatic manner, as recently demonstrated by Meireles (2018).

Another important finding about the political interactions behind the intergovernmental grants allocation in Brazil was highlighted by Meireles (2019). To the author, although the process of requesting discretionary transfers is essentially an administrative process, there are evidences that mayors affiliated to federal-coalition parties submit a higher number of proposals, when compared to nonaligned mayors. This fact, however, demands deeper investigations, but still appears a phenomenon connected to the political factors highlighted by the supply-side strand, since there is no clear reason to associate partisan alignment with higher technical capabilities, especially in the Brazilian multiparty electoral system.

A demand-oriented research agenda, despite the theoretical and empirical length and importance of the supply-driven studies, should expand, therefore, within the field. This demand-side approach could investigate, for instance, the influence of mayors' political capacity on the grants received, as did Nogare and Kauder (2017) to the Italian case. Analyzing the volume of grants transferred during a municipal election year, the authors found evidence of a positive influence for "local politicians' lobbying", given that transfers were higher before an election with an eligible incumbent. As the authors explain, term limits may allow one to discriminate between whether intergovernmental grants are the result of central government desire to buy local political capital or, instead, if they are the result of local politicians' lobbying. If the role of central government in determining grants were predominant, there would not be expected differences in grants' volume between a mayor's terms. If transfers are higher in a mayor's first term, instead, this must be consequence of electoral incentives. The mechanisms through which local political lobbying affects grants allocations still demand clarifications.

An alternative demand-side hypothesis relates to influence of technical capabilities, such as the governments' ability to elaborate projects and write proposals, on the discretionary resources' allocations, which is the focus of our paper. The influence of local government capacity on the grants received by municipalities indeed demands properly investigations. Soares and Melo (2016) utilized, for instance, municipalities' own tax revenues as a proxy of local government's technical capacity. The authors showed that the main beneficiaries of discretionary federal transfers were not only those municipalities with co-partisan or allied mayors, but also those municipalities that had the highest municipal based tax revenues. The influence of local capacities on central

government allocation strategies, however, should not be limited to taxes collection capabilities. As discussed in our first paper, it is a consensus that government capacity can be better understood as a multidimensional phenomenon, and scholars should assume that different governments have different capacities. As Bardhan (2002: 189) says,

> the problem of capacities' imbalances is especially severe in many developing countries, where the quality of staff in local bureaucracies – including basic tasks like accounting and record keeping – is very low. Even their more professional and technical people suffer from the disadvantages of isolation, poor training and low interaction with other professionals. As Bird (1995) puts it, information asymmetry thus works both ways: the central government may not know what to do; the local government may not know how to do it.

The challenge, therefore, is to contemplate not only municipalities' fiscal strengthen, as in Soares and Melo (2016), but also other types of local governments' capacities. More precisely, it should be recognized the importance of local governments' capacities in dialoguing with society, managing public information, elaborating analysis and diagnosis, and designing reasonable projects to capture discretionary federal funds. As indicated by the literature, the electoral benefits of federal transfers also fall on local politicians who may have, consequently, strong interests in using existing governments' capabilities to seize federal funds and transform them into public projects. Administrative and bureaucratic capacity, among other capacity features should be included, consequently, in models that attempt to capture the actual presence and persistence of strategic behaviors of politicians in charge of federal allocations.

In the Brazilian case, the demand-side effect is reinforced by two channels. First, may indicate that the local government has more capacity to formally ask funds, that is, more capacity to elaborate well-formulated projects aligned with federal strategies or guidelines. Second, municipalities with higher fiscal capacity may better carry the burden of the financial matching requirements usually required by the central government in order to transfer voluntary funds, as we explain in the next section. In the presence of this demand-side effect, partisan-based allocations may disappear or lose strength. In this way, and after providing a general picture of the Brazilian context, we present the research hypothesis and the methodologic procedures utilized in the article.

3. The Context: Discretionary Grants and the Brazilian Political System

In Brazil, by several reasons such as the persistence of the country's socio-economical inequalities, the role of the central government became vital in the federation. The federal executive indeed exercises a major influence on subnational governments' policy making; a role that is reinforced by the Federal Constitution, which places on the federal government legislative power to formulate and coordinate national-wide public policy in several areas. Brazilian subnational governments, however, are not passive players. After several reforms implemented over the last decades, state and municipalities have become the main actors of public services delivering, especially in health, education, and social assistance sectors. Revenue collection, however, remains concentrated in the Union, as can be seem in Table 1.[27]

[27] Rezende and Afonso (2004) provide a comprehensive overview of Brazilian fiscal federalism history and its "pendular movement pattern", with periods of centralization followed by periods of decentralization.

Table 1. Distribution of tax resources between levels of government, including intergovernmental transfers: Brazil - 1960/2015

Year	Union		States		Municipalities	
	% GDP	% Total Revenues	% GDP	% Total Revenues	% GDP	% Total Revenues
1960	10.4	59.4	5.94	34.7	1.11	5.81
1980	16.7	68.2	5.70	23.3	2.10	8.57
1988	13.5	60.1	5.97	26.6	2.98	13.3
2006	20.4	57.2	8.66	25.4	6.22	17.4
2010	18.7	56.5	8.34	25.1	6.13	18.1
2013	19.2	56.9	8.22	24.4	6.30	18.7
2014	18.6	55.7	8.35	25.0	6.47	19.3
2015	18.4	55.1	8.38	25.1	6.63	19.8
2016	18.20	54.6	8.42	25.2	6.72	20.1
2017	18.51	54.9	8.48	25.1	6.74	19.9

Source: Adapted from https://www.google.com.br/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=blog%20jose%20roberto%20afonso

Brazilian mayors face, in this scenario, several challenges to implement and sustain public policies. The complexity of this responsibility is amplified given the national context of substantial variation in social demands and local capacities, as discussed ate the first paper. With limited revenues relatively to their responsibilities, and with restricted access to credit, most of the Brazilian municipalities seeks to gain access to discretionary federal transfers, especially to finance investment projects.

Discretionary or voluntary transfers is defined here as the allocation of financial resources to another entity of the Brazilian Federation as cooperation, aid, or financial assistance. These transfers, in contrast with constitutional upper-level transfers, such as the FPM (*fundo de participação dos municípios*), for instance, are not the result of legal determination. Discretionary grants are transferred to subnational governments, public consortia, public companies, or nonprofit organizations through agreements and onlendings, which are legal instruments that regulate the process of transferring resources to finance projects of public interest. The process involves financial co-responsibility and federal supervision, usually with the participation of a federal financial institution (*Banco do Brasil* or *Caixa Econômica Federal*). Even though discretionary transfers represent a small part of municipalities' budget, they are not negligible. Discretionary grants have strategic and political importance to local governments, especially in a context of budgetary rigidity.

The process for requesting and receiving Federal discretionary funds in Brazil is complex. Requests are made by local governments to ministries in set period, and after the conclusion of this phase, the ministerial officials will approve or reject (or disregard) the proposals received. The request must be placed through the SICONV information system, created in 2008 by the federal government. From 2008 to 2018, for instance, the Brazilian federal government received more than 750 thousand requests from mayors, governors, public consortia, public enterprises, and non-state providers (see table 2). From this total, 685,948 proposals (20.4% of which were approved) were made by mayors, totalizing almost R$ 800 billion requested (11,7% of which were approved), as can be seen in the appendix.

Table 2. Federal Discretionary Grants – Number of Requests and Percentage of Approved Requests: 2008-2018

Year	Municipal		State		Non-State Providers		Public Enterprises		Public Consortia	
	Req.	Apr.	Req.	Apr.	Req.	Apr.	Req.	Apr.	Req.	Apr.
2008	21,863	9.4%	3,268	29.2%	5,047	24.4%	312	26.6%	26	15.4%
2009	110,823	18.8%	5,875	31.3%	10,291	31.8%	391	33.5%	141	14.2%
2010	86,398	23.5%	3,540	36.1%	10,302	39.3%	204	37.3%	284	22.2%
2011	64,260	18.3%	4,243	34.1%	5,897	33.2%	271	32.1%	235	23.8%
2012	43,267	22.6%	4,955	44.0%	4,369	38.3%	286	45.8%	154	31.2%
2013	84,448	16.7%	2,942	49.7%	3,643	51.0%	239	41.0%	255	16.9%
2014	47,719	20.6%	1,651	56.6%	3,457	62.9%	93	49.5%	160	23.8%
2015	44,033	20.9%	2,114	46.1%	2,347	69.9%	146	32.9%	152	30.3%
2016	30,926	34.4%	2,261	61.6%	2,819	91.8%	200	47.0%	82	39.0%
2017	93,478	17.8%	2,068	45.8%	3,045	62.0%	157	40.1%	228	21.5%
2018	58,733	25.6%	1,204	56.6%	2,516	78.0%	119	33.6%	172	20.9%
Total	**685,948**	**20.4%**	**34,121**	**41.3%**	**53,733**	**45.2%**	**2,418**	**37.1%**	**1,889**	**23.0%**

Source: SICONV; Own elaboration

Table 3 details the resources released by the federal government only to municipalities by selected ministries, from 2009 to 2012.

Table 3. Federal Discretionary Resources Released by Selected Ministers: 2009-2012 – R$ Thousands (IPCA/2018=1)

Ministry	Political Party	2009	2010	2011	2012	Total
CITIES	MDB	1,994,200	3,859,900	7,295,260	1,030,120	14,179,480
EDUCATION	PT	1,664,650	3,301,650	1,018,640	105,135	6,090,075
HEALTH	PT/MDB	1,431,430	1,532,795	1,231,356	1,368,305	5,563,886
NATIONAL INTEGRATION	MDB/PSB	1,654,510	1,961,850	656,124	459,875	4,732,359
TOURISM	PT/MDB	1,216,800	2,264,900	456,890	662,220	4,600,810
AGRICULTURE	MDB	373,490	1,250,480	334,054	611,280	2,569,304
SPORTS	PC do B	351,520	1,062,270	335,552	509,400	2,258,742
CULTURE	PV/PT	57,798	148,495	101,714	865,980	1,173,987
SOCIAL DEVELOPMENT	PT	432,640	312,620	87,933	155,650	988,843
PRESIDENCY	PT	309,270	247,225	143,808	215,080	915,383
TRANSPORTS	PL/PR	459,680	197,780	71,155	41,460	770,075
OTHERS	-	484,286	1,104,196	415,999	392,136	2,396,618
TOTAL		10,430,274	17,244,161	12,148,485	6,416,640	46,239,560

Source: SICONV; Own elaboration

It is worth noting that the amount of funds transferred was higher in 2010, a presidential election year. Moreover, there is a clear change in the patterns of grants released. Some ministries faced a sharp reduction in the funds transferred while others experienced a strong increase. It is also noticeable the relative importance of the budgetary funds available to ministries controlled by the PT and the MDB parties. A digression about the PT's second government coalition strategy, then, is necessary.

As it is well known, on January 1, 2003, Luiz Inácio Lula da Silva and the Workers' Party (PT), a political party with solid social roots and high levels of party discipline, took over the Federal Government. The first Lula government faced serious accusations of corruption, image losses due to the "*Mensalão*" judicial process, and fratricide conflicts derived from an economic policy that contradicted the party's programmatic history. The PT government overcame these political and judicial struggles and the President Lula ended up being re-elected in 2006.

Lula's second term consolidated the PT's new coalition strategy constructed during the 2003-2006 period, oriented by a more ideologically eclectic strategy. This new configuration of Lula's government parliamentary base could be viewed as the culmination of the PT's adaptation process to the Brazilian political system, with the party assuming more pragmatic positions.[28] For Ribeiro (2008), the PT acquired clear features of a professional-electoral party, increasingly becoming, in parallel, dependent of the State apparatus, a basic feature of the traditional typology of cartel party.

The PT long process of party evolution, though, was influenced by endogenous and exogeneous factors. The electoral competition and the nature of the Brazilian political system, characterized by a highly fragmented party system and parties with low levels of institutionalization, encouraged PT, during the 1990s, to stretchy its programmatic agenda and build alliances to deal with concrete problems faced by its municipal and state administrations (SAMUELS, 2004). Amaral (2010) recalls, furthermore, that in 1995, a group with highly "pragmatic" positions took the leadership of the PT, bringing it closer to that type of party defined by the literature as "vote-seeking". For the author, the national and international context of the 1990s empowered this pragmatic group that adopted electoral strategies that, in turn, made the party even more susceptible to the context, national and international. The party's identity transformation allowed, though, an expansion of the PT's institutional participation. According to Amaral (2010), in the 2002 elections the PT also won the largest number of seats in the Chamber of Deputies (17.7%) and in state legislative assemblies (13.9%).

Despite this unprecedently strong electoral performance, the first Lula government faced inter-party and intra-party challenges: the need to build legislative coalitions to govern, and the necessity to discipline a party marked by strong internal divisions. The intra-party challenges influenced more, though, the PT's first coalition. The PT and its allies in the 2002 presidential election (PL, PCdoB, PMN and PCB) accounted for only 25.3% of federal deputies, but the government reserved 20 of the 33 ministries to PT itself (61%). Another seven parties were included on the cabinet with only one minister each. The PMDB, now MDB, occupying 14.4% of the Chamber of Deputies seats, for example, was left out of the coalition. The final balance of this composition was a weak support base unable to automatically guarantee victories in Congress (AMARAL, 2010). The judicial and political struggles faced by the PT during Lula's first term, and in particular the *Mensalão* scandal, altered the PT's coalition strategy. The MDB was incorporated into the government base, receiving two ministries already in the first Lula presidency. Despite the nominal majority in the Chamber (62%), the imbalance in the distribution of ministries and public positions remained generating dissatisfaction the government coalition (AMORIM NETO, 2007; PEREIRA, POWER & RAILE, 2011).

However, as a result of the PT government efforts to increasingly attract the MDB support, and with the growing in Lula's popularity, during 2005, the MDB considerably increased its commitment to the government, "gained more portfolios, backed Lula's reelection in 2006, and became a full-fledged partner in Lula's second term with the size of the opposition faction considerably reduced" (ZUCCO & LAUDERDALE, 2011). In President Lula's second term, the

[28] Ribeiro (2008), Samuels (2004) and Hunter (2007) provide complementary analysis of this process of transformation that took place in the PT.

party consolidated this more realistic and less monopolistic position on the composition of the PT-led cabinet (PEREIRA, POWER & RAILE, 2009).

Table 4. Lula presidency Government coalitions – 2003-2010

Coalition/ President	Parties in the Coalition	Date of the Coalition	
		Start	End
LULA I.1	PT-PL-PCdoB-PSB-PTB-PDT-PPS-PV	Jan./2003	Jan./2004
LULA I.2	PT-PL-PCdoB-PSB-PTB-PPS-PV-PMDB	Jan./2004	Jan./2005
LULA I.3	PT-PL-PCdoB-PSB-PTB-PV-PMDB	Feb./2005	May/2005
LULA I.4	PT-PL-PCdoB-PSB-PTB-PMDB	May/2005	Jul./2005
LULA I.5	PT-PL-PCdoB-PSB-PTB-PP-PMDB	Jul./2005	Jan./2007
LULA II 1	PT-PL-PCdoB-PSB-PTB-PP-PMDB	Feb./2007	Apr./2007
LULA II 2	PT-PR-PCdoB-PSB-PTB-PP-PMDB-PDT-PRB	Apr./2007	Dec./2010

Source: Figueiredo (2008); Pasquarelli (2011).

The 2008 municipal elections, therefore, incorporates this new status-quo, especially considering the political power of the MDB at the national and subnational levels. It is important to highlight that in the 2008 municipal election, 84% of the total candidates for mayor were presented to the electorate under a specific political coalition. That is, more than 12 thousand names were launched by formal alliances between two or more political parties (DANTAS and PRAÇA, 2012). Table 5 shows the total number of municipalities where such legends competed for city offices in 2004 and 2008. The MDB is the most present, and the only one to surpass 5,000 cities in both years. The biggest drop was due to the PFL/DEM, which contested 6.4% less city halls in 2008 compared to the 2004. Table 6 shows the political parties controlling the state and municipal executives after the 2008 local elections.

Table 5. Presence of major parties in municipal elections: 2004 and 2008

Election Year	PP	PFL/ DEM	PL/ PR	PTB	PMDB/ MDB	PSDB	PPS	PDT	PSB	PT
2004	4,222	4,592	3,903	4,221	5,064	4,536	3,350	3,593	2,640	4,634
2008	4,262	4,307	3,752	4,139	5,026	4,576	3,193	3,910	3,510	4,695

Source: adapted from DANTAS and PRAÇA (2012).

This contextualization, although brief, evidences the logic of our research decision regarding the partisan alignment effect exploited. The described coalition management movements performed by the PT, allows one to diverge from the traditional hypothesis of the president's party role in the allocative spending strategy. Increasingly sharing distributive power with the coalition parties, the PT government enabled its political partners to target grants according to their interests. Also based on the fragmentated scenario resulting from the subnational political dynamics, we decided to consider in this paper the mayors' partisan alignment effect with ministers, as it will be explained in the next section, in which the research hypothesis and the methodological procedures are presented.

