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ARE GOVERNANCE ARRANGEMENTS ALIKE? A TENTATIVE TYPOLOGY BASED ON BUREAUCRATIC RELATIONSHIPS AND SKILLS¹

Pedro Cavalcante (Ipea)
Gabriela Lotta (FGV)

ABSTRACT

This paper explores how diverse governance settings can be and how they require different bureaucratic capabilities. The analysis focuses on two dimensions of bureaucracy's performance: relationship and skills; and investigates possible dissimilarity among multiple policy sectors. We empirically test two hypotheses: different policy sectors require particular governance mode; different governance modes operate with distinct bureaucratic skills. To do so, we use a survey applied to over three thousand civil servants of the Brazilian federal government that covered these dimensions. The paper's findings helped to confirm the theoretical assumption grounded in the literature, which outlines that different policy sectors normally operate in distinct modes of governance, in terms of relationship and skills. Besides, the analysis also showed that infrastructure and productive development relate more with private sector, security and citizenship with state governments and social/environmental with municipalities in a decentralized context. Regarding the dimension of skills, they also vary according to the governance modes, with highlighting the core of government ministries as the most qualified sector.

Keywords: governance; public policy; state capacity; federal government; Brazil.

INTRODUCTION

The recent increasing use of the public governance concept arises from events and processes of State transformation affecting different types of organization. In this context, governance means a set of relational dynamics of multiple state and non-state actors interconnected by formal and informal institutions, which the arrangements tend to vary considerably (Capano, Howlett and Ramesh, 2014). Alternatively, as defined by Filgueiras (2019 p. 1), "governance is an institutional process of building political and administrative authority, defining who governs, under what conditions and with the duty of accountability to society".

Scholars have already proposed that the differentiation between modes of governance is based on distinct kinds and degrees of relations that state actors and organizations establish with other stakeholders (Bouckaert, Peters and Verhoest, 2010). Moreover, modes of governance often tend to require different individual, organizational and system skills to enable these relationships (Howlett and Ramesh, 2015).

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During the last years, the literature has advanced at discussing theoretically different types of governance, their skills and capacities. Nevertheless, it has not yet made the same progress at explaining how policy sectors might need different governance modes and if so and how they demand particular bureaucratic skills and kinds of relationships with different stakeholders. This lack of knowledge includes the analysis of how policy sectors compromises their capacity inside the same government, as indicated by Bouckaert, Peters and Verhoest (2010, p. 285): “What is the coordination variance within a country between policy fields?”

At the same time, most of the scholars investigating these new models of coordination and governance have looked at developed countries, especially OECD (O’flynn, Blackman and Halligan, 2014; Greve *et al.*, 2016; Christensen and Læg Reid, 2007). These studies have been able to draw important lessons about the development of these new coordination models, their results and challenges. However, there is still a gap in this literature analyzing cases from less developed countries, where the complexity of the factors that require coordination can be different from developed countries.

This paper’s aims at empirically exploring how diverse governance settings can be and how they could involve different bureaucratic capabilities. The analysis focuses on two crucial dimensions of bureaucracy’s performance: relationship and skills; and investigates possible dissimilarity among multiple policy sectors. We empirically test two hypotheses: i) the modes of governance, measured by frequency and characteristics of bureaucrat’s relationships vary according to policy sectors; ii) Different modes of governance require distinct bureaucratic skills.

In order to investigate this subject, we use a survey applied to over three thousand civil servants of the Brazilian federal government that covered skills and relationship questions, among others. Historically, bureaucracy in Brazil has a very asymmetric pattern, especially among policy sectors, i.e. core of government; infrastructure; productive development; security and citizenship and; social and environmental². However, recently, several changes in state capacity occurred with positive impacts that soften this issue (Cavalcante and Carvalho, 2017; Pires, Lotta and Oliveira, 2018). In this way, Brazil is an interesting case to be analyzed both considering the changes in modes of governance and because it is a non-developed and non-OECD country.

The paper’s findings helped to confirm the theoretical assumption grounded in the literature, which outlines that different policy sectors normally operate in distinct modes of governance, in terms of relationship and skills. Besides, the analysis also showed that infrastructure and productive development relate more with private sector, security and citizenship with state governments and social/environmental with municipalities in a decentralized context. Regarding the dimension of skills, they also vary according to the governance modes, with highlighting the core of government ministries as the most qualified sector.

The paper is structured in four sections, including this introduction. The next session discusses the theoretical grounding regarding the advancing of governance approaches, its mechanisms and modes, followed by the outline of the inquiry hypotheses. The third section sheds light on the empirical analysis, presenting the methodology and the comparison among relationship and skills features of different policy sector in the federal government bureaucracy. Finally, some conclusions and future research agenda are debated.

PUBLIC GOVERNANCE MODES AND MECHANISMS

Since the 1980s, public governance began to occupy a prominent place in contemporary political debates. More recently, bibliometric studies have highlighted both the spread of academic production on the subject and the diversification of its presence in about fifty fields of study (Levi-Faur, 2012). The emergence, diffusion and increasing use of the concept arise from events and processes of State transformation and the creation of different types of organization.

For policy analysis purpose, governance can be understood as a set of relational dynamics of multiple state and non-state actors interconnected by formal and informal institutional settings in order to produce the necessary capacities for effective governmental action (Le Galès, 2011; Capano, Howlett and Ramesh, 2014; Filgueiras, 2019).

² The paper’s appendix details the policy sectors and their respective ministries.

