

The Institutional Pluralism of the State

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“THE INSTITUTIONAL PLURALISM OF THE STATE”

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TO DAN, FOR SHOWING ME EVERYDAY WHAT *BLESSING* MEANS.

The Institutional Pluralism of the State

ABSTRACT

What are the logics that public organizations enact in their daily activities? This doctoral dissertation investigated the institutional logics of the State. The institutional logic concept adopted was the one of Friedland and colleagues: institutional logics are “stable constellations of practice”, the necessary coupling of substances and material practices that constitutes the institutions’ organizing principles (Friedland & Alford, 1991; Friedland, Mohr, Roose, & Gardinali, 2014). The State is understood as one of the central institutions of society, composed by two dimensions. One is the bureaucratic dimension, permeated by different ideas about *how* things should be done in the State. The other is the capitalist dimension, permeated by different ideas about *what* should be done, i.e., what should be the role of the State.

I have chosen a specific type of public organization to explore the logic of the State: the Brazilian independent regulatory agencies (IRAs). IRAs have diffused widely in the past years, and the literature suggests that they represent the “appropriate model of governance” of the capitalist economy (Levi-Faur, 2005). They changed both *how* things were done - emphasizing the state’s rule-making instruments - and *what* should be done - focusing on competition promotion and correcting market failures (Majone, 1994). In Brazil, IRAs were part of a broader process of State Reform, and represented an important innovation in terms of organizational design, based on autonomy, and role to be performed, based on competition promotion. However, the process of IRAs’ diffusion was largely impacted by the local context and despite being idealized as purely regulatory, their policies and activities indicate that they do much more than promoting competition. In fact, state policies in general, and regulatory policies in particular, “are rooted in changing conceptions of what the state is, what it can and should do” (Friedland & Alford, 1991).

To assess the institutional logics of the State, this research investigated over 9,000 press releases published by three formal independent regulatory agencies in Brazil between 2002 and 2016. Those press releases cover all the news they released since their creation. Press releases are frequently used by Brazilian IRAs, and they serve as a good proxy of the policies and activities conducted by these agencies. I applied a correlated topic model (CTM) to extract the main themes discussed by the agencies in the past years. Originating from the study areas of natural language processing and machine learning, topic models are probabilistic models that uncover the semantic structure of a collection of documents, or corpus (D. M. Blei, 2012; D. M. Blei, Ng, & Jordan, 2003). Differently from other content analysis techniques, topic models are purely inductive and conform to the ‘relationality’ of meaning assumption of the institutional logics literature (DiMaggio, Nag, & Blei, 2013).

The results indicated that the logics enacted by independent agencies do not refer only to procedural correctness (Meyer & Hammerschmid, 2006) or democracy (Ocasio, Mauskapf, & Steele, 2015). In fact, much of what they do is grounded on broader substantive values, reflecting developmental, pro-competition- and social-oriented interpretations of the role of the State. Yet, the bureaucratic logic is very pervasive within IRAs: it permeates substantive logics, but also it stands up as a logic of its own. Regulatory agencies enact it more often when they are not able to perform their substantive mission. IRAs re-frame at their discretion the practices of administrative police (standards setting and inspections) and public participation (procedural fairness) during periods of crisis, in order to justify their actions. By doing so, they were able to legitimate their existence, gain a new sense of mission and avoid blame for their actions.

Keywords: Pluralism, Institutional Logics, Bureaucracies, Hybrid Policy Regimes, Topic Models.

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Introduction

INSTITUTIONAL LOGICS HAVE BEEN A MAJOR TOPIC IN ORGANIZATION STUDIES IN THE PAST YEARS. Often understood as “taken-for-granted social prescriptions that guides actors’ behavior in fields of activity” (Battilana & Dorado, 2010), institutional logics were initially thought as “ontological enactments” that “depend on making the invisible substance visible” (Friedland et al., 2014). This research considers logics as meaningful and stable constellation of practices (Friedland, 2009).

Logics, in this sense, don't simply guide actors' behavior: they are ideas materialized or meaningful material practices.

Much of the research on logics is concentrated at the organizational level of analysis. When organizations combine multiple institutional logics, facing a plurality of rationales or normative frames, they are said to be hybrid (Battilana & Dorado, 2010; Pache & Santos, 2013; Skelcher & Smith, 2015). A narrower use of the term is related to organizations that combine public, non profit or private organizing logics (Jay, 2013). Also, hybridism may refer to a networked organizational form, which is neither a hierarchy nor a market (Powell, 1990). Following Kraatz and Block (2008), organizations are considered hybrid whenever it faces institutional pluralism, participating, thus, "in multiple discourses" and being member "of more than one institutional category".

This research relies on pluralism to refer to the institutional level, and on hybridism to refer to the organizational level. Although the definitions above refer simply to multiple logics and institutional pluralism, empirical work emphasizes organizational hybridism as arising from the interplay of logics from distinct societal institutions, like family-market-state (Chung & Luo, 2008), professions-market (Thornton & Ocasio, 1999), community-corporation-professions-state (McPherson & Sauder, 2013) and state-market (Thomann, Lieberherr, & Ingold, 2016).

This overemphasis on the shocks between logics have made them the only, or at least the most common, source of practice variation, in a way that the "dynamism of logics is no longer thought to reside in the logics themselves" (Quattrone, 2015). On this same subject, the diffused assumption that the internal dynamics of societal institutions is based on a consensual and shared understanding of mutually attuned actors (Harmon, Green, & Goodnight, 2015; Jeppeson, 1991) has hampered a more accurate understanding of societal institutions as antagonistic social arenas. According to McPherson and Sauder (2013), even the research on pluralism operates under the assumption that each logic is tied to distinct subgroups, and it is the balkanization of commitments to different logics that creates dynamic tensions within these societal institutions.

In this sense, this doctoral dissertation reinforces the argument of [Friedland and Alford \(1991\)](#) - that each societal institution is not only externally, but also internally contradictory - by examining the institutional logics of the State. I see the State's logics as a *what* done through a *how*, where both are contested. The State is an abstraction ([Dunleavy & O'leary, 1987](#))(p.6), an "ideological fiction", but also an "eminently practical reality" ([J. Dunn, 2014](#)). In practice, the State collect taxes, draft men for work and/ or war, and decree and enforce laws ([Carneiro, 1970](#)). These monopolies, nevertheless, need justification, so the State's legitimacy rests on substantive roles, such as promoting justice, equality, growth, or protecting private property. The variety of beliefs about the legitimate role of the State, and the differing ways of implementing such a role are a key source of institutional pluralism inside the State.

[Friedland and Alford \(1991\)](#) highlighted this in 1991, when they said that "state policies are not only technical solution to material problems of control or resource extraction, they are rooted in changing conceptions of what the state is, what it can and should do" (p. 237). This contradictory aspect of the State hasn't received attention since then, and the state is mainly known by a bureaucratic-legalistic ([Friedland & Alford, 1991](#); [Meyer & Hammerschmid, 2006](#)) and by a democratic logic ([Ocasio et al., 2015](#); [Thornton, Ocasio, & Lounsbury, 2012](#)). Those logics represent the State's *modi operandi* or the distinct means-ends combinations of how to implement its substantive role(s).

In this research, I explored the pluralism inside the state by answering the following question: *What are the logics that public organizations enact in their policies and daily activities?* Assuming that the internal functioning of hybrid organizations "reflects the contradictions between the larger systems themselves"([Kraatz & Block, 2008](#))(p.2), I investigated the logic(s) of the State as enacted by independent regulatory agencies (IRAs) in Brazil.

This choice was based on two main reasons. First, IRAs represent one of the most prominent "innovations" of the administrative state in the recent times. Before the Brazilian Administrative

Reform of the 1990s, the state intervened in the economy mainly via state-owned companies. Since the implementation of the first National Plan for Desestatization in the 1990s, 68 companies at the federal level and 55 at the state level were privatized, and more than sixty IRAs have been created at the federal, state and municipal level. With the transfer of ownership to private actors, it was expected that IRAs would focus on a (new) regulatory role, promoting and fostering competition within each regulated sector. As the creation of independent agencies is associated with the change in the role of the state (Salgado, 2003), they represent an interesting empirical setting for investigating the logics of the state. Moreover, IRA's diffusion is an international phenomenon. It has been suggested that the dissemination of these organizations worldwide represents an extensive process of bureaucratic reorganization and that IRAs can be considered the appropriate model of governance in capitalist economies nowadays (Jordana & Levi-Faur, 2005). The privatization of state owned enterprises and the emergence of IRAs are understood as material evidences of a change in the beliefs about the role of the State, for some associated with New Public Management movement (Christensen, Lie, & Læg Reid, 2008).

Second, focusing on organizations with the same legal status will allow the investigation of a pluralism that arises inside the state, and not from the clash between distinct societal institutions. As public organizations that share the same legal status - special autarchies with high levels of autonomy and rule-making powers -, one could expect some convergence in their policies and activities. Yet, evidence suggests that the outputs of IRAs's activity are associated with a distinct set of beliefs about the state, beyond the market-oriented prescriptions of NPM reforms. It has been said that these organizations are performing a wide range of tasks, rescuing, to some extent, the welfare state (Haber, 2011; Mabbett, 2011; Pflieger, 2014).

While previous analyses have considered that the Brazilian IRA model was unduly extended (Salgado, 2003) due to a certain "confusion" between the need of management flexibility and the new regulatory role of the State (Peci, 2007), my argument is that regulatory agencies enact in their

daily activities – i.e., via rules and programs they actually implement and the vocabulary they use to inform the society about their actions - the multiple and conflictive meaning systems associated with the state as a societal institution.

As K. Weber, Patel, and Heinze (2013) highlighted, the institutional logics approach is especially important to analyze “historically situated pluralities; or the nature of fields as having, at some point, the capacity to carry more than one paradigm” (p. 352). The state is such a field, permeated by multiple paradigms of analysis, making its meaning frequently and fiercely contested (Dunleavy & O’leary, 1987).

This research makes some contributions to the current literature. I argued and showed that the State is a plural institution, where both *what* it does and *how* it does it are enacted in specific ways. The enactment of state logics varies across agencies and within agency over time. Although much of what these public organizations do reflect greater beliefs about the role of the State, bureaucratic practices also played a key role. It was via bureaucratic practices that regulatory agencies were able to perform their role as political actors in periods of crisis. Additionally, the results indicate that the Brazilian regulatory state has been more influenced by developmental ideas than welfare ones, differently from what happens in Europe (Haber, 2011) but in line with the Latin America context (L. C. B. Pereira, 2012; Schneider, 2015). Finally, it attempted to demonstrate how topic models can be used to map institutional logics, and that press releases can be a good proxy of what public organizations do.

The remaining of this dissertation is organized as follows. Chapter 1 discusses the concept of societal institutions and of institutional logics. Chapter 2 explores the variety of ideas about and the contemporary changes in the role of the State. Chapter 3 presents the empirical strategy, focusing on how logics have been measured and the approach adopted in this research. Chapter 4 explains how the analysis was conducted. Chapters 5 and 6 discuss the results. At last, I conclude by summarizing the main findings.

But somewhere, we shall be told, and in some way, it must be possible for all these values to live together, for unless this is so, the universe is not a harmony; unless this is so, conflicts of values may be an intrinsic, irremovable element in human life

Isaiah Berlin

1

Institutional Logics and the State

INSTITUTIONAL THEORY POSITS THAT SOCIETY IS ORGANIZED INTO A SET INSTITUTIONS (Friedland & Alford, 1991; Ocasio et al., 2015). Each of these societal institutions is characterized by specific organizing principles, known as logics. This argument was first developed in 1991 in a book chapter written by Roger Friedland and Robert Alford (Friedland & Alford, 1991).

The authors divided society, specifically the modern West, into five institutions - capitalist mar-

ket, bureaucratic state, democracy, nuclear family and Christian religion (Figure 1.1). Each societal institution has its own logic: a set of material practices and symbolic constructions. As societal institutions are potentially contradictory, individuals and organizations have multiple logics available to explore. This is probably one of the most explored aspects of Friedland and Alford's work: that profound organizational and institutional change occurs as pressures of or contradictions between societal institutions (Powell & Colyvas, 2007).

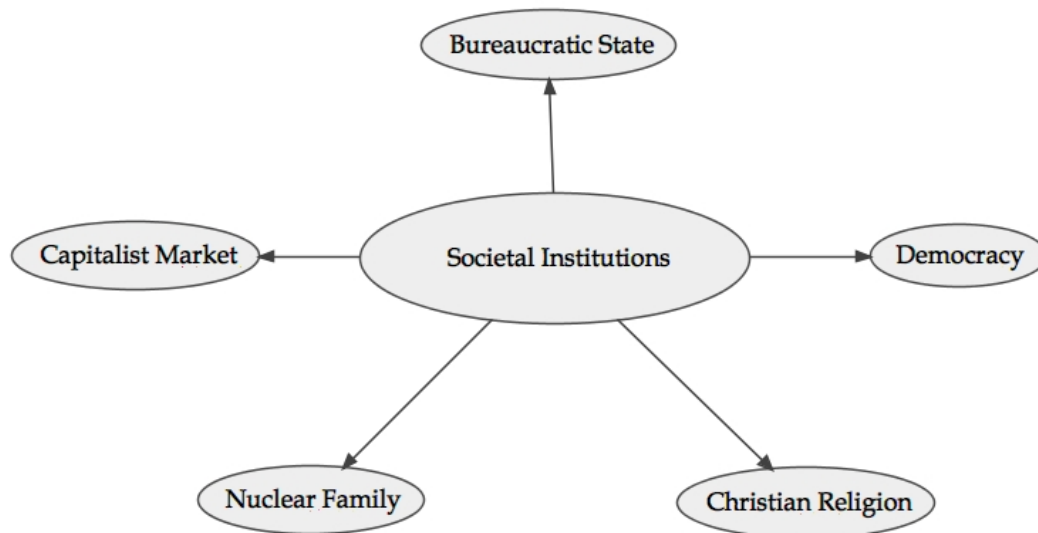


Figure 1.1: Societal Institutions

This argument is in fact important to explain institutional change. Weber, for example, explained the emergence of western capitalism as a blend of “very distinct points of view” that gave rise to the idea of a calling – so irrational from a self-interest standpoint, and one of the most characteristic elements of our capitalist culture (M. Weber, 2002). Work became a particular ethic, and not only means to make it to the world: “The infraction of its rules is treated not as foolishness but as forgetfulness of duty” (p.51). That was a major institutional change resulting from a mix of two distinct societal logics: the religion and the market logics.

Modern religious nationalism can be seen in a similar way. Indeed, Friedland (Friedland, 2011) explains the phenomenon as a struggle over the boundaries from two distinct fields or institutions: the nation-state and religion. Just like work became an ethic duty in the classic book of Max Weber, politics became a religious obligation in religious nationalism. In both cases, change occurred when a practice or activity from one societal institution was legitimated on the grounds of another institution.

Still, logics and societal institutions are not synonymous. Each societal institution is more than its logic or logics. Friedland et al. (2014) defined logics as composed of subjects (identity) and objects (substances) mediated by material practices (Friedland et al., 2014)(Figure 1.2). The key concept is that of institutional object or substance. Institutional substance is the “nonobservable, but essential, “value” anchoring an institutional logic”(Friedland, 2013) (p.8). The institutional substance is metaphysical, but is enacted through material practices (p.8). These two concepts are interdependent: institutional logics do not “posit different interpretations of how to use power” but they “differently constitute what power is” (Friedland, 2013)(p.9).The following figure helps to clarify this concept, putting logics as ‘troikas’ of object-practice-subject(Friedland et al., 2014) (Fig. 1.3).

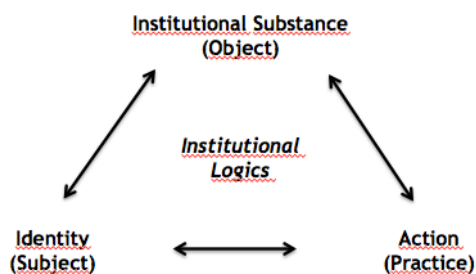


Figure 1.2: Institutional Logics

Source: Friedland et al. (2014) (p.338)

As objects/substances are not directly measured or observed, practices have a paramount impor-

tance, despite their assessment have been neglected in the institutional logics literature (Friedland et al., 2014; Jones, Boxenbaum, & Anthony, 2013). Actually, Friedland (2009) defines logics as "stable constellation of practices", with subjects and objects coupled to them (p.51). That is also the definition adopted in this research.

Yet, more than one stable constellation of practices can be found inside each societal institution. In other words, each institution is composed by multiple logics. In the case of the State, for example, at least two distinct logics have been suggested by literature so far: a "bureaucratic" (Friedland & Alford, 1991), translated as "rationalization and regulation" (see table 1.1) and a "democratic" (see Table 1.2), which is the source of State's legitimacy for Thornton et al. (2012) and Ocasio et al. (2015).

Table 1.1: Societal Logics: Definition

Societal Institution	Logic
Bureaucratic State	Rationalization and the regulation of human activity by legal and bureaucratic hierarchies
Capitalist Market	Accumulation and the commodification of human activity
Democracy	Participation and the extension of popular control over human activity
Christian Religion	Truth and the symbolic construction of reality within which all human activity takes place
Nuclear Family	Community and the motivation of human activity by unconditional loyalty to its members and their reproductive needs

Source: Friedland and Alford (1991)

Democracy can be more immediately seen as a logic - a troika of object-subject-practice (democracy-citizen-voting (Friedland, 2009)). The same is not true for regulation/rationalization. Rationalization and regulation invoke a legalistic-bureaucratic conception of the state, where bureaucrats see themselves as "servants of the state" (Meyer & Hammerschmid, 2006). This logic emphasizes the administrative activity based on laws, and the prominence of processes and rules. As Olsen (2006) puts it, "it is part of society's long-term commitment to a Rechtsstaat and procedural rationality for coping with conflicts and power differentials" (p.3). Bureaucrats are seen as the guardians of the law who cannot handle conflicting claims over the substantive ends of their actions (Friedland

& Alford, 1991). Accordingly, this "legalistic-bureaucratic" logic of the state seems to be anchored in values such as neutrality and disinterested loyalty to the public good, core values of the bureaucratic field (Bourdieu, Wacquant, & Farage, 1994). Therefore, regulation/rationalization are the observed manifestations of neutrality or "loyalty to the public good" (the "troika" would be neutrality-bureaucrats-regulation).

The fact that the bureaucratic and democratic logics have been suggested for the state is consonant with the view of the state as a plural institution, composed by distinct yet interdependent dimensions, as suggested by Alford and Friedland (1985) in 1985. The State, for the authors at that time, "must be understood in terms of the contradictory relations among its capitalist, bureaucratic and democratic aspects, which constitute the state at the societal level beyond the visible appearances of legal structures, governmental decision making and political behavior" (1985:6). That's also the main difference between societal institutions and logics: each societal institution is composed by a variety of logics that constitutes them at the societal level.

Societal institutions were modified and expanded by Thornton, Ocasio and Lounsbury (Thornton et al., 2012) (Figure 1.3). In their work, the core institutions of society are: the family, the community, the religion, the state, the market, the profession and the corporation. Capitalism, democracy and bureaucracy disappear as institutions and reappear as categories of logics.

The "bureaucratic" character of the State was eliminated because the authors understood bureaucracy as an organizational form (Thornton et al., 2012). This is a view of bureaucracy as an instrument, "an organizational apparatus for getting things done". However, bureaucracy is an institution, "with a *raison d'être* and organizational and normative principles of its own" (Olsen, 2006) (p.3).