Table 6. Political Scenario after the 2008 Municipal Elections by Sates: Mayors and Governors Partisanship

Mayors Affiliation	Governor Party Affiliation																													
	PT						PSB				MDB								PP	PDT			PPS			PSDB					
	AC	BA	PA	PI	SE	TOT	CE	PE	RN	TOT	AM	ES	MS	PR	RJ	SC	TO	TOT	GO	AP	MA	TOT	MT	RO	TOT	AL	MG	PB	RR	RS	SP	TOT
MDB	4	113	40	34	13	**204**	32	12	35	**79**	22	21	28	132	36	109	36	**384**	**59**	3	14	**17**	20	12	**32**	19	120	56	1	141	69	**406**
PSDB	1	27	13	14	2	**57**	54	17	6	**77**	4	13	10	40	6	35	15	**123**	**52**	2	25	**27**	7	2	**9**	13	153	40	6	19	200	**431**
PT	12	67	28	18	7	**132**	15	8	4	**27**	6	6	11	32	11	36	12	**114**	**13**	3	8	**11**	17	4	**21**	1	109	5	1	62	64	**242**
PP	2	36	6	10	1	**55**	8	3	16	**27**	5	3	1	41	14	56	6	**126**	**48**	1	10	**11**	22	2	**24**	21	55	11	0	146	24	**257**
DEM	0	45	6	10	5	**66**	2	20	18	**40**	4	7	4	22	5	44	26	**112**	**14**	1	20	**21**	22	4	**26**	1	97	33	0	13	75	**219**
PTB	0	13	14	70	6	**103**	6	29	8	**43**	3	2	3	22	1	3	6	**40**	**8**	0	11	**11**	2	4	**6**	19	65	23	1	31	61	**200**
PR	1	41	15	2	6	**65**	9	29	16	**54**	8	3	8	20	4	2	23	**68**	**29**	1	10	**11**	31	7	**38**	2	73	15	2	0	24	**116**
PDT	0	9	8	11	11	**39**	2	8	7	**17**	0	3	9	40	5	2	5	**64**	**1**	4	58	**62**	4	1	**5**	3	53	5	0	66	28	**155**
PSB	2	14	4	38	10	**68**	23	48	43	**114**	1	13	2	12	3	1	4	**36**	**5**	0	9	**9**	3	3	**6**	5	14	14	1	13	28	**75**
PPS	0	0	3	6	1	**10**	2	1	3	**6**	2	2	2	18	0	5	2	**31**	**2**	0	5	**5**	10	2	**12**	1	33	1	1	4	29	**69**
PV	0	3	1	0	0	**4**	2	0	1	**3**	0	1	0	3	0	0	1	**5**	**1**	1	20	**21**	1	3	**4**	0	15	0	1	0	24	**40**
PRB	0	4	1	3	1	**9**	16	3	3	**22**	0	1	0	1	1	0	1	**4**	**2**	0	12	**12**	0	0	**0**	1	11	7	0	0	2	**21**
PSC	0	6	1	0	9	**16**	1	1	0	**2**	1	1	0	4	4	0	0	**10**	**5**	0	2	**2**	0	0	**0**	6	14	5	0	0	6	**31**
PC do B	0	18	0	3	2	**23**	5	4	0	**9**	2	0	0	1	0	0	0	**3**	**0**	0	1	**1**	0	0	**0**	1	2	1	1	0	1	**6**
Others	0	21	3	5	1	**30**	7	2	7	**16**	4	2	0	11	2	0	2	**21**	**7**	0	12	**12**	2	8	**10**	9	39	7	0	1	10	**66**

Source: MUNIC, TSE; Own elaboration

4. Research Hypotheses and Methodological Procedures

The underlining premise of this paper is that both partisan alignment and government capacity positively affect federal funds allocations. Municipalities better managed and with higher capacities tend to present better projects (i.e. in accordance with federal guidelines and standards), to have more resources to offer as a financial matching requirements, and to have greater capabilities to effectively implement the projects. Hence, they tend to receive more discretionary resources from the central government, especially if they are aligned with the minister responsible for the transfer. Following this rationale, our research hypotheses are:

First Hypothesis: *Partisan alignment positively influences the amount of discretionary federal grants received by the Brazilian municipalities*

Second Hypothesis: *Local government capacity positively influences the amount of discretionary federal grants received by the Brazilian municipalities.*

Third Hypothesis: *The combined effect of partisan alignment and high local government capacity positively influences the amount of discretionary federal grants received by the Brazilian municipalities.*

To test these hypotheses, we employ two empirical strategies. Firstly, we performed a series of OLS multiple regressions, and, next, we employ multivariate regressions on matched samples. Propensity score procedures allow us to minimize selection bias problems by allowing us to compare similar observations within a zone of common support (HECKMAN, ICHIMURA, & TODD, 1998). Matching on socioeconomic features, we seek to ensure that the local government capacity effect is not being significantly disturbed by local levels of socioeconomic development.

4.1 Econometric Specifications

To test the governments' capacity influence on federal grants, we use the LGC index defined and calculated at the first paper. Since the index was calculated to the year 2009, we decided to utilize, as dependent variable, the federal funds released to the municipalities in the year 2010. The explanatory political variable been moderated by the local government capacity is the mayors' partisan alignment with ministers.

To estimate the effects of local government capacity, partisanship alignment, and their interaction on the values released by the coalition cabinet, we use the following specifications:

$$VR_{mi} = \alpha + \delta MAM_{mi} + \beta zLGC_i + \mu C_i + s_i + \varepsilon_i$$

$$VR_{mi} = \alpha + \delta MAM_{mi} + \beta zLGC_i + \delta MAM_{mi} * zLGC_i + \mu C_i + s_i + \varepsilon_i$$

Where VR is the per capita total value released by a ministry *m* to a municipality *i*; MAM is the mayor's alignment with the minister responsible to the grants, a dummy variable that assumes value of 1 when the party of the mayor *i* is the same of the minister *m* (0 otherwise); zLGC is the standardized local government capacity 2009 index; *i* refers to each municipality; *m* refers to each ministry; α, and ε_i are, respectively, the constant term and the idiosyncratic error; s_i represent the state dummy variablel; and C_i a set of control variables (covariates).

The key effects of interest are the LGC and the partisan alignment effects, under the first specification, and their interaction, under the second. A positive and significant LGC coefficient would support the hypothesis that higher government capacities increase, on average, the discretionary grants received by local administrations. Moreover, it is expected that higher levels of capacity positively interact with the mayors' partisanship alignment influence.

This strategy allows one to include the same municipality as aligned and nonaligned, since all ministers are being considered. We decided, additionally, to specifically test the alignment effect to ministries commanded by the PT, MDB and PP political parties: (table 7, bellow, summarizes our empirical strategies). We included, as controls, a set of local socioeconomic observable variables, like population levels, the HDI human development index, the per capita GDP, among others. Besides these traditional socioeconomic variables, we include three political variables. The PT performance on the 2006 presidential elections amortizes the potential favoritism towards a PT "core" supporter districts, since one could expect that municipalities in which the PT won the majority of votes in the last presidential election may be favored. To control for potential influences of higher political efforts of mayors, as did Nogare and Kauder (2017), we included a dummy variable for first term mayors. Additionally, we also exploited the percentage of valid votes acquired for the elected mayor (2008 elections) as a proxy of mayors' local power, since one could expect that mayors with better electoral performance may be considered more powerful political broker and, as a consequence, be favored with higher level of discretionary grants (see table A1 in the Appendix for the complete list of variables).

As additional tests, we estimate the effect of mayors' affiliation to the two main national PT opposition parties, the DEM and the PSDB. Even though the effect of being affiliated to an opposition party was not formally theorized here, we expect, at least considering the PT ruled ministries, a negative effect of being affiliated to an opposition party. This negative effect is expected to be higher to PSDB mayor, since the PSDB is the PT main national contender at presidential and state capitals elections. For the other two specific parties analyzed (PP and MBD), this effect is undefined, given the Brazilian political system's idiosyncrasies, especially considering the complex set of political strategies and alliances adopted at the regional level. The capacity effect for PSDB and DEM mayors, even though tested, is not theorized here. Although higher levels of capacity could compensate political misalignments, since better managed municipalities have more capabilities to formulate projects and offer matching requirements, successful opposition mayors may constitute powerful political brokers for the federal government opposition contenders (an phenomena known as reverse coattail effect).[29]

4.2 Propensity Score Matching

As argued before, discretionary federal transfers may also be allocated based on local needs and social demands. Regression models on matched samples, in this way, can be performed as a valid strategy to boost the internal validity of our empirical analysis. Largely employed in public administration research (Bhatti, Gørtz, and Pedersen 2015, Heinrich 2016), propensity score is a useful method to identify control groups as similar as possible to treatment groups in terms of observable characteristics. Propensity Score procedures allow one, thus, to better deal with selection bias problems by allowing us to compare similar observations within a zone of common support (Heckman et al., 1999).

[29] Avelino et al. (2017) recently analyzed reverse coattail effects on Brazilian elections.

We, in this way, applied propensity score matching models to build control groups formed by municipalities with low levels of capacity, but ensuring that this group is similar to a group of municipalities who scored particularly high on the LGC Index. This allows us to compare municipalities very similar in terms of observed characteristics but who developed different governance levels. The treatment group comprises, thus, the local administrations with high levels of capacity. It was considered the municipalities with capacity levels below the 25th percentile (control group) and above the 75th percentile (treatment group) of the LGC index distribution. Each municipality at the matched sample have, thus, two potential outcomes: Y_{1i} if the municipality at the third quartile and Y_{0i} if it is at the first quartile. The key effect of interest is the local government capacity effect, regardless the mayor partisanship, and six sub-samples were created to investigate the higher capacity effect. Table 7 describe the logic behind the definition of this six sub-samples.

Table 7. Matched Samples Structure

Mayor Party Affiliation	**Minister Party Affiliation**			
	PT	*MDB*	*Non-PT**	*Non-MDB***
PT	Sample 1		Sample 2	
MDB		Sample 3		Sample 4
Coalition Parties: PP; PSB; PDT; PR; PC do B; and PV	Sample 5	Sample 6		

Notes: * Includes the MDB; ** Includes the PT

As table 7 shows, the six matched samples were based on the mayor partisanship (PT, MDB, and other coalition parties) and on the ministers' partisanship (PT, MDB, and others). Table A3 at the appendix presents the variables used at the PSM, which includes, in order to capture time trends, one variable from the year 2005. We thereafter estimate the effects of high capacity on the federal grants released as follows:

$$VR_{mi} = \alpha + \beta zLGC_i + \mu C_i + \varepsilon_i$$

Where VR is the per capita total value released by a ministry *m* to a municipality *i*; zLGC is the standardized Local Government Capacity Index; α, and ε_i are, respectively, the constant term and the idiosyncratic error; and C_i the set of covariates. The key effect of interest is the local government capacity. We expect a positive and significant LGC index coefficient for all matched samples. Tables 8 and 9 summarize all empirical strategies adopted.

4.3 Sample and Sources

The study main sample is formed by municipalities with LGC index and requested grants to federal ministries in 2010. Since municipalities request grants from several ministries each year, not only to ministries managed by co-partisans' officials, the study main sample was composed of 9,252 observations. This study utilizes information from the following sources: 1) Superior Electoral Court – TSE; 2) MUNIC/Brazilian Institute of Geography and Statistics – IBGE; 3) National Treasury - STN; 4) SICONV; 5) United Nations Development Programme (UNDP), that provides the 2010 MHDI index, an adaptation of the HDI at the municipal level. Tables 8 and 9 schematize our empirical strategies.

Table 8. Hypotheses and Empirical Strategies - OLS Regression Models

Hypotheses	Dependent Variable	Sample		Hypothesis; Independent Variables; and Effects of Interest			Models	
							Without state dummies	With state dummies
H1: Partisan alignment positively influences the amount of discretionary federal grants received by the Brazilian municipalities H2: Local government capacity positively influences the amount of discretionary federal grants received by the Brazilian municipalities. H3: The combined effect of partisan alignment and high local government capacity positively influences the amount of discretionary federal grants received by the Brazilian municipalities.	Per Capita Funds Released	Aligned Mayors (MAM)	All Sample	*Socioeconomic controls*			1	7
				All controls			2	8
				H1	MAM	(+)	3	9
				H2	LGC	(+)	4	10
				H1 H2	MAM LGC	(+) (+)	5	11
				H3	LGC # MAM	(+)	6	12
			MDB ruled ministries	H3	LGC # MAM	(+)	13	16
			PP ruled ministries	H3	LGC # MAM	(+)	19	-
			PT ruled ministries	H3	LGC # MAM	(+)	22	25
		Opposition Mayors (OPP)	MDB ruled ministries	H2	LGC OPP LGC # OPP	(+) *Undefined* *Undefined*	14 (DEM) 15 (PSDB)	17 (DEM) 18 (PSDB)
			PP ruled ministries	H2	LGC OPP LGC # OPP	(+) *Undefined* *Undefined*	20 (DEM) 21 (PSDB)	-
			PT ruled ministries	H2	LGC OPP LGC # OPP	(+) *Undefined* *Undefined*	23 (DEM) 24 (PSDB)	26 (DEM) 27 (PSDB)

Table 9. Hypotheses and Empirical Strategies – Matching/Regression Models

Hypotheses	Dependent Variable	Matched Sample	Hypothesis; Treatment; and Effect of Interest			Models
H2: Local government capacity positively influences the amount of discretionary federal grants received by the Brazilian municipalities. H3: The combined effect of partisan alignment and high local government capacity positively influences the amount of discretionary federal grants received by the Brazilian municipalities.	Per Capita Funds Released	Coalition Party Mayor & PT ruled Ministries*	H2	High LGC	(+)	28
		Coalition Party Mayor & MDB ruled Ministries*	H2			29
		PT Mayor & Non-PT ruled ministries	H2	High LGC	(+)	30
		PT Mayor & PT ruled ministries	H3			31
		MDB Mayor & Non-MDB ruled ministries	H2	High LGC	(+)	32
		MDB Mayor & MDB ruled ministries	H3			33

Note: * Coalition Parties Considered: PSB; PC do B; PDT; PP; PR/PL; and PV

5. Results

Tables 10 and 11 present the results of the full sample OLS regressions, without and with dummy variables for states. Models 1 and 7 include only the socioeconomic controls variables; models 2 and 8 include all controls, including the political control variables. Models 3 and 9 relate to the first research hypothesis: the alignment effect. Models 4 and 10 relate to the second research hypothesis: the capacity effect. In models 5 and 11 we estimate the alignment and the capacity effects without including the interaction term. In Models 6 and 12 we test the moderation specified at the third hypothesis, that is, the combined effect of partisan alignment and local government capacity on federal resources released.

The results shown in Table 10 provide strong evidence that partisan alignment and high government capacity increases the amount of intergovernmental grants released. All estimated coefficients are positive and significant (at the .01 level). The interaction between the standardized capacity index and the alignment dummy, however, is negative and statistically significant at the 0.05 level, with and without state dummies (models 6 and 12). This result demands a further discussion, for we used, as explained, the standardized LGC index in the regression models.

Table 10. OLS Regressions Models for Per Capita Resources Released (R$) to Brazilian Municipalities

Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
zLGC				3.471***	3.537***	3.948***
				(0.813)	(0.811)	(0.818)
Alignment			8.223***		8.294***	8.326***
			(1.365)		(1.364)	(1.369)
Alignment#c.zLGC						-2.710**
						(1.173)
First Term		0.546	0.536	0.673	0.666	0.627
		(1.030)	(1.028)	(1.026)	(1.024)	(1.024)
Valid Votes_%		0.204***	0.203***	0.202***	0.201***	0.201***
		(0.0483)	(0.0482)	(0.0483)	(0.0482)	(0.0481)
PT_2006		1.446	1.470	1.486	1.511	1.578
		(1.136)	(1.132)	(1.135)	(1.131)	(1.132)
LnPOP	-16.30***	-16.38***	-16.34***	-17.91***	-17.89***	-17.84***
	(0.473)	(0.486)	(0.483)	(0.663)	(0.661)	(0.663)
IDHM2010	34.71***	41.67***	39.27***	24.27**	21.52*	21.61*
	(8.945)	(10.36)	(10.30)	(11.52)	(11.46)	(11.47)
GDPpc	0.106	0.102	0.0974	0.00580	-0.000166	-0.00210
	(0.100)	(0.101)	(0.101)	(0.106)	(0.106)	(0.106)
Constant	162.9***	146.8***	146.6***	174.1***	174.4***	173.9***
	(6.385)	(7.267)	(7.259)	(11.02)	(11.00)	(11.03)
State Dummies	*No*	*No*	*No*	*No*	*No*	*No*
Observations	9,252	9,252	9,252	9,252	9,252	9,252
R-squared	0.157	0.159	0.163	0.161	0.165	0.165

Notes: Standard robust errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 10. OLS Regressions Models for Per Capita Resources Released (R$) to Brazilian Municipalities – Continuation

Variables	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
zLGC				3.304***	3.454***	3.891***
				(0.833)	(0.832)	(0.836)
Alignment			7.445***		7.616***	7.654***
			(1.357)		(1.356)	(1.363)
Alignment#c.zLGC						-2.902**
						(1.168)
First Term		0.786	0.767	0.889	0.874	0.841
		(1.027)	(1.026)	(1.023)	(1.021)	(1.021)
Valid Votes_%		0.242***	0.240***	0.239***	0.237***	0.237***
		(0.0490)	(0.0489)	(0.0490)	(0.0488)	(0.0488)
PT_2006		1.560	1.403	1.525	1.362	1.419
		(1.378)	(1.372)	(1.375)	(1.369)	(1.370)
LnPOP	-17.78***	-17.73***	-17.75***	-19.25***	-19.34***	-19.27***
	(0.591)	(0.592)	(0.591)	(0.790)	(0.790)	(0.792)
IDHM2010	117.2***	119.3***	117.9***	105.2***	103.2***	103.4***
	(14.27)	(14.58)	(14.54)	(14.47)	(14.42)	(14.43)
GDPpc	0.0839	0.0721	0.0711	-0.0147	-0.0197	-0.0220
	(0.0993)	(0.0995)	(0.0997)	(0.104)	(0.104)	(0.105)
Constant	138.0***	120.9***	120.8***	145.6***	146.6***	145.9***
	(8.659)	(9.196)	(9.187)	(11.49)	(11.47)	(11.51)
State Dummies	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Observations	9,252	9,252	9,252	9,252	9,252	9,252
R-squared	0.177	0.180	0.183	0.181	0.185	0.185

Notes: Standard robust errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Although the moderation estimated coefficient is negative, the net LGC effect for aligned mayors still is positive. According to model 12, a one standard deviation increase in the capacity index increases the per capita grants by approximately R$ 3.90 to non-aligned mayors and by R$ 0.90 to aligned ones (=3.891–2.902). The capacity effect to aligned mayors should not be considered, however, negligible. *Ceteris paribus*, an aligned mayor leading an administration with an LGC index one standard deviation above the average, for example, would be benefited with circa R$ 2.0 more per capita resources (7.654 + 3.891*1 – 2.902*1= 8.64) when compared with an aligned administration with an LGC index one standard deviation below the average (7.654 - 3.891*1 + 2.902*1= 6.67). An aligned city-hall with the LGC equals zero, that is, with the LGC index matching the sample average, would not face a reduction in the extra-value derived from the alignment reward. The capacity effect on the funds released to non-aligned municipalities is, undeniably, an noteworthy effect, since the LGC standardized coefficient (3.891) is no more diminished by the negative interaction, though we do not differentiate, at this point, non-aligned mayors affiliated with the coalition or opposition parties (the average per capita resources released in 2010 was circa R$ 29.5, as indicated at the appendix).