More recently, the literature shows that the 80's reforms had a consequence in changing the stakeholders included in decision making processes, which impacted directly the modes of governance (Howlett and Ramesh, 2014; Treib *et al.*, 2007). Until then, state's action was based on endogenous relationships, involving mostly actors from inside the public administration and mainly centered on hierarchical mechanisms (Bouckaert, Peters and Verhoest, 2010, Howlett and Ramesh, 2014). However, since the New Public Management (NPM) reforms, this scenario started to change. In short, the public sector suffered many transformations, such as privatization and/or downsizing, increase of instruments of transparency and accountability and focus on performance management (Christensen and Lægreid, 2007; Pollitt and Bouckaert, 2011). These reforms created new strategies of coordination inside and outside the government, as well as alternative forms of articulation with private and non-governmental actors (Bouckaert, Peters and Verhoest, 2010).

The idea of governance emerges in this context associated with promotion of new forms of integration, coordination, coproduction and co-creation of services and activities that used to be exclusively governmental (Cavalcante, 2017, Osborne *et al.*, 2016, Bovaird and Loffler, 2015). The concept of governance is also associated with the new perception of complicated problems that emerge with a scenario of social, demographic and economic changes, technological and informational transformation, the demand of transparency, social participation and improvement in public services quality and, at the same time, higher fiscal restrictions (Pollitt, 2010). Therefore, this complexity is also associated to the concept of the so-called "wicked" public policy problems (Lodge and Gill, 2011), which due their embedded ambiguity and uncertainties demand the public sector to overcome the traditional and departmentalized solutions by employing cross-boundary and collaborative initiatives.

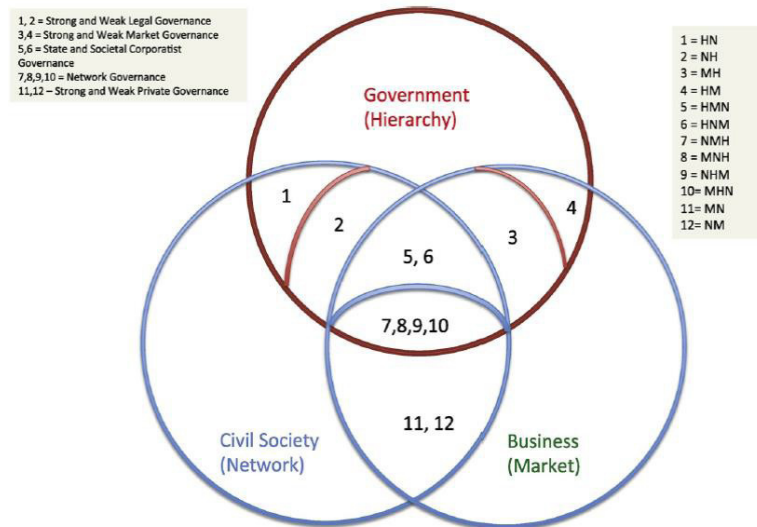
These efforts for building now governance arrangements include non-state actors in decision making, who come from both from private and non-governmental sector. These actors are involved in decision making and take responsibilities for different processes inside policy process. Simultaneously, inside the public organizations, the performance based on actions also changes the internal relationships. Organizations adopt new coordination mechanisms and instruments aimed at regulating the relations between internal and external actors, mainly market and network instruments (Bouckaert, Peters and Verhoest, 2010; Pollitt and Bouckaert, 2011; Lange *et al.*, 2013; Greve, Lægreid and Rykkja, 2016).

In order to understand these arrangements, the literature starts analyzing these mechanisms used in the new modes of governance for achieving better coordination. In this sense, scholars highlight three forms of mechanisms: hierarchy, market and networks, which vary in accordance to the kind of relations between actors involved in the policymaking (Alexander, 1993; Peters, 2006; 2015; Bouckaert, Peters and Verhoest, 2010).

In hierarchical mechanisms, the goals, rules, tasks, control and accountability are well defined, based on authority and Weberian rational domination. The market mechanisms are grounded in performance management and focus on improving competition and exchanges. The goals are contracted and organizations (as individuals) are stimulated to compete to each for resources. Network, on the other hand, involves the assumption of reciprocity, shared values, collective learning, voluntary cooperation and partnerships among organizations (Bouckaert, Peters and Verhoest, 2010).

From this, policymaking can be set in a variety of ways. As argued by Rhodes (1996, p 652), "governance signifies a change in the meaning of government, referring to a new process of governing; or a changed condition of ordered rule; or the new method by which society is governed". These modes of governance, based on different arrangements of mechanisms, are diverse and dynamic, considering the characteristics of the actors, the contexts and legacies they have to deal with. Howlett and Ramesh (2014) propose that these different relationships between actors create different modes of governance, depicted in the Figure 1.

Figure 1 – Modes of Public Governance



Source: Howlett and Ramesh (2014).

There are different types of combination between these actors and the modes of governance, which depend on who has superiority and dominance in each sphere and task developed (Howlett and Ramesh, 2014; Considine, 2001). Therefore, there may be different degrees of hierarchical, market or network modes of governance, considering, for example, the degree of power the government detains in that specific relationship. There may also exist differences in the mechanisms considering the degree of symmetry between actors inside that relationship. This means that the modes of governance are complementary strategies that allow different programs to become more effective promoting multiple coordination involving:

1. Different governmental organizations;
2. Relationship between public and private organizations;
3. Relationship between state and society actors;
4. Relationship between market and society actors;
5. Networks with public, private and non-governmental actors.

Nevertheless, these typologies although help to comprehend the variation in contexts, are limited as the real modes of governance “consist of complex policy mixes, that is of a blend of different coordinating principles and their respective policy instruments” (Capano *et al.*, 2015, p. 8).

Besides the difference in the types of relationships –well described in the previous Figure – the modes of governance also involve diverse kind of skills, as Howlett and Ramesh (2014 p. 322) put: “is at heart a function of administrative and political resources that affect the ability of governments in their relationships with other governance actors”. In this context, the increasing complexity and variety of governmental arrangements affect the skills’ features needed in the policymaking and governance effectiveness, which may be technical and/or political capacities (Fukuyama, 2013; Wu *et al.*, 2010).