Democracy was considered a "particular ideology" and, as such, should be not only a dimension of the state but of other societal institutions as well. Democracy, nevertheless, is an institution, a "way of organizing" (Rousseau & Rivero, 2003), with a set of practices - like voting, sharing profit,

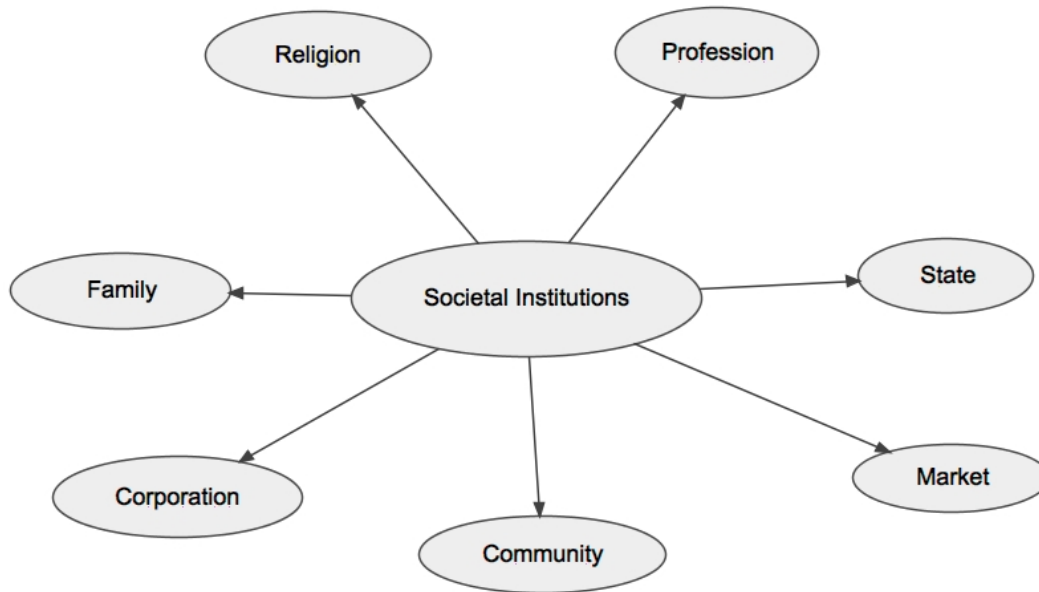


Figure 1.3: Societal Institutions Re-conceptualized

sharing decision-making power and so on - that define as well as modify the meaning of democracy.

These changes are almost inevitable, since each researcher can and will opt for a (re) definition oriented by its own demarcated conceptual/practical knowledge. Each societal institution needs expertise on its own - after all, they represent the foundations of society, in its entirety. Although there were important changes at the societal institutions, one important aspect have remain unchanged: logics are still assumed rather than assessed (K. Weber et al., 2013). This is the gap explored in this research.

Logics are interested for themselves. The importance of "bringing society back in" is to emphasize that individual and organizational action is not purely instrumental, but also meaningful. This represented Friedland and Alford's solution to what they perceived as a big problem of social sciences: the lack of an institutional basis to individual and organizational identities, interests and actions. Societal institutions are important the extent to which the 'symbolic world can only be

Institutions/ Categories	Family	Community	Religion	State	Market	Profession	Corporation
Root Metaphor	Family as a Firm	Common Boudary	Temple as a Bank	Redistribution Mechanism	Transaction	Relational Network	Hierarchy
Sources of Legitimacy	Unconditional Loyalty	Unity of Will Belief in Trust & Reciprocity	Sacredness in Society	Democratic Participation	Share Price	Personal Expertise	Market Position of Firm
Sources of Authority	Patriarchal Domination	Commitment to community values and ideology	Priesthood Charisma	Bureaucratic Domination	Shareholder Activism	Professional association	Top Management
Sources of Identity	Family Reputation	Emotional Connection Ego-satisfaction & reputation	Association with Deities	Social & Economic Class	Faceless	Association with quality of craft	Bureaucratic Roles
Basis of Norms	Household Membership	Group Membership	Congregational Membership	Citizenship Membership	Self-Interest	Associational Membership	Firm Employment
Basis of Attention	Status in Household	Personal Investment in Group	Relation to Supernatural	Status of Interest Group	Status in Market	Status in Profession	Status in Hierarchy
Basis of Strategy	Increase Family Honor	Increase Status & honor of members & practices	Increase religious symbolism of natural events	Increase Community Good	Increase Profit	Increase Personal Reputation	Increase size of firm
Informal Control Mechanisms	Family Politics	Viability of actions	Worship of Calling	Backroom Politics	Industry Analysts	Celebrity Professionals	Organization Culture
Economic System	Family Capitalism	Cooperative Capitalism	Occidental Capitalism	Welfare Capitalism	Market Capitalism	Personal Capitalism	Managerial Capitalism

Table 1.2: Societal Logics: Re-definition

Source: Thornton et al. (2012)

constructed theoretically at the institutional level' (Friedland & Alford, 1991) (p.242).

Friedland and Alford's (1991) framework was an explicit critique to theories of individual and organizational action in the social sciences of that time. As to the latter, they argued that organizational structures were being analyzed mainly as (i) arenas where the scarce resources are produced and allocated, and (ii) efficient outputs that avoid opportunism and reduce uncertainty (Friedland & Alford, 1991). The importance of beliefs and values, although usually recognized, had no theoretical importance, since it was assumed to be shaped by elites.

Nowadays, there is a growing and strong body of literature within economics and political science including beliefs and values as core independent variables (Alesina & Giuliano, 2015; Benabou & Tirole, 2005). Culture is understood as having a slow-moving part, but being also permeable to changes when external shocks occur. Cultural beliefs can be seen as "rules-of-thumb", "gut feelings",

but they also can be transmitted and updated during the lifetime of individuals (Alesina & Giuliano, 2013). The important aspect is that culture has become a key variable in explaining economic outcomes, such as development and growth (Tabellini, 2010).

However, this body of research differs from the institutional logics perspective in a substantive matter. While the latter incorporates culture to institutions, understanding culture as both a system of meaning and practice, the former makes a clear distinction between values and beliefs and institutions. Culture affects individuals' prior beliefs that, in turn, affect their preferences^{*}. It is assumed that individuals have a single identity and that they maximize the utility of his or hers identity (Guiso, Sapienza and Zingales 2006). In the institutional logics literature, the self is constituted by multiple roles (Friedland & Alford, 1991). Individual behavior varies according to the different roles that he or she performs: as a worker, as a mother, as a devout or as a citizen.

As Friedland and Alford (1991) stated in their original work, "state policies are *not only* technical solutions to material problems of control or resource extraction, they are rooted in changing conceptions of what the state is". By assuming that institutions are both material and symbolic, the institutional logics literature provides an interesting approach to assess the movement of ideas about the State.

At the same time that the institutional logics literature can benefit the understanding of the pluralism inside the State, it still offers little guidance as to which values permeated this societal institution. Despite having some difficulty in following the all the dimensions of logics that Thornton et al. (2012) included in Figure 1.2, the absence of some central values regarding the State should be noticed. That is a second gap that this research will address, which is related to the first, the taken-for-grantedness of logics. If logics represent lived social realities, they should be grounded in empirical observation, as emphasized by K. Weber et al. (2013).

^{*}Some of this literature sees institutions as a social equilibrium, and not just as rules. In this case, the idea is that a country shares certain cultural values, which lead to the choice of certain institutions that, in turn, lead to the survival of certain cultural values. See Alesina and Giuliano (2015) for a great overview.

While some important works have addressed the dynamics inside the state (Greenwood, Díaz, Li, & Lorente, 2010; Meyer & Hammerschmid, 2006), there is still a remarkable lack of attention in the influence of this societal institution. One plausible reason for that is that the literature is mainly concentrated in the US context, where the belief in the superiority of markets still persists (Greenwood et al., 2010). That may also be the reason why there is so much emphasis in the community logic (see Battilana and Dorado (2010); Lee and Lounsbury (2015); Thornton et al. (2012)).

In spite of that, some important values have already been attributed to the State, such as democracy, neutrality and procedural correctness. As values, i.e., institutional substances, they can take many forms. Some of them are: public participation, voting and holding politicians accountable, emphasis on rules and procedures, action based on rules, fair and equal application of rules, and so on. One important work that discusses the values associated with the bureaucratic dimension of the State is that Rosenbloom (1983). As such, it will be used to add other important values and to synthesize, as possible, this State dimension.

Rosenbloom (1983) suggested that the contemporary administrative state aggregates three distinct sets of values, which, in turn, reflect the separation of powers within the state. There are (i) "managerial" values, such as efficiency, effectiveness and economy[†]; (ii) "legal" values, such as procedural due process, individual rights and equity[‡], and (iii) "political" values, like responsibility, accountability and responsiveness. The values of the State so far discussed by the institutional logics literature can be aggregated in those three categories. Democracy is related to the third dimension, called "political values", and procedural correctness and neutrality to the second, "legal values". All those values, and its manifested practices, will be considered part of the "bureaucratic-legalistic" logic of the state.

Summing up, the central argument is that bureaucratic-legalistic values are a fundamental part

[†]It is important to stress that efficiency here is different from economic efficiency: since it is a managerial value, it reflects the idea of "doing more with less".

[‡]Equity refers to the value of fairness, militating against arbitrary treatment of individuals and protecting the violation of individual rights by administrative action (Rosenbloom, 1983)

of *how* things are done in the State. Accountability, efficiency and procedural correctness are some of the key values that bureaucracies attempt to enact in their daily activities. Public administrators, [Frederickson, Smith, Larimer, and Licari \(2015\)](#) noticed, have the ethical obligation to protect the interests of the underrepresented, to act as agents for the citizens, to act according to the law and to the bureaucratic standards of efficiency and fairness (p.20).

At the same time, public organizations and bureaucrats are not only concerned about legal and procedural correctness ([Meyer & Hammerschmid, 2006](#)), efficiency and democratic practices, but also with the content of the policies they implement - and frequently help to design. Commonly, bureaucrats are interpreting and defining in their daily activities what is the proper role of the state in a given sector. This represents the *what*, the substantive ends of state action. [Prosser \(1997\)](#) highlighted this point very clearly: “commissions were not simply established to implement a predetermined legislative mandate, but rather to engage in a range of different functions involving the interpretation of vague and often contradictory criteria and their own perception of the public interest” (p.34). Therefore, this research rejects the politics-administration dichotomy, and assumes that administration *is not a technical and value-neutral activity separable from politics. Administration is politics* (p.41). Values, or institutional substances, concern *what* should be done and *how*.

It is precisely the *what*, the substantive end of State activity, that this research aimed to explore. Those set of values concern the capitalist dimension of the State, or, in [Thornton et al. \(2012\)](#) typology of logics, the economic system dimension (see Figure 1.2). Economic systems are not values, or institutional substances. Rather, they are governance systems and, as such, are organized around distinct values. This uncharted State logic is the focus of this research, and will be discussed in the next chapter.

State’s policies, as enacted by public bureaucracies, will reflect the historical debate about the ”proper” role of the State: in one extreme is Weber’s view of bureaucracy as a potentially tool for growth, and in the other, bureaucracy or any kind of government intervention is seen as damaging

(P. Evans & Rauch, 1999). Putting it shortly, policies are located somewhere in a left-right continuum defined in terms of state intervention. The State does “carry more than one paradigm” (K. Weber et al., 2013) at the same time. These multiple paradigms explain the changing conceptions about the state, and are visible in civil servants vocabularies, bureaucracies’ official discourse, budgets, human resources, and specially in policy outputs.

The next section discusses the changing conceptions regarding the state’s capitalist dimension, showing how they are grounded in distinct set of values and enacted through distinct constellations of practices.

There is no avoiding the need for some measure of paternalism. [...] There is no formula that can tell us where to stop.

Milton Friedman

2

The Capitalist Dimension of the State: Ideas as Paradigms

[...]”STATE IS A HUMAN COMMUNITY that (successfully) claims the monopoly of the legitimate use of physical force within a given territory”. That is Weber’s (1946) classic definition of the State. It is also one of the most important aspects that distinguishes it from any other societal institution.

The liberal thought, by introducing the idea of a society by consent, also introduced the quid pro quos of this monopoly. In Locke's fanciful scenario, the state of nature, men are born free. If men are free, they should agree *"together mutually to enter into one community, and make one body politic"*, and they would only do so in order to protect their properties, their freedom. That is what most liberals would define as the roles of the State: *making laws for regulating and preserving property, employing the community force in the executing these laws and defend the nation from foreign injury*. In classic liberalism, the State is an umpire and a rule-maker. It should act in the areas which cannot be handle by the market , i.e., areas where coercion is needed, like determining, arbitrating and enforcing the rules of the game (Friedman, 2002).

The ideas that will be discussed here are all located between the State and the Market, i.e., between two extremes of a pendulum where coercion - the set of instruments of the State - is on one side and voluntary cooperation - the technique of the Market (Friedman, 2002) - is on the other (See Figure 2.1).

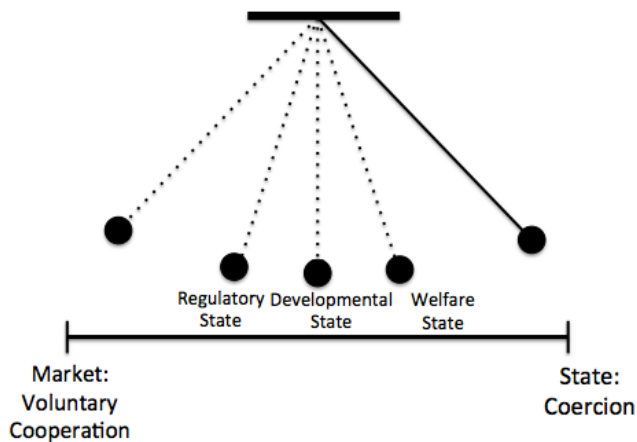


Figure 2.1: The State and the Market

This pendulum represents my attempt to establish a boundary between the two most important

societal institutions for this work: the State and the Market. Market is not just about "increasing efficiency profit" or "transaction" or "self-interest"[§], but about freedom.

The state, on the other hand, implies coercion. To anthropological theories about the State, it is "force, and not enlightened self-interest, the mechanism by which political evolution has led, step by step, from autonomous villages to the state" (Carneiro, 1970). The classical Weberian definition at the beginning of this chapter also emphasizes this aspect. Indeed, the first phrase of the paragraph in which this Weber citation appears begin with a citation from Trotsky, "Every state is founded on force". While some forms of coercion are accepted by liberals, none of them regards the capitalist dimension of the state. In fact, the idea of a state capitalism is at best strange for liberals.

Protecting property rights, though, is just one of the things that the State is expected to do. There is no consensus about what should be the proper role of the State. As Dunleavy and O'leary (1987) said years ago, and reinforced it recently (Dunleavy, 2014), when it comes to the economic role of the state there has never been one dominant paradigm: "the state has always been a fiercely disputed or suspect concept".

The different paradigms regarding the role of the state differ both about the "quantity" of State - more or less state intervention - and the type of intervention advocated - law, order, security, re-distribution, and so on (Dunleavy & O'leary, 1987). Here, we'll focus on policy regimes (or "types of state"), rather than on consolidated paradigms of political economy - like Liberalism, Marxism and Keynesianism. However, these paradigms will be often referred to, as I wish to distill the central value that grounds each of them. Those central values were refer to as *institutional substances* in the last chapter. That is Friedland's concept is understood in this work. To see ideas as paradigms means assuming they have "different theoretical and ontological assumptions about how the world works" with profound effects as they "define the terrain of policy discourse" (Campbell, 1998).

[§]Those are the categories "basis of strategy", "root metaphor" and "basis of norms" of the market logic in Thornton et al. (2012). See Figure 1.2 for more details.

The last chapter discussed that the bureaucratic dimension of the State is permeated by at least three distinct values: efficiency, accountability and procedural fairness. In this chapter, the discussion will focus on the values that underpin an unexplored dimension of the State: the capitalist dimension. One core assumption is that bureaucrats and bureaucracies are not only concerned about *how* they should conduct their activities, but also about *what* should be the role of the state in a given area. The fact that bureaucrats at all levels - i.e., top-, middle- and street-level bureaucrats - are not simply policy implementers and have their own beliefs about how state's policies should look like is widely recognized (Aberbach & Rockman, 1976; Cavalcante & Lotta, 2015; Lipsky, 1969; Pires, 2015).

Considering that Brazilian independent regulatory agencies are the research sites, I'll discuss three "ideal-types" of state that are important for any analysis in the Brazilian economic context: the regulatory, the welfare and the developmental state. Brazil has experienced a major process of state reform during the 1990s, that marked the transition from an "entrepreneur" or developmental state to the regulatory state (Salgado, 2003). Developmental ideas were highly influential during the second half of the past century (Boschi & Gaitán, 2009; P. B. Evans, 1995; Schneider, 2015), and Brazil's policy regime has already been classified as "liberal neo-developmentalism" (Ban, 2013). Lastly, although the welfare state hadn't had the same support (Medeiros, 2001), it has been recently suggested that social inclusion is part of Brazil's new belief system (Alston, Melo, Mueller, & Pereira, 2013). Also, current literature on the regulatory state showed that hybrid welfare-regulatory regimes are more common than previously thought (see Haber (2011); Levi-Faur (2014); Mabbett (2011); Pflieger (2014)).

2.1 THE DEVELOPMENTAL, THE WELFARE AND THE REGULATORY STATES

The goal of this section is to anticipate what values and policies/practices (at least, some examples of it) can appear in the empirical analysis. The focus will be on the *institutional substance* that grounds each of those ideal types of state. The guiding value that makes each of them different from the others. Since these concepts (regulatory, welfare, developmental) can and in fact acquire different meanings according to their adoption in a specific time and space, I will try to identify their essence using “catchwords”.

Milton Friedman, when trying to find a label that captured the economic and political viewpoints of “Capitalism and Freedom”, argued that the term liberalism was corrupted during the 19th century: “the catchwords became welfare and equality rather than freedom” (p.5). Freedom does not receive much attention in the welfare state literature. Indeed, when Friedman says that the term liberalism had been corrupted, he is recognizing “the triumph (...) of the philosophy of the welfare state” that “has enabled governmental intervention to proceed at a faster pace than would otherwise have been possible” (p.77-78). He attributes this expanding role of the state to a “crude Keynesian analysis”(p.79).

Keynes, despite recognizing the importance of freedom, it does not acknowledged it as the ultimate end the state. The agenda of the state consists in doing things that are not done at all (Keynes, 2010), which expands greatly the notion of the role of the state in the economy. Keynes (2010) explicitly criticizes the classical theory, arguing about its inconsistency with the real world. He contests the ‘natural liberty’ of individuals in pursuing economic activities and defends that the private and social interests do not always coincide. He not only challenges but also ironizes (natural) liberty, saying that he applauds the state socialism in its endeavor to take away from men their liberties to make a million.

This is a substantial change in concerns. Keynes does not focus on freedom, or private property,

or competitive capitalism. He is concerned about the significant amount of resources that is unemployed due to the crisis of 1929, and not with scarcity. He believes that “we” are capable of ‘affording for everyone a high standard of life’. His solution lies in what most liberals fear the most: the increase role of government in the private sphere.

If Keynes is or isn’t the founding father of the welfare state is not in the scope of this research to discuss (see [Marcuzzo \(2010\)](#) for this discussion). Actually, welfare state seems to be a concept waiting for a precise definition ([Esping-Andersen, 2013](#); [Levi-Faur, 2014](#); [Marcuzzo, 2010](#)). According to [Levi-Faur \(2014\)](#)(p.4), the term welfare state first appeared in the Anglo-Saxon world to describe “the expansion of the state in the social sphere, and the rising aspiration of an egalitarian society in Britain after the Second World War”. Despite the minor reforms undertaken at the beginning of the 1900s that justified social reform in the name of individual freedom, it was the Beveridge Report the landmark of the modern Britain welfare state ([Marcuzzo, 2010](#)).