Still accordingly our estimations, while there is no significant first term effect, the mayors' electoral performance (Valid Votes_%) does have a positive influence on the per capita grants released (1% level), an evidence that mayors with better electoral performance may be regarded as influential politicians able, as a consequence, to gather relatively more grants. The influence of PT "core districts" (PT_2006 variable) on grants released is, however, insignificant. Even though the swing-core traditional concepts do not fit in the Brazilian case, one could expect that, *ceteris paribus*, municipalities where the PT won the majority of votes would benefit from a similar political-bias.

To further investigate the hypothesized capacity effect on the federal grants, we partitioned our original dataset in order to create three different subsamples. As explained before, these subsamples were created to encapsulate the funds released by ministries controlled by the PT, the MDB and the PP. These three political parties not only were responsible for significant shares of the voluntary federal funds available in the year of 2010 but were also in charge of a considerable number of city halls, especially the PT and MDB. As additional tests, we also assess the influence of high levels of capacity in municipalities where the mayors were affiliated to the PT main opposition parties: the PSDB and DEM. Tables 11 to 13 present the results.

Table 11. OLS Regressions Models for Per Capita Resources Released (R$) to Brazilian Municipalities – MDB Controlled Ministries

	Mayor Party Affiliation					
Variables	**MDB**	**DEM**	**PSDB**	**MDB**	**DEM**	**PSDB**
	Model 13	**Model 14**	**Model 15**	**Model 16**	**Model 17**	**Model 18**
zLGC	4.163***	3.623**	2.822**	3.744***	3.117**	2.350*
	(1.297)	(1.418)	(1.345)	(1.354)	(1.480)	(1.410)
Alignment	5.173***			5.125**		
	(1.963)			(2.005)		
Alignment#c.zLGC	-3.247			-3.125		
	(2.259)			(2.271)		
DEM		2.206			1.861	
		(3.768)			(3.707)	
DEM#c.zLGC		-2.859			-2.094	
		(3.607)			(3.492)	
PSDB			-8.448***			-4.853**
			(1.848)			(1.945)
PSDB#c.zLGC			4.908**			5.558**
			(2.199)			(2.227)
First Term	0.502	0.364	0.427	0.497	0.348	0.415
	(1.827)	(1.809)	(1.822)	(1.812)	(1.795)	(1.808)
Valid Votes_%	0.272***	0.282***	0.286***	0.328***	0.337***	0.337***
	(0.0913)	(0.0914)	(0.0911)	(0.0931)	(0.0933)	(0.0929)
PT_2006	-0.115	-0.325	-0.450	-1.019	-1.166	-1.372
	(2.097)	(2.091)	(2.095)	(2.502)	(2.494)	(2.503)
LnPOP	-22.44***	-22.53***	-22.51***	-23.98***	-24.05***	-24.10***
	(1.191)	(1.181)	(1.180)	(1.435)	(1.432)	(1.426)
IDHM2010	-1.058	-0.485	2.476	79.73***	81.10***	80.51***
	(22.05)	(22.39)	(22.11)	(26.61)	(27.16)	(26.84)
GDPpc	0.0847	0.101	0.0534	-0.0260	-0.00676	-0.0431
	(0.185)	(0.184)	(0.187)	(0.177)	(0.175)	(0.180)
Constant	233.5***	234.7***	233.8***	211.4***	211.9***	214.2***
	(19.34)	(19.22)	(19.21)	(20.44)	(20.28)	(20.38)
State Dummies				*Yes*	*Yes*	*Yes*
Observations	3,554	3,554	3,554	3,554	3,554	3,554
R-squared	0.177	0.175	0.178	0.206	0.204	0.206

Notes: Standard robust errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

As can be seen from table 11 above, the estimations' results convincingly support the partisan alignment and the capacity effects to the MDB sample. The interaction between capacity and alignment, now, turn out to be insignificant (models 13 and 16). In other words, considering only MDB-controlled ministries, there is no additional benefiting to co-partisan mayors controlling high capacity administrations. The average extra funds flowing to high capacity administrations is the same for MDB and non-MDB mayors.

In models 14 and 15 (without state dummies), and 17 and 18 (with state dummies), we estimate the capacity effect to municipalities in which the mayors are affiliated with the PSDB and DEM, respectively. The estimated LGC standardized coefficients are positive and significant to DEM (5% level) and to PSDB (10% level). The negative effect of being affiliated with a PT opposition party is insignificant to DEM mayors and negative to PSDB mayors. In other words, MDB ministries do not tend to penalize mayors affiliated with the DEM, only with the PSDB. Interestingly, as the comparison between models 15 and 18 allows, even though the capacity effect loses significance in model 18 (from 5% to 10%), the negative PSDB-affiliation effect sharply decreased in magnitude, whereas the interaction term increases. As a result, and disregarding the estimated capacity effect, an LGC index of circa 0.9 σ above the average would be enough to bypass the negative PSDB-affiliation effect. We can maintain, considering MDB ministers at least, that local government capacity may matters even for an opposition mayor.

Table 12. OLS Regressions Models for Per Capita Resources Released (R$) to Brazilian Municipalities – PP Controlled Ministries

Variables	**Mayor Party Affiliation**		
	PP	**DEM**	**PSDB**
	Model 19	**Model 20**	**Model 21**
zLGC	3.668**	3.062*	2.452
	(1.861)	(1.824)	(1.790)
Alignment	12.69***		
	(4.439)		
Alignment#c.zLGC	-6.355*		
	(3.338)		
DEM		-0.697	
		(4.376)	
DEM#c.zLGC		-0.404	
		(3.241)	
PSDB			-10.37***
			(2.624)
PSDB#c.zLGC			3.536
			(2.771)
First Term	1.779	1.732	1.779
	(2.383)	(2.417)	(2.387)
Valid Votes_%	0.219**	0.216**	0.218**
	(0.0977)	(0.0981)	(0.0974)
PT_2006	2.582	2.110	1.792
	(2.872)	(2.907)	(2.927)
LnPOP	-18.52***	-19.18***	-19.01***
	(1.531)	(1.595)	(1.581)
IDHM2010	40.15*	42.37*	47.62**
	(24.26)	(23.99)	(24.16)
GDPpc	0.0958	0.133	0.113
	(0.213)	(0.212)	(0.217)
Constant	165.3***	172.2***	168.2***
	(22.62)	(23.16)	(22.86)
State Dummies	*No*	*No*	*No*
Observations	1,378	1,378	1,378
R-squared	0.203	0.192	0.197

Notes: Standard robust errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Considering only PP ministers, and as can be seen from table 12 above, the PP-models' estimations reveal an important difference from the results formerly presented[30]. The alignment

[30] The overall regression models with state dummies were insignificant as indicated by the F-test results.

and capacity effects are positive and significant (1% and 5% levels, respectively), while their interaction is negative (at the 0.10 level, though). Accepting this level of significance, the net capacity effect becomes, now, negative, meaning that PP mayors with above the average standardized LGC index would lose part of the extra funds derived from the alignment effect. The alignment effect, important to notice, is particularly high to the PP-controlled ministries. As can also be seen from models 20 and 21, the capacity effect disappears for PSDB-managed city halls and loses significance for DEM-controlled ones. Moreover, while DEM mayors are neither punished nor favored, PSDB mayors tend to be heavily punished by PP ministers. Dealing with PP ministers, and differently form the MDB and PT case (see table below), PSDB-controlled city halls cannot mitigate the negative affiliation effect with high levels of capacity.

Table 13. OLS Regressions Models for Per Capita Resources Released (R$) to Brazilian Municipalities – PT Controlled Ministries

	Mayor Party Affiliation					
Variables	**PT**	**DEM**	**PSDB**	**PT**	**DEM**	**PSDB**
	Model 22	**Model 23**	**Model 24**	**Model 25**	**Model 26**	**Model 27**
zLGC	3.654**	4.149**	3.657**	4.256**	4.708***	4.258**
	(1.643)	(1.634)	(1.628)	(1.680)	(1.674)	(1.658)
Alignment	0.906			2.166		
	(1.849)			(1.916)		
Alignment#c.zLGC	2.191*			2.212*		
	(1.262)			(1.276)		
DEM		-0.225			-0.386	
		(2.334)			(2.362)	
DEM#c.zLGC		-2.665			-2.637	
		(1.974)			(1.964)	
PSDB			-5.226***			-4.032**
			(1.778)			(1.802)
PSDB#c.zLGC			1.930			2.012
			(1.408)			(1.446)
First Term	0.518	0.514	0.573	0.886	0.918	0.985
	(1.820)	(1.821)	(1.821)	(1.811)	(1.816)	(1.811)
Valid Votes_%	0.122	0.117	0.120	0.135	0.129	0.131
	(0.0853)	(0.0852)	(0.0845)	(0.0872)	(0.0876)	(0.0870)
PT_2006	1.981	2.123	2.201	1.453	1.780	1.770
	(1.749)	(1.743)	(1.742)	(2.287)	(2.282)	(2.278)
LnPOP	-14.92***	-14.79***	-14.78***	-17.49***	-17.26***	-17.27***
	(1.157)	(1.163)	(1.156)	(1.476)	(1.480)	(1.475)
IDHM2010	26.98	27.54	29.17	126.5***	126.1***	126.4***
	(18.19)	(18.25)	(18.18)	(23.49)	(23.56)	(23.44)
GDPpc	-0.0773	-0.0754	-0.0860	-0.0404	-0.0399	-0.0476
	(0.198)	(0.199)	(0.199)	(0.205)	(0.205)	(0.206)
Constant	145.1***	143.9***	143.2***	116.6***	115.3***	115.6***
	(21.03)	(21.18)	(21.10)	(20.04)	(20.05)	(20.01)
State Dummies				*Yes*	*Yes*	*Yes*
Observations	3,075	3,075	3,075	3,075	3,075	3,075
R-squared	0.129	0.129	0.130	0.166	0.165	0.166

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 13 presents the results to ministries controlled by President Lula's Party, the PT, and shows a surprising set of findings. Firstly, and contradicting our first hypothesis, the alignment effect for PT mayors disappeared (models 22 and 25). Secondly, the capacity effects increased in magnitude and significance: all LGC coefficients are consistently positive and significant. Thirdly, the hypothesized moderation between capacity and alignment is now positive (at the

0.10 level, though). If one accepts this 10% level of significance, an interesting evidence emerge: the PT only favors co-partisans' mayors if they are in charge of high capacity public machines. Lastly, and similarly to our previous findings, also in the PT case only the PSDB mayors tend to be penalized with fewer grants. Differently form MDB-ruled ministries, however, the PSDB-affiliation effect does not interact with the capacity effect.

As explained before, in order to refine such analysis, we also performed regressions on matched samples (the appendix shows the balancing test results).

Table 14. Regressions Models on Matched Samples for Per Capita Resources Released (R$) to Brazilian Municipalities

Variables	Model 28	Model 29	Model 30	Model 31	Model 32	Model 33
Ministry	**PT**	**MDB**	**Non-PT**	**PT**	**Non-MDB**	**MDB**
Mayors	**Coalition**		**PT**		**MDB**	
Treatment	13.85***	8.460**	11.58	9.404***	-8.370***	10.12**
	(1.724)	(4.176)	(9.936)	(2.804)	(2.032)	(4.039)
IDHMRend	-1.656	175.8**	85.09	8.485	87.92***	64.85
	(28.51)	(77.89)	(119.1)	(28.24)	(32.30)	(74.82)
IDHMLong	-28.97	-89.27	-123.0	60.46	-37.23	-233.7**
	(43.83)	(110.0)	(175.8)	(51.76)	(42.36)	(100.1)
IDHMEdc	-19.62	-137.7***	-36.17	42.92**	4.203	-22.92
	(18.32)	(53.20)	(57.81)	(18.34)	(18.93)	(41.31)
LnPOP	-6.510***	-8.431***	-9.028**	-6.389***	-7.202***	-10.49***
	(0.885)	(2.463)	(3.990)	(0.945)	(0.976)	(2.249)
GDPpc	0.282*	1.195**	0.494	0.0871	-0.176	1.064**
	(0.157)	(0.551)	(0.683)	(0.167)	(0.153)	(0.419)
FPM2005	3.586	63.88***	57.12	36.35***	9.765	39.16*
	(9.741)	(23.55)	(39.29)	(8.838)	(9.854)	(23.14)
Constant	105.3***	108.6	155.9	-19.29	62.29**	263.6***
	(31.00)	(77.15)	(129.2)	(44.82)	(30.82)	(67.19)
Observations	564	430	458	350	662	354
R-squared	0.164	0.116	0.032	0.372	0.334	0.191

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Model 6 consider weights based on a propensity score matching (PSM) using kernel matching in the region of common support.

As table 14 shows, the treatment effect – high capacity levels – are positive and significant to the PT and MDB ministerial allocations (models 28, 29, 31 and 33). Notwithstanding the reduction in the samples size, the utilization of the PSM procedures allowed us to confirm the hypothesized capacity effect. All estimated coefficients are positive and significant. As equally expected, high capacity administration led by mayors affiliated with the coalition parties do receive relatively more resources from PT and MDB ministers (models 28 and 29), even though this capacity effect is higher to PT grants allocations. Interestingly, the average capacity effect previously estimated to opposition parties (tables 11 and 13) is similarly higher to PT allocations.

Interestingly, as can be seen in from model 30 results, even though the PT ministries do reward high capacity aligned municipalities, the contrary is not necessarily true, for the estimated capacity effect for PT mayors is not significant. The insignificance of the treatment on Model 30 suggests, thus, that PT mayors with high capacity do not tend to receive more grants from ministries ruled by coalition partners. Still considering all coalition parties, and as model 32 shows, the capacity effect for MDB mayors is negative. MDB local administrations are, by some reason, being penalized by its high capacity levels.

6. Final Remarks

There is vast literature indicating that national governments strategically allocate discretionary resources to reward specific constituencies in order to conquer voters' support or to sustain political coalitions. Based on several perspectives and frameworks, the discretionary fiscal authority of national politicians has been strongly identified in several contexts and political systems. How subnational governments' capacities influences the allocation of federal grants, on the other hand, is much less studied. The objective of this article was, in this way, to analyze the effects of local governments' capacities at federal discretionary grants in Brazil.

Our results, firstly, provide more evidence of the existence of the electoral motivations behind the allocation of federal funds in Brazil. Analyzing the discretionary grants released during 2010, we show that mayors affiliated with the same party as the minister responsible to the transfer do tend to receive more per capita funds. We also uncover a negative effect of being affiliated with an opposition party, since the PT-led federal cabinet tend to distribute relatively fewer resources to mayors affiliated with the PT main contender, the PSDB party.

We empirically shown, however, that amount of transfers can be largely influenced by the recipient government capabilities, regardless the mayor political affiliation. High capacity administrations do tend to capture a non-negligible extra fund from the federal government. This finding remains robust and substantial when it is controlled by the two main political parties controlling important shares of the federal cabinet budget: the PT and MDB. However, the estimated conjoint effect of local government capacity and partisan alignment showed mixed signals. The effect of high levels of government capacity associated with political alignment were positive only after the matching procedures. The negative interaction between capacity and alignment found in the OLS regressions, nevertheless, were not able to reduce the positive overall effect of capacity on the grants released by the federal cabinet. Aligned and more capable city halls do obtain considerable advantages in the allocative arena of the discretionary federal transfers.

The findings of this research may be regarded, therefore, as a first step to further analyze the hypothesized causal effects here defined, since our work has some limitations. Firstly, we explore only one year. Additional research should verify the impact of government capabilities on grants received using time series data, for both aligned and nonaligned mayors. Although the capacity index utilized here are not available for other years, capacity proxies can still be calculated based on our local government capacity concept. Secondly, accordingly to our findings, the capacity and the alignment effects shows different patterns accordingly to the political party responsible for the grants' allocation. This is an important evidence that the logic behind the allocative decisions is heterogeneous, depending on the parties' different political interests and strategies. In this context, a co-partisan mayor may not be necessarily favored, even in the presence of a high capacity government.

Furthermore, because the presidential political partners allocative logics differ in the Brazilian context, the role of states governors may also be included in the analysis. Historically, the parties within the federal coalition have enjoyed a considerable degree of freedom regarding their local regional strategies and decisions. In this way, a non-aligned mayors may be weighed differently depending on the state governor political status. The PSDB, for instance, still controls large and wealthy Brazilian states. High-capacity municipalities ruled by opposition mayors may face relatively more "punishment" by federal public officials in those states, since good managers tend to be strong political brokers. These mayors, given their high capacities, may be choosing to exploit the state government resources and avoiding federal.