Howlett and Ramesh (2014) propose that there are three kinds of critical competences for the development of governance capacity: managerial, analytical and political competences. Different modes of governance require different types of competences, at individual, organizational and system level. In order to put these competences in practice, bureaucrats must have specific skills that enable the relationships, the uses of instruments and the effective operation of the modes of governance. Howlett and Ramesh (2015) reinforce this assumption by recommending modes of governance that differentiated by bureaucrats’ pattern of relationships and their underlying capabilities needed in the policymaking process.

In sum, the public administration literature has advanced addressing how national contexts produced a variety of setting regarding of mechanisms and governance modes (Bouckaert, Peters and Verhoest, 2010, Pires and Gomide, 2014). There are important contributions describing the diversity of outputs and outcomes of governance arrangements as well (Howlett and Ramesh, 2014; Capano, Howlett and Ramesh, 2014). Scholars also proved how different modes of governance supposedly demand unlike skills (Howlett and Ramesh, 2015). Nonetheless, there are still theoretical gaps at demonstrating if and how different policy sector would actually require different modes of governance and, as a consequence, of skills. As policy areas vary according to policy issues, features, arenas and the stakeholders, actors and coalitions (Capano *et al.*, 2015), it's expected a variation in the modes of governance in each sector as well, what has not yet empirically tested.

1.1 MODES OF GOVERNANCE IN BRAZIL

Brazilian recent studies have proved that actors from different sectors establish distinct kinds of relationships and use many types of instruments, resources and skills in the policymaking (Gomide and Pires, 2014; Cavalcante and Lotta, 2015; Gomide and Pereira, 2018; Bichir, 2016; De Paula *et al.*, 2017; Pires, Lotta and Oliveira, 2018). These scholars have demonstrated how part of Brazilian policymaking variety is explained by the sectors' pattern. Considering the gap in the governance literature and the previous discussion, this paper aims at testing if and how sectors can be analyzed by their modes of governance, in terms of relationship, and their required skills in country's context. Therefore, we propose the following hypotheses:

H1: THE MODES OF GOVERNANCE, MEASURED BY FREQUENCY AND CHARACTERISTICS OF BUREAUCRAT'S RELATIONSHIPS, VARY ACCORDING TO POLICY SECTORS.

From this first and comprehensive hypothesis, we outline specific hypotheses to be tested in a complex and dynamic administrative and institutional context, such as the Brazilian federal government and its policymaking.

To begin with, the sector responsible for inside coordination of the Executive branch is the core of government, briefly, meaning the set of institutions and/or actors that provide direct support to the president or prime minister in steering and coordinating the government's strategic agenda (Alessandro, Lafuente and Santiso, 2014; OECD, 2016). In this sense, the core of government (CoG) is not only composed by units responsible for the cross boundaries issues of the Executive, such as budgeting and personal management, but also perform a key role in conducting the prioritized projects and programs. This demands constant articulation with other ministries and agencies inside and outside de CoG in order to achieve effectively the president's goals (Cavalcante and Gomide, 2019). Besides, since the majority of the strategic agenda demand legislative approval, the core of government is in charge of political coordination between these two branches (Lopez, Silva and Borges, 2019; Batista, 2019). So, as a hypothesis, we will test:

H1A. THE CORE OF GOVERNMENT, DUE TO ITS UNIQUE COORDINATION FUNCTIONS, TEND TO INTERACT MORE FREQUENTLY WITH THE EXECUTIVE ORGANIZATIONS AND WITH CONGRESS THAN OTHER POLICY SECTORS.

The Brazilian institutional environment, as a presidentialism, is composed by three branches (Executive, Judiciary and Legislative) that work in checks and balances dynamic. Moreover, after the Federal Constitution of 1988 and in the last decade, as the justice system, control and auditing organizations, such the public prosecution, Federal Court of Auditors and the Office of the Comptroller General, have been structured with personal and budgeting strengthening. Consequently, the Judiciary and the control bodies have been considered key players in the Brazilian federal government with significant impact in the Executive branch policymaking. Not only in terms of bureaucratic and administrative oversight but also influence their political agenda of transparence and corruption control (Arantes, 2015; Barbosa and Carvalho, 2016; Carvalho and Leitao, 2013; Carvalho *et al.*, 2016; Filgueiras, 2018; Olivieri *et al.*, 2015). Filgueiras (2019 p.10) reinforces this process by arguing that "associating high organizational capacity with autonomy, accountability institutions in Brazil were empowered to promote auditing of public policies and organizations, to combat corruption and promote transparency". Thus, we will test the following hypothesis:

H1B. CONSIDERING THE RECENT EMPOWERMENT OF THE JUDICIARY AND THE CONTROL BODIES AND THEIR IMPORTANCE IN DECISION-MAKING, ALL POLICY SECTORS HAVE THE SAME LEVEL OF INTERACTION WITH THESE ACTORS.

Brazil is a complex federative country with institutional singularities, because it is composed by three levels which detain financial, political and administrative autonomy from each other (federal, 27 state government and 5570 municipalities). The federal Constitution establishes that the responsibilities for policy provision are either shared or exclusive for specific policies. The literature points out a growing process of federative coordination, in which the federal government has a strong role in formulation, regulating and funding policies that have to be executed by municipalities (Arretche, 2013; Cavalcante, 2011). For instance, while public security is mainly a state level's concern, local governments have constitutional duties regarding the primary health and welfare implementation. This means that to achieve the social and economic goals set by the Constitution, the levels of government have to work coordinating themselves (Abrucio and Grin, 2017; Bichir, Brettas and Canato, 2017), which does not mean that they follow the same governance mode or pattern of relationship in federative terms (Lotta and Nunes, 2019). Bearing in mind these characteristics, we formulate these two hypotheses:

H1C. DUE TO THE LEGAL FRAMEWORK AND THE FEDERATIVE DYNAMICS, THE SECURITY AND CITIZENSHIP MINISTRIES HAVE MORE RELATIONSHIP WITH STATE GOVERNMENTS;

H1D. THE SOCIAL AND ENVIRONMENTAL SECTOR ARE MORE RELATED TO MUNICIPALITIES, WHICH ARE RESPONSIBLE FOR IMPLEMENTING POLICIES.