As liberals defend the idea of *property rights*, welfarists defend the idea of *social rights* ([Esping-Andersen, 2013](#)). This is a key institutional substance of the Welfare State. Generally, it can be said that a welfare state uses its political and administrative powers to (i) guaranteeing individuals and families a minimum income and (ii) enabling them to meet certain social contingencies, like sickness, old age and unemployment ([Briggs, 1961](#)).

Welfare state or social policies can take multiple forms. As usual, the instruments will vary according to time and context. Some policies include: conditioned or unconditioned cash transfers, means-tested benefits, social-insurance, public daycare, parental leave, rent control ([Esping-Andersen, 2013](#); [Levi-Faur, 2014](#)). [Levi-Faur \(Levi-Faur, 2014\)](#) defines the welfare state as “the amalgamation of both fiscal and regulatory transfers, and it is a state that both commodifies and de-commodifies. It is both residual and universalistic within welfare regimes” (p. 10). His definition attempts to include social regulations into the studies about the welfare state, which is quite pertinent when you have evidence that regulations and regulatory agencies are pursuing welfare aims ([Haber, 2011](#)). Nevertheless, what

makes the welfare state distinct from the regulatory or the developmental state is that it is grounded on the idea that the state should somehow promote (or decommodify) social rights.

Table 2.1: The Welfare State: Examples of Social Policies

	Social Policies
1	Conditioned cash transfer
2	Unconditioned cash transfer
3	Means-tested benefits
4	Social-insurance
5	Public daycare
6	Parental leave
7	Rent control
8	Subsidies
9	Universal services provision
10	Consumer protection

Source: Elaborated from Esping-Andersen (2013); Haber (2011);

Levi-Faur (2014)

Another important catchword in the welfare state literature is universalism. To Esping-Andersen (2013), welfare regimes permeated by the principles of universalism and de-commodification of social rights represent an attempt to promote *"an equality of the highest standards"*(p.27). Equality is another catchword of this literature. Universalism is considered the "quintessential characteristic of victorious wartime reform in Britain and Scandinavian " (Baldwin, 1990)(p.52) and is much superior than targeting social policies in terms of reducing inequality and poverty (Korpi & Palme, 1998). Universalism is important because regulatory agencies often engage in universal service obligations. However, there are some occasions where these policies should not be considered welfare/social policies: for example, when the obligation applies to consumers who are willing to pay for a service. In this case, universal service obligations are considered market-correcting regulation (Haber, 2011).

The developmental state is the second type of interventionist state. If "a state's first priority will define its essence" (C. Johnson, 1999) (p. 305), the developmental state is the state that prioritizes *economic development* (Öniş, Amsden, Deyo, Johnson, & Wade, 1991). The developmental state is

also a planner state, the direct producer of goods and services (Majone, 1994). Nevertheless, different from the welfare state, whose first priority is to promote *equality* or *social rights*, the developmental state focuses on economic transformation and fostering growth. Social goals may be achieved later on. In Brazil, this process was called the “cake theory”: there was a belief that the cake should grow first for then to be distributed (de Carvalho et al., 1998).

The main mechanism of action in a developmental state is industrial policy. Although Johnson clearly states that industrial policies and market forces are not mutually exclusive in practice, their contrast may be ideological (C. Johnson, 1999). For Johnson, a state conducts industrial policy when “intentionally alters incentives within markets in order to influence the behavior of civilian producers, consumers and investors” (p.48). Alternatively, we can say that a government is conducting industrial policy whenever they explicitly prioritize some activities over others (Rodrik, 2004).

Industrial policies are also based on the notion of market failure: the market left alone will not produce the necessary and dynamic level of economic restructuring for economic growth (Rodrik, 2004). Many developmental states can be characterized as “late late developers” (Vogel, 1991), which suggests the need of a highly active role of the state.

Industrial policies take many forms. Rodrik 2004 illustrates some of them: (i) loans to specific sectors, (ii) credit programs for specific regions; (iii) tax incentives to specific sectors or regions; (iv) loans for working capital; (v) loans for fixed assets or investment projects; (vi) equity investment; and (vii) horizontal tax incentives.

Human capital investments are another example of policies associated with the developmental state. Human capital is considered a key determinant of economic growth (Barro et al., 1992) and it is usually linked to the success of East Asian developmental states (Birdsall, Ross, & Sabot, 1995; Haggard, 2004). Human capital endowments may even impact whether mineral resources will turn into a blessing or a curse (Kurtz & Brooks, 2011). Human capital investments, nonetheless, are at the same time a social policy and an industrial policy. As Birdsall et al. (1995) showed, sharing growth

Table 2.2: Developmental State: Examples of policies

Developmental Policies	
1	Loans to specific sectors
2	Credit programs for regions/industries
3	Loans for fixed assets and/or investment projects
4	Tax incentives to specific sectors or regions
5	Loans for working capital
6	Loans for fixed assets or investment projects
7	Equity investment
8	Horizontal tax incentives
9	Human capital investments
10	Market reservation schemes
11	Investments or subsidies for innovation and research and development

Source:

Elaborated from [Hirschman \(1987\)](#); [Rodrik \(2004\)](#); [Schneider \(2015\)](#)

also stimulates growth: investments in human capital contribute to growth by both enhancing productivity and reducing income inequality. Schneider ([Schneider, 2015](#)) stresses the benefits of targeting education as a developmental option, but also highlights some risks of using human capital investments as developmental policies (e.g., lack of job for the trained workers; emigration and low social returns – higher salaries with insignificant increases in the productivity). In other words, human capital policies need to be complemented by other industrial policies, which may be focused on generating adequate jobs ([Schneider, 2015](#)); supporting research and commercialization of scientific know-how ([Kurtz & Brooks, 2011](#)), among others.

The last type of state that will be addressed here is the regulatory state. The regulatory state, at least in theory, is the type of state closest to the "market", if we go back to the pendulum on Figure 2.1.

It is important, in the first place, to distinguish between regulation as an *instrument* and regulation as an *aim*, as a state's role. This section addresses the last type.

The main mechanism of action in the regulatory state is via economic regulation. The central goal of economic regulation is to improve market efficiency; or ensure the viability of markets ([Ma-](#)

jone, 1994). Governments should provide the ‘essential regulation without which markets cannot function’; a regulatory redesign that promotes competition where it is viable, and that avoids the abuse of monopoly power where it is not (Stiglitz, 1998). Stucke (2013) indeed begins his article with a very interesting quotation of the US Supreme Court: “The heart of our national economic policy long has been faith in the value of competition” (p.162-163), which he reinforces with statements such as “Americans love to compete” (p.162).

Brown, Stern, Tenenbaum, and Gencer (2006) listed the minimum powers that regulators must possess, which includes: (i) Set tariffs; (ii) set standards; (iii) make and enforce rules; (iv) carry out responsibilities; (v) Obtaining information; (vi) require adoption and use of accounting standards; (vii) adoption of procedures; (viii) dispute resolution; (ix) prevent the exercise of monopoly power; (x) competition promotion; (xi) consumer protection; and (xii) performance monitoring (pp.188-197).

The problem with the above listing is that many of those tasks are procedural, or follow a bureaucratic-legalistic logic inherent in any public organization. In other words, this listing mixes regulation as an *instrument* and regulation as an *aim*. Setting standards, making rules, and adopting procedures are traditional *means* of the administrative state. Those activities are related to legal values. For example, the independent character of IRAs, which is reflected in the organizational structure and in practices that allow them to “carry out responsibilities”, is consonant with the independence and impartiality derived from legal values: “*Although they can be told what to do, which cases to hear, they cannot be told how to rule or decide (p.224)*” (Rosenbloom, 1983). Adopting procedures has to do with “procedural fairness”: they aim to protect individuals from “malicious, arbitrary, capricious, or unconstitutional harm at the hands of the government” (Rosenbloom, p.223). Promoting accountability activities (translated via practices that improve citizen participation and transparency), are related to political values: “*since the administrative branch is a policy-making center of government, it must be structured to enable faction to counteract faction by providing political representation to a compre-*

hensive variety of the organized political, economic and social interests that are found in the society at large” (Rosenbloom, p.222). At last, the managerial values are translated into practices/policies that emphasize the need of technical expertise, functional specialization, meritocratic recruitment and so on. The organizational structure is just like Weber’s ideal-type bureaucracy (Rosenbloom, 1983).

Procedural fairness, accountability and efficiency are some of the *values* of the bureaucratic state. Rule making has an instrumental character - rule-making, taxing and spending are classic instruments of the state (Majone, 1994). ”Make and enforce rules” is too broad, and can be applied to very distinct policies and practices employed by a broad array of public organizations.

The status on hierarchy and the ”managerial” values and practices of the bureaucratic dimension of the state are almost indistinguishable from the corporation logic suggested by Thornton et al. (2012). In fact, as Dunleavy and Hood (1994) pointed out, the centenary Weberian ideal-type of bureaucracy has become just a synonym for (big) organizations.

The empirical investigation will attempt to distinguish between the bureaucratic-legalistic and the regulatory logics. This division cannot be made *a priori*. I expect that some policies will be more ”procedural”: those will emphasize the rules, norms and other legal instruments that the agencies have and/or must follow. Others will focus in substantive dimensions, or the content and character of the policies being implemented. It should be emphasized, though, the intent to restrict the regulatory logic to pro-competition policies and activities. That is how this logic is understood: as constellations of practices that, although are still part of the state (and therefore coercive), are closest to the market (and thus to free competition). Table 2.3 represents my best *a priori* distinction between the two logics.

A closer look to tables 2.3 and 2.1, shows that ”consumer protection”, one of the core policies of regulatory agencies, was characterized as a social policy. This is consonant with the strategy of this research of restricting the regulatory logic to competition promotion/protection. Competition policies and consumer policies are considered complementary, since they share the common goal of

Table 2.3: Regulatory State: Examples of policies

	Bureaucratic-Legalistic Policies	Regulatory-Competition Policies
1	Set standards	Set tariffs
2	Make rules and enforce rules	Dispute resolution
3	Adoption of procedures	Monitoring Performance
4	Obtaining information	Competition promotion
5	Carry out responsibilities	Preventing the use of monopoly power
6	Promoting accountability	Require adoption and use of accounting standards

Source: Elaborated from [Brown et al. \(2006\)](#) (pp.188-197)

enhancing consumer welfare ([OECD, 2008](#)). But, as [Esping-Andersen \(2002\)](#) reminds us, “*anyone who has suffered an introductory economics course knows that the promotion of economic efficiency can only be justified if it enhances welfare*”. The main difference between these two policies is that, in the first one, the link is indirect. It is via competition that consumer welfare will be achieved. The second is a direct approach: the focus is on the demand side, the consumers themselves([OECD, 2008](#)). Consumer protection, in this direct way, is considered a social policy in the form of social regulation ([Majone, 2011](#)).

In a nutshell, each of those ideal-types of States have their own substance. Table 2.4 displays the *institutional substances* of the Regulatory, the Welfare and the Developmental States. Returning to the work of [Thornton et al. \(2012\)](#), specifically their ideal types of societal logics (see Figure 1.3), this section suggested that the state has distinct ”sources of legitimacy”, and democratic participation is just one of those. In modern times, the economic role of the state is a ”source of legitimacy in itself, as well as a means to accomplishing the classic goals of military survival and internal order.” ([P. B. Evans, 1995](#)).

Table 2.4: Types of State

State	Catchword
Regulatory State	Competition
Welfare State	Social Rights/Equality
Developmental State	(Economic) Development

These ideas about the role of state also change in importance and scope over time. The next subsection discusses some of those changes, and the impact they had in the current structure of the state, focusing on the emergence of the regulatory state.

2.2 IDEAS IN PRACTICE: CONTEMPORARY CHANGES IN THE ROLE OF THE STATE

The public sector has experienced two major phenomena in past thirty years: the emergence of the New Public Management (NPM) doctrine and the diffusion of semiautonomous agencies. These transformations in the mode of state action are often associated with the rise of the regulatory state, and the decline of the positive, interventionist state (Majone, 1994; Moran, 2001).

In fact, the past decades were marked by profound modifications in the whole system of government, which included: (i) state intervention with the focus on correcting market failures, rather than the redistribution of resources (ii) changes in the public bureaucracy, towards a more flexible and loosely coordinated model; (iii) privatization of state owned companies; and (iv) the emergence of social regulations (Moran, 2001).

While these changes in the role and the organization of the state have been associated with the Washington consensus and the diffusion of neoliberal ideas, the actual outcomes of this process indicates that divergence, in the form of hybrid regimes, is not an exception but the norm (Ban, 2013; Haber, 2011).

One powerful argument in this sense was made by Levi-Faur (2014). The core argument of his recent work is that "the state is not in decline but rather expanding via regulation" (p.2). The argument of a State in expansion, an apparent paradox when one thinks of the 'small-government economic-rationalist' agenda of the 1990s (Hood & Peters, 2004), is based on the idea of a polymorphic State. This polymorphic State tends to integrate the variety of labels, meanings and logics associated with the modern state in the past century.

Indeed, Levi-Faur (2005) has been arguing for a while about the “contradictory and unintended” results of what he called the new global order of regulatory capitalism (p.14). Drawing on the empirical studies that showed the steady levels of welfare expenditure and tax burdens (eg, Castles (2004); Swank and Steinmo (2002)), the author challenges the idea of a neoliberal hegemony, since its discourse of deregulation was accompanied, in fact, by more regulation.

Levi-Faur’s (2014) central argument is that the distinction between the regulatory and the welfare state as two distinct “morphs” of the state is misleading, and strengthens the lack of communication between these two bodies of research. The likely consequence is a more limited understanding of state organization. Levi-Faur (2014) suggests a polymorphic approach to the state, where the regulatory and the welfare states are “manifestations of the ever-expanding and diversifying dimensions of the administrative state”.

This approach emphasize that the size and scope of a welfare state cannot be measured only by looking at one of state’s instruments (in this case, fiscal transfers). The reality is much more complex and a more comprehensive study of the bureaucratic state must take into consideration the role played by regulations and regulatory organizations. In sum, his approach reinforces the importance of analyzing the actual content of state intervention. As Evans (1995) said years ago, “state involvement is a given. The appropriate question is not “how much” but “what kind”” (p.10). What Levi-Faur is saying is that both matter: the quantity and the content of involvement.

If the State “promotes procedural regulations alongside redistributive and moral regulation” (Levi-Faur, 2014), it means that regulations can carry substantive values, such as redistribution and moral. These distinct values allow the state to “promote equality or economic growth; to emphasize either efficiency or efficacy; to enslave or to empower; or all of these at the same time” (p.9). However, Levi-Faur does not define or nor discusses values. He sees regulation as an instrument, and not an aim. That is the legalistic-bureaucratic logic of the state, as discussed in the previous chapter.

Although Levi-Faur’s argument is that regulation is only an instrument, and that it can take many

forms, such as regulation-for-welfare and regulation-for-competition, the concept is considered to have a deeper meaning for this research, as we discussed above. The goal of the reform process was to avoid whenever possible the pervasive state intervention. The so-called Washington Consensus has indeed represented a paradigm shift, and it was, at least initially, committed to free markets, private property and individual incentives (Gore, 2000). Those norms are characteristic of the liberal paradigm. This (re) emergence of liberal values was made possible by the context of the 1980s, where crisis was diagnosed as a state crisis. More than a fiscal crisis, the mode of state intervention in the economic and social spheres and the bureaucratic way of administrating the state were being challenged (L. C. B. Pereira, 1998).

Friedman gives a great example of the change in the intellectual moods during the 1980s. In the preface of his (today) classic “Capitalism and Freedom”, he remembers the reception of the book when it was first published in 1962: “its views were so far out of the mainstream that it was not reviewed by any major national publication” (p.xvi). “Free to choose”, the book that complemented “Capitalism and Freedom” was very differently received by the public and media⁴. Friedman attributes these different receptions to experience, and not philosophy. This means the decline of Russia and China, and the high inflation and taxes that many countries were facing.

This section intended to highlight that, although the State may be expanding via regulations and regulatory agencies, the emergence of the regulatory state brought a different set of values associated with the state. This does not mean that old ideas stopped to play an important role in policy-making; but simply that bureaucrats and public organizations now had another way to look at the state problems.

So, while regulation is an instrument, the regulatory state is not. Regulation can, and in fact does assume other values, like promoting income redistribution, growth and competition. In Brazil, reg-

⁴An interesting way to visualize this is searching for “welfare state” using the Google Ngrams tool. We can see that, from 1800 to 2000, “welfare state” begins to gain importance in 1945, reaching its summit in 1963: <https://books.google.com/ngrams>.

ulation is sometimes directed to preserve the public interest and promote economic growth rather than an instrument for promoting market efficiency (Cunha & Rodrigo, 2012). Ban (2013) also suggested that liberal ideas of the Washington consensus have been adapted to the local context, giving rise to a hybrid regime labeled as ‘liberal neo-developmentalism’.

It is important to stress that the Brazilian State Reform was a highly controversial process. The privatization process, which made possible the creation of the first IRAs in the infrastructure sector, was not part of Collor’s electoral mandate, the president that inaugurated the privatization process in 1990 (Schneider, 1992). This is, in part, due to an enduring characteristic of Brazilian political culture: the phenomenon called “direita envergonhada”, or “ashamed right”. Brazilian political elites are known for avoiding the use of the term “right” and usually identify themselves as center/center-left (Power & Zucco Jr, 2009). This contextual specificity helps to explain the partial implementation of the Reform process in the 1990s, and suggests that the regulatory activity in Brazil may also reflect other state logics’, beyond a regulatory one.

2.3 DISCUSSION: THE INSTITUTIONAL LOGICS OF THE STATE

In this chapter, we briefly discussed three distinct types of state and what makes one different from the another. In the previous chapter, we have also made an effort to distinguish the bureaucratic-legalistic state and the regulatory one. Our general goal is better understand our cultural categories, i.e., the institutional substances of the State, which will help us to analyze the data.

In order to do so, we kept regulation only as an end (pro-competition), instead of including its means (rule-making, for example) as part of its practices/activities. Rule-making, like taxation, are instruments of the state (Majone, 1994) that can be used to achieve very different goals (Levi-Faur, 2014). Instruments will permeate every state activity: they represent *how* things are done inside the state, but not *what* is being done.

Following Rosenbloom (1983), we considered the bureaucratic-legalistic logic as composed by three distinct sets of values: efficiency, accountability and procedural fairness. Procedural fairness and efficiency have already been considered important state logics (see, for example, Meyer and Hammerschmid (2006)). Accountability is part of a set of values seen as crucial for the maintenance of democracy (Rosenbloom, 1983), and has also been considered the guiding value of the logic of the State (Ocasio et al., 2015; Thornton et al., 2012). This means that the bureaucratic and the capitalist dimensions of the state have competing values, which dispute both how things are done inside the state (focusing on efficiency, procedural fairness and/or democracy) and what will be done (promote growth, competition and /or social rights).

Summing up, we're rescuing the idea of a state with multiple dimensions where each of them has its own logic of development (Alford & Friedland, 1985). However, we included democracy as part of the bureaucratic-legalistic logic, as it competes with the values of efficiency and procedural fairness (Rosenbloom, 1983). In our empirical research, however, our focus will be on *what* is being done: it is the capitalist dimension that we'll explore. At the same time, we're assuming that the bureaucratic-legalistic dimension will often permeate the capitalist one (see Figure 2.2) .