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APPENDIX II

Table A1: Main Descriptive Statistics

Variables	Obs.	Mean	Std. Dev.	Min	Max
Per Capita Resources Released	9,252	29.494	49.207	0.00	864.046
LGC Index	9,252	0.000	1.000	-2.163	5.600
IDHM 2010	9,252	0.679	0.069	0.443	0.862
GDPpc	9,252	6.448	5.717	1.208	107.147
LnPOP	9,252	9.673	1.225	6.691	14.712
Valid Votes_%	9,252	55.046	10.514	24.060	99.980

Table A2. Federal Discretionary Grants – Value Requested and Percentage of Value Approved: 2008-2018 – R$ Millions (IPCA/2018=1)

Year	Municipal		State		Non-State Providers		Public Enterprises		Public Consortia	
	Req.	Apr.	Req.	Apr.	Req.	Req.	Apr.	Req.	Apr.	Req.
2008	38,790.08	4.4%	16,937.74	21.9%	6,834.19	26.1%	1,227.50	0.44	24.47	8.0%
2009	143,820.87	10.3%	30,520.29	25.6%	12,431.35	30.9%	1,485.13	0.45	370.00	22.0%
2010	105,154.19	12.8%	19,327.92	29.0%	12,304.44	34.5%	1,084.42	0.42	881.76	16.3%
2011	93,105.95	9.2%	59,910.87	11.9%	17,035.71	21.7%	877.14	0.29	882.79	29.6%
2012	69,785.16	11.0%	28,050.90	40.0%	6,014.53	57.8%	2,645.54	0.19	411.22	11.5%
2013	115,766.77	9.7%	16,220.67	45.4%	10,646.47	80.8%	1,267.10	0.48	7,092.39	3.8%
2014	47,575.24	12.1%	3,280.77	43.5%	3,966.26	55.6%	137.62	0.46	796.87	15.5%
2015	42,694.99	13.3%	6,413.96	29.6%	2,467.98	62.2%	429.52	0.11	279.91	11.8%
2016	24,218.98	22.1%	5,765.49	38.5%	2,086.75	92.6%	692.50	0.20	141.10	21.5%
2017	70,518.03	13.3%	5,595.28	46.4%	4,997.56	27.2%	703.24	0.24	879.84	6.4%
2018	43,803.41	22.0%	2,434.44	53.5%	4,081.75	77.7%	282.36	0.10	1,226.79	3.0%
Total	**795,233.69**	**11.7%**	**194,458.34**	**26.9%**	**82,867.00**	**43.3%**	**10,832.06**	**0.32**	**12,987.14**	**8.3%**

Source: SICONV; Own elaboration

Table A3. OLS Regressions Variables

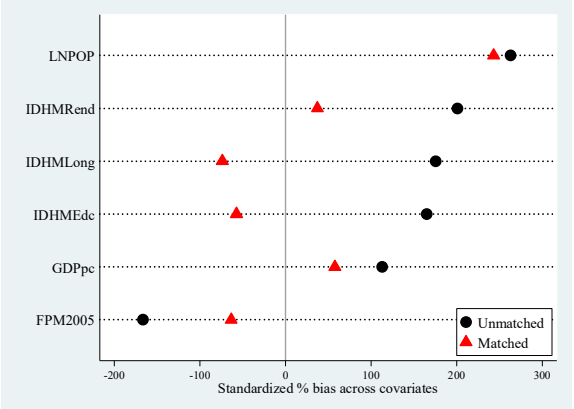
Variable			Source
DV	Value Released	2010 per capita value released by Ministers to municipalities	SICONV
LGC	Local Government Capacity Index – 2009	Own elaboration	
ALIGNMENT	Mayor's Alignment with the Minister	Dummy variable that assumes the value of 1 when the mayor's party is the same of the minister party (0 otherwise).	TSE/ MUNIC/IBGE
PT2006	PT Core Municipality	Dummy variable that assumes the value of 1 when the PT was the most voted party at 2006 presidential elections (0 otherwise).	
First Term	First Term Mayor	Dummy variable that assumes the value of 1 when the mayor is not the incumbent (0 otherwise).	
VV_%	Mayors votes received from the total of valid votes – 2008 elections		
PSDB_2009	Mayor from PSDB	Dummy variable that assumes the value of 1 when the mayor is from PSDB (0 otherwise).	
DEM_2009	Mayor from DEM	Dummy variable that assumes the value of 1 when the mayor is from DEM (0 otherwise).	
LNPOP	Natural logarithm of the 2010 population		IBGE
GDPpc	Per capita Gross Domestic Product		
HDI2010	2010 Human Development Index		United Nations

Table A4. Variables of Interest – PSM Procedure

Variable	Obs.
DV	2010 Per Capita Value Released
TREATMENT	Dummy variable that assumes the value of 1 when the LGC index is in the third quartile (0 when in the first quartile).
HDI-I	2010 Human Development Index – Income
HDI-L	2010 Human Development Index – Longevity
HDI-E	2010 Human Development Index – Education
LNPOP	Natural logarithm of the 2010 population
GDPpc	Per capita Gross Domestic Product
FPM05_perc	2005 FPM revenues as % of total Revenues

Table A5. Balance Assessment on Pre-treatment Observable Covariates – PT Mayors

Variables		PT Ministers		Other Ministers	
	Unmatched	Mean		Mean	
	Matched	Treated	Control	Treated	Control
HDI-I	U	0.737	0.616	0.730	0.615
	M	0.737	0.715	0.730	0.707
HDI-L	U	0.843	0.788	0.843	0.791
	M	0.843	0.867	0.843	0.862
HDI-E	U	0.664	0.544	0.658	0.530
	M	0.664	0.706	0.658	0.688
LNPOP	U	11.600	8.932	11.200	8.914
	M	11.600	9.133	11.200	9.158
GDP10pc	U	10.047	4.236	9.911	4.400
	M	10.047	7.072	9.911	7.059
FPM05_perc	U	0.200	0.462	0.211	0.439
	M	0.200	0.300	0.211	0.258
MedBias:	U	171.0		159.3	
	M	60.6		46.8	



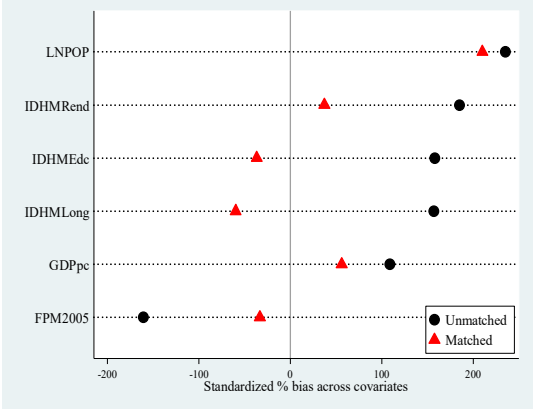
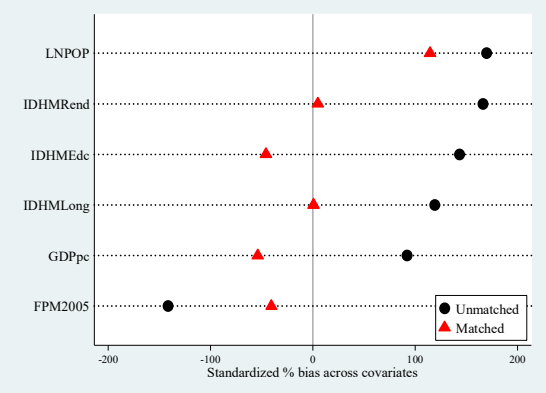


Table A6. Balance Assessment on Pre-treatment Observable Covariates – MDB Mayors

Variables		MDB Ministers		Other Ministers	
	Unmatched	Mean		Mean	
	Matched	Treated	Control	Treated	Control
HDI-I	U	0.717	0.613	0.728	0.608
	M	0.717	0.714	0.728	0.718
HDI-L	U	0.832	0.786	0.838	0.784
	M	0.832	0.832	0.838	0.832
HDI-E	U	0.632	0.521	0.647	0.521
	M	0.632	0.667	0.647	0.676
LNPOP	U	10.606	8.969	11.003	8.907
	M	10.606	9.500	11.003	9.527
GDP10pc	U	8.536	4.331	9.487	3.909
	M	8.536	11.005	9.487	11.873
FPM05_perc	U	0.238	0.450	0.212	0.483
	M	0.238	0.299	0.212	0.265
MedBias:	U	142.5		179.4	
	M	43.2		38.3	



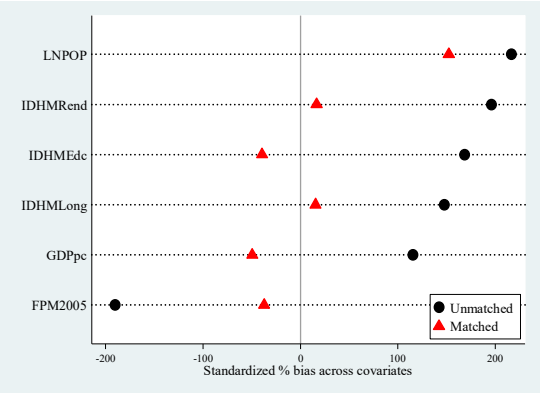
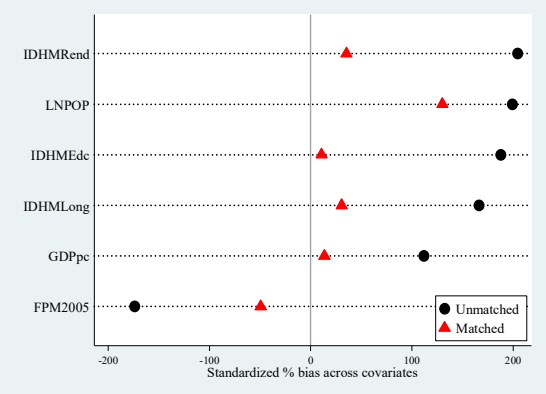
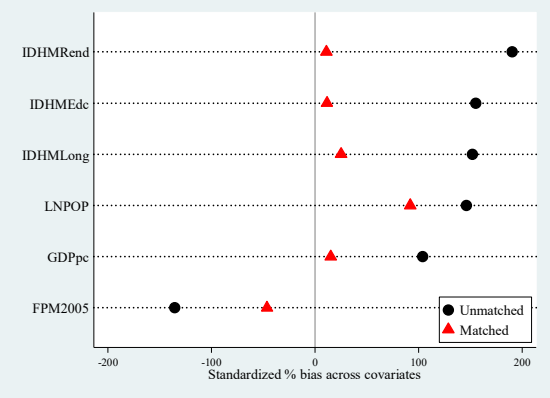


Table A7. Balance Assessment on Pre-treatment Observable Covariates – Coalition Mayors

Variables		PT Ministers		MDB Ministers	
	Unmatched	Mean		Mean	
	Matched	Treated	Control	Treated	Control
HDI-I	U	0.717	0.591	0.715	0.598
	M	0.717	0.695	0.715	0.708
HDI-L	U	0.833	0.772	0.833	0.776
	M	0.833	0.822	0.833	0.823
HDI-E	U	0.648	0.509	0.627	0.510
	M	0.648	0.640	0.627	0.618
LNPOP	U	10.943	8.965	10.414	9.017
	M	10.943	9.650	10.414	9.536
GDP10pc	U	8.765	3.243	7.969	3.877
	M	8.765	8.089	7.969	7.368
FPM05_perc	U	0.237	0.495	0.255	0.464
	M	0.237	0.310	0.255	0.326
MedBias:	U	180.9		149.0	
	M	33.0		20.2	





PUBLIC POLICY INSTITUTIONALIZATION AND DISCRETIONARY INTERGOVERNMENTAL TRANSFERS IN BRAZIL: THE CASE OF THE NATIONAL SYSTEM OF CULTURE

1. Introduction

Studies about how public authorities geographically target public goods' in decentralized political systems have been undertaken under several theoretical frames. In particular, the distributive politics strand occupies a leading position within this eclectic field; especially considering the studies of discretionary grants' allocations. In different contexts and political systems, politicians have been strategically using intergovernmental grants for various purposes such as to reduce socioeconomic inequalities, promote positive externalities, or respond to local calamities. They may use them merely to win votes' and build political coalitions instead. Not surprisingly, most distributive politics studies focus on these political factors, as maintained by Golden and Min (2013). The massive and prolific set of empirical works found in the literature illustrates the authors point. The governments decisions on the volume and timing of grants' allocation to specific localities has generated, for instance, hypotheses such as partisan alignment effect, swing district/core voter effects, election cycles effect, among others.

Distributive politics perspectives have also been applied to the Brazilian post-authoritarian context[31], with several authors studying governments tactical allocations (Brollo & Nannicini, 2012; Nunes, 2015; Bueno, 2017, Meireles, 2018). In correspondence with works covering other contexts, the Brazilian agenda has in the "partisan effect" its start-point: *ceteris paribus*, co-partisans' subnational governments receive more funds than unaligned ones. Nunes (2015), for instance, hypothesize that the degree of centralization found in the federation moderates this effect, whereas Brollo and Nannicini (2012) assume that the electoral calendar amplifies it, since aligned mayors tend to be further favored before elections.

While Golden and Min (2013) call this electoral-oriented view the "accountability perspective" of the distributive politics, we take a different road, considering it part of a broader set of works: the "supply-side strand" of the political economy of intergovernmental grants, which also includes the welfare-oriented literature. In doing so, we call attention to the still underdeveloped "demand-side strand". Notwithstanding the importance of the findings and evidences uncovered by the supply-driven literature, the subnational governments, the actual grants receivers, should not be considered mere passive machines, neither politically nor administratively. Furthermore, the organized civil society, with its potential or real influence on the local affairs, must equally play a part in the allocative arena. Several research avenues could be explored within this demand-side strand, such as the potential influence of local capabilities on upper-level allocations. Soares and Melo (2016), for instance, utilize municipal based tax revenues as a proxy of local government's technical capacity. The influence of local capabilities on the discretionary grants received, as we discussed on the second article, should not be limited to extractive or fiscal capacities. Multidimensional indexes of government capacities, aggregated or not, offer richer research opportunities.

In the present article, widening the scope of this demand-side strand, we highlight another concept related to the municipalities' general capacity to capture federal discretionary funds: the "institutionalization of public policies" by local governments. Not only administrations with higher capacities attempt to capture more resources; mayors, and non-state providers, in municipalities benefited by local governments superior investments in specific areas also tend

[31] Especially because the 1988 Constitution redefined the federative design and the competences of both states and municipalities (see Arretche, 2003, 2012; and Souza, 2002).

to strongly pursue federal resources. Opportunely, the creation of several "national systems of public policies" during the PT federal administrations offers a suitable chance to compare Brazilian municipalities with different local governments' policy preferences. However, since most of the national systems created faced severe implementation barriers, we decided to restrict our empirical analysis to the National System of Culture. In doing so, we test if municipalities that adhere to this specific system tend to receive more discretionary funds from the Ministry of Culture, the system coordinator. Because national systems' membership requires, by design, several actions at the regional or municipal level, we may utilize it as a proxy of local policy institutionalization.

To explain why we chose the case of the National System of Culture, our methodologic decisions, and our main empirical findings, we divided the paper into five additional sections. In the next section, we introduce the Brazilian context, and the "national systems of public policies" background and general features. In Section 3, we discuss the creation and the logic of the National System of Culture, presenting, additionally, some facts and information to stress how this specific system fits our research. In Section 4, we present the article hypothesis and the methodological procedures used, whereas in section 5 we discuss the empirical results. Finally, section 6 summarizes our main findings and discusses future lines of investigation.

2. Federalism and National Systems of Public Policies in Brazil

The literature on federalism is unanimous in stating that there is no single federation model. According to Filippov et al. (2004: 9), a state is federal if its governmental structure is characterized by multiple layers "such that at each level the chief policy makers – governors, presidents, prime ministers, legislatures, parliaments, judges – are elected directly by the people they ostensibly serve or (as with judges) appointed by public officials thus directly elected at that level". For Zibblat (2006), only nation-states with constitutionally protected subnational governments should be considered as federal. In other words, the political power is fragmented inside federal sates, with the Constitution defining, enforcing, and protecting the subnational governments' authority and autonomy. The fragmentation of political power within multi-level structures of government entails, however, complex challenges for policy implementation. Scholars have been suggesting, for instance, that federal arrangements may trigger several types of phenomena, from "laboratories of democracy" and "race to the top" to "multiplication of veto points", "joint-decision trap", or "race to the bottom" (Oates 1999, Scharpf 1988, 2006; Harrison, 2006; Howell & Magazinnik, 2017; Walter, 2019; Béland & Weaver 2019; Mast, 2020). Overlap, redundancy, and divergency of interests in terms of public policies' instruments and goals became, therefore, common themes analyzed (Wibbels, 2000; Hollander, 2010; Groenleer, 2016; Schnabel, 2019, Schnabel). However, whereas subnational governments may sabotage necessary policies or reforms proposed by the Union in federal systems, they may, by another side, effectively impose limits to mistaken federal policies or decisions.[32]

In the Brazilian case, the federal system, introduced shortly after the proclamation of the Republic, in 1889, was not a response to existing ethnic-linguistic or religious fractures, notwithstanding the significant regional disputes that characterized the country at the time.[33]

[32] The Brazilian COVID-19 pandemic response may become a case for one of these two phenomena, given the radical dissection of judgements and actions between the President and the great majority of state governors.

[33] To Samuels and Abrucio (2000: 44), "federalism has been important in Brazilian politics since at least 1889, with the overthrow of a centralized monarchy and the advent of a highly decentralized federal republic, which lasted until 1930. During that period, state oligarchies created a weak national government, no national parties existed, and state governors autocratically dominated politics within their states". To the authors, although experiencing two centralizing dictatorships after 1930, federalism in Brazil remained strong in comparative perspective. Important to note, however, that Dolhnikoff (2005) argues that the political power of the provinces during the Brazilian Second Reign (1840-1889) would be greater than traditionally supposed.

More than a hundred years later, after being restructured by the progressive and liberal 1988 Constitution, Brazilian Federalism begun to be usually described as *demos*-constraining, that is, a type of federalism in which national level reforms and actions may face strong blockades in the presence of minorities resistance (see Stepan, 2000). Yet, the Brazilian central government, contradicting the theoretic expectations of *demos*-constraining scholars, has efficiently implemented national-wide policies, successfully bypassing potential veto players and institutional barriers (Arretche, 2013). To give an illustration, the PSDB administrations (1995-2002) succeed in transforming a highly decentralized federation "into a tightly managed, hierarchical regime not unlike that found in many unitary systems" (Rodden, 2006: 247).

Later, during the Workers' Party administrations, the Brazilian central government sustained this key position, strongly influencing, though with different degrees, subnational governments' policy making.[34] The creation of national systems of public policies, such as the Unified Health System, the Unified Social Assistance System, the National System of Culture, among others (see table 1), exemplifies this central government leading position in the Brazilian federalism. Despite the idiosyncrasies of each policy area, the national systems' architecture follows a similar logic: *i*) the federal government formulates the systems' institutional design and decentralizes actions for state or local execution; *ii*) systems' membership implies the creation of a subnational systems, with specific laws and management apparatuses; *iii*) the civil society is involved in the systems' management, through councils, meetings, and conferences; and *iv*) adherence to national systems allows access to specific federal funds. The actual implementation of the several national systems created, however, presents sharp differences in terms of institutionalization and execution levels, as discussed next.

2.1. Earmarked and Non-earmarked National Systems of Public Policies

Consolidating the downfall of the military dictatorship (1964-1985), the 1988 Brazilian Constitution, aiming the creation of wide-ranging decentralized welfare state, promoted several changes regarding the competences of each sphere of government on policymaking. Following these changes, the federal government adopted a series of strategies to operationalize the new constitutional principles of decentralization, participation, and universalization (SOUZA, 1996, 2002); and two complex types of national systems of public policies were created. The first type relates to the Brazilian health care system, the SUS, and is characterized by compulsory participation. Because the Constitutional Amendment 29 determines a minimum percentage of health care spending for each federative entity, we label the SUS an "Earmarked National System of Public Policy".[35] The second type of national system comprises wide range of policies defined as "concurrent competences" by the Constitution. As Arretche (2003) says, given the clear horizontal inequality among sub-national governments, constituents chose the concurrent competence format for most Brazilian social policies, a feature that drives the Brazilian experience to a more cooperative federation case, where different levels of government share the provision of national public policies (see also Almeida, 2006).