Brazil is also known worldwide by the progress and innovative initiatives regarding to participatory institutions that foster direct democratic procedures in the policymaking. Since the Constitution, Brazil has created and institutionalized many different channels of direct participation in all federative levels (Vaz, 2013; Avelino, Alencar and Costa, 2017; Avritzer, 2013; Pires *et al.*, 2011). However, the literature points out that they are stronger in social and environmental policy sectors than in other areas (Pires e Gomide, 2014; Abers, 2018). Therefore, it is expected that the degree of development of this dimension of democratic accountability would oscillate among sectors and, as a result, that the relationships between them and civil society as well). Thus, we will analyze the following hypothesis:

H1E: THE MINISTRIES OF SOCIAL AND ENVIRONMENTAL SECTORS HAVE RELATIONSHIP THAT IS MORE FREQUENT WITH CIVIL SOCIETY ORGANIZATIONS CONSIDERING THE PARTICIPATIVE INSTITUTIONS TO WHICH THEY BELONG.

In alignment with international trends of increasing adoption of market mechanisms in public governance and growth participation of the private sector in the policy and decision making, Brazil has also experienced processes of service concessions and public companies privatizations, primarily in areas of industry and productive development (Ipea, 2018) and infrastructure (Gomide and Pereira, 2018). So, as a hypothesis:

H1F. THE PRODUCTIVE DEVELOPMENT AND INFRASTRUCTURE TEND TO BE MORE INTERACTIVE WITH PRIVATE SECTOR ORGANIZATIONS.

Due to the intensification of processes of globalization, scientific and technological changes that the world has been through in the last decades, all the policy sectors have been affected. In this sense, it is expected that ministries and government agencies have increased the level of interaction with multilateral organizations as well as universities and research institutions, in time of evidence-based policy. Based on this premises, the hypothesis is:

H1G. ALL POLICY SECTORS HAVE THE SAME LEVEL OF RELATIONSHIP WITH INTERNATIONAL ORGANIZATIONS AND THE ACADEMIA.

Finally, as the literature has already discussed, different modes of governance require different individual, organizational and system skills (Howlett and Ramesh, 2015). Therefore, considering the differences in capacities and modes of governance that will be tested in the paper, we will also test the hypothesis to test how they require (or not) different skills:

H2: DIFFERENT MODES OF GOVERNANCE REQUIRE DIFFERENT BUREAUCRATIC SKILLS.

RELATIONSHIP AND SKILLS IN DIFFERENT POLICY SECTORS

DATA AND METHODS

The database used for the paper's analysis stems from the survey government quality and state capacity that is part of a joint research called *Governance Project*, between the Institute of Applied Economic Research (Ipea) and the Center on Democracy, Development and the Rule of Law (CDDRL) of the University of Stanford. The survey's target population was composed of civil servants (permanent employees and those with commissioned positions) who formulate and implement public policies in the ministries, executive agencies (autarchies/foundations) and regulatory agencies. The survey sample excluded positions and careers of the street-level bureaucracy, from the state-owned enterprises and mixed-capital companies and the military. The layers that are part of this research were delimited considering three criteria: positions and careers, which relate to the type of bond established between the civil servant and the federal public administration; having or not commissioned position; and the type of organization (ministry, executive agency or regulatory agency).

According to these layers, the sampling frame was assembled based on the available data, collected between May 15 and July 17, 2018, totaling 3,215 respondents, that is, almost 70% of the sample required. In order to expand sample results to the population, the sample weights of each layer were calculated. Thus, adding all the weights in the sample of 3,215 servants, we get the total of 263,468 servers, used as basis for the selection of the sample. The confidence interval for this sample was 95%, which means that the estimates contained in this report are statistically reliable for the set of selected respondents (Ipea, 2019).

Based on the survey questionnaire and responses and theoretical grounded in the literature discussed in the previous section, the paper employs descriptive analysis of data on relationship and skills dimensions of five policy sector. Besides, for each question, analysis of variance (Anova) is used to test and compare the group means for statistical significance.

In order to organize the analysis and test the hypothesis, the sample was divided in 5 policy sectors: social and environmental; infrastructure; productive development; core of government; security and citizenship. Appendix 1 presents which ministry in each sector. These division follows the same logic applied by Brazilian government in planning and budget instruments.

EMPIRICAL ANALYSIS

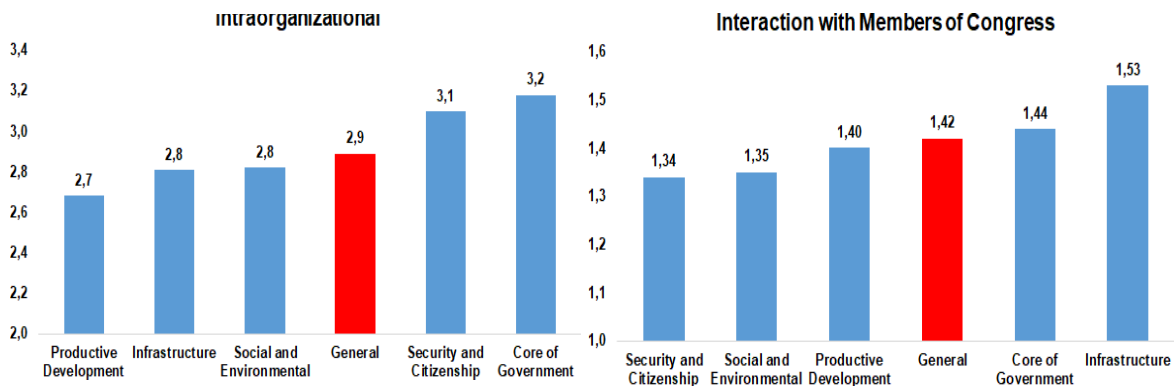
In order to discuss the features of the modes of governance in the policy areas, we use the average of the public servants' perceptions about their frequency of different types of interaction inside their own organizations and with others. The question is: "In the last 12 months, how often did you interact with:" and the answers vary from weekly (5); monthly (4); quarterly (3); semiannually (2) and; not once in the last year (1). Based on this data, the section describes the frequency means grouped by each policy sectors³.