To analyze and compare the data, the logic of the regulatory state will be refer to as "regulatory", the welfare state as "social" and the developmental state as "developmental". All the values/practices of bureaucratic state will be refer to as "bureaucratic-legalistic". To illustrate, this means that a policy which involves investments, credit or other type of financial support to the industry is enacting the value of development - the idea that the State should promote industrial development. If a policy involves auctions, tariff revisions is enacting the value of competition - the idea that the State should promote competition.

In the next section, we'll explain our empirical strategy to assess the logics of the state as enacted by federal Brazilian regulatory agencies. Figure 2.2 will guide our analysis, helping us in associating regulatory practices with each of the types of state discussed above.

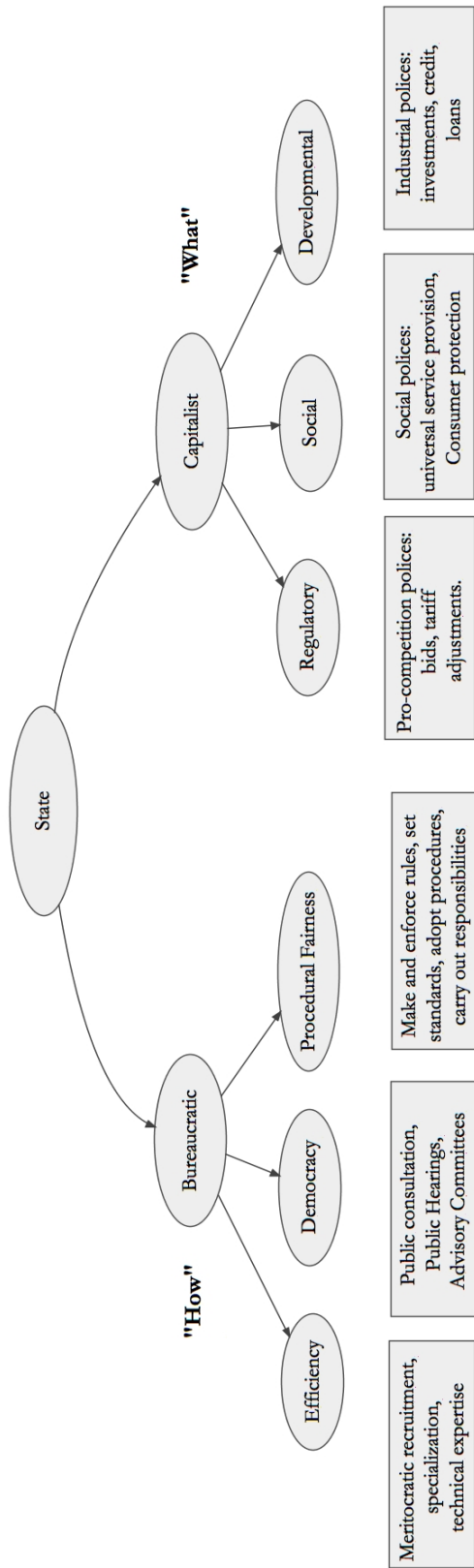


Figure 2.2: The Institutional Logics of the State

3

Empirical Strategy

WHAT ARE THE LOGIC(S) OF THE STATE THAT PUBLIC ORGANIZATIONS ENACT IN THEIR DAILY ACTIVITIES? We assumed that each societal institution is not only externally, but also internally contradictory. The state, thus, is a plural institution where multiple paradigms coexist. Its activities, or the state's routine interventions, are "rooted in changing conceptions of what the state is" (Friedland & Alford, 1991).

We will discuss in this section our decision to focus on independent regulatory agencies; and our strategy for the data collection and analysis processes.

3.1 RESEARCH CONTEXT

We chose the Brazilian independent regulatory agencies to investigate the logics of the state. The privatization of public utilities in the middle 1990s and the subsequent creation of the first independent regulatory agencies (IRAs) is the most visible evidence of the changes in the economic dimension of the state. Since the implementation of the first National Plan for Desestatization, 68 companies at the federal level and 55 at the state level were privatized, with revenues superior to 80 billion dollars^{||}. At the same time, more than fifty IRAs have been created in Brazil since 1996, at federal, state and municipal level. This process represented a major shift in the Brazilian bureaucratic state: it introduced a new set of public organizations - arm's length agencies relying on the rhetoric of autonomy - and a new role for these bureaucratic institutions - competition promotion.

The diffusion of regulatory organizations and of rules and regulations characterize the shift from the 'positive', or developmental state, to the 'regulatory' state. In this sense, Brazilian IRAs can be seen as a new population of organizations and as new organizational forms (Purdy & Gray, 2009), as they materialize new sets of beliefs and values about the role of the state.

Brazilian IRAs are autarchies (specifically, special autarchies), a legal personality for state organizations whose tasks require financial and administrative decentralization. They were created to simulate a competitive market scenario, and its core function was, initially, to define the competitive prices of natural monopolies (L. C. B. Pereira, 1998).

However, the size and scope of activities performed by regulatory agencies has grown significantly since their creation. Although initially thought as autonomous bodies that set competitive prices,

^{||}Data from BNDES. Available at http://www.bndes.gov.br/SiteBNDES/bndes/bndes_pt/Institucional/BNDES_Transparente/Privatizacao/.

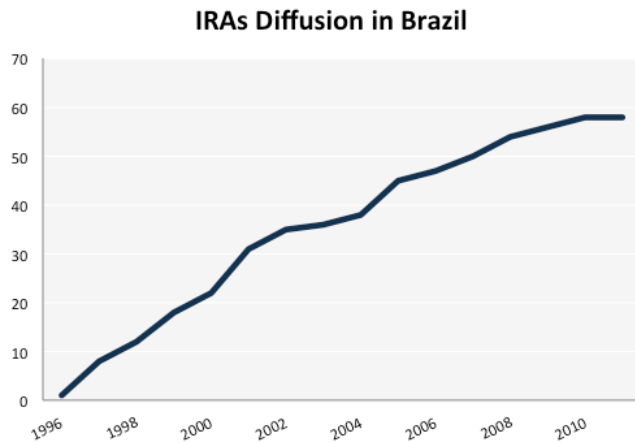


Figure 3.1: Diffusion of Independent Agencies in Brazil

these agencies can help to develop skilled manpower (as case of ANAC’s granting policy for developing professional pilots**), introduce industrial policy instruments (as ANP’s local content policy) and engage in income redistribution (as ANEEL’s electricity social tariff). We understand that the possibility to accommodate distinct state logics helped IRAs’ diffusion process.

The increase in the number of activities performed was accompanied by an increase in their workforce. IRAs employed approximately 3,139 civil servants in 2005, a number that grew to 10,034 in 2015 (Table 3.1).

The coexistence of multiple logics may be explained by variety of beliefs regarding the role of the state at the individual level. For the past five years I’ve been studying Brazilian IRAs. During these years, I’ve interacted with Brazilian regulators in many distinct occasions, from seminars to interviews and informal conversations, and one frequent topic has been very puzzling. Despite the importance of the ‘specialization of functions’ or the functional expertise hypothesis to agency creation (Pollit, Bathgate, Caulfield, Smullen, & Talbot, 2001) Brazilian regulators seem to struggle with their

** see http://www2.anac.gov.br/Arquivos/pdf/Projeto_Bolsa_Piloto-FAQ_Credenciamento_de_Escolas.pdf for more information

Table 3.1: Brazilian IRAs: Workforce

IRA	2005	2015
Aneel	140	737
ANP	236	858
Anatel	726	1640
Anvisa	1161	2010
ANS	192	566
ANA	77	303
Ancine	12	416
ANTT	362	1313
Antaq	93	471
Anac	140	1720
Total	3139	10034

Table 3.2

Source: Data provided by IRAs via Brazilian Access to Information Law

roles as regulators until today. I've heard many times statements such as “regulatory agencies should not get involved in consumer relations”; or “regulatory agencies are not consumer nannies”; among others. But why debates like this take place in a specialized organization? Our assumption is that these organizations and their bureaucrats are in an ongoing internal conflict regarding what is the state's role and purposes; what they should or shouldn't do as bureaucratic state agents.

Public organizations generally, and Brazilian IRAs particularly, are not created in an institutional and organizational vacuum. They inherited buildings, tables, computers, paperwork, and also human resources and tasks from the organizations that have become extinct. There is evidence that top- and middle-level bureaucrats have their own beliefs about the services that government provide or should provide (Aberbach & Rockman, 1976; Cavalcante & Lotta, 2015; Pires, 2015).

On this same subject, one important task that Brazilian IRAs had when they were first adopted was to review ordinances and regulations that were no longer compatible with the new regulatory framework (Salgado, Holperin, & Borges, 2010). Hence, we expect that these organizations are also pervaded by prior ideas about what should be the state economic role in a specific sector. For exam-

ple, about 44 percent of the workforce of Anvisa, the Brazilian health surveillance agency, is composed by civil servants from other entities of the state's apparatus. Although the individual level is not the focus of this research, this research assumes that the different views about the state shared and disputed by bureaucrats are a key explanation of the variety of policies designed and implemented by regulatory agencies.

3.2 ASSESSING LOGICS USING PRESS RELEASES

This research adopts a meso-discourse approach to examine what IRAs “say” and “do”. Discourse here is understood as “the study of social texts”, rather than “the study of social reality as discursively constructed and maintained; and the approach is called meso because of an interest in broader patterns, rather than in the details of the text (Alvesson & Kärreman, 2000) (pp. 1126-1133). Recognizing that institutions cannot be reduced to discourse, Weber, Patel and Heinze (K. Weber et al., 2013) suggest that “each of the building blocks of potential logics – cultural categories of identities, practices and values – can be represented in discourse.” (p.362), making social texts of great use to identify the existence of a logic.

It is quite common to use textual-based data to explore the discourse dimension of institutional logics. Useful textual data includes organization documents, recorded interviews, and regulatory decisions. Some empirical works include M. B. Dunn and Jones (2010) and their use of annual reports, Jones and Livne-Tarandach (2008) with books and project competition, Glynn and Lounsbury (2005) analysis of critics' reviews, A. J. Hoffman (1999) and trade journals, and Meyer and Höllerer (2010) use of newspapers and magazines.

Considering the extensive use of textual data, Loewenstein, Ocasio, and Jones (2012) initiated a theory of vocabularies. Vocabularies are defined as “structured systems of cultural categories that generate meaning and enable and constrain social practices”(Loewenstein et al., 2012)(p.33), and its

structure is central to identify of the underlying dimensions and implicit categories that comprise institutional logics (idem, p.46).

Following this research tradition, we'll assess the state logics by examining the official vocabulary of Brazilian IRAs. Each regulatory agency has its own internal dynamic - some make use of ordinances, other of normative instructions; some undertake weekly public hearings, others have opted for public consultations; some are more decentralized - technical areas can take some decisions by its own - while others require the approval of the board for all decisions. However, every federal IRA uses the press rooms of their websites, in varying degrees, to communicate its activities.

Table 3.3: Federal IRAs': Estimated Press Releases

Agency	Sector	Quantity	Data available since
Aneel	Electricity	4300	2002
ANP	Oil, Gas and Biofuels	835	2001
Anatel	Telecommunications	800	2014
Anvisa	Health Surveillance	1161	2010
ANS	Private Health Insurance and Plans	1300	2008
ANA	Water	2300	2005
Ancine	Cinema	4265	2004
ANTT	Land Transportation	1490	2006
Antaq	Waterway Transportation	1001	2010
Anac	Civil Aviation	1020	2011

Using public data from IRAs websites seems to be a promising way to investigate institutional logics, as they represent agency's official vocabulary and inform about the activities and policies that agencies' find most relevant to communicate. Following [Loewenstein et al. \(2012\)](#), we understand vocabularies as "products of social groups collectively communicating their understanding of organizing practices"(p.20). As mentioned, despite having different decision-making process, every federal IRA publishes its main activities via website. Those press releases are "translations" of agencies' most important policies and activities made by the press office. This is important because the regulations (published as ordinances, normative instructions and so on) adopt a technical vocabu-

lary. So, the work of the press office consists in selecting and translating those important decisions and norms, in a way that is accessible to ordinary citizens. As this type of data is produced by the participants themselves, they offer rich information about meaning making (K. Weber et al., 2013). Indeed, there is strong evidence that vocabularies are used to convey the meaning of social practices (Loewenstein et al., 2012). As press releases are translated activities, they indicate both what an agency does and how it chooses to communicate it, revealing the cultural system where practices are embedded.

3.3 DATA COLLECTION

In Brazil, federal IRAs are divided according to the type of regulation that they promote: economic or social (Nunes, Ribeiro, & Peixoto, 2007). Six are "purely" economic, two "purely" social and one, ANS, promotes both social and economic regulation. This division, however, is more theoretical than empirical. Accordingly, this dissertation analyzed three different IRAs, two considered purely economic, ANEEL and ANP, and one purely social, ANCINE. Ancine is the national agency for the film industry, ANEEL is the national agency for the electricity sector and ANP the national agency for the oil and gas industry.

Some recent works have emphasized the usefulness web scraper techniques to explore the discursive dimension of an organizational community (Korff, Oberg, & Powell, 2015). With text-based data being accumulated in an unprecedented scale, scraping techniques have been considered one of the most powerful innovations for mapping cultural environments (Bail, 2014). At the same time, social scientists are being accused of ignoring this type of data, leaving all the information for computer scientists, who have the technical skills to explore it, but not the theoretical background to interpret it (idem, p. 466).

The data collection was performed using web tools specifically designed for scraping and crawling

data from the web. The first platform we tried was [import.io](https://www.import.io)^{††}, a web tool with a very friendly interface that allows extracting web data in a simple and fast way. Depending on the type of data that one needs, [import.io](https://www.import.io) allows for data extraction within few minutes. All the data collection was made using the free version of the software. However, in our initial attempts, we were not able to gather the entire data of the websites (one of the scraper we designed only returned about 60 percent of all the press releases available).

At the same time, we were trying another platform – dexi.io – that makes the same promises as [import.io](https://www.import.io). The two platforms work in a different way. With [import.io](https://www.import.io), you simply need to “train” the crawler. The process is very simple: you copy the url that you want to extract, and click on the content that you want, adding columns according to your needs. In our case, we only needed the date (specifically the year), the title and the body of the press release. With dexi.io you need to build a “robot”. This includes adding boxes with the steps that your robot needs to make in order to extract the data you need. Despite being somewhat less intuitive and easy to use than [import.io](https://www.import.io), dexi.io has a very effective consumer support, as well as better pricing for academic projects . It does not take more than one hour to get a response/help for building your own robot for data extraction and our first successful robot returned all the press releases available in the website. Because of their (i) consumer support, (ii) pricing policy and (iii) effective algorithm, we decided to use dexi.io to collect all the data we need.

In the case of Ancine, as its press room contains five different tabs (releases, news, bulletins, articles and clipping) with (apparently) relevant content, we conducted an open interview with the press office to understand what kind of information they publicize, how this process usually occurs and what criteria they use to choose which information will be released and where. All relevant

^{††} <https://www.import.io>
<https://dexi.io>

[Dexi.io](https://dexi.io) gave 100 free hours for running the robots. I deeply appreciate dexi.io consumer support, especially Stefan Avivson and John for their help and gentleness during this process.

activity of Ancine is announced as (press) “news” since 2011. Before that, the press office had only three employees and it basically replicated the normative instructions elaborated by technical areas and/or board of directors. Before the publication, some texts are discussed with and approved by the president, and others are just posted by the press staff. The press staff, thus, seems to be quite aware of what the strategic and delicate subjects are, as this department is directly linked to the president-director (similar to other Brazilian IRAs, like Anvisa, ANS, ANTAQ, ANTT and ANAC).

We also conducted an interview - this one via telephone - with an employee of ANEEL’s press office. Just like Ancine, all relevant activity of Aneel is announced via press news. The information is widely used by the broad media in Brazil, and the recent restructuring of the press room was in part to incorporate its demands. The press office is part of the Superintendency of Communication and Institutional Relations (SCR), which is responsible for managing the institutional image of ANEEL and for coordinating the projects and the media campaigns focusing on its stakeholders. SCR activities include assisting journalists, through the press office, and politicians, via the parliamentary advisory council. It also coordinates the production of content for the Agency’s communication vehicles.

We still haven’t conducted an interview with ANP’s press office, but six open-ended interviews with ANP’s top-level managers were conducted and recorded in 2014, in a total of 9h of informal conversations. Those interviews helped in the process of data analysis.

3.4 DATA ANALYSIS

We chose to examine logics via a cultural repertoire approach, following [K. Weber et al. \(2013\)](#). The authors rejected the idea of presenting logics as ideal types, emphasizing that logics represent lived social realities, and, as such, must be grounded in empirical observation (p.353). Their approach

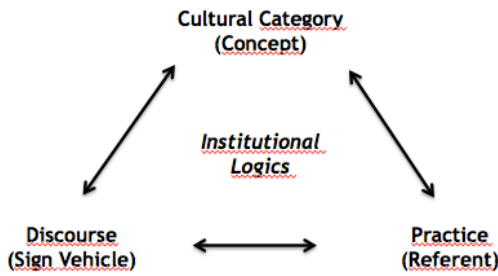


Figure 3.2: Semiotic View of Logics
 Source: K. Weber et al. (2013)(p.360)

consists in identifying the cultural categories that together constitute a logic. Cultural categories are defined as “concepts that organize experience through classification”(p. 356). In practice, the authors organized the cultural categories (e.g. consumption, production, animals, media, taste quality) according to the related meta-category: practices, identities and value dimensions. In their textual analysis, the first step after defining which textual data to use consists in identifying the register of cultural categories. Register and cultural categories are at the same level – a register is constructed not from a single text, but from a broader discourse that puts texts into context (p.365). The analysis should be able to provide a reliable correspondence between the manifested words (discourse) associated with specific policies (practices) and our cultural categories (latent concepts) (see Figure3.2).

Cultural categories are latent concepts, so the analysis consists in identifying how discourse and practices are linked, and to what extent they represent a meaning system. This leaves us with some challenges. First, how can we say that there is a reliable relationship between the cultural category and the data? Second, how can we measure the presence of cultural categories and their relationship? Finally, how can we map the properties and changes in meaning systems?

The questions presented above are largely related. As we are working with vocabularies, we need to find ways to “measure the presence of key meanings and to map the distribution of those mean-

ings across the space of a textual corpus” (Mohr, Wagner-Pacifici, Breiger, & Bogdanov, 2013)(p. 1). Regarding the first question, there are mainly three different ways to extract cultural categories from a meaning system register: (i) a deductive approach; (ii) qualitative-interpretive procedures and (iii) computational-algorithm procedures (K. Weber et al., 2013).

In a deductive approach, the cultural categories come from the current literature. Indeed, we have anticipated three possible cultural categories (or logics) from the current literature on hybrid regimes: a regulatory, a welfare and a developmental one. At the same time, we want a data analysis that enables us to discover new categories, if they are present in the text. It is important to note that the cultural categories derived from the literature represent groupings of categories. We expect that a “developmental” category will group different types of values and policies. For example, in the audiovisual industry, development is often translated through words like support (“fomento”, in Portuguese); while in the oil and gas industry, it is associated with a different vocabulary, one that emphasizes words like “increase participation of national players”, “job creation” and so on. What development, welfare and regulation mean will vary from time to time and from one sector to another. As our research question is inductive, we will opt for mapping logics using computational-algorithm procedures, which work by using statistical analysis to identify latent meaning structures in textual data. The use of computational algorithms enables us tackle the challenges related to discovering, measuring and reliably presenting cultural categories presented in text. Specifically, we’ll assess logics using topic modeling techniques, which will be discussed in detail in the following subsection.