Membership on this second type of national system, however, is not mandatory. By this reason we label them "Non-earmarked National Systems of Public Policies" (NNSPP). Table 1 displays six non-earmarked systems created in Brazil during the last decades.

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[34] The subnational convergence around federal rules, important to note, was reinforced by two special factors: *i*) the 1988 Constitution placed on the federal government legislative power to formulate and coordinate public policy in several areas; and *ii*) the centralization of fiscal resources at the federal sphere (Arretche, 2012).

[35] According to Ribeiro and Moreira (2016), the cooperative federative dimensions in the health sector failed to reduce the regional inequalities. The authors suggest the SUS regulatory functions are being performed in an unsystematic manner, since the shared management colleges (Tripartite and Bipartite Interagency Commissions, National Health Council, and the various regional colleges) are not properly exercising their coercive functions and inducement capacity.

Table 1. Non-earmarked National Systems of Public Policies (NNSPP) in Brazil

Policy Area – National System	Main Legal Base	Presidential Term Approved
Social Assistance – Unified Social Assistance System (SUAS)	Law 8,742/93 BON/2005 (NOB-SUAS) Law 12,435/2011	Itamar Lula Dilma
Public Safety – National System of Public Safety (NSPS)[36]	CL 79/1994 Law 10,201/2001 Law 12,681/2012	Itamar FHC Dilma
Drug War – National System of Public Policies on Drugs (SISNAD)	Law 7,560/1986 Law 11,343/2006 EO 5,912 /2006	Sarney Lula
Culture – National System of Culture (NSC)	CA 48/2005 CA 71/2012	Lula Dilma
Housing – National System of Housing of Social Interest (NSH)	Law 11,124/2005	Lula
Tourism – National System of Tourism (NST)	Law 11,771/2008 EO 7381/2010	Lula

Notes: CL (Complementary Law); EO (Executive Order); CA (Constitutional Amendment); BON (Basic Operational Norm). Own Elaboration.

In theory, the non-earmarked design was devised to give dynamism and organicity to strategic policies, and its institutional format can be better comprehended as an "induction strategy" characterized by a set of cost and benefit mechanisms: although systems' members have, in principle, access to specific sectoral federal funds, several types of commitments, financial and institutional, are required. At the municipal level, these commitments constitute the basic requirements guiding the creation of the "local systems". Municipalities membership includes: signing terms of cooperation with the federal government; establishing policy-specific administrative structures; formulating diagnoses and strategic plans; producing sectoral information, constantly updating the system's databases; sharing, through sectoral councils, the system management with the civil society; among other investments and actions. Given these challenging local-level requirements, coupled with the federal administrations' "policy-areas mixed commitment", it is not a surprise to realize that the actual implementation of the NNSPP was characterized, as previously pointed, by heterogeneous levels of institutionalization.

The Unified Social Assistance System (SUAS), initially coordinated by the Ministry of Social Development and Fight against Hunger, for example, is considered a successful case.[37] Although the SUAS was only legalized in 2011, with the Federal Act 12,435, its origins traces back to the 2004 National Social Assistance Policy and to the Basic Operational Standard - NOB/2005. Besides, as discussed by Grin and Abrucio (2017), the SUAS was not structured from a pre-existing social assistance system: before the SUAS, federal social assistance actions at the local level were mainly performed by associated private organizations, and were characterized by a highly fragile structure, lacking incentive mechanisms and stable financing sources. To the authors,

> Following 2005, successive institutional improvements ratified the same reinforcement direction to municipal state capacities, especially the federal Act 12.435/11 that regulated SUAS, shared management, co-financing, defined levels of management and Social Assistance Municipal Plan (PMAS) as a strategic instrument to execute the National Social Assistance Policy (Lopes and Rizzoti, 2013). The Act incorporated to SUAS' management the Decentralized Management Index (IGDSUAS) as a financial induction mechanism. The federal government started to remunerate the results reached in municipalities to stimulate decentralized management to keep improving their performance (Grin & Abrucio, 2017: 10).

[36] Although public safety is not defined as a concurrent competence by the Constitution, the Federal Government assumed "a stronger leadership role in the development and induction of security policies in the States. It did so by creating the National Secretariat of Public Safety (in 1996) and the National Public Security Fund (in 2001), and by publishing successive national plans on public safety. […] The policies were deepened by the governments of Luis Inácio Lula da Silva" (Azevedo & Cifali, 2017: 148).

[37] Currently, under Bolsonaro's government, the SUAS is coordinated by the Ministry of Citizenship.

According to Almeida and Cunha (2016: 290), the SUAS was not only "responsible for articulating the efforts and resources of the three levels of government for funding and implementation of the National Social Assistance Policy", it was equally able to integrate public deliberations and civil society innovations into "the political system as a whole". Table 2 and figure 1 show some data on social assistance local systems. As can be seen, the number of municipalities with exclusive secretariats[38], funds, and plans are impressive, especially considering the well-known socioeconomic disparities that mark the Brazilian federation. The number of municipalities with operationalized social assistance councils, 5,564, is also overwhelming, nonetheless the great variability in the number annual meetings actually held, as can be seen in the boxplot below.

Table 2. Social Assistance Local Systems' Components: Number of Municipalities by Coordination Board

Coordination	With Fund	With Council		With Plan	Managing the CadUnico
		Total	Meetings*		
Board/ Foundation	10	10	13.80	10	10
Exclusive Secretariat	4,043	4,045	11.00	3,793	3,625
Shared Structure	1,501	1,505	11.05	1,439	1,351
Without Structure	4	4	8.75	3	0
Total	**5,558**	**5,564**	**11.02**	**5,245**	**4,986**

Source: IBGE/MUNIC 2018. Own Elaboration
* Average number of meetings in the last 12 months.

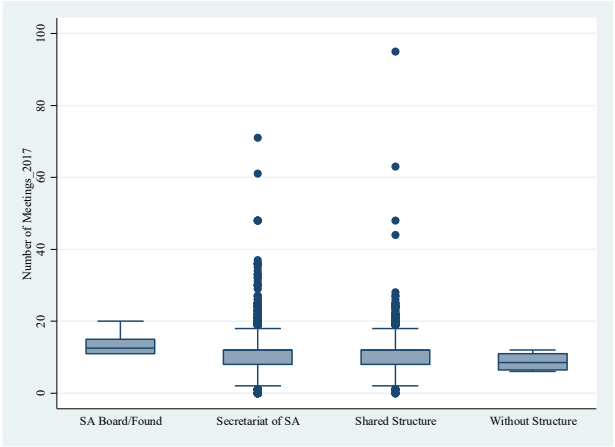

Figure 1. Number of Social Assistance Council's Annual Meetings

The SUAS relative successful decentralization process can be considered, however, an exceptional case. Contextual, technical, organizational, and political barriers, though with different levels, reduced or completely blocked the effective implementation of other non-earmarked national systems. The National System of Public Policies on Drugs (SISNAD), for example, was designed not only to foster decentralization based on participatory models, but to institute a new type of policy on drugs, based on intersectoral partnerships, users' social insertion, harm reduction strategies, and reduction of vulnerability and risk factors. The few scholars that have comprehensively analyzed the system have mostly stressed, however, the numerous challenges and barriers affecting the actual system institutionalization. Contrary to the expected, for instance, indictment and imprisonment of users still is an issue in Brazil, since users are constantly, and incorrectly, typified as traffickers (Rodrigues & Labate, 2016; Soares & Bueno, 2016). Moreover, the system decentralization and participatory management have also achieved unsatisfactory results. To give an illustration, about only 5% of Brazilian municipalities had implanted Municipal Councils on Drugs, according to Mota and Ronzani (2015). All authors mentioned concluded, additionally, that the SISNAD had faced special barriers to integrate with the health and social assistance systems. This integration, important to note, was one of the SISNAD's strategic pillars.

Likewise, but for different reasons, the National System of Tourism (NST) and the National System of Housing of Social Interest (NSHSI) may also be considered ineffective NNSPP cases. The NSHSI, coordinated by the Ministry of Cities[39], was established in 2005 to create a

[38] Local administrations optimize their administrative structures merging different policy areas coordination under one single secretariat. Social Assistance is usually coupled with Health Care, while Culture is usually merged with the Education and Sport Sectors. Large municipalities tend to have more exclusive secretariats, however.
[39] The Ministry of Cities, under the current Bolsonaro presidency, was merged with the Ministry of National Integration to form the Ministry of Regional Development.

decentralized, shared, and participatory system on housing policies, backed by the NNSPP's basic "CPF" model (acronym for Council, Plan, and Fund). To join the system, municipalities were expected to constitute funds, controlled by housing councils, and implement policies based on "local plans of housing of social interest". After five years of its creation, at least considering the number of municipal housing councils created (see figure 2), the NSHSI could had be considered a promising system. However, as Arretche et al (2012) states, even though the formal local adhesions were substantial, the system's results were unsatisfactory. In practice, the NSHSI have faced overwhelming setbacks and malfunctions. Based on the IBGE/MUNIC 2018 survey, table 3 shows, for instance, that a high number of housing councils were not even conducting annual meetings (1,879 out of 3,319). Furthermore, only 1,240 municipalities were administrating housing funds with multiples sources, a feature considered necessary to the properly implementation of housing actions and projects.

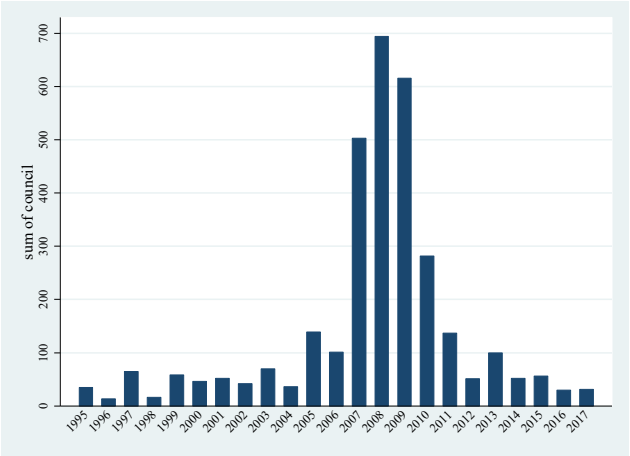

Figure 2. Number of Municipals' Housing Councils Created by Year

Table 3. Housing Policies' Basic Components: Number of Municipalities by Coordination Boards

Coordination	With Housing Council			With Housing Fund		With Housing Conferences Held	With Housing Cadastre
	Total	Without Meetings	Average Number of Meetings*	Total	With Multiple Sources		
Board/Foundation	31	10	7.10	28	15	14	31
Excusive Secretariat	188	84	5.53	145	80	98	230
Shared Structure	2,377	1,259	4.69	1,704	961	654	2,929
Without Structure	723	526	3.71	370	184	98	1,010
Total	**3,319**	**1,879**	**4.65**	**2,247**	**1,240**	**864**	**4,200**

Source: IBGE/MUNIC 2017. Own Elaboration.
* Average number of meetings conducted in the last 12 months.

Krause et al. (2013) observe, furthermore, that, by the year of 2012, the NSHSI was targeting almost exclusively precarious urban settlements, including some projects under the PAC infrastructure program. To Santos (2018), the system's institutional design, its concrete operation, and required financial matchings, as well as the limited governments capabilities that characterize most of Brazilian cities, severely hindered the system. Denaldi et al. (2011), and Holanda and Santana (2015) also present a set of factors that may explain the system's obstacles such as the insufficient participation of state governments, or the fragile financing strategies adopted. Lastly, an important factor worth to mention is the duplicity witnessed within the government national housing policy. Not only the NSHSI have struggled with technical and organizational challenges, it also had to compete with an independent federal housing program: the *Minha Casa, Minha Vida*.

Although facing, at least in theory, lesser local-level technical constrains when compared to the housing sector, the Ministry of Tourism (Mtur), created in 2003, was not able to efficiently coordinate the decentralization of actions under the NST umbrella (Lemos, 2013; Pimentel et al., 2017; Pimentel et al., 2018). The institutional strengthening witnessed in the Brazilian tourism sector mainly referred to federal administration, a timid result considering the goals and guidelines defined at the 2003-2007 *National Tourism Plan*, such as the expansion of intermunicipal consortia experiences. According to the 2015 edition of the IBGE/MUNIC survey, for example, only 477 municipalities were involved in intermunicipal consortia in tourism, and only 673 municipalities were applying some type of official incentive to local activities in the "sports and tourism" areas. Even after the 2014 World Cup and 2016 Olympic Games megaevents, with all their potential positive externalities, the institutionalization of a national policy of tourism based on partnerships, decentralization and shared management remained underdeveloped, accordingly the quoted authors.

The National System of Culture (NSC), although currently facing several sorts of expected and unexpected challenges, experienced, contrary to the NST, the SISNAD, and the NSHSI, a strong institutionalization process during the PT administrations. At the next section we discuss, therefore, the NSC implementation, stressing, moreover, why, and how, this specific national system empirically fits in our research.

3. Cultural Policies in Brazil and the National System of Culture

The presently extinguished Brazilian Ministry of Culture (MinC) has a recent and turbulent history, characterized by institutional and administrative discontinuities and ambiguities. The MinC, first created in 1985 under José Sarney administration (1985-1990), was downgraded to a secretariat by President Fernando Collor (1990-1992), and recreated in 1993, under Itamar Franco presidency (1992-1994). Playing a secondary role in the Fernando Henrique Cardoso (FHC) era (1995-2002), the MinC thrived during President Luiz Inácio "Lula" da Silva's mandates (2003-2010). With the President Dilma Roussef's impeachment, in 2016, President Michel Temer extinguished the MinC, giving it the status of a secretariat within the Ministry of Education and Culture (MEC). However, after strong political and civil society reactions, president Temer decided to restore the MinC. Currently, under Jair Bolsonaro's administration, the MinC was downgraded to a secretariat with an explicitly announced mission: to create and implement a "rightist cultural agenda" supposedly capable to counterbalance or overcome the allegedly dominant "cultural Marxist agenda".

Since our empirical analysis comprises the 2009-2015 period, a brief review on the PT cultural policies is necessary. As well recognized, the FHC cultural policies were built based on a market-oriented view, usually defined as "neoliberal" (Castello, 2002; Bastos, 2004; Olivieri, 2004; Sarkovas, 2005; Rubin, 2010). To Castello (2002), given the massive role of the incentive laws, especially the Rouanet Act, the FHC governments have in practice renounced an active role in the cultural field.[40] This scenario changed with the PT's 2002 election victory. As Hunter and Power (2005) states, opposing the PSDB agenda of fiscal austerity, the PT developed its government program based on an "inversion of priorities", advocating a higher state presence in sectors such as education, health care, and agrarian reform. Even though the PT government actual agenda diverged from the PT electoral program (Hunter & Power, 2005: 127), it profoundly redefined some policies, such as the previously discussed social assistance

[40] There are several critics to this incentive laws mechanism. To Sarkovas (2005), while most of the resources are public, the cultural projects and contents decisions come from companies. Consequently, the financed projects become a function of the commercial attractiveness of the attractions and benefited regions/cultural areas. Gilberto Gil, for instance, criticized the power previously granted to companies: in 18 years of the Rouanet Law, of the eight billion *reais* (BRL) invested, more than seven billion were public resources (Rubin, 2010).

system (see Hunter & Sugiyama, 2014). An equivalent "inversion of priorities" was also witnessed in the cultural sector.

The MinC under Gilberto Gil (2003-2008) and Juca Ferreira (2008-2010) administrations implemented a wide-ranging reformulation of the cultural sector, transforming it into an active state policy (Rubim, 2010, 2017; Matos, 2014; Silva & Costa, 2014). The cultural policy new logic was formulated based on a theoretically expanded concept of culture (Rubim, 2008, 2010), which comprises an eclectic and unorthodox "group of cultures": popular; Afro-Brazilian; indigenous; ethnic; gender-oriented; periphery-based; among others. The artistic and cultural sector participation and the constant dialogue observed between the State and civil society within this new cultural policy, according to Rubim (2010: 11), could be observed by

> Countless gatherings were promoted: seminars; sectoral chambers; public consultations; councils; the National Council of Cultural Policies; collegiate meetings; working groups; conferences; culminating in the national conferences of culture held in 2005 and 2010. Through these devices, the society participated in the discussion, influenced the deliberation and built, with the State, public cultural policies.

Three intermingled movements were crucial to strengthen the institutionalization of this concept of long-term, systemic, participatory and decentralized policies in the cultural field: 1) The National Plan of Culture (PNC); 2) the National System of Culture (NSC); and 3) the proposed Constitutional Amendment 150.[41] Although facing several hitches, especially those concerned with resource's allocations volatilities, the actual risk of institutional discontinuity on the cultural sector arose only after the President Rousseff's impeachment, in 2016. Until that, the federal government cultural agenda, erected with the organized civil society, has progressed with successive and constant advances. Already in 2003, for instance, the MinC had created the Secretariat of Institutional Articulation and Cultural Diffusion, with the mission of designing and implementing the NSC. In 2005, year of the first National Conference of Culture, the enacted Executive Order 5,520 created the Federal System of Culture and the National Council of Cultural Policy. Also, in 2005, it was approved the Constitutional Amendment 48, which created the National Plan of Culture. Finally, in 2012, the Constitutional Amendment 71 conclusively enveloped the NSC in constitutional terms.

The constitutional status of the NSC further pushed the system development, and the MinC partnerships with states and municipalities. The NSC creation offers, therefore, several research opportunities to policy making studies, including analysis of policies discontinuities, since the Bolsonaro government's agenda to the cultural sector is based on radically different values and actions. We, as previously said, profit from the NSC to widen the scope of the distributive politics agenda, trying to understanding the effects of the NSC membership on the MinC's resources allocation. Obviously, since the NSC decentralization process is based, as mentioned, on cost-benefit induction strategies, there should be expected that municipalities that faced the investments, institutional and financial, of creating a local system of culture will tend to receive relatively more resources, when compared with non-members and when compared with its own past records (not coincidentally our two hypotheses). Next, we discuss the logic behind the creation of local systems of culture, offering, moreover, a general picture of the decentralization process of the cultural policies in Brazil during the PT administrations.

3.1. The National System of Culture and Local Policy Institutionalization

By design, the NSC were created to operate in a collaborative, democratic and participatory structure, connecting the central government, state and municipal governments, and the civil society. Municipal membership on the NSC takes place in stages: *i*) with the voluntary adherence to the system, through a cooperation agreement between the MinC and the local

[41] The PEC 150, designed to earmark resources to culture remains, however, without prospect of approval.

governments; *ii*) with the publication of a municipal law creating the "Local Systems of Culture" (LSC); and *iii*) with the effective implementation of the system structure.