First, it seems that in all kind of relationships, the sectors' averages vary from each other with different intensity and their ranks clearly oscillate as well. Besides, in almost all cases, their variations are, in fact, statistically significant, after running Anova tests.

The figures below encompasses the average of intra and inter-organizational relationships. At the first impression the graphs show a short distance among the sectors in both cases; however, the differences are statistically significant ($F = 9.9$, $p\text{-value} = 0.000$) and, above all, represent almost 20% of the general mean. Other aspect that draws attention is the dominance of the core of government in the two dimensions, which was expected and confirms part of the hypothesis H1a that argues that the ministries of this area interact more with the other organizations inside the Executive. It is worth mentioning that intra-organizational relations are not hypothesized. Because it tends to vary according to size of ministry, including the secretariats and agencies linked, and not related, actually, to the governance's mode features.

³ The Appendix presents the descriptive analysis of the indexes.

Figures 1a and 1b – Intraorganizational and Intergovernmental Relationship, by policy sector

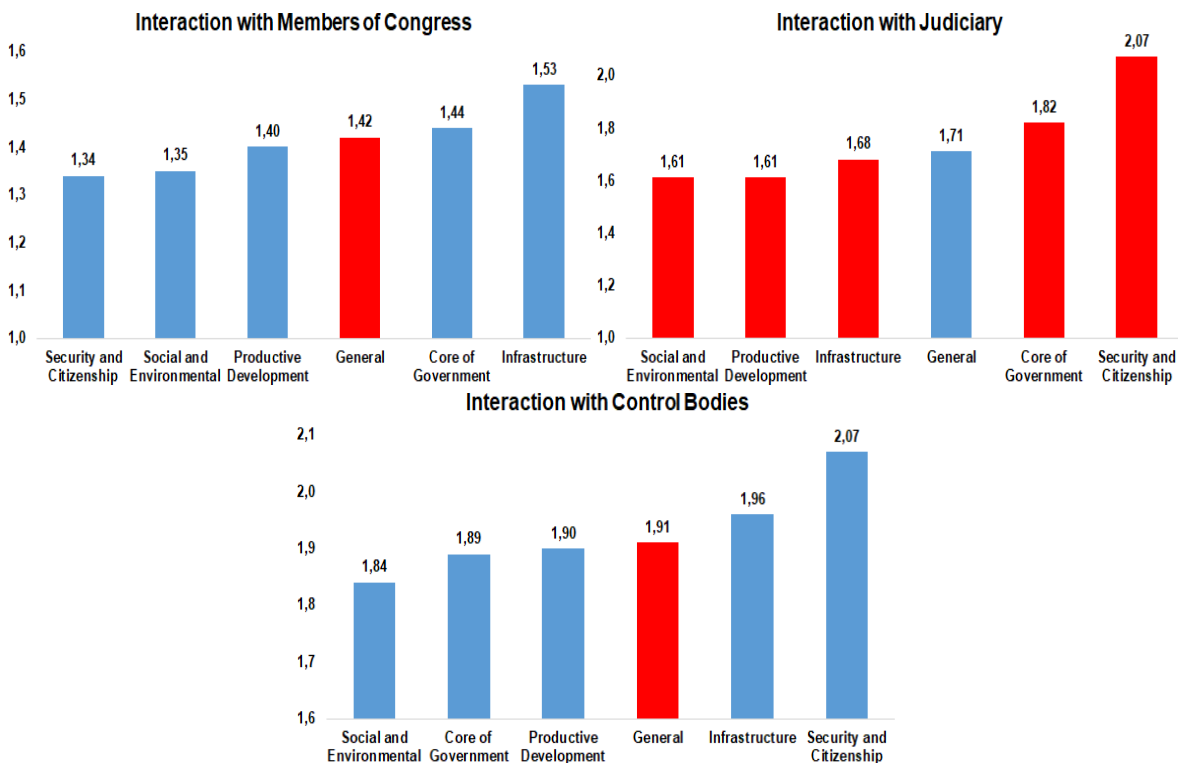


Source: Governance Project (Ipea/CDDRL)

The next figures depict the average regarding the relation with other branches and control bodies. In general, these connections are less intense than the internal ones, discussed above, which is also reasonably expected. Regards to the Legislative (2a), the empirical results confirm the *H1a* as well, since the difference are significant in statistics terms ($F = 5.02$, $p\text{-value} = 0.000$), even though the distance from the most interactive (infrastructure) and the less (security and citizenship) is not so high, i.e., 13% of the general mean.

The *H1b*, on the other hand, states that Judiciary and the Control Bodies would present the same patterns of relationship among all policy sectors, due to the comprehensive empowerment process that these institutions have recently experienced in Brazil. In both cases, the data helps to refute the hypothesis, as the figures 2b and 2c show significant distance between the highest average and the lowest. Clearly, it is greater in the relationship with the Justice system, 27% of the general mean ($F = 10.33$, $p\text{-value} = 0.000$) than with control bodies, 13% ($F = 2.19$, $p\text{-value} = 0.067$). The other similarities involve the persistence of the lowest average in the social areas, while security and citizenship ministries are, in either cases, far from the other sectors, in terms of interaction.