3.4.1 ASSESSING LOGICS VIA TOPIC MODELING

Topic-modeling techniques are a suite of algorithms that allows identifying latent themes in large corpora (Bail, 2014). Topic models are generative models that provide a probabilistic framework for the term frequency occurrence in a given corpus (i.e., a collection of documents) (Hornik & Grün,

2011), and are designed to uncover the hidden thematic structure (i.e., the topics). The underlying idea is that there is a set of topics that describe the corpus and each document (in our case, each press release) in this collection exhibits those topics with varying degrees (M. D. Hoffman, Blei, Wang, & Paisley, 2013).

One of the main difficulties to empirically assess logics is that the concept of logics comes from a relational perspective – relations are the focus of the analysis, and not individuals (Friedland et al., 2014). Thus, the emphasis on keywords violates the core principle of cultural sociology in general, and logics in particular: that meaning emerges from relations among terms, and do not inhere within them (DiMaggio et al., 2013). Words are sparse, variable and ambiguous, so drawing conclusion about themes solely based on word counts is, at best, risky (Jockers & Mimno, 2013). Though some studies attempted to look at how some words relate to others, looking at the sentence (M. B. Dunn & Jones, 2010) and not only keywords, how the content analysis was conducted is often unclear. Also, many of those studies are not inductive, as scholars must know which keywords to look for.

As DiMaggio et al. (2013) pointed out, a sound approach to text analysis for sociologists must be (i) explicit, in the sense that the data should be available for other researchers to reproduce the analysis, if they will; (ii) automated, so to be able to manage the text volume current available; (iii) inductive, allowing to explore the structure of the data before imposing the researcher's prior beliefs; and (iv) able to recognize the relationality of meaning by assuming that the same terms can have different meanings in different contexts (p.577). Topic modeling, the authors conclude, satisfies all those conditions.

Originating from the study areas of natural language processing and machine learning (Fig.3.2), topic models are part of the larger field of probabilistic topic modeling(D. M. Blei, 2012).

Machine learning can be defined as “a set of methods that can automatically detect patterns in data, and then use the uncovered patterns to predict future data” (Murphy, 2012)(p. 1). Automated

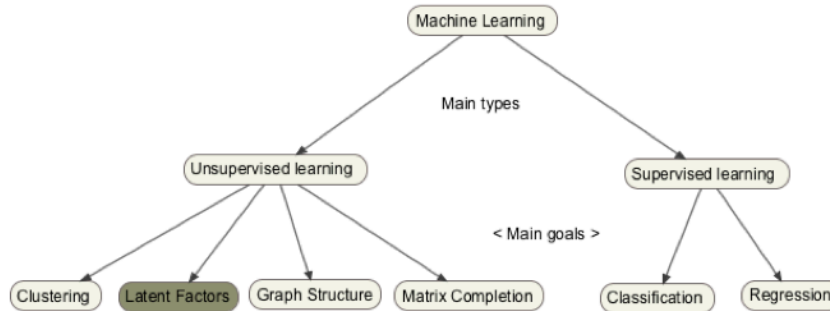


Figure 3.3: Machine Learning: Types and Goals
 Designed from [Murphy \(2012\)](#)

content analysis (or automated text analysis), the type of analysis we’ll perform in this dissertation, is part of the larger field of machine learning.

Although topic models have emerged as methods of unsupervised learning, there are today supervised and mixed topic models as well (for details, see [McFarland et al. \(2013\)](#)). Supervised learning is also known as predictive, and unsupervised as descriptive. The goal of unsupervised methods is not to learn a map from inputs to outputs, like supervised methods, but to discover interesting patterns in data. Models are not told which patterns to search for and, therefore, there is no error metric to use ([Murphy, 2012](#)).

This research will use a variation of Latent Dirichlet Allocation (LDA), often referred to as the simplest model of probabilistic topic modeling ([D. M. Blei, 2012](#); [Mohr & Bogdanov, 2013](#)), and also the most widely used in the social sciences ([Grimmer & Stewart, 2013](#)). We’ll discuss LDA in the next subsection.

3.4.2 THE LATENT DIRICHLET ALLOCATION (LDA) FRAMEWORK

LDA is the first type of topic model and it was introduced in 2003 by Blei, Ng and Jordan (D. M. Blei et al., 2003). It is a generative probabilistic model used for collections of discrete data, such as texts.

By generative it means that the model attempts to emulate the original writing process, “or the imaginary random process by which the model assumes that the document arose” (D. M. Blei, 2012).

LDA postulates that a collection of documents, or corpus, consists in a set of topics (Griffiths & Steyvers, 2004). Topics are in fact latent multinomial variables, or probabilities distributions on a set of words (D. M. Blei et al., 2003). The words of each document in a corpus is generated by the following two-stage process(D. M. Blei, 2012; D. M. Blei et al., 2003):

1. Randomly choose a topic Z_n from the distribution over topics, $Z_n \sim \text{Multinomial}(\vartheta)$
2. Randomly choose a word W_n from the multinomial probability conditioned on the topic Z_n , $P(W_n|Z_n, \beta)$

The generative process of LDA assumes that topics are generated before documents(D. M. Blei, 2012). Substantively, this means to assume that an author first decide the topic(s) which will write about before start writing a newspaper article or a book, for example. In this type of model, the problem consists in learning first the joint probability of the observed and hidden variables, $P(x,y)$, to then attempt to make predictions using Bayesian rules to calculate the posterior probability,

$P(y|x)$ (D. M. Blei, 2012; D. M. Blei et al., 2003). In LDA framework, the joint probability is,

$$\prod_{i=1}^K p(\beta_i) \prod_{D=1}^D p(\vartheta_D) \left(\prod_{N=1}^N p(Z_{d,n}|\vartheta_D) p(w_{d,n} | \beta_{i,k}, Z_{d,n}) \right)$$

and the posterior probability is,

$$p(\beta_{1:K}, \vartheta_{1:D}, Z_{1:D} | W_{1:D}) = \frac{p(\beta_{1:K}, \vartheta_{1:D}, Z_{1:D})}{p(W_{1:D})}$$

where $\beta_{1:K}$ are the topics, $\vartheta_{1:D}$ the topic proportions, $Z_{1:D}$ are the topic assignments and $W_{1:D}$ the observed words. As we can see from equation 1, the joint probability has several dependencies –

topic assignment depends on topic proportions and words depends on the topic assignment and on all topics (D. M. Blei, 2012). The posterior probability can be inferred or optimized; but its computation is intractable. The original paper of Blei, Ng and Jordan (2003) uses variational inference to fit the model, but sampling algorithms are also popular (Griffiths & Steyvers, 2004; Hornik & Grün, 2011). Sampling algorithms try to approximate the distribution with the collected samples, and variational methods uses parameterized distributions trying to find the one that is closest to the actual posterior.

Although born in a different tradition, topic models in general, and LDA in specific, are now somewhat popular among social scientists (Bail, 2014). Indeed, topic modeling and related techniques are supplementing traditional content analysis in the social sciences (Chuang et al., 2015); and it has been said that they represent the emergence of a new chapter in the history of content analysis methodologies (Mohr & Bogdanov, 2013). In the same direction, DiMaggio et al. (2013) suggested that topic models could finally help sociologists in investigating robust theoretical concepts for which they have lacked the means to address so far.

At the same time that there is a lot of optimism regarding topic models, there are several skepticism as well. “A poorly supervised machine learning algorithm is like a bad research assistant”, Schmidt (2012) argued. If topic models can be used to measure important social constructs, such as frames (DiMaggio et al., 2013), grammar of motives (Mohr et al., 2013), political priorities (Grimmer, 2010), research agendas (Marshall, 2013), media coverage (Bonilla & Grimmer, 2013), the researcher must be confident that the results are indeed measuring what they claim to measure. In this research, we’ll suggest that topic models can be used to investigate institutional logics as well.

Much of the skepticism comes from the fact that topic models are originally from a different research tradition; and the interests of social scientists and computer scientists do not always converge. Computer scientists, for example, are more concerned with increasing the scale of analysis (Chuang et al., 2015) and showing that their algorithm work: that is, that it can capture some meaningful

structure in a dataset. Social scientists, on the other hand, are deeply concerned about the reliability and validity of such models (Chuang et al., 2015; Grimmer & Stewart, 2013; Quinn, Monroe, Colaresi, Crespin, & Radev, 2010). As DiMaggio (2015) recently advocated, computer scientists do care about getting their models right – the difference is that their definition of right (like model plausibility and utility) is different from that of many social scientists, at least for now (DiMaggio, 2015).

From the current literature, we identified the three most problematic issues regarding the use of topic models by social scientists. The first regards the number of topics, which need to be defined a priori by the researcher. The second is related to its outputs, or the stability of the topics generated. At last, the number of words that we use to analyze the model can lead to a very misleading interpretation of the topics (Schmidt, 2012).

Luckily, optimism has won skepticism and today social scientists know a lot more about topic models and developed tools and “good practices” to address the main uncertainties that they generate (Chuang et al., 2015; Grimmer & Stewart, 2013; Quinn et al., 2010). The next chapter describes how we applied a correlated topic model (CTM) in IRAs’ press releases and describe how we dealt with each of the main uncertainties of topic models. In order not to be exhausting, we described this process using only one agency as an example. But the same analyses were performed for the other two agencies, and the relevant information is available in Appendix A.

4

Modeling the Vocabulary of Independent Agencies

This research applied a correlated topic model to model IRAs vocabulary. This type of topic modeling uses the same framework as LDA, differing in one important aspect: instead of using Dirichlet distribution to model topic proportions, it uses logistic normal distribution. The use of normal logistic gives more flexibility to the model, and to assume that topics can be correlated it is a more

realistic assumption of latent topic structure (D. Blei & Lafferty, 2006). Because of LDA's growing popularity, there are many open-source software packages available in Python, C, C++ and R. I chose to use the R programming language and its related packages because of comprehensiveness and speed.

This chapter describes the application of topic models to model IRAs vocabulary. It explains how the corpus was pre-processed, how the number of topics was decided, how the solution to be analyzed was chosen, and the validation process. The same analysis was conducted for the three agencies analyzed here.

4.1 PRE-PROCESSING THE CORPUS

Before running any type of topic model, one must first preprocess, or clean, the corpus. As Mützel (2015) observed, this process is far from being automated: it is “time consuming and, in a back and forth between data and tentative results, analytic intense” (p. 3). The corpora preprocessing will vary from one agency to another, and this process must be explicit, since preprocessing alters topical compositions (Chuang et al., 2015). While excluding prepositions and articles (such as “the”, “of”, “in”) is a fast process, standard stopwords removal is insufficient for some types of corpora. Jockers and Mimno (2013), for example, used first Named Entity Recognition (NER) to remove given names (as they were working with novels) and later decided to keep only nouns for the final analysis.

For preprocessing Ancine's corpus, I used the text-mining framework provided by the tm package, developed by Ingo Feinerer. The package was introduced by Feinerer, Hornik, and Meyer (2008), and a concise and clear tutorial to tm package can be found in Feinerer and Hornik (2015). All Portuguese stopwords were excluded from the standard list, as well as punctuation, numbers and some symbols (such as », •, and so on). After running six models with different seeds, I developed a list of stopwords for this specific corpus. All documents had a common header – with words

like “imprimir”, which had to be removed; and some meaningless adverbs and auxiliary verbs were also excluded. The personalized lists of stopwords can be found in Appendix A. At last, although stemming is a common process when working with large corpora of textual data, the result was not intelligible and I opted for not stemming the corpus. After preprocessing the data (i.e., preparing the corpus for analysis), a document-term matrix can be generated, which is the input for running a topic model. In Ancine’s corpus, I only included words with 3 or more characters; and kept only words that occurred in more than 5 documents to avoid very infrequent words. The original corpus had 4,266 documents and 85,486 different words. The vocabulary after preprocessing was composed of 9,856 different words that appeared 738,403 times.

4.2 DECIDING THE NUMBER OF TOPICS

The “optimal” number of topics in a model is a widely discussed topic among social scientists. Too many or too few topics can result in poor solutions: or topics are too broad, mixing themes that the researcher understands as separate, or incomprehensible, picking up idiosyncratic word combinations (Marshall, 2013; Steyvers & Griffiths, 2007). As Marshall (2013) puts it, “a model so fine-grained that each topic appeared in only one article would clearly have too many topics, while a model so broad that concepts the researcher wished to distinguish were combined in a single topic would have too few” (p. 709).

To decide the number of topics, I ran ten models, ranging from 15 to 60 topics. There are two main approaches to define the number of topics: (i) a formal approach, with traditional statistical metrics; and (ii) a substantive approach, where the researcher decides the most coherent and useful solution by looking at the top words of each topic. Usually, the number of topics is decided by looking at the solutions from different runs (DiMaggio et al., 2013; Marshall, 2013), and it has been suggested that the number of topics should be based on interpretability and analytic utility (DiMag-

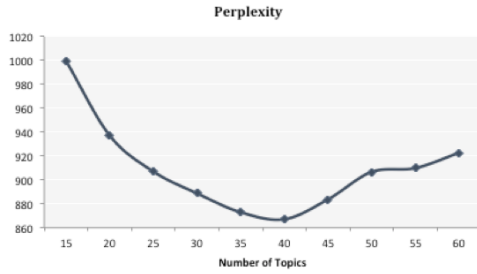


Figure 4.1: Perplexity

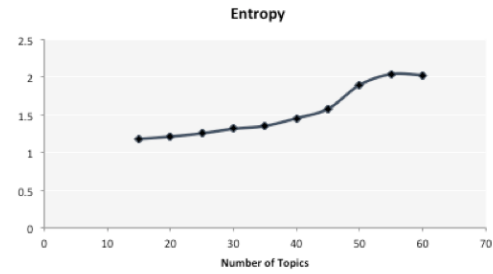


Figure 4.2: Entropy

gio et al., 2013). Also, some works had approached the number of topics in a formal way (Bonilla & Grimmer, 2013; McFarland et al., 2013).

The statistical metrics of model fit analyzed were the perplexity scores and the entropy of topics’ posterior distributions, both for all ten solutions. Perplexity is a “standard measure of performance for statistical models of natural language” (Griffiths & Steyvers, 2004), and it reveals the uncertainty in predicting a single word. After observing a few words in a document, perplexity indicates how well the model can predict the remaining words (D. Blei & Lafferty, 2006). One can think of perplexity as the “effective number of equally likely words according to the model” (idem), so a poor model will have a perplexity equal to the size of the vocabulary. Lower values indicate a more precise model, and although perplexity scores and interpretability of topics are not related, it is a stable measure to decide among different models, “for lack of a better option” (McFarland et al., 2013). The perplexity and entropy scores for the ten models can be found in Figure 4.2. As it indicates, the perplexity scores were lower for the 40-topic solution.

The second quantitative measure analyzed was the entropy of the posterior topic distributions. Entropy is a measure of information content and it indicates the coherence and organization of a document’s words (McFarland et al., 2013). Higher values mean that topic distributions are more evenly spread over the topics, indicating documents “confusable among many different topics” (p. 612).

As Figure 4.2 indicates, entropy measures increase with the number of topics. The adequacy of using entropy and perplexity to define the solution that will be analyzed is questionable. Misra, Cappé, and Yvon (2008) showed that entropy and average log-likelihood per word (a measure directly related to perplexity) can be used to evaluate the coherence of documents, being able to differentiate true and false documents. At the same time, Chang, Gerrish, Wang, Boyd-Graber, and Blei (2009) revealed that such measures are poor predictors of topics’ human-identifiable semantic coherence. Those results ratified the usefulness of topic models for corpus exploration and information retrieval (Chang et al., 2009), while emphasizing the need of human judgment and other ”real-world task performances”.

Accordingly, I visually inspected the outputs of the ten solutions by looking at the top 30 words of each topic. Some topics were very stable across different runs. The topics that I was most interested on – the only exception being the cable TV law topic – were present in all solutions (Table 4.1).

Table 4.1: Topics across different solutions

Topics/Solutions	15	20	25	30	35	40	45	50	55	60
International Support	7	7	16	28	28	36	36	7,36	36	59
Additional Income Award	13	13	13	2	30	30	30	30	52	41
Inspection	12	12	12,20	12,20	12,20	12,20	12,20	12,20	12,20	12,20
Recine	8	8	8	26	26	26	43	48	52	52
Sectorial fund	1,5	1,5	5,11,21	5,21	5,21	5,8,20	5,8,21	5,8,22	5,21	5,21
Cable TV Law	0	0	18	29	29	29	0	29	29	0

The number of topics was decided by looking at the outputs and the models’ statistics. I discarded the solutions with more than 40-topics because they had worse entropy and some topics were incomprehensible. However, solutions with less than 20 topics were mixing themes that we thought should be separated. Although both the 25 and 30 topic solutions seemed adequate, I opted for the 30-topic solution. The 30-topic solution had topics that I expected it should be there

(topics about the cable tv quotas, inspection, the sectorial fund, and so on) and unexpected topics (eg, combating piracy).

After a visual inspection of all solutions, I verified that topics' top words began to change in solutions with less than 30 topics. For example, the topic about Recine, the special taxation regime that is the basis of a program called "Cinema Perto de Você" (literally, "Cinema Close to You"), was well defined for the 30-topic solution, but a little less well-defined in the 25-topics solution. To check if this in fact represented a problem, I examined the prevalence of the topic for both solutions from 2004 to 2016 (Figure 4.3). I knew from an interview with Ancine's president that the Federal Law n. 12.599/2012 – that established the special regime – was one of the three most important events of the agency. Accordingly, this topic should predominate during/after this period.

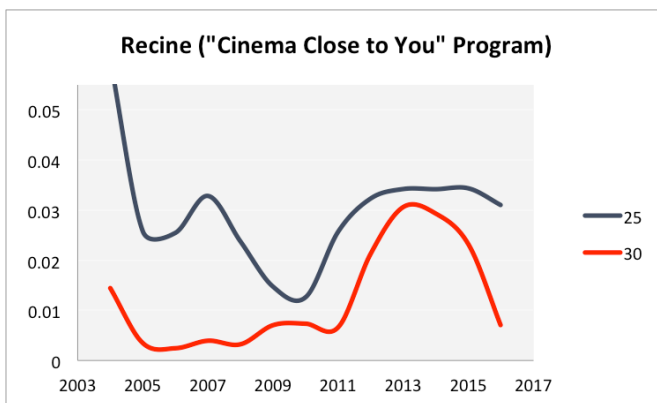


Figure 4.3: Recine: 25 and 30-topics solutions

Figure 4.3 shows the mean ϑ over the years for the topic labeled as "Cinema Perto de Você". It suggests that this topic in the 25-topic solution was mixing themes that should not be mixed. Since Recine was established in 2012, lower frequencies before that year should be expected, and higher frequencies after. This indicates that the 25-topic solution doesn't have predictive validity: if the interpretation was correct, topic attention should respond in a predictable way to external events (DiMaggio et al., 2013; Quinn et al., 2010). The 30-topic solution, on the other hand, shows the

expected topic pattern, increasing its importance after 2012. The types of validity will be discussed (and investigated) in the following sections.

4.3 DECIDING THE SOLUTION FOR ANALYSIS

One of the most recommended practices regarding topic models is the need to run and examine a variety of models and/ or the same model several times. This is due to the fact that results vary with the number of topics, the starting seed and with preprocessing settings (Chuang et al., 2015; DiMaggio et al., 2013).

The fact that the results vary across runs does not mean that the topics generated are necessarily unstable. Steyvers and Griffiths (2007) analyzed the dissimilarity of topics between samples from different Markov chains (i.e., samples that started from distinct random assignments, or seeds) using Kullback Liebler* distance between topic distributions and found a similarity matrix where a large percentage of topics had similar distributions over words. Therefore, in their words, “in practice, the solutions from different samples will give different results but many topics are stable across runs” (p. 10).