Tables 4 to 7 summarize the basic dimensions of an archetypical LSC. The first dimension relates to the LSC coordination. The systems' local managers, respecting the regulatory mark defined by law, should articulate actors, rationalize resources, promote cultural and artistic events, organize collaborative and participatory activities, among other actions (as schematized in table 4). This set of tasks and processes requires not only a "central executive body" but qualified and specialized personnel as well. Important to note that this central executive body is equally responsible for the system information system, and for the federative interagency connections. Naturally, the system coordination body, and its specialized bureaucracy, needs adequate technological infrastructure, to collect and process the information required to manage and constantly evaluate the local cultural sector.

Table 4. LSC Dimensions: Coordination and Institutional Articulation

LSC Regulatory Mark – Main Guidelines, Directives, and Goals			
	Coordination		**Main Tasks**
LSC Coordination and Institutional Articulation	Secretariat of Culture; Shared Secretariat; or Cultural Board or Foundation	Policy Manager & Specialized Bureaucracy	Local plan of culture elaboration/updating
			LSC information system maintenance and management (LSC diagnosis and evaluations)
			Cultural policy regulation – programs/projects analysis and accountability
			Institutional articulations – federal and state governments, other municipalities, international partners
			Private and public investments attraction; or private-funded cultural projects supporting

Source: Own Elaboration.

The second LSC dimension comprises the participatory instances, mainly symbolized by the Council of Culture, a transparent and collaborative space for debating the municipality cultural environment, building solutions, and formulating proposals. Depending on the council legal status, the civil society may not only deliberate on cultural actions, demands and dynamics, but may also have the authority to scrutinize the local government public spending on cultural activities. This dimension comprises, furthermore, the tripartite interagency commissions, and the cultural meetings and conferences.

Table 5. LSC Dimensions: Structures of Participation, Deliberation, and Agreement

LSC Regulatory Mark – Main Guidelines, Directives, and Goals		
	Sphere of Participation	**Tasks and Responsibilities**
Structures of Participation, Deliberation, and Agreement	Council of Culture	Consulting, deliberating, or controlling
	Conferences of Culture	Municipal cultural conferences (may be regulated by law)
	Tripartite Commissions	Institutional articulation between federal, state, and municipal managers
	Sectoral Meetings and Consultations	To exchange of information/experiences on the cultural scene; to develop new strategies or proposals to be deliberated in the municipal council of culture

Source: Own Elaboration.

The financing system backing the LSC is mainly based on a specific sectoral fund, the Fund of Culture, which should guarantee the resources needed to cover the LSC permanent structure and activities. Additionally, municipalities may equally use incentive laws (see table 6).

Table 6. LSC Dimensions: Financing System

LSC Regulatory Mark – Main Guidelines, Directives, and Goals		
	Sources	
Financing System	Fund of Culture	To support the government-funded policies, actions, and programs
	Supplementary Sources	Incentive Laws/Tax Mechanisms – to stimulate private-sponsored cultural actions with public interests
		Parliamentary amendments

Source: Own Elaboration.

Table 7 shows the dimension we call "Cultural Structures, Organizations, and Actions". Local governments usually administer cultural facilities that need professional supervision and constant public investment, such as public libraries and museums. Moreover, they organize and sustain permanent and sporadic actions within the LSC, from artistic and cultural events to training or professional qualification programs.

Table 7. LSC Dimensions: Cultural Structures, Organizations and Actions

<table>
<tr><th colspan="4">LSC Regulatory Mark – Main Guidelines, Directives, and Goals</th></tr>
<tr><th colspan="4">Structures and Organizations</th></tr>
<tr><td>Permanent Structures</td><td colspan="2">Public Library; Theaters; Auditoriums; Museums, etc.</td><td>Public managed cultural facilities under direct control, operating with specialized bureaucracy and relative budget autonomy</td></tr>
<tr><th colspan="4">Processes, Partnerships and Actions</th></tr>
<tr><td rowspan="4">Cultural and Artistic Promotion</td><td colspan="2" rowspan="4">Project and actions financed by the Fund of Culture (respecting transparency and public standards for decision and selection)</td><td>Artistic and cultural events (e.g. visual arts, dance, and literature fairs, music festivals, theater plays)</td></tr>
<tr><td>Public notices and calls; projects and actions analysis, selection, and controlling</td></tr>
<tr><td>Protection of cultural heritage</td><td>Tangible / Intangible</td></tr>
<tr><td>Cultural and artistic awards</td></tr>
<tr><td rowspan="2">Training</td><td colspan="3">Training actions for artists, cultural producers, or public managers</td></tr>
<tr><td>SEBRAE; SENAC</td><td colspan="2">Training of personnel in cultural policy and management; projects elaboration and management; accountability</td></tr>
</table>

Source: Own Elaboration.

To grasp the impact of the federal incentives to foster cultural public policies at the local level, we present next some data and information about the general picture of the Brazilian municipalities cultural sector. Since we specifically deal with municipalities that had become NSC's members in 2013, we additionally show some information about them.

3.2. The Process of Decentralization of Cultural Policies in Brazil

Although the NSC was officially created in 2012, the decentralization of cultural policies had started at the beginning of Lula's first administration, as previously discussed. The year of 2005 is a milestone, with the occurrence of the first National Conference of Culture, and the creation of the Federal System of Culture, the National Council of Cultural Policy, and the National Plan of Culture. The analysis of the 2014 edition of the IBGE/MUNIC survey on the Cultural area, partially reinforce the importance of the NSC historic institutional landmarks, as one can see from the tables and graphs below.

Table 8. Cultural Systems' Basic Components: Number of Municipalities by Coordination Boards

Coordination	With Culture Policy	With Plan of Culture		With Council of Culture		With Council of Cultural Heritage		With Cultural Conference Held		With Fund of Culture	
		Without Civil Society Participation	With Civil Society Participation	Total	Average Number of Meetings*	Total	Average Number of Meetings*	Total	Based on Law	Total	Exclusive Fund
Excusive Secretariat	710	122	149	560	6.08	255	6.67	662	254	316	307
Board/Foundation	101	26	31	93	8.12	51	7.12	108	46	64	63
Shared Structure	2,165	174	232	1463	4.52	719	5.49	1,959	554	725	680
Without Structure	66	4	5	35	2.80	18	3.22	64	5	6	6
Total	**3,042**	**326**	**417**	**2,151**	**5.05**	**1,043**	**5.82**	**2,793**	**859**	**1,111**	**1,056**

Source: IBGE/MUNIC 2014. Own Elaboration

* Average number of meetings in the last 12 months

According to the 2014 MUNIC, from the 3,042 municipalities with an official cultural policy (not necessarily under the NSC), only 811 municipalities had created an exclusive cultural board – secretariat or foundation – at that time. This number, however, should not be considered a problem, since it is reasonable to consider that a "shared structure" is adequate to coordinate an LSC at the majority of the Brazilian municipalities. However, table 8 also shows evidences of the challenges faced by the NSC at the time. We can see, for instance, that relatively few municipalities had developed strategic plans of culture, with or without the civil society participation. Besides, less than half of the municipalities with a council of culture had an exclusive fund of culture. Moreover, although several municipalities had organized conferences of culture, only 859 out 2,793 had backed these conferences with a specific law.

The information displayed at tables 9 and 10 also indicate that Brazilian municipalities were still creating their organizational structures and managerial tools by the year of 2014. Table 9, for instance, shows the relatively low levels of technological capabilities and professional expertise available at the local level. As we discussed previously, the cultural sector requires specialized and qualified expertise, given the nature of the services and activities demanded by the sector. The low levels of personnel with college degrees working on the cultural field reveal a common problem faced by the local systems of culture. In terms of institutional partnerships, for another side, only 171 municipalities were part of intermunicipal public consortia, nonetheless the relatively high number of municipalities developing projects in partnership with non-state providers. These later type of partnership, however, needs future examination. Non-state providers and actors, such as artistic and cultural groups, unions and cooperatives, are a substantial part of the local cultural life, especially in small and medium cities, and traditionally actively demand cooperation with the public sector. The "points of culture" project (a federal program oriented toward existing cultural practices in rural and urban marginalized social areas), with its 1,258 municipalities adhering to it, could be considered a successful federal cultural project, through one could expected a higher figure, since 2,151 municipalities were reporting the existence of councils of culture by the year of 2014.

Table 9. Local Governments' Cultural Structures: Selected Features by Coordination Boards

Coordinator	Total Personnel on Culture			Number of Municipalities					
	Average	With College Degree							
		Total	Under RJU and CLT	With Webpage	With a Digital Management System	Consortia Member	With NGOs' Partnership	With Points of Culture	Partners of Points of Culture
Excusive Secretariat	20.27	6.82	4.21	159	206	42	245	326	250
Board/ Foundation	50.43	22.07	12.44	44	33	3	55	52	32
Shared Structure	9.68	3.41	2.04	417	493	124	698	856	649
Without Structure	-	-	-	0	0	2	14	24	14
Total	**12.06**	**4.28**	**2.57**	**620**	**732**	**171**	**1,012**	**1,258**	**945**

Source: IBGE/MUNIC 2014. Own Elaboration

Regarding the selection of cultural projects by the local governments, table 10 shows that quite few municipalities rely on public calls and tenders to select and finance local projects and events. This figure is an additional evidence that the institutionalization of cultural policies in Brazilian municipalities were still facing strong obstacles, since transparency in public affairs are a key pillar of an accountable system.

Table 10. Local Governments' Cultural Structures: Selected Features by Coordination Boards

Coordination	Selection of cultural projects financed by the municipal culture fund based on:				
	Public Call	Public Tenders	Government Indication	Council of Culture Indication	Civil Society Bodies Indication
Excusive Secretariat	77	10	26	69	17
Board/Foundation	27	6	6	9	2
Shared Structure	129	26	106	218	45
Without Structure	0	0	1	2	1
Total	233	42	139	298	65

Source: IBGE/MUNIC 2014. Own Elaboration

However, as one can see at figures 3 to 6, the cultural policies at the local level were nonetheless being gradually institutionalized. The creation of municipal councils of culture, for instance, saw two clear peaks in the years 2009 and 2013; the number of funds of culture creation, pushed after 2005, also accelerated after 2009. The enacting of conference laws and the elaboration of strategic plans of culture started to expand after 2009 as well, especially after the NSC creation in 2012.

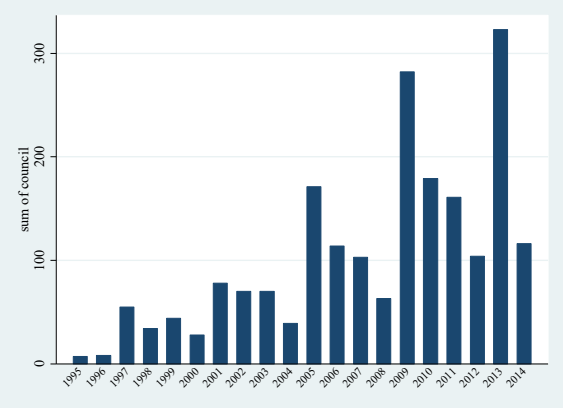

Figure 3. Number of Municipals' Councils of Culture Created by Year

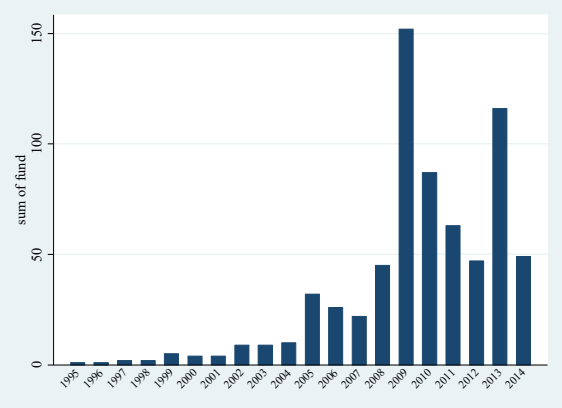

Figure 4. Number of Municipals' Funds of Culture Created by Year

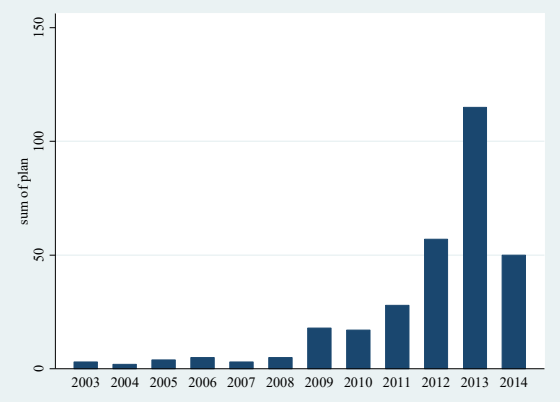

Figure 5. Number of Municipals' Plans of Culture Created by Year

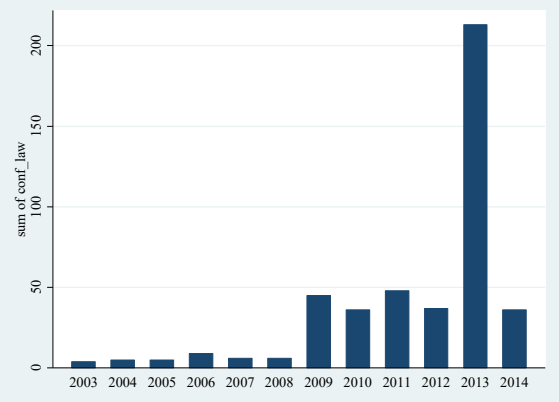

Figure 6. Number of Municipals' Conference of Culture Law Enacted by Year

The IBGE/MUNIC 2014 statistics fit, therefore, with the NSC actual scheduling and creation. As table 11 shows, 37, 1,235, and 643 municipalities adhere to the NSC by the years 2012, 2013, and 2014, respectively. Naturally, the process of decentralization of cultural policies requires a large period, backed by a stable financing system. The 2014 general picture of the cultural sector at the municipal level, consequently, could symbolize a continuous and secure "on-going process" of cultural policies institutionalization.

Table 11. National System of Culture: Number of Municipal Adhesions by State and Year – 2012-2016

State	Non-Members (~NSC)	2012	2013	2014	2015	2016	TOTAL
MG	594	6	128	76	35	14	853
SP	430	8	115	66	22	4	645
RS	291	3	128	50	18	7	497
BA	236	1	107	45	23	5	417
PR	266	3	53	50	20	7	399
SC	100	2	101	65	23	4	295
GO	172	0	41	29	4	0	246
PI	165	0	30	19	8	2	224
PB	142	4	50	15	12	0	223
MA	95	0	58	61	3	0	217
PE	121	1	35	17	9	2	185
CE	43	3	61	46	27	4	184
RN	89	1	53	22	2	0	167
PA	63	0	62	7	11	1	144
OTHERS	441	5	170	75	30	11	732
TOTAL	**3,342**	**37**	**1,235**	**643**	**250**	**62**	**5,569**

Source: Culture Ministry: http://www.cultura.gov.br/snc. Own Elaboration.

Furthermore, since numerous Brazilian municipalities had not adhered to the system, the NSC creation may offer an empirical opportunity to examine if membership influences the federal discretionary funds allocations. However, as the tables and graphs below indicate, several of the circa 3,350 non-members municipalities have nonetheless invested in cultural policies. In absolute terms, for example, the number of non-members municipalities with councils, funds and plans of culture is comparable with the NSC members records. In relative terms, however, the institutionalization of cultural policies is strong in the NSC members.

Table 13. Local Systems' Components: Number of Municipalities by Coordination Boards

SNC	Total Number	With Plan of Culture			With Council of Culture	With Cultural Conference Held		With Fund of Culture	
		Total	With Civil Society Participation	In Progress		Held	Under Law	Total	Exclusive
Non-Members (~NSC)	3,319	451	124	2,762	883	1,155	242	397	365
Members (NSC)	1,235	508	196	563	779	964	400	455	445
Total	4,554	959	320	3,325	1,662	2,119	642	852	810

Source: IBGE/MUNIC – 2014 Culture Survey. Own Elaboration

Table 14. Local Systems' Components: Number of Municipalities by Coordination Boards

SNC	Number of Municipalities				With Selection of cultural projects financed by the municipal culture fund based on:				
	Consortia Member	With NGOs' Partnership	With Points of Culture	Partners of Points of Culture	Public Call	Public Tenders	Government Indication	Council of Culture Indication	Civil Society Bodies Indication
Non-Members (~NSC)	77	436	543	428	79	17	91	189	41
Members (NSC)	60	337	415	305	251	39	60	158	36
Total	137	773	958	733	330	56	151	347	77

Source: IBGE/MUNIC – 2014 Culture Survey. Own Elaboration

Interestingly, as the figures 7 to 9 show, the creation of councils and funds of culture started before in the NSC non-members. In other words, although not joining the NSC, numerous

municipalities decided to organize and strengthen cultural policies utilizing basic national systems' tools and structures. The municipalities that adhere to the system at 2013, by another side, seemed to be more affected by the NSC official creation, with the 2012 constitutional amendment 71.