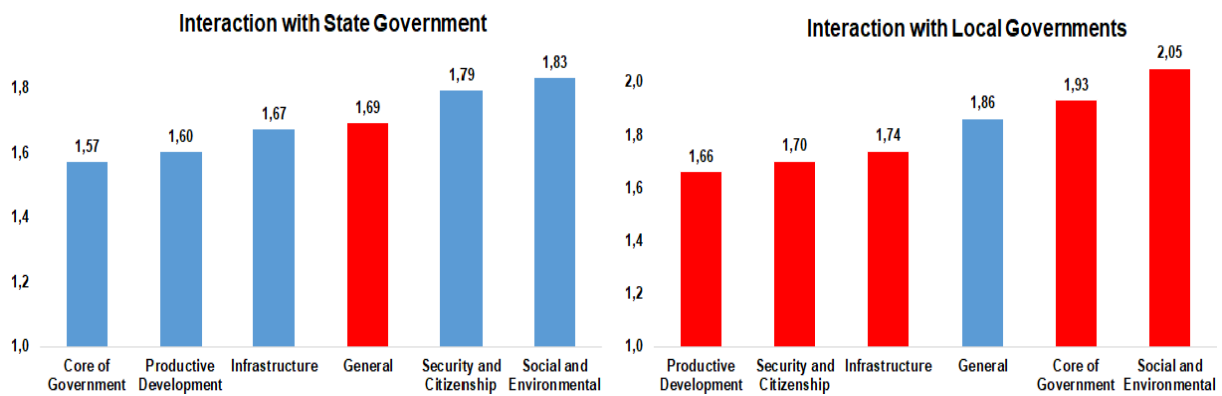
Figures 2a, 2b and 2c – Interaction with Other branches, by policy sector



Source: Governance Project (Ipea/CDDRL)

The next two figures aimed at testing if the types of relationship with subnational governments vary⁴. As previously discussed, since the security and citizenship ministries are in charge of matters in convergence with the constitutional responsibilities of the state level, such as public safety and drug policy, the H1c stands out that this relation is higher than the other areas. The empirical findings partly confirmed it, as this sector has the second greatest average, behind only from the social and environment ministries and agencies. This latter sector also has the greatest mean regarding the relationship with local government, confirming the theoretical assumptions that H1d is grounded in. The other sectors show different pattern of interaction, oscillating the in average's ranks, nonetheless, economic sectors, such as productive development and infrastructure, draw attention, since their frequency's means are under the general ones. The low financial capacity and the secondary role-played by subnational governments in these policy affairs may explain this situation.

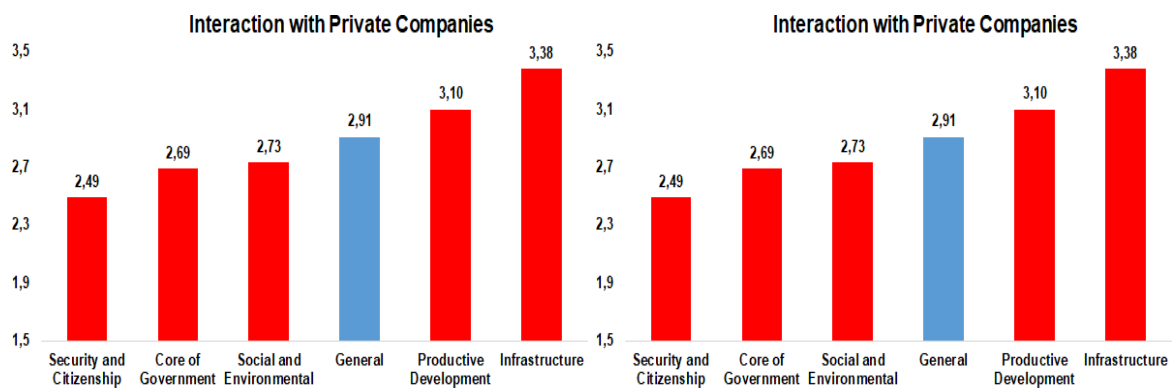
Figure 3a and 3b – Interaction with Subnational Governments, by policy sector



Source: Governance Project (Ipea/CDDRL)

As discussed in the theoretical section, governance modes have enlarged the roles played by stakeholders from outside the public sector in the governmental decision and policymaking processes. In this sense, the paper analyses how the policy sectors specifically interact with this salient actors. Figure 4a shows interesting results, although the Anova test does not present statistically significant different among them.

Figure 4a and 4b– Interaction with Private Companies and Civil Society, by policy sector



Source: Governance Project (Ipea/CDDRL)

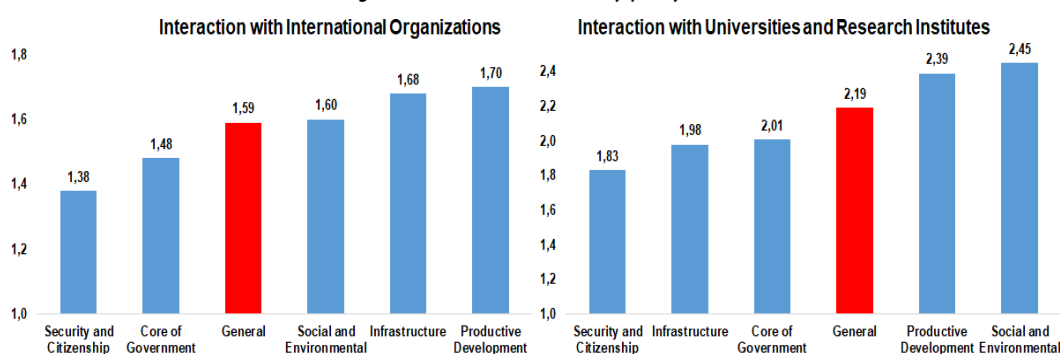
First, security and citizenship, in general, is the less connected with society, which may be explained by the typical hierarchical and bureaucratic characteristics of these organizations, such policy and military forces. Moreover, the core of government, productive development and infrastructure have almost the same mean. The most important is that *social and environmental* ministries and agencies, on average, have more frequent relationship with civil society organizations, confirming the hypothesis *H1e*.