Similarly, Ponweiser, Grün, and Hornik (2014) have found very similar topics when reproducing “Finding Scientific Topics”, from Griffiths and Steyvers (2004). The authors tested the “true reproducibility” of a text mining application: that is, they did not simply applied the same codes and procedures, but reproduced the results independently, using a different software environment, model fit and data pre-processing procedures. Although some minor variations were observed in the outputs, the conclusions drawn and the overall assessment were essentially the same, suggesting the study could be “successfully reproduced”.

*The Kullback-Leibler distance (KLD), also known as relative entropy, is the most popular way to measure the distance between two probability distributions (see D. Johnson and Sinanovic (2001). Being p_0 and p_1 two probability densities, KLD will be: [insert formula]

A way to assess the potential instability of topics was suggested by [Chuang et al. \(2015\)](#). The authors devised an interactive alignment algorithm to assess model stability. Their tool allows assessing “coding reproducibility”, that is, to assess whether a topic model can uncover the same set of latent variables (topics). Their algorithm works by running multiple models with one restriction: the topics from one model can align with up to one topic from another model. Thus, it is possible to identify consistent patterns across models as well as possible deviations: when two topics from different runs align, it means that that topic is stable. The authors are straightforward in their recommendation: to determine modeling consistency, they advocate the use of multiple models. This can mean (i) to apply the same model multiple times, (ii) to search through the parameter space of a model or (iii) to use multiple (distinct) models.

Following these recommendations, I ran different models in 3 different occasions. First, I ran 6 models to develop a good list of stopwords. Second, I ran 10 models to decide the number of topics that would yield the best solution. Finally, with a preprocessed corpus and the number of topics defined, I ran ten times the same model with different starting seeds to decide which solution would be retained for analysis. Seed is the term for the point where the algorithm starts; so different seeds will lead to different results ([DiMaggio et al., 2013](#)).

To decide the solution that would be retained for analysis, I looked at the top 30 words of each topic. Also, since I ran several different models (with distinct preprocessing settings, number of topics and starting seeds), it was possible to see that some topics were always present: topics about inspection, the sectorial fund, the “Cinema perto de você” program and the Additional Income Awards (see table 4.1 for an overview).

The visual inspection attempted to search for a solution without missing concepts (when reference concepts are missing) and fused topics ([Chuang, Gupta, Manning, & Heer, 2013](#)). The topic about the new regulatory framework was missing in some solutions, and fused in others. When a reference concept is missing is easier to detect than a fused topic – a topic that matches two or

more concepts. Fused topics are not about two related topics, but it mixes themes that should not be mixed. A way to assess this is to test for predictive validity, as we've done in the previous section (see Figure 4.3). If a topic is mixing different themes, then it should fail to sustain predictive validity. The topics of the final solution will be discussed after validating it.

4.4 VALIDATING THE FINAL SOLUTION

The need to “validate, validate, validate” topic model solutions can be regarded as a core “principle” of automated content analysis methods (Grimmer & Stewart, 2013). Topic models come from a different research tradition; and the concern about causality and model confirmation is different between social and computer scientists (DiMaggio, 2015). Ramage, Rosen, Chuang, Manning, and Mcfarland (2009) worked closely with social scientists at the Stanford school of education and identified two main barriers to the use of topic modeling by social scientists: accessibility and trust. Accessibility has evolved significantly since then, and we believe that trust has followed the same path, since there are many works on how to conduct a careful and sound analysis (Chang et al., 2009; Quinn et al., 2010).

Purely statistical approaches to model validation are nonexistent (or very rare) in social science research. As already discussed, the balance between traditional metrics of model fit and substantive (qualitative) evaluations of topic model solutions has been applied in many works that make use of topic models (Bonilla & Grimmer, 2013; DiMaggio et al., 2013; Grimmer & Stewart, 2013; Marshall, 2013).

Within social scientists, topic models are seen as lenses: “finding the right lens is different than evaluating a statistical model based on population sample”, said DiMaggio et al. (2013). The goal of this type of analysis is to find substantively interesting information, and the problem is more of substantive fit than statistical fit (Grimmer & Stewart, 2013). This can be seen as a “liberating” per-

spective, taking social scientists out of their comfort zone by embracing interpretative uncertainty and developing novel ways to validate a model's result (DiMaggio, 2015).

The importance of a substantive evaluation, nonetheless, must not be seen as an excuse for a superficial analysis. One of the most careful and complete works that discussed and assessed the validity of a topic model solution is that of Quinn and colleagues (Quinn et al., 2010). The authors assessed five different types of validity: (i) semantic validity; (ii) convergent construct validity; (iii) discriminant construct validity; (iv) predictive validity and (v) hypothesis validity.

In traditional content analysis, coding reliability is the main concern of researchers (Chuang et al., 2015) and it is often assessed by computing inter-coder reliabilities from two rounds of coding using Krippendorff's alpha (K. Weber et al., 2013). In topic modeling, coding reliability is obtained by applying multiple models to determine model consistency (Chuang et al., 2015). This was done in the previous sections by running several different models and examining the solutions. Once the number of topics was defined and the corpus pre-processed, I ran the same model with different starting seeds and examined the results.

The semantic and predictive validity of the final solution will be assessed in the following subsections, which also discuss how these two analyses help examining if the set of cultural categories constitute an institutional logic(s). Convergent validity will not be assessed due to lack of time. (Grimmer & Stewart, 2013), for example, assessed convergent validity by comparing the results from an unsupervised and a supervised method. This requires a research assistant able to hand-code part of the data in order to compare both methods, and because of that I opted for not performing this test.

4.4.1 SEMANTIC VALIDITY

Quinn et al. (2010) evaluated semantic validity by assessing (i) the substantive meaning of words within a topic, and (ii) the semantic relationship across topics. To capture the substantive mean-

ing of words, the authors developed a measure to capture the relative importance of words within a topic. One of the outputs of a topic model is a matrix with the distributions over terms for a topic. With this matrix, we can assess the importance of a word for a topic. However, very frequent words can appear as highly relevant for many topics, affecting the interpretation of each topic, as the visual inspection of top words is a common method to assess the results. Semantic validity also requires examining the relation across topics, or answering to the question: “how topics relate to each other as subtopics of larger metatopics?”. Quinn and colleagues suggested an agglomerative clustering of β vectors. In their case, each β vector ($\hat{\beta}_1, \dots, \hat{\beta}_z$, where z is the number of topics) contains the probability of a word i to be assigned to the topic z . The connection between topics indicates similar patterns of word usage across topics.

This research assessed semantic validity by using LDAvis, a method developed by Sievert and Shirley (2014). The most important aspect of their method is that it allows determining the most useful terms of each topic (p.63). The relevance of each term is given by

$$r(w, z|\lambda) = \lambda \log(\varphi_{z,w}) + (1 - \lambda) \log\left(\frac{\varphi_{z,w}}{p_w}\right)$$

where φ_{zw} is the probability of a word w to be assigned to topic z and λ determines the weight given to the probability of word w under topic z relative to its lift. So, if we set $\lambda = 1$, we'll have the same results as if we ordered our vectors according to the word probabilities.

Sievert and Shirley (2014) conducted a user study to determine if there was a value of λ that aid topic interpretation by humans. The subjects had to complete an online experiment with 50 tasks. Results indicate that $\lambda = 0.6$ provided the optimal value for the topics they were analyzing, with 70 percent of probability of correctly identifying the topic. For $\lambda = 1.0$ and $\lambda = 0$, the probabilities were 63 and 53 percent, respectively.

Another feature of their method and visualization tool is that it provides a global perspective of the topics. This includes the topic prevalence in the corpus and the relationship between topics. It is important to recall that the outputs of a topic model include not only a matrix with the distribu-

tions over terms for a topic, but also a matrix with topics distributions over documents. This matrix is the basis to inspect the percentage of each document that is explained by each topic – in other words, to assess topic prevalence. To evaluate the relationship between topics (inter-topic distances) the authors used Jensen-Shannon divergence and a multidimensional scaling algorithm to produce a global topic view. The Jensen-Shannon divergence measures the similarity between two probability distributions by their averages – two probability distributions will be similar if they are similar to their average – and works well in measuring similarity between documents (Steyvers & Griffiths, 2007). Yet, one should note that inter-topic distances are based on the distributions of words over topics, so topics will be closer if they have similar pattern of word usage - or the same pattern of word-to-word relationship (Loewenstein et al., 2012). Ancine's results will be displayed in the next section, to facilitate the discussion of the results.

The inter-topic relationships will be made available for online browsing. This subsection only discusses how semantic validity can be evaluated with the LDAvis tool. By changing the value of λ , top terms are modified. So, varying λ values and looking carefully at the results can help to better understand what topics are about. With this, it is possible to address one of the criticisms regarding topic models – that topics can be poorly understood depending on the number of words that we use to analyze it (Schmidt, 2012) – while also providing a way to assess the substantive meaning of a topic's words.

To analyze the semantic interrelationship between topics one can observe how topics are distributed in the map. Their size indicates their prevalence within the corpus, and the topics are sorted in decreasing order of prevalence. The visualization and the relationship among topics will be discussed after testing for predictive validity.

4.4.2 PREDICTIVE VALIDITY

Predictive validity occurs when there is a correspondence between an external event - uninvolved with the measurement process – and the behavior of topics (Quinn et al., 2010). DiMaggio et al. (2013) examined topics' changes over time by aggregating the percentage of all words assigned to two of their meta-topics of interest – conflict and comparison; and observed how comparison loses its prevalence at the end of the 1990s.

Here, I'll use the three main events that Ancine's president mentioned during an interview: (i) Federal Law n. 11.437/2006; (ii) Federal Law n. 12.485/2011 and (iii) Federal Law n. 12.599/2012.

Federal law n.11.437/2006 was responsible for the creation of the sectorial fund (FSA). This fund is financed by Condecine, which is a contribution related to cinematographic and video phonographic activities in Brazil. Its exploration by foreign or national companies is subject to this taxation. The sectorial fund enabled the agency to conduct many of its developmental activities, and it has three main programs: (i) Prodav, to help developing the audiovisual industry; (ii) Prodecine, for the development of the movie industry; and (iii) Cinema Close to You, an innovative policy in this sector that aims to expand Brazilian movie theaters. The last policy was created only in 2012, by federal law n. 12.599.

Also known as the regulatory framework of cable TV, the Federal Law n.12.485/2011 formalized Ancine's role as a regulator of the Brazilian audiovisual market, 10 years after the creation of this agency. This law had an important impact mainly on two policy areas: (i) the quotas of national content, which cable TV companies had to start exhibiting; and (ii) the financial capacity to invest in the industry, since it has significantly increased the amount available at the sectorial fund.

At last, Federal Law n. 12.599/2012 created the "Movie Close to You" program and established a special regime of taxation, known as Recine. This program replaced PRO-INFRA, a program created by the Federal Law n. 11.437/2006, that had a similar but broader goal: to develop the infras-

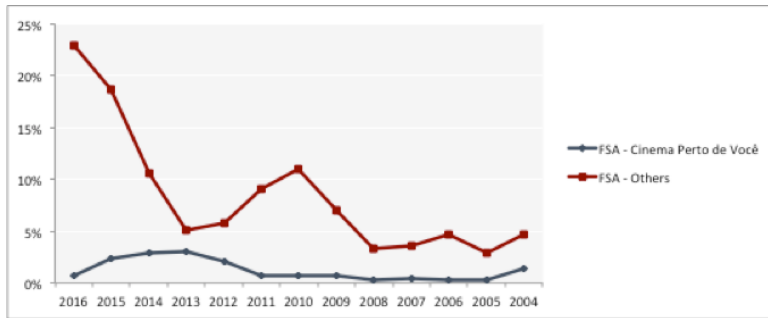


Figure 4.4: FSA and Cinema Close to You topics

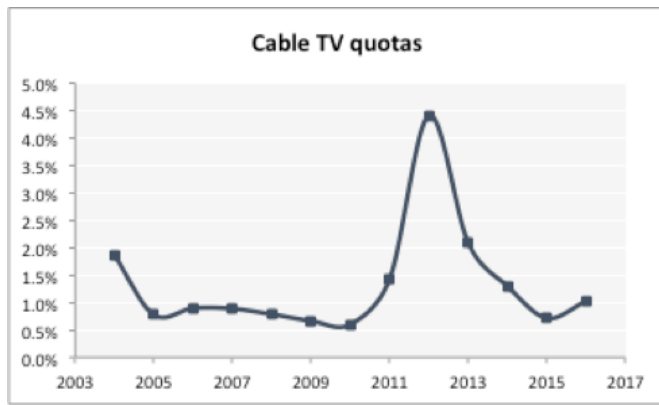


Figure 4.5: Cable TV quotas

structure of the movie and audiovisual industry. Cinema close to you is also financed by the sectorial fund.

Therefore, if our model has predictive validity, attention given to the topics related to these three laws must respond accordingly. I expect that topics related the sectorial fund will get more attention after 2011, when the amount available for investment increased significantly. At the same time, the topic related to the Cinema Close to You program should increase its importance after 2012. I also expect more attention to quotas for cable TV after the approval of Federal Law n. 12.485/2011.

Figure 4.4 displays the prevalence of the topics related to the sectorial fund over the years. It is possible to observe an increase in importance for both topics (FSA and Cinema Close to You) after

2012. It also shows that attention given to FSA topics (Prodecine+Prodav) is greater than to Cinema Close to you topic. One possible explanation for this can be inferred by looking at the management report of FSA[†]: from the 393 million invested in 2013, 238 million, or 61 percent, went to Prodecine and Prodav and 35 million, or 9 percent, went to the Cinema Close to You program. The topic about the cable TV quotas also responded as expected, increasing its prevalence after 2012 (noting that the federal law was published in September of 2011).

4.5 LABELING AND CLASSIFYING THE TOPICS

Although some topic labels were mentioned in the previous sections, when I discussed the process of choosing the number of topics and the final solution retained for analysis, I haven't explained how I arrived at those labels.

Initially, I labeled the topics of all the final solutions. This is an exhaustive process because it requires a good deal of knowledge about the organization and a comprehensive research about its functioning. This is an important aspect that needs to be stressed: topic models do not replace a careful analysis of the cases under study. The knowledge about the case continues to be more important than the sophistication of the method adopted. What topic models do is to change the place where knowledge comes into play. In a traditional content analysis, first one needs to deeply understand the context under study to then "begin to count"; with topic models, we first count to then begin to interpret (Mohr & Bogdanov, 2013).

In the empirical strategy section, I mentioned the interviews conducted with press office members of Ancine and Aneel. However, I've conducted twelve in depth interviews since 2012 with federal regulators from two out of the three agencies analyzed here (see Figure 4.6). Those interviews were not a method for data collection. They can be characterized as informal conversation inter-

[†] Available at: <http://fsa.ancine.gov.br/sites/default/files/relatorios-de-gestao>

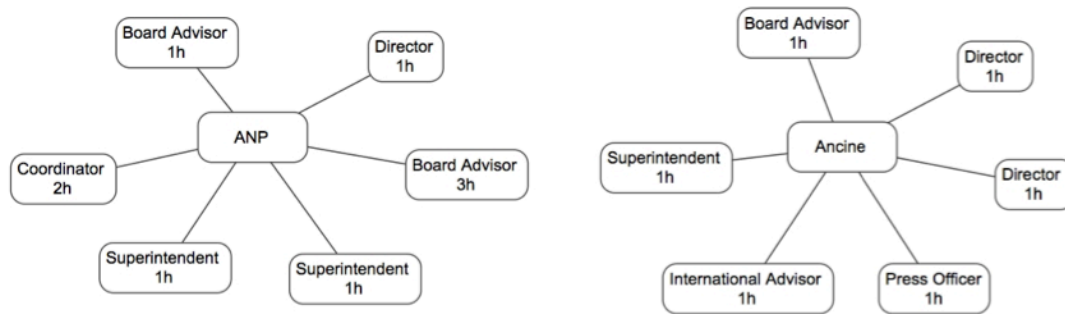


Figure 4.6: Interviews with Federal Regulators

views, a specific type of unstructured interviews, as I did not have a specific topic in mind when they were conducted (Rubin & Rubin, 2011). Informal conversation interviews represent an interesting way of exploring topics for future research (Berry, 1999), and the data collected was certainly important both in the definition of the research question as well as in the interpretation of the results. These interviews were focused in exploring the agencies' regulatory policies and process and in their process of creation.

Also, ten formal interviews were conducted between 2011 and 2012 with regulators from seven distinct IRAs at the state level. The topics were the same: the agencies' regulatory policies and process and their process of creation. The interpretation of the results of this research also benefited from my participation in several seminars and events with regulators. I helped in organizing three seminars about regulation known as Regulatory Studies Forum (*"Jornadas de Estudos de Regulação"*). Those seminars were part of a special project of IPEA[‡], a Brazilian think-tank belonging to the Ministry of Planning, Development and Management.

In addition to those interviews, I also conducted a second interview with the press officer of one of the agencies, Ancine, to check the results. She inspected four tables with the 30 top words of each

[‡]IPEA is an institute for applied economic research which provides technical and institutional support to government actions for the formulation and reformulation of public policies and development programs in Brazil

topic, (re) labeled the topics and discussed some of the themes. Both classifications, mine and the press officer's, were similar in many aspects: (i) topics were labeled according to the regulatory activity or policy anchoring them and (ii) a great amount of topics were labeled as "news" or "market news". It is noteworthy that she labeled the topics with ease, taking no longer than 30 minutes to name all the 30-topics.

There were three main differences between my labels and the labels given by the press officer: (i) she detailed the topics about the general news of the sector; (ii) one of the topics labeled as "bureaucratic procedures" was relabeled as "register of works" and (iii) one of the topics labeled as "sector news" was relabeled as "training seminars". The third change suggested by the press officer was important, since it modified the substantive interpretation of the topics: training seminars were classified as a developmental topic, and, for now, I kept news as "news".

The process of topic check will be done in the next steps of the research with the press staff of both ANP and ANEEL. However, for now, a second researcher with a vast experience and knowledge about regulation and regulatory agencies in Brazil and worldwide, made an independent second round of topic labeling. We discussed the cases of disagreement, until reach a final label for each topic. We double checked every topic - varying the λ values to better examine its substantive meaning and its relation to other topics.

After the extensive process of collecting the data, pre-processing the corpus, choosing and validating the solution that will be analyzed, and labeling each topic, an important part of this research consisted in classifying the topics according to our cultural categories. These categories were deducted from the literature and discussed in Chapter 2 and 3.

Once understood what policy/activity each topic represented, I classified each of them according to the distinct types of state discussed in Chapter 2. The association of agencies' activities with broad societal logics was based on the current literature and can be found in tables 2.1 for social policies, 2.2 for industrial policies and 2.3 for regulatory and bureaucratic-legalistic policies.

For example, Ancine had two topics about a specific policy, the Brazil of All Screens program. This topic was labeled by me and ratified by the press officer. Brazil of All Screens is an extensive credit and investment program to develop the productive chain of the movie industry. The resources come from the Sectorial Fund, which is funded mainly by CONDECINE, the contribution for the development of the national movie industry. As discussed in chapter 2, the developmental state *essence* is to promote economic transformation directly, the aim is economic growth. In table 2.2, credit and loans for specific regions or industries appear as classic examples of industrial policies. Accordingly, those topics were classified as "developmental". The same process was conducted for every topic, and figures 5.4, 5.6 and 5.2 briefly explain each topic, the corresponding logic and why the association was made.