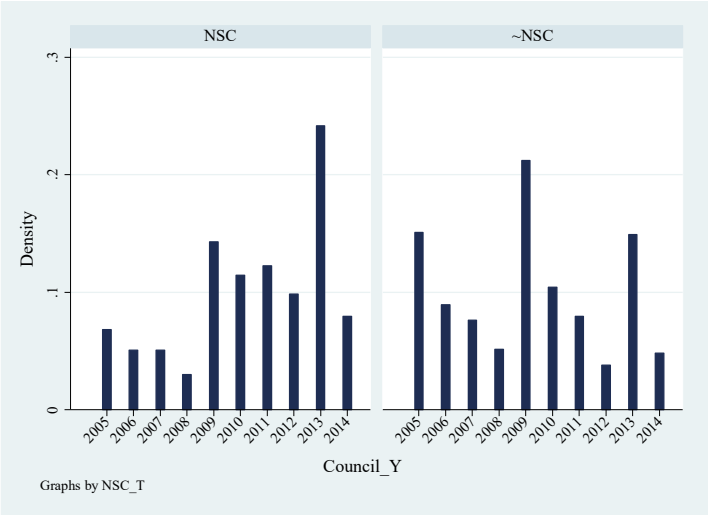

Figure 7. Number of Local Councils of Culture Created by Year

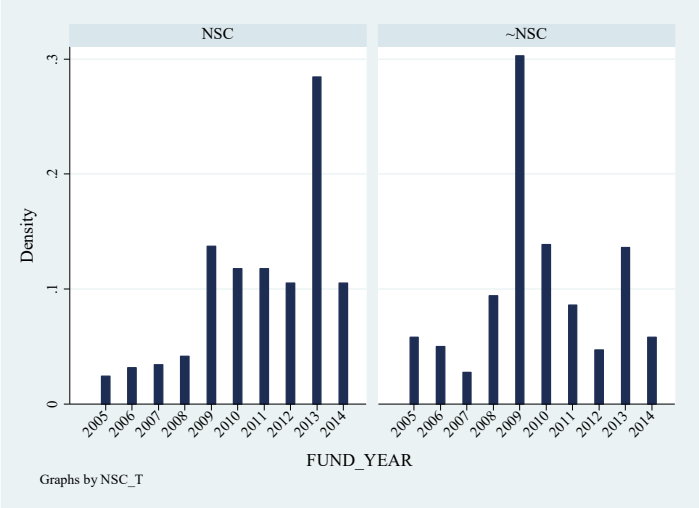

Figure 8. Number of Local Funds of Culture Created by Year

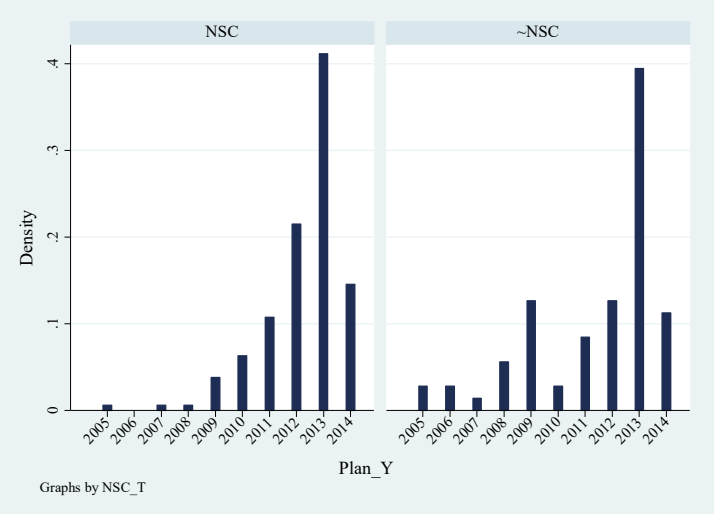

Figure 9. Number of Local Plans of Culture Created by Year

4. Research Hypotheses and Methodological Procedures

Reinforcing cooperation in Brazilian federalism, national systems of public policies may equalize politicians, local governments, and civil society interests. The set of rules and procedures under national systems' models, moreover, may reduce uncertainties about central officials' behavior. The creation of the NSC is, therefore, a suitable opportunity to test the effects of a policy institutionalization on the allocation of discretionary transfers. The set of incentives and formal requirements brought by this institutional arrangement, if it is working, can serve to test if the rules behind it are inducing the discretionary power of public officials to reward more developed local systems of culture. The NSC membership is being utilized here, thus, as a proxy of more developed local structures. Accordingly, the main objective of our research is to explore if membership on the NSC influences the allocation of the Ministry of Culture discretionary resources. Following this rationale, our main hypothesis is:

Hypothesis: *Membership on the National System of Culture increases the municipalities-members' share of the Ministry of Culture discretionary grants.*

In particular, we test the following derived hypotheses:

> ***Hypothesis 1a:*** *Municipalities-members receive relatively more per capita grants when compared with non-members municipalities.*
>
> ***Hypothesis 1b:*** *Municipalities tend to receive relatively more per capita grants from the Ministry of Culture after adhering to the National System of Culture.*

4.1 Sample and Data

Given the higher number of adhesions on the year 2013, we decided to create a sample consisting of the municipalities that adhere to the NSC in this year. Our treatment group is constituted, however, only by the 884 municipalities with non-incumbent mayors elected in the 2012 municipal elections (see table 15).

Table 15. Number of Municipalities that Adhere to the NSC in 2013

UF	With First Term Mayor	With Reelected Mayors	Total
MG	102	26	128
RS	92	36	128
SP	72	43	115
BA	75	32	107
SC	65	36	101
PA	45	17	62
CE	45	16	61
MA	44	14	58
PR	38	15	53
RN	39	14	53
PB	42	8	50
MT	34	9	43
GO	23	18	41
RJ	21	15	36
PE	22	13	35
Others	125	39	164
Total	884	351	1235

Source: Ministry of Culture; IBGE/MUNIC/2013. Own Elaboration

Our control group was extracted, utilizing propensity score matching (PSM) as a data preprocessing procedure, from the 2,376 municipalities that did not adhere to the NSC until the end of 2016. The PSM was used, therefore, to overcome the risk of pre-treatment dissymmetry between treatment and control groups, since preprocessing the data ensures balance on observed covariates. We restrict our control group only to the cities ruled by first-term mayors as well. We assume that reelected mayors could already be developing special actions on the cultural sector during their first term administrations (from 2009 to 2012). In other words, the local systems of culture in those municipalities could already being erected before the official NSC 2013 adhesion. Even though first term mayors may be continuing predecessor policies, we tried to minimize this effect by excluding reelected mayors from our sample. To build the control group we rely on the following sources: 1) MUNIC 2012 and MUNIC 2014, from the Brazilian Institute of Geography and Statistics – IBGE; 2) National Treasury – STN; and 4) IPEADATA. Table 16 shows the covariates selected.

Table 16. PSM Covariates

Covariates		Source
Federal Government Coalition	Dummy variable. Equal 1 if the mayor is affiliated with a federal coalition party	MUNIC/TSE
Total Revenues	Total budget revenues per capita	National Secretariat Treasure
FPM	Total "*Fundo de Participação dos Municípios*" revenues per capita	
IPTU	Total IPTU revenues per capita	
ISS	Total ISS revenues per capita	
Personnel Expenses	Total expenses with personnel per capita	
Exp_Educ&Cult	Total expenses with Education and Culture per capita	
GDP	2013 GDP per capita	IPEA DATA/IBGE
LnPop	Population natural logarithm	
Hom_Rate	2013 Homicide Rate	
Civil_Servants	Number of Civil Servants per capita	MUNIC/2012
Local_Councils	Number of existing Local Councils	
Tech_Cap	Technological Capabilities. Sum of online services available: electronic bidding; online procurement; access to documents and forms; scheduling of consultation in the public health system; ombudsman, citizen service; information and news services; process consultation; official gazette, municipal legislation and public finances; public procurement for personnel recruitment; school enrollment; issuance of negative certificate of debit and license.	
Artistic Groups	Number of existing Artistic Groups	MUNIC/2014
Cultural Facilities	Number of existing Cultural Facilities	
Administrative Regions Dummy	North, Northeast, Southeast; South	MUNIC/IBGE

Dependent Variables

We observe two types of dependent variables related to our three bi-annual averaged periods: 2009-2010; 2011-2012; and 2014-2015. The first variable assesses the bi-annual average of the total per capita values of the agreements signed by the MinC with local governments and non-state providers. The second dependent variable is the bi-annual average of the per capita resources actually released by the MinC. Our sample comprises all agreements signed by the MinC, excluding the agreements financed by the ANCINE. The ANCINE, the Brazilian Film Agency, is a regulatory agency deigned to promote, regulate, and supervise the audiovisual market in Brazil. Important to note that, since the participatory design of the local systems of culture encompasses a strong involvement and participation of the organized civil society, we decided to include in our sample the agreements signed with non-state providers and NGOs. Our dependent variable includes, thus, the resources released to finance local governments and non-state providers cultural projects. All data on agreements and resources released comes from the SICONV system.

4.2 Econometric Specification I: Propensity Score Matching/OLS

To test our hypothesis 1a and estimate the effects of the 2013 NSC membership on our two dependent variables, we employ, for the three defined periods (2009-2010; 2011-2012; and 2014-2015), the following models:

$$AS_i = \alpha + \beta_1 MB_i + \mu C_i + \varepsilon_i$$

$$RR_i = \alpha + \beta_1 MB_i + \mu C_i + \varepsilon_i$$

Where AS is the of the per capita average values of the agreements signed with the municipality *i*; RR is the per capita average of the resources released by the MinC to a municipality *i*; MB is the NSC membership dummy; α, and ε_i are, respectively, the constant term and the idiosyncratic error; and C_i the set of covariates, including a dummy variable if the mayor is affiliated with a federal coalition party.

To boost the internal validity of our study, we rely on propensity score procedures to allow us to minimize selection bias problems (Ho et al., 2007). Matching on socioeconomic features, we seek to ensure that membership decisions is not being significantly disturbed by socioeconomic development levels. We estimate, thus, propensity score matching (PSM) models, using kernel matching with replacement, to build control groups formed by municipalities members and non-members, ensuring that this last group is similar to the group of municipalities that adhere to the SNC in 2013. In order to avoid potential political factors biases, we decided, as previously highlighted, to restrict our sample only to first term mayors (also to control for the influence of higher political efforts of mayors, as did Nogare and Kauder, 2017). Each municipality in the matched sample have, thus, two potential outcomes: Y_{1i} if the municipality adhere to the NSC in 2013 and Y_{0i} if the municipality did adhere not until 2016.

After constructing the treatment and the control groups and confirming that the groups are comparable on observables variables (except for membership) using balancing tests, we employ the previously presented specifications. The key effect of interest is the membership effect. A positive and significant membership coefficient to the 2014-2015 period would support the hypothesis that to adhere to the NSC increases, on average, the relative level of discretionary grants received by the municipalities' members (local administrations and local non-state providers). We included, as controls, a set of local socioeconomic observable variables, like population levels, per capita GDP, local taxes revenues, civil servants' expenses, among other administrative variables

Table 17. Propensity Score Matching/Regression Models

Dependent Variable	PSM/Regression	
AS Average Value of Agreements Signed - per capita	2009-2010	Model 1
	2011-2012	Model 2
	2014-2015	Model 3
RR Average Resources Released - per capita	2009-2010	Model 4
	2011-2012	Model 5
	2014-2015	Model 6

4.3 Econometric Specification II: Difference-in-differences

Our second econometric strategy relies on difference-in-differences (DID) method where municipalities members are treated while municipalities non-members forms the control group. With this specification we compare only the difference in the MinC resources released in both

groups in the pre-2013 NSC adhesion period (2009-2010; 2011-2012) to post-membership period (2014-2015). We estimate the effects of 2013 NSC membership on our dependent variables (average per capita resources released) as follows:

$$RR_{it} = \beta_0 + \beta_1 2012 + \beta_2 2014 + \beta_3 MB \times 2012 + \beta_4 MB \times 2014 + \mu C_{it} + \alpha_i + \varepsilon_{it}$$

Where RR is the average per capita resources released by the MinC in the period *t* to a municipality *i*; MB is the NSC membership dummy; *2012 and 2014* are time dummies fixed effects that respectively takes the value of 1 if it comprises the periods of "2011-2012" and "2014-2015", and 0 if relates to the period "2009-2010"; α_i is a municipal level unit fixed-effect, and ε_{it} is the idiosyncratic error; C_{it} the set of time period covariates, including a dummy variable if the mayor is affiliated with a federal coalition party. We expect a positive and significant membership coefficient only to the 2014-2015 period.

5. Results

Summary statistics are provided in table 18. We have a total of 3,164 municipalities in our sample (with non-incumbent mayors in 2013); 864 municipalities that adhere to the NSC in 2013 and 536 non-members municipalities selected after the PSM. As one can see, considering the 1,400 municipalities included in our final matched sample, the average values are considerably higher to NSC members and to the 2011-2012 period, either for resources agreed as to resources released by the MinC (excluding ANCINE transfers).

Table 18: Summary statistics

Sample description					
Number of periods			3 (2009-10; 2011-12; 2014-15)		
Number of observations					
OLS Regressions			3,164		
PSM/Regressions			1,728		
Difference-in-Differences			4,200		
Number of municipalities*			3,164		
Number of municipalities on the matched sample			1,400		
Number of municipalities treated			*864*		
Number of municipalities untreated			*536*		
Variable	Obs.	Mean		Min	Max
		~NSC	NSC		
Average 2009-2010					
ASpc	1,400	0.245	0.717	0	49.41827
VRpc	1,400	0.211	0.537	0	43.79127
AFMpc	1,400	0.059	0.157	0	13.62239
Average 2011-2012					
ASpc	1,400	0.660	1.900	0	100.4162
VRpc	1,400	0.380	1.467	0	51.76288
AFMpc	1,400	0.055	0.205	0	11.98565
Average 2014-2015					
ASpc	1,400	0.216	0.859	0	129.8846
VRpc	1,400	0.157	0.516	0	103.9077
AFMpc	1,400	0.013	0.041	0	10.29392

Notes: ASpc = Average Values Agreed Per Capita; VRpc = Average Values Released Per Capita; AFMpc = Average Financial Matching Reimbursed Per Capita. * Municipalities ruled, in 2013, by first terms mayors.

Figure 10, that shows the total resources released for municipalities within our matched sample, indicates that the year of 2012 indeed witnessed a peak. Important to note that we

consider, in this study, all agreements signed by the MinC with all cultural players, including local NGOs.

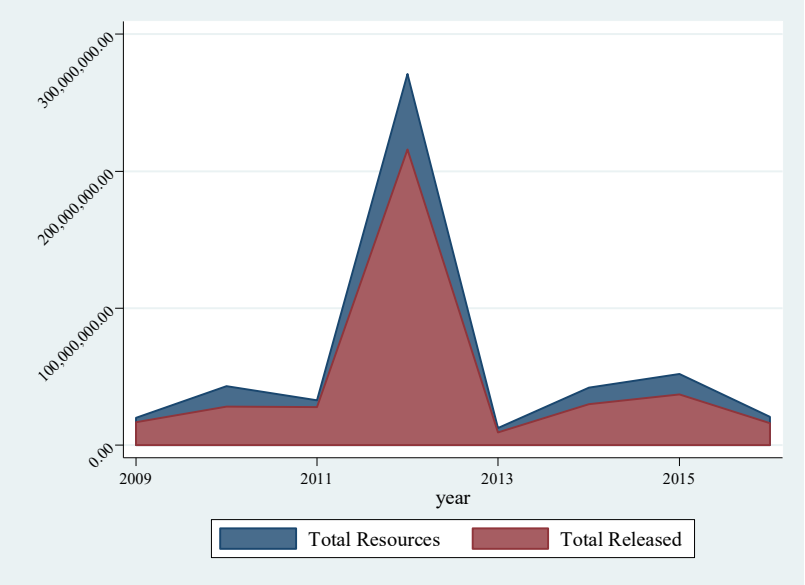

Figure 10. Total Values Agreed and Released from the Ministry of Culture to the Research Sample Municipalities

Table 19 shows the effects of the NSC membership on per capita resources agreed and released by the Ministry of Culture without the matching procedures. As explained before, we estimated six regression models: three using the average values agreed as the dependent variable, and three using the average resources released. We expected to find the membership-effect at the models 3 and 6. Contradicting our hypothesis 1a, we show that membership at the NSC do not tend to increase, on average, the amount of grants received by municipalities members, although there is a positive effect on the agreements signed sums. We capture, however, an unexpected positive membership-effect at the models covering the period immediately before the municipalities' adhesions (2011-2012). The average per capita values signed and released during these two years tends to be higher to the municipalities that adhere to the NSC in 2013, compared to those that did not become members (table A2 at the appendix shows the complete OLS models results).

Table 19. Impact of NSC Membership on Per Capita Resources Agreed and Per Capita Resources Released from the Ministry of Culture (in R$): OLS Regressions

	Value of Agreements – Total per capita			**Values Released – Total per capita**		
VARIABLES	**2009-2010 Model 1**	**2011-2012 Model 2**	**2014-2015 Model 3**	**2009-2010 Model 4**	**2011-2012 Model 5**	**2014-2015 Model 6**
TREATMENT NSC 2013 Membership	*0.166*	*0.727***	*0.521***	*0.0882*	*0.556****	*0.261*
	(0.335)	(0.326)	(0.369)	(0.278)	(0.256)	(0.283)
Controls	YES	YES	YES	YES	YES	YES
Constant	3.682**	-9.390***	6.020***	3.235**	-7.736***	3.605**
	(1.803)	(1.755)	(1.988)	(1.496)	(1.376)	(1.522)
Observations	3,164	3,164	3,164	3,164	3,164	3,164
R-squared	0.011	0.081	0.053	0.010	0.081	0.054

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 20 shows the effects of the NSC membership, after the PSM procedures, on per capita resources agreed and released by the Ministry of Culture. Figure 11 shows the balance assessment, based on 2012 and 2013 pre-treatment observable covariates, to the 2014-2015 dependent variables.

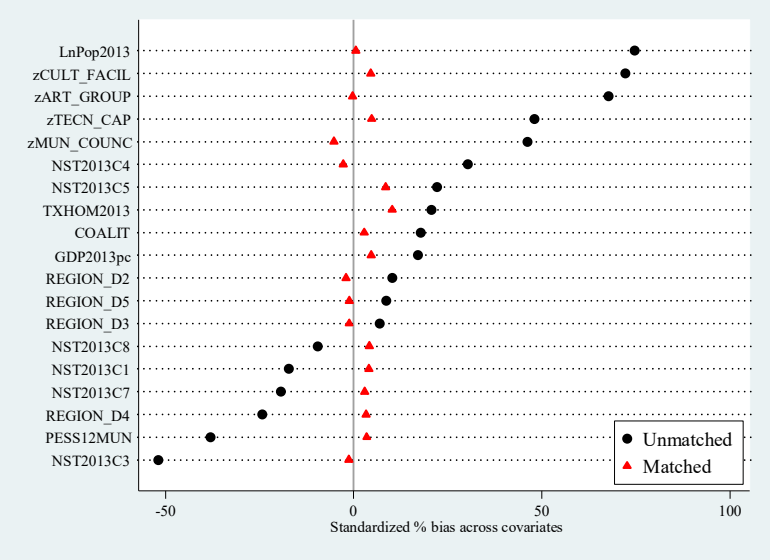

Figure 11. Balance Assessment on Pre-treatment Observable Covariates

After the PSM procedures, and consistent with our hypothesis 1a, we show that membership at the NSC do tend to increase the amount of grants agreed and received. The sign of the membership coefficient, that is, the dummy variable that indicates if the municipality adhere to the NSC in the year 2013, is positive to the models covering the 2014-2015 agreements, the post-adhesion period. As estimated with the OLS models, we also capture a positive effect at the models covering the period 2011-2012. The membership effect, moreover, is higher to the average resources released on the 2011-2012 years. Municipalities members tend to receive circa R$ 0.750 pe capita more resources in this pre-adhesion period, while they tend to receive R$ 0.342 per capita more in the 2014-2015 period (table A3 at the appendix shows the complete OLS models results). The proportion of variance in our dependent variable which can be predicted from the independent variables used is also higher to the models covering the 2011-2012 sample.