⁴ Both difference among sectors are statistical significant: state level ($F = 7.11$, $p\text{-value} = 0.000$) and local government ($F = 11.99$, $p\text{-value} = 0.000$).

Regarding the other mode of governance, focused on the interaction between government and private sector, the findings reinforce the relatively isolation of the security and citizenship sector, as well as observed in the previous analysis. The difference among the areas' means are not only statistically significant ($F = 29.1, p\text{-value} = 0.000$), but also show the greatest distance between top and lowest average, around 30% of the general mean. Besides, it helps to confirm the hypothesis ($H1f$) that outlines the more frequent connection between the market organizations and infrastructure and productive development areas. This result can be interpreted as consequence of the sectors policy features and the increasing participation of the market organizations in projects of public-private partnerships.

The last two dimension of relationship analyzed also show distinct pattern of results, even though, in both cases, the average's difference are statistically significant⁵ and considerable distance among them in comparison to their overall means, 20% and 28%, respectively. To begin with, it is worth mentioning that academia is more interacted than multilateral institutions and, surprisingly, even stronger related to the federal government than the civil society entities.

Figure 5a and 5b – Interaction with International Organizations and Academia, by policy sector



Source: Governance Project (Ipea/CDDRL)

Once again, the security and citizenship is the most distant sector from this type of relations, whereas the other oscillates in the average's ranks. Although productive development and social/environment are more related to international organizations and academia than the sample's mean. Therefore, the empirical results contradict the $H1g$, in other words, the *policy areas do not have the same level of relationship with these entities*.

Moving to the skill's dimension of the governance modes in the policy areas, we also use average of the public servants' perceptions about their organizations' competences and capabilities. The question is: "Do your organization's civil servants have below? Please rate your level of agreement with the following" and the answers vary from I strongly agree (5); I agree (4); I do not agree or disagree (3); Disagree (2) and; I strongly disagree (1). Based on it, Table 1 summarizes the frequency means grouped by each policy sectors and the Anova test results as well.

In short, the analysis demonstrates interesting findings as well, even though, less impressive than the ones related to relationship. Four of seven skills show statistically significance, while the means' differences in each competence/capability demonstrate a more homogenous patterns among policy sector than observed in previous dimension.

Table 1 – Frequency Average of Skill, by policy sector

SKILLS	Productive Development	Infrastructure	Core of Government	Security and citizenship	Social and environmental	General	Anova (F test)
Knowledge of public policies in the activity sector	3.44	3.48	3.48	3.21	3.52	3.46	4.8***
Research	3.62	3.34	3.52	3.17	3.4	3.43	11.6***
Public Policy Analysis	3.19	3.21	3.2	2.90	3.17	3.17	4.6**
Leadership	3.23	3.19	3.62	3.2	3.22	3.22	0.5
Conflict management	2.95	3	3.02	3.22	2.94	2.99	3.6**
Building Interpersonal Relationships	3.2	3.22	3.25	3.17	3.14	3.2	1.2
Communication	3.3	3.3	3.36	3.33	3.23	3.29	1.9

Source: Governance Project (Ipea/CDDRL)

Note: * p-value <0.05, ** p-value <0.01, *** p-value <0.001.

⁵ International organizations ($F = 7.8, p\text{-value} = 0.000$) and universities and research institutes ($F = 27.2, p\text{-value} = 0.000$).

Regarding the skills that the policy sector's averages are not statistically significant (leadership, building interpersonal relationship and communication), one plausible answer for this result may lie in the fact that these competences/capabilities are, nowadays, equally needed in every governmental area, despite their specific governance mode. It is also worth mentioning the highest frequency perceived in policy knowledge and research. In the latter, the best scores come, exactly, from the sectors that are more connected to the universities and research institutions (figure 5b), i.e., productive development, core of government and social/environmental.

On one extreme, security and citizenship's organizations, generally, seem to have the worse view of their skills. On the other, CoG leads or holds the second place in all types of competences/capabilities. In the first three skills listed, related to analytical competences, the results are in accordance with the literature (Cavalcante and Lotta, 2015), since demonstrate that most of the core of government's units have the most professionalized and qualified careers in Brazil, such as the finance and planning ministries and general attorney's office. Furthermore, CoG also stands out in the other four skills, which are closer and necessary for the relationship dimensions. In this sense, the findings are also expected, considering that this sector has communication and coordination of the Executive branch its essential functions of, which naturally demands such capacities (Cavalcante and Gomide, 2019).

FINAL REMARKS

The paper aimed at investigating how diverse governance settings can be and in which extent they would require different bureaucratic capabilities. In order to advance in the literature of modes of governance (Bouckaert, Peters and Verhoest, 2010; Howlett and Ramesh, 2015), the inquiry analyzes the distinct kinds and degrees of relations that state actors and organizations establish with other stakeholders and also how bureaucratic skills are employed by different policy sectors. Thus, the study explores the data provided by a comprehensive survey with federal civil servants, in a democratic and emerging country, Brazil.

Hence, by using descriptive analysis and running Anova tests, the paper empirically tested some hypotheses, previously discussed with the governance and public policy literature. The table 2 summarizes the main results.