4.6 TOPICS AND LOGICS: DIFFERENCES AND SIMILARITIES

This research applies topic models to assess institutional logics. We'll now discuss in more details how we think that topic models can be used to identify logics. We'll describe how Jones and Livne-Tarandach (2008) measured institutional logics to illustrate this point. First, the authors identified relevant keywords by analyzing their frequency – for example, keywords associated with a market logic are identified in firms' documents, with the state logic in bureaucracy documents, with profession in professional documents. After that, they applied multidimensional scaling to see the context of keywords – keywords "that cluster together captured a distinct institutional logic and revealed a vocabulary associated with that logic" (p. 1087). So, if documents from bureaucracies and firms make use of a common vocabulary, they are combining multiple logics.

If "by identifying keywords and mapping their relationship in multidimensional space, scholars reveal the cultural meaning that underpins institutional logics" (p. 1093), then each of the topics above could be thought as a logic. We don't see these clusters of words as logics, but as categories of

practices. If they were logics, each topic in our solution would constitute a logic, as long as the words within a topic had a substantive meaning.

Loewenstein et al. (2012) attempted to develop a theory of vocabularies that may be useful for this analysis. The authors suggested that the vocabulary structure can be assessed by (i) word frequencies, (ii) word-to-word relationships and (iii) word-to-example relationships. Together, they demarcate a system of cultural categories.

In topic models, each keyword is contextualized; each topic represents a word-to-word relationship. The word frequencies and word-to-word relationship help in identifying what the policy or activity (the topic) is about. In this sense, they represent practices, here understood as policies and activities. Cultural categories, on the other hand, are *”social conventions generated by cultural groups for labeling and grouping sets of objects, material practices, social actors, and other socially experienced examples”*(see Keller and Loewenstein (2011), p.299). So, agency’s policies and activities are considered equivalent when they share a common state function, or underlying essence, like promoting competition, welfare or economic growth (Keller & Loewenstein, 2011). Those are the cultural categories we’re discussing here (e.g.regulatory, welfare, developmental and bureaucratic-legalistic).

The difference from the approach suggested by K. Weber et al. (2013) or the work of Jones and Livne-Tarandach (2008) is that each topic is composed by keywords that denote practices and identities. For example, in the work of Weber and colleagues, “supplier, distributor” is associated with the meta-category “identities”, “pure, organic, natural” with “values” and “pesticide, chemical+soil” with “practices” (p. 367). Here, they vary across agencies and logics. We’ll discuss the results in the next chapter. But for now we’ll just exemplify with a topic from Ancine how they are composed by both practices and identities.

The topic discriminated in table 4.2 is anchored in a specific policy - the national income award - embedded by identities and practices. If logics are a *”a what done through a how”* (Friedland et al., 2014)(p.335) - this topic indicates how development is enacted. This policy’s underlying essence in-

Table 4.2: Topic 16: Additional Income Award

Additional Income Award	Free Translation of Terms	Meta-Category
empresas	companies	Identity
ancine	ancine	Identity
recursos	resources	Practice
obras	works	Practice
renda	income	Practice
produtoras	producers	Identity
prêmio	award	Practice
filmes	movies	Practice
milhões	millions	Practice
programa	program	Practice
distribuidoras	distributors	Identity
cinema	cinema	Practice
adicional	additional	Practice
brasileiras	Brazilians	Identity
salas	rooms	Practice
par	par (initials of Additional Income Award)	Practice
nacionais	National	Identity
desempenho	performance	Practice
exibição	exhibition	Practice
qualidade	quality	Practice
brasileiro	Brazilian	Identity
incentivo	incentive	Practice
cinematográficas	Cinematographic	Practice
edital	Public notice	Practice
exibidoras	Exhibiting companies	Identity
total	total	Practice
projetos	projects	Practice
premiação	awards	Value, Practice
inscrições	registrations	Practice
festivals	Festivals	Practice

dicates the cultural category: since the topic is about an award granted according to the commercial performance of national movies in national theaters (i.e., a financial support for filmmakers), it was considered a developmental topic. So, development, in this case, is done via prizes, performance , public notices, and the beneficiaries are exhibiting companies, producers, distributors[§].

[§]Since 2014, this benefit is only granted to exhibiting companies

5

Ideas in practice: State Logics enacted by Brazilian IRAs

”REGULATORY AGENCIES SHOULD BE MORE AUTONOMOUS than executive agencies because they do not exist to carry out government policies, but to perform a more permanent function that is to replace competitive markets” (L. C. B. Pereira, 1998). This is very famous quote in Brazil, from the

then minister of the Ministry of Federal Administration and State Reform, the responsible for the Administrative Reform in the 1990s in Brazil.

That was the role expected from Brazilian IRAs: to promote competition "where it is viable", and avoiding the abuse of monopoly power where it was not (Stiglitz, 1998), identical from what is expected from regulatory agencies, as seen in chapter 2. In other words, these organizations should enact mainly a pro-competition logic.

At the same time, the empirical literature on regulatory agencies suggest this "mission" was extrapolated. In practice, IRAs face the same challenge of many, if not all, public bureaucracies: to articulate the variety of guiding principles that permeated the state as an institutional order. There is no such thing as *a* logic of the State. When it comes to this institutional order, both *what* and *how* things are done are contested and historically contingent.

This chapter discusses the results of three distinct IRAs: Ancine, ANEEL and ANP. As already mentioned, while Ancine is usually classified as a "social" regulator, ANEEL and ANP are considered purely "economic" regulators (Nunes et al., 2007). Therefore, it was expected that those two agencies enacted predominantly a regulatory logic, and Ancine a social one.

Since its creation, Ancine was established as a very peculiar IRA. Differently from the other Brazilian agencies at the federal level, Ancine's primary goal was not to attract private investment or to assure credibility to private investors. Ancine's mission, according to the law that created the agency (MP 2228-1/2001) was to develop the audiovisual sector. Ancine should promote the Brazilian culture and the Portuguese language; increase the national industry competitiveness; increase the industry participation in the global market; enhance the production and exhibition of national movies, and so on. In fact, beside its formal "regulatory" denomination, much of Ancine's policies are related to a more interventionist role of the State in the industry, characteristic of a developmental state.

ANEEL is the Brazilian federal regulator for the electricity sector. This agency was the first IRA

established in Brazil, in 1996. ANEEL's mission is "to provide favorable conditions for the electric power market to develop a balance between the agents for the benefit of society"*. A possible interpretation is that its mission is more closely linked to steering (provide the conditions) rather than rowing (to develop the electric power market), as should be expected from a regulatory agency. Note that this is opposite of Ancine. ANEEL's mission statement also stresses the need to balance the different interests involved, revealing the commitment to avoid the capture by vested interests, whether governmental or from the private sector. It also emphasizes that the regulatory activity must have the citizens best interest as its final goal.

ANP is the national regulator of the oil and gas industry. This agency was established in 1997 with the daunting task of regulating a still *de facto* monopoly, the state-controlled company Petrobras, attracting new investors and expanding the set of operations and investments needed to enable the exploration and production of oil and gas. ANP's mission statement is "to regulate the economic activities of the oil, gas and biofuels industries, in a transparent and effective manner, promoting the public interest and attracting investments to the development of those industries in Brazil". ANP's mission stresses not only the agencies' core function (to regulate the industries) but how this function must be performed (in a transparent and effective manner). It also emphasizes its steering function (attracting investment) and its compromise with the public interest and with the development of the industries.

The results show that, in the last three years, Ancine enacted mainly a developmental logic, ANEEL a regulatory logic and ANP a bureaucratic-legalistic one (see table 5.1). The same is not true for the first three years. Also, all state logics are enacted in different ways by these organizations. We'll discuss each agency in the next sections.

*<http://www2.aneel.gov.br/>

Table 5.1: Institutional Logics across Agencies: First and Last three Years

Logic	ANP		ANEEL		ANCINE	
	2001-2003	2014-2016	2002-2004	2014-2016	2004-2006	2014-2016
Regulatory	50.31%	30.32%	55.83%	58.05%	0	0
Bureaucratic	41.58%	51.38%	28.74%	32.51%	41.09%	11.28%
Development	4.91%	6.15%	0.25%	0.29%	32.57%	40.48%
Social	0.0%	0.00%	11.12%	7.01%	0	0
Hybrid	0.90%	9.86%	0.00%	0	23.08%	46.22%

5.1 REGULATING FOR DEVELOPMENT: ANCINE’S POLICIES AND ACTIVITIES

As mentioned before, Ancine is quite different from other IRAs. Ancine’s mission is to develop and regulate the sector, in the benefit of the Brazilian society. Ancine’s main policies have one important thing in common: they were designed based on the understanding that “benefit the society” means to promote (industrial) development. From the 15 distinct topics[†], nine were considered “developmental” and 6 bureaucratic-legalistic. If we observe the description of each topic/policy, we can see that Ancine supports the entire production chain of the audiovisual sector - financing the production (Brazil of All Screens, Coproduction, Ibermedia), distribution (Brazil of All Screens), exhibition (National Income Award, Brazil of All Screens) and even the internationalization of Brazilian movies (System of International Support). Additionally, Ancine funds the modernization and expansion of movie theaters and even guarantees a quota for national products, via the new cable TV Law and the Screen quotas. Table 5.2 indicates the topics’ label, their description, the corresponding logic and why the association was made.

[†]The final solution has 30 topics, but 15 categories, since some topics address the same policy/activity

Table 5.2: State Logics at Ancine

Number	Ancine's Policies and Activities	Description	Logic	Why
2,6	Brazil of All Screens	Largest national credit and investment program to develop the audiovisual industry	Developmental	Credit and investment program to develop the productive chain
15	Cinema Close to You	Comprehensive program to expand and modernize the infrastructure of national cinemas	Developmental	Credit, investment and taxation program to develop the productive chain
16	Additional Income Award	Award granted according to the commercial performance of national movies in Brazilian's movie theaters	Developmental	Financial support
23	Cable TV Law	Regulatory framework that established the national content requirements that cable tv companies should provide	Developmental	Market reservation scheme
21	Ibermedia	Fund to develop and promote its members film industries	Developmental	Investment program to develop the industry
13	Coproduction	Cooperation agreements to support the coproduction of movies	Developmental	Financial support
9, 12, 14	Support for International Participation: Festivals, Workshops & Markets	System composed by 3 programs to disseminate the Brazilian cinema in the international market	Developmental	Financial support
24	Training Seminars	Series of seminars presenting the parameters and criteria used by the agency in its procedure	Developmental	Instruction
29	Fighting Film Piracy	Engage against the piracy in the audiovisual industry	Bureaucratic-legalistic	Rule Enforcement
7	Registration of Advertising Works	Mandatory registration for any publicity work conveyed in Brazil	Bureaucratic-legalistic	Standards setting
27	Public notices: general support	Public notices to support specific audiovisual projects	Developmental	Financial support for developing the national industry
17	Guidelines for Projects	Norms and procedures related that the projects submitted must follow	Bureaucratic-legalistic	Standards setting
11, 20	Inspection	Audit activity of all relevant sectorial actors (producers, programmers, distributors, exhibitors and those who sell products and audiovisual content)	Bureaucratic-legalistic	Rule Enforcement
3	Agenda of Directors	Participation in events, announcements and other public appearances of board members'	Bureaucratic-legalistic	Gather support for the organization and promote accountability
1, 4, 5, 8, 10, 18, 19, 22, 25, 26, 28, 30	News	General market news publicized by Ancine	Bureaucratic-legalistic	Support for the Organization

As table 5.2 displays, many topics were labeled as "news". Indeed, 12 out of 30 topics were labeled as "news" (see table 5.2). Those topics are not directly related to Ancine. They contain news about the sector that the agency considers important for its public, including national and international events and contests, distinct sources of funding, performance of Brazilian movies and so on. Those topics will not be analyzed in detail, although their presence and predominance suggests that Ancine may want to be seen as a hub of information for the industry. An alternative explanation is that those topics indicate a developmental logic and/or a bureaucratic-legalistic logic, as they serve to "help" the industry by providing useful information and serve the agency by consolidating its role as the central organization in its economic sector. The consolidation and publication of this amount of news certainly takes time and effort, and this role of providing general information about (and for) the movie industry must not be ignored.

The second most important topic is a topic about the sectorial fund, as we should expect. The sectorial fund (FSA) was created in 2006, regulated in 2007 and expanded in 2011. FSA is considered a groundbreaking policy in the sector, since it enabled the agency to develop the sector in its entirety: at the production, distribution, exhibition, and infrastructure levels.

FSA has three "lines of action": (i) Prodav, (ii) Prodecine and (iii) Cinema Close to You. Prodav and Prodecine are similar lines of action, the difference is that the latter is restricted to the movie industry and the former encompasses the audiovisual as a whole. Cinema Close to You is an infrastructure program, also funded by the FSA, but it is managed in cooperation with two national banks – BNDES and Caixa Economica Federal.

The third most important topic in Ancine corpus is, curiously, a topic about organizational publicity (labeled as agenda of directors), and, therefore, was associated with a bureaucratic-legalistic logic. It contains as top-words the name of the president of Ancine, Manoel Rangel, and of his former advisor and chief of staff, Rosana Alcantara, who is currently a member of the board of directors herself. The length of their careers inside the organization may explain the emphasis on Rosana

and Manoel. Manoel Rangel was re-conducted for a third mandate, in a legal loophole in Ancine's law of creation, and presides the organization since 2005. Those organizational publicity topics (also labeled as "institutional" and "agenda of directors" in tables 5.4 and 5.6) are common to all the three IRAs analyzed here. Those topics refer to participation in events, public announcements and other public appearances of board members'.

One important dimension to assess the "logic-ness" of a cultural system lies in its cohesiveness (K. Weber et al., 2013), and one way to assess cohesiveness is examining the interrelation of categories. Figure 5.1 displays the relation between topics. As we saw in chapter 4, inter-topic distances are based on the distributions of words over topics and use a multidimensional scaling algorithm to produce a global topic view. This means that topics will be closer if they have similar pattern of word usage - or the same pattern of word-to-word relationship (Loewenstein et al., 2012).

Figure 5.1 shows that most topics are located in the upper quadrants, and only two at the lower. Those two are the topics we labeled as "inspection", and contain words like process, inspection, infringement, cancellation, fines, as well as companies names – or part of them. Their press releases have a very specific vocabulary. They are the same texts that are published in Brazilian official gazette, having a formal and legalistic style. In the second interview with the press officer, she confirmed that the only texts not produced by the press office are the notifications of the Superintendence of Inspection.

Although topics refer to distinct policies, they are very close to each other, forming some clusters in the upper quadrants. The main difference between the upper-right and upper-left quadrants of Figure 5.1 is not between legalistic-bureaucratic and developmental topics, but between international and local news and policies. Promotion and development are much more important to the left quadrant than to the right. Those are the most relevant *acts* of the agency in the national territory. Support is what the agency does when it comes to the international market.

In the upper-right quadrant are the "support for international participation" topics and some



Figure 5.1: Inter-topic Relationship

“news” topics, specifically the ones that mentioned award, festivals, winners, meetings, programs, international, among others. Ancine has more than one type of international support. In fact, Ancine has a system for international support comprehending: (i) support to festivals, (ii) support to labs or workshops and (iii) support to markets. The online browsing of the topics indicates that one of the words that better explain the difference between “news” and “international support” is *Ancine*. News topics don’t mention the agency, and development topics do.

The bureaucratic-legalistic topics are located in upper-left quadrant. Topic 17 (guidelines for projects) is “inside” topic 7 (about registration of advertising works). Both topics share a legalistic vocabulary, emphasizing words like accompaniment, account, procedures, deadlines, extensions, documents, normative, instruction, article, and were classified as bureaucratic because of the standards setting/ license obtainment nature of the activity.

The three topics about the sectoral fund – topics 2, 6 and 15 – are more distant than we would expect. Topic 15 is closer to organizational publicity, indicating that maybe Ancine’s directors are speaking more about the Cinema Close to You Program publicly than other policies of the sectorial fund. The “isolation” of topic 6 suggests that it mixes the vocabulary of news (local and international), developmental and regulatory topics. For different values of λ , the words that begin to appear illustrate this difference. Topic 2 includes the main policies and procedures of the sectorial fund: words like defense, oral, works, lines appear for lower values of λ . Topic 6, on the other hand, has distinct relevant words – such as father, life, love, history, episodes – which we believe are associated with the companies and works that got the financing.

As mentioned before, Ancine is quite different from other IRAs. Ancine’s mission is to develop and regulate the sector, in the benefit of Brazilian society. Yet, Ancine’s main policies do have one important thing in common: they were designed based on the understanding that to benefit Brazilian society means to promote industrial development.

Table 5.3 displays the percentage of the documents explained by each logic. Following Griffiths

and Steyvers (2004), I used the mean ϑ to make a post hoc examination of the ϑ estimates produced by the model; remembering that ϑ is the probability distribution over topics for a document.

Table 5.3: Topics Participation in the Corpus: 2004-2016

Year	News	Bureaucratic	Development
2004	28.38%	37.18%	34.44%
2005	25.86%	40.71%	33.44%
2006	24.79%	45.39%	29.82%
2007	28.15%	50.18%	21.67%
2008	37.87%	36.35%	25.78%
2009	43.35%	26.44%	30.21%
2010	37.90%	27.48%	34.63%
2011	36.89%	29.53%	33.58%
2012	61.20%	11.66%	27.14%
2013	64.06%	8.72%	27.22%
2014	48.24%	11.28%	40.48%
2015	56.13%	9.64%	34.23%
2016	45.69%	11.02%	43.29%
Average	41.42%	26.58%	31.99%

Ancine’s policies and activities reveal the enactment of one main logic, which is not a legalistic or a regulatory logic, but a developmental one. Table 5.3 shows that 32% of Ancine’s press releases are about developmental policies and activities. Excluding the news topics, developmental themes represent about 55% of Ancine’s entire corpus.

Figure 5.2 displays the most frequent bigrams (frequency>250) of Ancine’s developmental documents[‡]. Bigrams are a sequence of two adjacent words. I opted for using it here to avoid the uncertainty involving single words. For example, by using unigrams for word frequency, Manoel is the token and its frequency is the sum of all Manoel that appear in the corpus. By using bigrams, Manoel Rangel is the token, so its frequency reflects only the Manoel Rangel that appears in the corpus.