Table 20. Impact of NSC Membership on Per Capita Resources Agreed and Per Capita Resources Released from the Ministry of Culture (in R$): PSM/Regressions

VARIABLES	Value of Agreements – Total per capita			Values Released – Total per capita		
	2009-2010	2011-2012	2014-2015	2009-2010	2011-2012	2014-2015
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
TREATMENT	*0.261*	*0.579***	*0.610****	*0.123*	*0.750****	*0.342***
NSC 2013 Membership	*(0.175)*	*(0.274)*	*(0.230)*	*(0.151)*	*(0.199)*	*(0.159)*
Controls	YES	YES	YES	YES	YES	YES
Constant	3.262*	-8.681***	7.651***	3.028*	-6.751***	4.269**
	(1.851)	(2.903)	(2.438)	(1.599)	(2.113)	(1.686)
Observations	1,728	1,728	1,728	1,728	1,728	1,728
R-squared	0.020	0.097	0.035	0.025	0.091	0.021

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

The non-hypothesized membership effect found to the 2011-2012 period is confirmed on the "difference-in-differences" models. Contrary to our hypothesis 1b, our results do not allow us

to confirm that there is a membership-effect in the period immediately after the municipalities adhesion to the NSC, as we show in table 21 and figures 12 and 13. We, in reality, have estimated a positive and significant membership effect to the period immediately before the municipalities' official adhesion to the NSC. In other words, those municipalities that had become an NSC member in the year of 2013 were already gathering, on average, more resources in the 2011-2012 allocations from the Ministry of Culture.

Table 21. Impact of NSC Membership on Per Capita Resources Released from the Ministry of Culture (in R$): Difference-in-Difference Models

VARIABLES	Without Fixed Effects[+]		With Fixed Effects[++]	
	Model 7	Model 8	Model 9	Model 10
NSC_TREAT	0.325**	0.263*	1.416	1.858
	(0.134)	(0.134)	(2.099)	(2.121)
2012.year	0.169	0.169	0.169	0.168
	(0.153)	(0.154)	(0.222)	(0.227)
2014.year	-0.0539	-0.0553	-0.0539	-0.00511
	(0.122)	(0.127)	(0.222)	(0.247)
NSC_TREAT#2012.year	0.762***	0.741***	0.762***	0.762***
	(0.253)	(0.252)	(0.282)	(0.283)
NSC_TREAT#2014.year	0.0339	-0.0117	0.0339	0.0327
	(0.215)	(0.218)	(0.282)	(0.285)
2013 IPTU Tax Collection pc		-0.000142		0.000114
		(0.000138)		(0.000390)
2013 ISS Tax Collection pc		0.00344***		0.000278
		(0.00100)		(0.00347)
2013 Public Spending with Culture & Education pc		0.000536		0.000146
		(0.000608)		(0.000996)
2013 GDP pc		-4.42e-05		0.000168
		(0.000232)		(0.000454)
LnPopulation_2013		0.00555		-0.0297*
		(0.00407)		(0.0177)
Constant	0.211**	0.149		
	(0.0992)	(0.147)		
Municipalities Fixed Effects			YES	YES
Observations	4,200	4,200	4,200	4,200
R-squared	0.015	0.022	0.366	0.367

Notes: [+] Robust Standard errors in parentheses; [++]Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

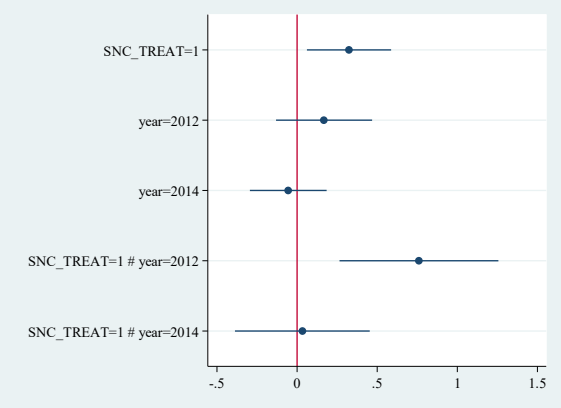

Figure 12. Predicted Per Capita Resources Released with 95% confidence intervals: DID Model Without Fixed Effects

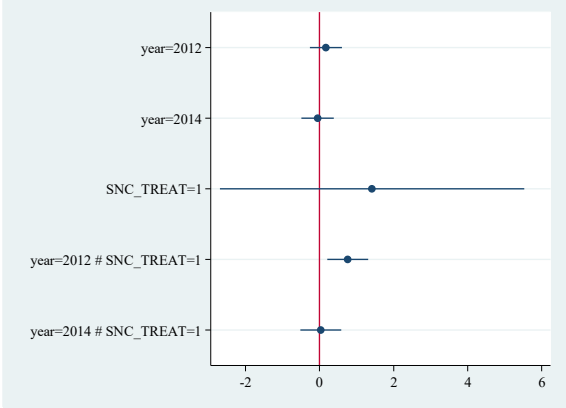

Figure 13. Predicted Per Capita Resources Released with 95% confidence intervals: DID Model With Fixed Effects

6. Conclusion

In this paper we have tested the hypothesis that the institutionalization of public policies at the local level affects the distribution of grants among municipalities. Using two econometric strategies, difference-in-differences and OLS regressions on matched samples, we tested if: (i) municipalities that institutionalize public policies tend to receive more resources form the Brazilian federal government, and (ii) a given municipality receives more resources from the grantor after officially institutionalize a specific public policy. These two propositions shape the basic structure of our article and the empirical procedures used to test our two hypotheses.

In particular, we benefit from the idiosyncrasies of the historical establishment of the National System of Culture, which aimed to professionalize and integrate the management of cultural policies at the three levels of government. Since the official creation of the system dated to the year of 2012, we built our database with information on resources released by the Ministry of Culture to 1,400 municipalities during the period 2009–2015. From these municipalities, circa 860 have adhered to the National System of Culture in the year 2013, our treatment group. The first proposition has been tested with a series of cross-section estimations for the three samples used, that is, for the average resources released and agreed to the periods 2009-2010, 2011-2012, and 2014-2015. Obviously, we expected to find out that only in the post-adhesion period, 2014-2015, the national system members would receive relatively more funds. We found this effect, however, also to the two years period immediately before the 2013 adhesions, that is, to the 2011-2012 period. This unexpected effect becomes even more clear in the difference-in-differences models, used to test our second proposition.

These results mainly suggest that the process of policy institutionalization at the local level, when properly coordinated by the federal government, is, in reality, a relatively long process of sequential investments. To better understand the effect of public policy institutionalization, a larger time series is necessary. Additionally, certain policy areas such as culture, for instance, is more contingent to changes in the federal government agenda. Some periods will witness more administrations' effort and investments, while other periods will face sharp reductions in projects portfolios and available resources.

The findings of this research may be regarded, therefore, as a first step to further analyze the hypothesized effects here defined. Our work has, moreover, some limitations. Firstly, we do not differentiate between different types of receivers inside the municipalities. Additional research should verify the impact of membership on grants only to the local public administration. In this same line, one can equally test the combined effect of policy institutionalization and the general local governments' capabilities. Although we utilized several control variables in this study, good proxies for administrative capacities should be included in future works. Furthermore, one should equally consider the role of states governors in the analysis. State governors' influence should be thoughtful investigated for it may foster or sabotage the municipalities abilities to institutionalize public policies based on federal programs and agendas. State governor, important to note, may equally join the national systems, further affecting, therefore, the local-level policy making.

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APPENDIX III

Table A1. National System of Culture: Municipal Membership by Year and State – 2012-2016

NSC	Non-Members	2012	2013	2014	2015	2016	TOTAL
MG	594	6	128	76	35	14	853
SP	430	8	115	66	22	4	645
RS	291	3	128	50	18	7	497
BA	236	1	107	45	23	5	417
PR	266	3	53	50	20	7	399
SC	100	2	101	65	23	4	295
GO	172	0	41	29	4	0	246
PI	165	0	30	19	8	2	224
PB	142	4	50	15	12	0	223
MA	95	0	58	61	3	0	217
PE	121	1	35	17	9	2	185
CE	43	3	61	46	27	4	184
RN	89	1	53	22	2	0	167
PA	63	0	62	7	11	1	144
MT	94	0	43	0	3	1	141
TO	91	0	32	12	3	1	139
AL	77	0	12	5	7	1	102
RJ	27	4	36	16	5	4	92
MS	20	0	33	14	8	4	79
ES	52	0	16	8	1	1	78
SE	56	0	6	13	0	0	75
AM	50	0	8	3	1	0	62
RO	38	0	9	0	5	0	52
AC	12	0	7	3	0	0	22
AP	12	0	4	0	0	0	16
RR	6	1	7	1	0	0	15
TOTAL	3,342	37	1,235	643	250	62	5,569

Source: Culture Ministry: http://www.cultura.gov.br/snc. Own Elaboration.

Table A2. Impact of NSC Membership on Per Capita Resources Agreed and Per Capita Resources Released from the Ministry of Culture (in R$): OLS Regressions

	Value of Agreements – Total per capita			Values Released – Total per capita		
VARIABLES	2009-2010	2011-2012	2014-2015	2009-2010	2011-2012	2014-2015
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
SNC2013	0.166	0.727***	0.521**	0.0882	0.556***	0.261
	(0.194)	(0.189)	(0.214)	(0.161)	(0.148)	(0.164)
COALIT	0.173	-0.0537	0.307*	0.131	-0.0654	0.153
	(0.162)	(0.157)	(0.178)	(0.134)	(0.123)	(0.136)
Total Revenues	0.000168	0.000196	0.00170***	0.000120	4.77e-05	0.00127***
	(0.000190)	(0.000185)	(0.000209)	(0.000158)	(0.000145)	(0.000160)
FPM	-0.000645**	0.000651**	-0.00146***	-0.000580**	0.000533**	-0.000660***
	(0.000273)	(0.000265)	(0.000300)	(0.000226)	(0.000208)	(0.000230)
IPTU	0.000780	0.00590***	0.0109***	0.000660	0.00261*	0.0111***
	(0.00189)	(0.00184)	(0.00208)	(0.00157)	(0.00144)	(0.00160)
ISS	-0.000297	7.60e-05	0.00135	-0.000178	0.000203	0.00203***
	(0.000809)	(0.000788)	(0.000892)	(0.000672)	(0.000617)	(0.000683)
Personnel Expenses	-3.25e-07	-4.30e-05	-0.00161***	-6.05e-06	0.000162	-0.00173***
	(0.000407)	(0.000396)	(0.000449)	(0.000338)	(0.000311)	(0.000344)
Exp_Educ&Cult	0.000545	-0.000176	-0.000794*	0.000440	-0.000236	-0.000789**
	(0.000412)	(0.000401)	(0.000454)	(0.000342)	(0.000314)	(0.000348)
GDP	-0.00446	-0.00681	-0.0545***	-0.00322	-0.00179	-0.0373***
	(0.00677)	(0.00659)	(0.00746)	(0.00562)	(0.00516)	(0.00571)
LnPop	-0.355**	0.940***	-0.685***	-0.317**	0.783***	-0.396***
	(0.176)	(0.171)	(0.194)	(0.146)	(0.134)	(0.148)
Hom_Rate	-0.00175	0.00522	3.30e-05	-0.00133	0.00164	-0.000890
	(0.00409)	(0.00398)	(0.00450)	(0.00339)	(0.00312)	(0.00345)
Civil Servants	-9.469	-10.71	-1.267	-3.370	-4.984	0.306
	(7.493)	(7.295)	(8.259)	(6.218)	(5.716)	(6.326)
Local Councils	0.176*	0.257***	-0.0329	0.127	0.171**	-0.0327
	(0.0934)	(0.0910)	(0.103)	(0.0775)	(0.0713)	(0.0789)
Tech_Cap	0.0653	0.123	0.0608	0.0523	0.128	0.0785
	(0.112)	(0.109)	(0.123)	(0.0927)	(0.0852)	(0.0943)
Artistic Groups	0.206*	0.00652	0.370***	0.184*	-0.0155	0.206**
	(0.114)	(0.111)	(0.125)	(0.0942)	(0.0866)	(0.0959)
Cultural Facilities	-0.0190	-0.0556	0.133	0.0278	0.0182	-0.0145
	(0.146)	(0.142)	(0.161)	(0.121)	(0.111)	(0.123)
Northeast Dummy	0.103	0.442	0.750**	0.0303	0.236	0.673**
	(0.335)	(0.326)	(0.369)	(0.278)	(0.256)	(0.283)
North Dummy	0.568	0.595	0.872**	0.410	0.374	0.685**
	(0.402)	(0.392)	(0.444)	(0.334)	(0.307)	(0.340)
Southeast Dummy	0.172	0.591*	0.518	0.123	0.438*	0.277
	(0.311)	(0.303)	(0.343)	(0.258)	(0.237)	(0.262)
South Dummy	0.505	0.428	-0.0505	0.370	0.250	-0.0857
	(0.331)	(0.323)	(0.365)	(0.275)	(0.253)	(0.280)
Constant	3.682**	-9.390***	6.020***	3.235**	-7.736***	3.605**
	(1.803)	(1.755)	(1.988)	(1.496)	(1.376)	(1.522)
Observations	3,164	3,164	3,164	3,164	3,164	3,164
R-squared	0.011	0.081	0.053	0.010	0.081	0.054

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A3. Impact of NSC Membership on Per Capita Resources Agreed and Per Capita Resources Released from the Ministry of Culture (in R$): PSM/Regressions

VARIABLES		Value of Agreements – Total per capita			Values Released – Total per capita		
		2009-2010	2011-2012	2014-2015	2009-2010	2011-2012	2014-2015
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
TREATMENT		*0.261*	*0.579***	*0.610****	*0.123*	*0.750****	*0.342***
NSC 2013 Membership		*(0.175)*	*(0.274)*	*(0.230)*	*(0.151)*	*(0.199)*	*(0.159)*
Federal Government Coalition Dummy		0.335*	-0.174	0.525**	0.210	-0.206	0.267
		(0.184)	(0.289)	(0.243)	(0.159)	(0.211)	(0.168)
NTS_2013 National Secretariat Treasure	Total Revenues	-0.000111	-0.000119	0.000744***	-0.000133	-5.05e-05	0.000383**
		(0.000130)	(0.000236)	(0.000247)	(0.000112)	(0.000171)	(0.000171)
	FPM	-0.000156	0.000679**	-0.000843**	-0.000160	0.000351	-0.000123
		(0.000186)	(0.000336)	(0.000351)	(0.000159)	(0.000243)	(0.000244)
	IPTU	-0.000490	0.000616	0.000108	-0.000538	-0.000594	0.000470
		(0.00104)	(0.00189)	(0.00197)	(0.000893)	(0.00137)	(0.00137)
	ISS	-0.000716	-0.000446	-0.000186	-0.000808	-0.000266	0.00105
		(0.000607)	(0.00110)	(0.00115)	(0.000520)	(0.000796)	(0.000797)
	Personnel Expenses	0.000443	0.000316	-0.000311	0.000482**	0.000442	-0.000471
		(0.000279)	(0.000504)	(0.000527)	(0.000239)	(0.000365)	(0.000366)
	Exp_Educ&Cult	0.000153	0.000192	0.000118	0.000185	-6.63e-05	-4.97e-05
		(0.000311)	(0.000563)	(0.000589)	(0.000267)	(0.000408)	(0.000409)
GDP		0.00642	0.00853	-0.0265***	0.00777**	0.00392	-0.0122**
		(0.00441)	(0.00797)	(0.00833)	(0.00377)	(0.00578)	(0.00578)
LnPop		-0.173	0.571***	-0.735***	-0.166*	0.437***	-0.392***
		(0.107)	(0.194)	(0.203)	(0.0917)	(0.140)	(0.141)
Hom_Rate		0.000264	0.0202***	-0.000340	-2.31e-05	0.00967**	-0.00150
		(0.00301)	(0.00545)	(0.00570)	(0.00258)	(0.00395)	(0.00395)
IBGE/MUNIC_2012	Civil Servants	-13.21**	-22.05**	-14.98	-10.47**	-15.10**	-12.25
		(5.681)	(10.28)	(10.75)	(4.865)	(7.449)	(7.457)
	Local Councils	0.0211	0.438***	0.0863	-0.00474	0.161**	0.0643
		(0.0575)	(0.104)	(0.109)	(0.0492)	(0.0754)	(0.0755)
	Tech_Cap	-0.0996	0.0610	0.0905	-0.103*	0.209**	0.0952
		(0.0726)	(0.131)	(0.137)	(0.0621)	(0.0951)	(0.0953)
	Artistic Groups	0.0428	0.156	0.257*	0.0453	0.0673	0.0342
		(0.0709)	(0.128)	(0.134)	(0.0607)	(0.0930)	(0.0931)
	Cultural Facilities	0.111	-0.164	0.454***	0.130	-0.0754	0.264**
		(0.0928)	(0.168)	(0.175)	(0.0794)	(0.122)	(0.122)
Northeast Dummy		-0.0467	0.668*	0.417	-0.0866	0.579**	0.390
		(0.220)	(0.399)	(0.417)	(0.189)	(0.289)	(0.289)
North Dummy		-0.0683	0.665	0.659	-0.0708	0.502	0.415
		(0.257)	(0.466)	(0.487)	(0.220)	(0.337)	(0.338)
Southeast Dummy		0.0574	0.969**	0.626	0.0107	0.780***	0.266
		(0.213)	(0.385)	(0.403)	(0.182)	(0.279)	(0.280)
South Dummy		0.607*	1.416**	-0.00265	0.666**	0.613	0.115
		(0.359)	(0.563)	(0.473)	(0.310)	(0.410)	(0.327)
Constant		3.262*	-8.681***	7.651***	3.028*	-6.751***	4.269**
		(1.851)	(2.903)	(2.438)	(1.599)	(2.113)	(1.686)
Observations		1,728	1,728	1,728	1,728	1,728	1,728
R-squared		0.020	0.097	0.035	0.025	0.091	0.021

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1