Table 2 – Hypotheses tested

Hypotheses	Confirmation
H1: The modes of governance, measured by frequency and characteristics of bureaucrat's relationships, vary according to policy sectors.	Yes
H1a. The core of government, due to its unique coordination functions, tend to interact more frequently with the Executive organizations and with Congress than other policy sectors.	Yes
H1b. Considering the recent empowerment of the Judiciary and the Control Bodies and their importance in decision-making, all policy sectors have the same level of interaction with these actors.	No
H1c. Due to the legal framework and the federative dynamics, the security and citizenship ministries have more relationship with state governments.	Yes
H1d. The social and environmental sector are more related to municipalities, which are responsible for implementing policies.	Yes
H1e: The ministries of social and environmental sectors have relationship that is more frequent with civil society organizations considering the participative institutions to which they belong.	No
H1f. The productive development and infrastructure tend to be more interactive with private sector organizations.	Yes
H1g. All policy sectors have the same level of relationship with international organizations and the academia.	No
H2: Different modes of governance require different bureaucratic skills.	Yes

Source: Author's elaboration.

Above all, the findings help to confirm the theoretical assumption grounded in the literature that different policy sectors normally operate in distinct modes of governance. As demonstrated in the statistical analysis, each sector functions in specific types of relationships with different organizations and stakeholders. In short, the results confirmed that the core of government's ministries is characterized by intense relationship with other federal organizations and the legislative (*H1a*). On the contrary, the hypothesis that all policy sectors would maintain the same level of relationship with bodies of control and justice system (*H1b*) as well as university and international organizations (*H1g*) were not proved. In the first cases, security and citizenship organizations are quite more connected, while as regards to academia and multilateral agencies the highlight goes to productive development sector.

Regarding the federative dynamics, as expected due to the constitutional policy obligations, the security and citizenship sector has more relations with state level (*H1c*) and social and environmental ministries demonstrate a stronger connection with municipalities (*H1d*). The latter, however, surprisingly, does not operate an intense degree of relationship with non-governmental organizations and participative institutions, at least the Anova test did not show significance to confirm what would be expected (*H1e*). Quite the opposite, productive development and infrastructure sectors are differentiated by their intense relations with the market organizations (*H1f*).

Furthermore, the inquiry's hypothesis 2, which reinforces the premise that each policy sector has its own mode of governance, based on specific bureaucratic and organizational skills, is also confirmed. However, not all types of competences/capabilities equally variate and some sectors seemed to be more skillful than others were.

These analyzes contribute to the existing literature in two ways. First, by showing how non-developed and non-OECD country, governance has also different modes in complex and dynamic government framework. Although, Brazil has experienced processes of transformation similar to other nations, its particular institutional arrangement is important to explain how modes of governance are adopted in each sector. This brings to the second contribution: to advance in the analysis that modes of governance vary between sectors and that this variation has to be explained by the dynamics of the sectors. Even though these findings bring new contributions to the field, they also have limitations and open space for new agendas of research.

As future research agenda, on strategy could be testing the same hypotheses in different countries or level of government. A second subject might be to analyze how these modes of governance are operated through different policy and coordination instruments. As already discussed in the literature, modes of governance function employing specific instruments (Alexander, 1993; Bouckaert, Peters and Verhoest, 2010; Howlett and Ramesh, 2015) and the focuses can be investigated in different policy sectors. For this purpose, it would be recommended to deepen in a more qualitative approach.

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APPENDIX

Table 3 – Descriptive Statistics of Relationship's Means, by policy sector

Relationship	Productive Development	Infrastructure	Core of Government	Security and citizenship	Social and environmental	General	Anova (Prob>F)
Other organizations or agencies linked to my ministry	2.68	2.81	3.18	3.10	2.82	2.89	11.4***
Other ministries or organizations linked to others ministries	2.31	2.46	2.65	2.61	2.26	2.43	9.9***
Members of the Legislative branch	1.4	1.53	1.44	1.34	1.34	1.42	5.0***
Members of the Judiciary branch	1.61	1.68	1.82	2.07	1.61	1.71	10.3***
Control and Audition agencies	1.9	1.96	1.89	2.08	1.84	1.91	2.2*
Local governments	1.66	1.74	1.93	1.7	2.05	1.86	11.9***
State governments	1.6	1.67	1.57	1.79	1.83	1.69	7.1***
Private companies	3.1	3.38	2.69	2.49	2.73	2.91	29.1***
International organizations	1.7	1.68	1.48	1.38	1.60	1.59	7.2***
Civil Society organizations	1.87	1.88	1.88	1.75	1.95	1.89	1.5
Universities and Research institutes	2.39	1.98	2.01	1.83	2.46	2.19	24.2***

Source: Governance Project (Ipea/CDDRL)

Note: * p-value <0.05; ** p-value <0.01; *** p-value <0.001.

Table 4 - Policy Sectors and their Ministries

Sector	Department
SOCIAL AND ENVIRONMENTAL	Ministry of Social development (MDS) Ministry of Culture – MinC Ministry of Education (MEC) Ministry of Health (MS) Ministry of Labour Ministry of Sports Ministry of the Environment
INFRASTRUCTURE	Ministry of Mines and Energy Ministries of Cities, Ministry of Transport, Ports and Civil Aviation Ministry of National Integration
PRODUCTIVE DEVELOPMENT	Ministry of Agriculture, Livestock and Food Supply – MAPA Ministry of Tourism Ministry of Tourism, Trade and Industry. Ministry of Science, Technology, Innovation and Communications
CORE OF GOVERNMENT	Presidency Vice Presidency Ministry of Planning Ministry of Finance Civil House Ministry of Foreign Affairs – MRE Ministry of Transparency and the Comptroller General
SECURITY AND CITIZENSHIP	Ministry of Justice and Public Security Ministry of Defense Ministry of Human Rights