[‡]To do that, I selected only the documents by their most likely topic. Each document in the corpus is a probability distribution over topics. So, each document has a ”top” topic, the topic that most likely explain the document. Developmental documents are the documents whose main topic was classified as developmental

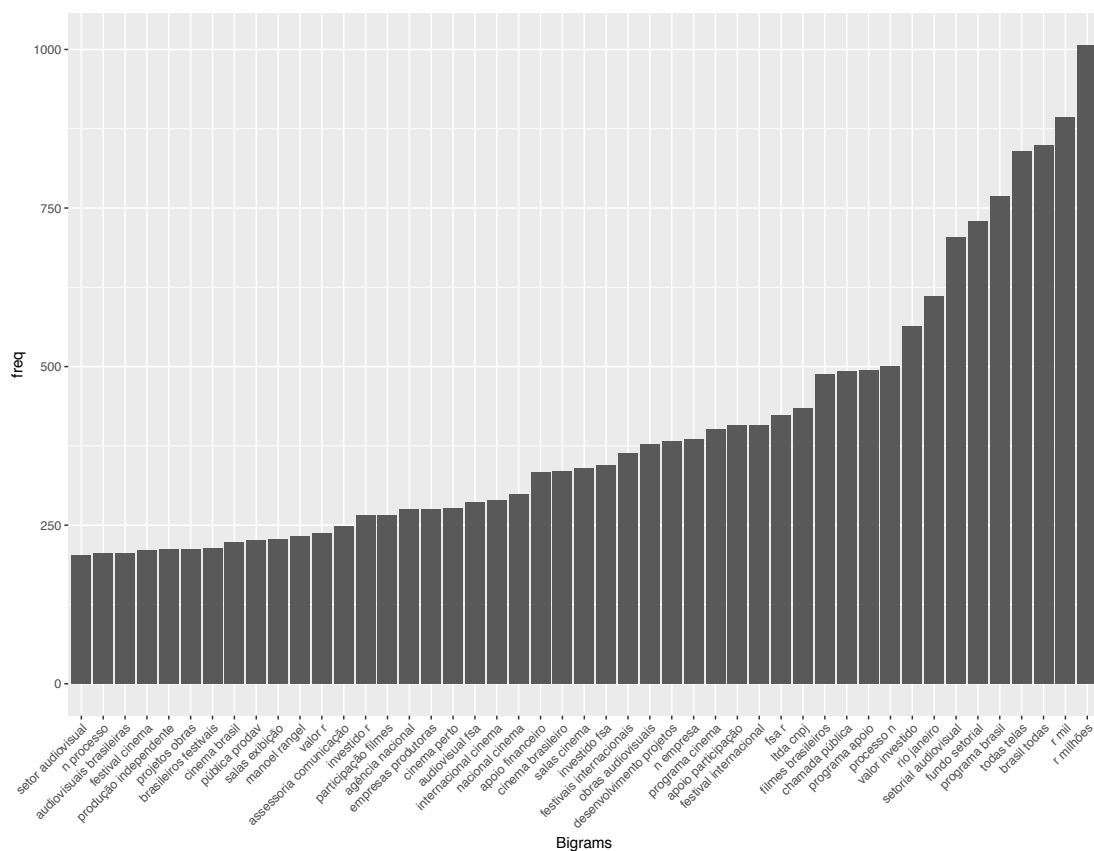


Figure 5.2: Ancine's Developmental Vocabulary: Most Frequent Bigrams

Figure 5.2 exhibits Ancine's developmental vocabulary: financial support, support participation, project development, support program, value invested, sectorial fund and so on. That is *what* the agency does. However, it is possible to see the agency's target: Brazilian movies, international festivals, movie theaters, independent productions, film festivals, producers.

One important thing to note, that is valid for the other agencies as well, is that the bureaucratic-legalistic logic comprehends the topics which the association with a substantive end is not so clear. Bureaucratic practices permeate state's activities in its entirety. However, sometimes they became themes of their own, instead of instruments towards a goal. For example, one of Ancine's topics is about the norms and procedures related that the projects submitted must follow and was labeled as

”Guidelines for Projects”. Although those projects are a fundamental part of most of Ancine’s developmental policies - they are not about policies, but about procedures. That is what the bureaucratic logic is about. The same is true for one of Ancine’s enforcement activities: the notifications of the Superintendence of Inspection (topics 11 and 20). Ancine’s budget is almost fully funded by fines, but, in these cases, notifications became themes of their own. That was why we considered them as following a bureaucratic-legalistic logic.

5.2 REGULATING FOR COMPETITION: ANEEL’S POLICIES AND ACTIVITIES

As expected, ANEEL is very different from Ancine. The majority of its policies and activities were considered ”regulatory”. In this case, regulation is translated mainly via the activities of tariff revision and readjustment, as well as the concessions for electricity distribution and generation. From the 24 different topics discussed by Aneel, 11 are regulatory, 9 bureaucratic-legalistic, 3 social and just one developmental. Table 5.4 displays the topics, their description and the associated logics.

Table 5.4: State Logics at ANEEL

Topics	Aneel's Policies and Activities	Description	Logic	Why
1, 7	Tariff readjustment	Mechanism that aims to restore the purchasing power of the income obtained through the tariffs charged by the concessionaire	Regulatory	Set or approve tariffs
37, 38, 39, 40	Meetings of the board of directors	Public meetings of the board held every week as a central part of the agency decision-making process	Bureaucratic-legalistic	Adoption of procedures
4, 35	Institutional	Participation in events, announcements and other public appearances of board members'	Bureaucratic-legalistic	Gather support for the organization and promote accountability
27	Street lighting	Establishment of rules for the transfer of street lighting assets to the municipalities	Bureaucratic-legalistic	Make rules/ subsidiary policy
14	Tariff flags	System that signals the real costs of electricity generation to the consumers	Regulatory	Monitor performance
11	IASC	Indicator that evaluates consumer satisfaction with the services provided by electricity distributors	Social	Consumer protection
20, 16, 17, 6	Transmission concessions	Variety of themes regarding the concession of transmission lines	Regulatory	Competition promotion
5, 34, 36, 29	Tariff revision	Value setting mechanism for the electricity paid by consumers	Regulatory	Set or approve tariffs
25, 18, 2, 23, 12	Generation concessions	Variety of themes regarding the concession for the generation of electrical energy	Regulatory	Competition promotion
33	Public exams	Public exams to recruit civil servants	Bureaucratic-legalistic	Meritocratic recruitment
31	Bidding documents/tender protocol	Competitive bids for concession of the public services of electricity transmission and generation	Regulatory	Competition promotion
24	Prepayment of electricity	Up front payment for electricity	Regulatory	Competition promotion
28	Distributed generation	System that allows Brazilian consumers to generate their own electricity from renewable sources and to sell the surplus to the distribution network of its location.	Regulatory	Competition promotion
30	Administrative intervention	Type of administrative penalty	Bureaucratic-legalistic	Rule enforcement
8	Public hearings	Form of consultation with the civil society that precedes the issuance of every administrative act	Bureaucratic-legalistic	Public participation
15	Commercialization of electricity	Activities related to the purchases and sales of electricity	Regulatory	Competition promotion
22	Social tariff	Tariff discounts for low-income consumers	Social	Subsidies
13	R&D	Program for stimulating research and development in the electricity sector	Developmental	Investments in innovation and R&D
36	Extraordinary tariff revision	Tariff revision in case of extraordinary events	Regulatory	Set or approve tariffs
32	DUP	Rules for land expropriation and administrative easement	Bureaucratic-legalistic	Make rules/ Subsidiary policy
10	CDE	Fund to promote the universalization of electric power access and tariff subsidies for low income consumers	Social	Universal service provision and subsidies
19	Transmission: states	Topic that grouped Brazilian states somehow involved in power transmission line tenders	does not apply	does not apply
26	Cooperatives	Regulation of rural electric cooperatives	Social	Subsidies
9	Inspection	Inspection of electricity distribution	Bureaucratic-legalistic	Enforcement
21	Transmission: companies	Topic that grouped companies somehow involved in power transmission line tenders	does not apply	does not apply
3	Continuity indicators	Indicators used to assess continuity in the provision of electricity services	Regulatory	Monitoring performance

The most relevant activity/policy enacted by Aneel is tariff readjustment (see Figure 5.3). This is not surprising, as "the power of set tariffs [...] is at the heart of what a regulatory agency is created to do" (see Brown et al. (2006), p.188). The second most relevant topic is about the concessions for the generation of electrical energy. The third most important topic is also a regulatory one, but it address performance monitoring. The fact that this topic is so close to the topics about tariff readjustment is that ANEEL introduced in 2011 mechanisms to improve the quality of service provided. The quality is assess by two indicators used to assess continuity in the provision of electricity services, FEC and DEC. Each year the agency evaluates if there has been improvement or worsening of the these indicators. If the service worsens from year to year, the indicator (called Xq) increases and the annual readjustment may decrease. On the other hand, if quality improves, the indicator decreases and the readjustment may decrease less[§].

Like Ancine, ANEEL too has a topic about organizational publicity (labeled as "institutional"), which is the fourth most important topic in the corpus. However, just one first name appear in those type of topics: José. As the agency had more than one director with this first name, it is not intuitive who it is referring to. But it is interesting to observe that the vocabulary emphasizes words like board, director, general director, instead of names of specific members.

Two other logics are enacted by ANEEL: a social and a developmental one. Four topics were considered "social": one that refer to consumer protection (topic 11) and the other three for representing universal service provision (topics 10, 22 and 26) and subsidies. Their relationship, however, indicates that they are not so close to each other: the pro-consumer topic is much more related to tariff readjustment than the other three. The first is in the middle of the upper quadrants, and two of the social topics touch each other at the bottom-left and one is between those and tariff readjustments (see Figure 5.3).

[§]This information can be assessed at: http://www2.aneel.gov.br/arquivos/PDF/Por%20Dentro%20oda%20Conta%20de%20Luz_pdf.pdf

There are two main reasons for this distance. First, to consider consumer protection as a social policy represents a quite broad view of these type of policy, especially because it does not address citizens, but only consumers. Many consider this type of protection as shallow, since the concepts of citizenry and social rights is so important for this literature. However, it is part of this research's strategy to restrict the regulatory logic to competition promotion. Second, the pro-consumer topic makes use of a "managerial" vocabulary, emphasizing words like index, performance, research, better. The other social topics - about subsidies and universal provision - adopt a legalistic vocabulary, one that stresses social, resource, law, article, register, prove, resolution, discount.

Topic 26, about the regulation of rural electric cooperatives is located between the subsidies/universal provision topics and the tariff readjustment/revision ones. Rural electric cooperatives are much older than ANEEL, they are "regulated" at least since 1968, via Presidential Decree n. 62.665. Those cooperatives were fundamental for the expansion of the transmission and distribution services of electricity in Brazil, prior to the creation of ANEEL. Many of them are now regulated by the agency via permission contracts, some via authorizations and some are still unregulated (Nascimento, 2016). However, Brazilian cooperatives receive a huge amount of subsidies in order to survive. As Nascimento (2016) observes, in some cases the discount can amount up 90%, i.e., the consumers of some permits pay only 10% of the value of the energy paid by the consumers of the supplying concessionaires. In 2015, 520 million of reais from the Energy Development Account were spent with those discounts. For that reason, this topic was considered social. But, at the same time, because the permits - which represent the majority of cooperatives today - have their tariff regulated, the topic is also close to tariff readjustments/revision.

Aneel's social logic regards the social tariff, the electric cooperatives and the fund that supports the discounts. Their vocabulary structure revealed the existence of a social logic, which coexist with the other logics but it is distinct from them. The policies are separated, the vocabulary is distinct and, therefore, the topics are distant (Figure 5.3). This difference is not just in the vocabulary struc-



Figure 5.3: ANEEL: Inter-topic Relationship

ture. Aneel, since 2013, separates welfare and regulation by funding every tariff discount with the

Energy Development Fund (conta de desenvolvimento energético - CDE). Until 2013, there was still cross-subsidization in the electricity sector. That is, the discount given to a class of consumers was paid by the other consumers of the same concessionaire. However, there is still cross-subsidization between regions, since North and Northeast pay only about 6% of the quotas, and the remaining 94% are paid by the South, Southeast and Central-West (Silva, 2015).

Aneel's enactment of a developmental logic is inexpressive. Apparently, the only developmental activity that Aneel conducts is the research and development (R&D) program. According to law, ANEEL is responsible for regulating the mandatory investments that companies must make in research and development. Investments in R&D in Brazil via sectoral funds are recognized as an important industrial policy of modern times (De Brito & De Mello, 2006).

ANEEL has a relatively solid enactment of logics. As table 5.5 indicates, the regulatory logic predominates in every period of analysis. In 2008, about 82% of its activities enacted this logic.

Table 5.5: State Logics at ANEEL

Year	Regulatory	Bureaucratic	Social	Developmental
2002	47.70%	35.01%	11.35%	0.44%
2003	55.54%	27.42%	13.13%	0.29%
2004	64.24%	21.53%	11.17%	0.03%
2005	77.70%	7.40%	13.79%	0.15%
2006	57.54%	29.36%	10.08%	0.06%
2007	65.72%	17.20%	15.81%	0.15%
2008	82.75%	8.28%	7.46%	0.07%
2009	79.25%	11.12%	8.58%	0.10%
2010	70.46%	15.80%	11.81%	0.31%
2011	57.54%	30.38%	8.05%	3.10%
2012	62.33%	26.03%	7.11%	3.89%
2013	58.55%	31.39%	8.07%	0.74%
2014	56.99%	33.09%	8.61%	0.14%
2015	61.94%	26.92%	8.45%	0.31%
2016	55.23%	33.70%	7.78%	0.41%
Average	63.58%	23.64%	10.08%	0.68%

This result should not be seen as odd. Aneel has a more liberal guidelines for disconnection from service for nonpayment that countries like Sweden and Britain, for example (Haber, 2011). Energy distributors can suspend the service about 18-20 days after the due date of the bill. The only special case is for residences of consumers who use equipment vital to life preservation and dependent on electricity. Even in this case, it is the duty of consumers notify the distributor and keep a register within it. There is no exception for elderly, children and special seasons.

Also, Aneel approved in 2014 the prepaid electricity bills, which is optional for both consumers and distributors. This is usually considered a 'liberal' solution for consumers with problems in paying the electricity bills: they can no longer be disconnected because charging the meter is now their choice and responsibility (Haber, 2011). Its tariff revision and readjustment activities focus on performance, and the vocabulary is permeated by words like index, effect, costs, variation, continuity indicators, factor X. Factor X is an index created to (re)pass to consumers the estimated productivity gains of the concessionaire and is one of the most frequent bigrams in Aneel's corpus, as Figure 5.4 indicates.

What table 5.5 also shows is a frequent enactment of a bureaucratic-legalistic logic. For example, the public board meetings are so frequent that they have four topics of their own. The topics are close to each other at the bottom-left quadrant of Figure 5.3. Those topics are focused on procedures and accountability, and not on efficiency. Indeed, the board meetings are defined by the agency as "solemn sessions of the decision-making process", a process where "the interests of the electric sector and consumers are discussed"⁴. It is open to the public and transmitted live on the ANEEL's Portal. Another important bureaucratic topic is about the public hearings. Public hearings are a form of consultation with the civil society that precedes the issuance of every administrative act. It encompasses two of the board meeting topics and it is very close to the other two. Its vocabulary is extremely procedural, comprising words like protocol, procedures, proposal, interested parts.

⁴See <http://www.aneel.gov.br/reunioes-publicas-da-diretoria>

Two topics were labeled as bureaucratic-legalistic for representing "subsidiary policy". Subsidiary or secondary policies refer to policies that regulators have to make in order to fulfill the law and implement their responsibilities (Brown et al., 2006). The first topic is DUP. DUP are the declarations of public utility - the rules for land expropriation and administrative easement that regulator must design in order to promote competition, i.e, in order to make concessions feasible. In Brazil, about 61% of all the energy generated comes from hydroelectric power stations^{||}. It is estimated that more than 34,000 square kilometers of land had been flooded for the formation of reservoirs, and about 200,000 families have been compulsorily displaced, all of them riverside populations directly affected (Bermann, 2007). This topic is located in the upper-right quadrant, between bureaucratic and pro-competition topics (to transmission concessions and tariff revision, respectively), as expected.

The second topic is about street lighting. It refers to the rules for the transfer of street lighting assets to the municipalities that ANEEL had to establish to comply with the Brazilian law. According to the Federal Constitution, street lighting is a responsibility of the municipalities. Because this activity is necessary for the agency to carry out its duties (in this case, delimit its sphere of activity) and it is not part of its primary policy (it is not part of the Law that created the agency, but the Federal Constitution) we labeled it as make rules/secondary policy.

Figure 5.4 exhibits the most frequent bigrams (freq>350) from Aneel's regulatory vocabulary. Those include both *what* the agency does - tariff revision, tariff readjustment, commercial operations, factor x, and so on, and *how* it does it - public hearings, public meetings, general protocol, official gazette, and so on. Aneel is far more bureaucratic than Ancine. Not only is the bureaucratic logic more important in its corpus, but even the regulatory vocabulary is more permeated by procedures and rules.

^{||}Data available at <http://www2.aneel.gov.br/aplicacoes/capacidadebrasil/capacidadebrasil.cfm>

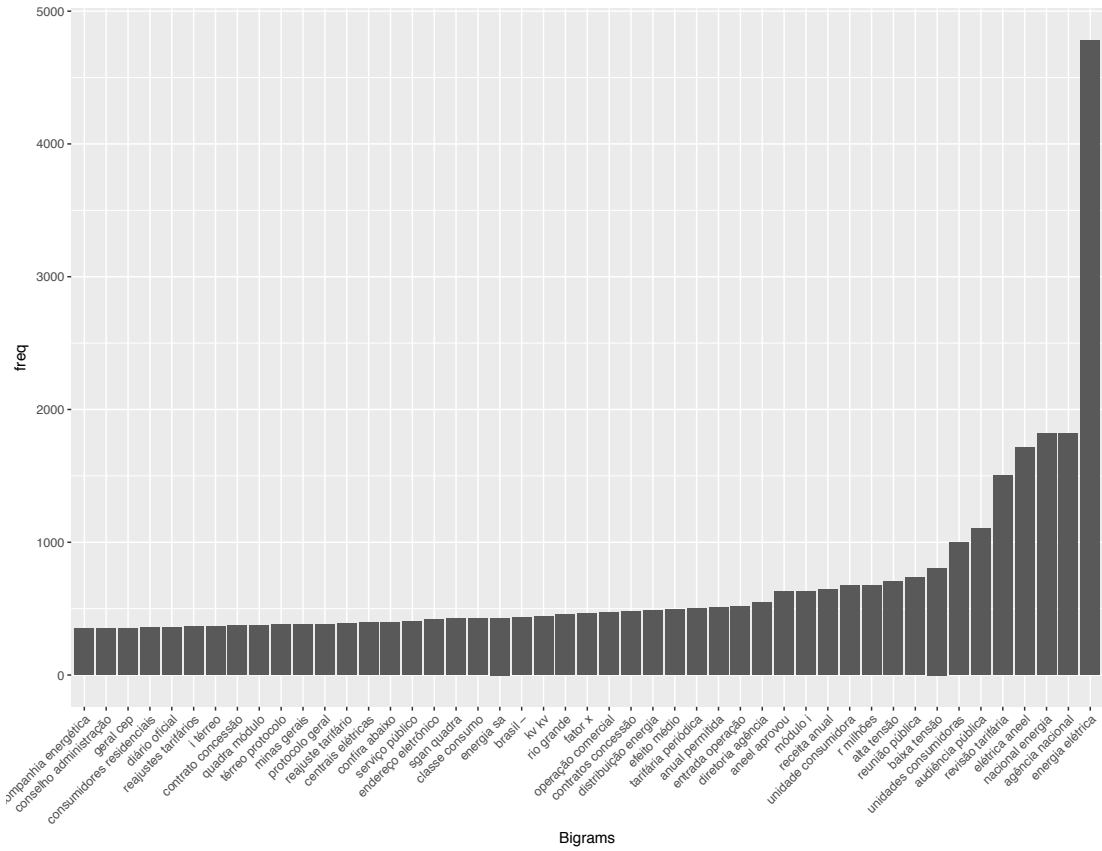


Figure 5.4: Aneel's Regulatory Vocabulary: Most Frequent Bigrams

5.3 REGULATING FOR WHAT? THE CASE OF ANP

ANP's results differ in one important aspect with respect to Ancine and Aneel's results. In the case of ANP, the regulatory, the social and developmental logics are mixed. Table 5.6 contains the topics, their descriptions and the logics related.

Table 5.6: State Logics at ANP

Topic	ANP's polices and activities	Description	Logic	Why
7	BDEP	Exploration and Production Database (BDEP) is a massive collection with geophysical, geological and geochemical records	Bureaucratic-legalistic	Obtaining information
5	Biofuels auctions + social fuel stamp	The suppliers of biofuels need to hold a social fuel stamp in order to participate in the public auctions. The stamp is given to producers that promote the social inclusion of family farmers.	Regulatory + Social	Promote competition with social inclusion
8	Inspection of bottled gas	Supervision of the distribution, resale and quality of bottled gas (LPG) marketed in Brazil	Bureaucratic-legalistic	Set standards and Enforcement
11, 18, 21	Institucional	Participation in events, announcements and other public appearances of board members'	Bureaucratic-legalistic	Gather support for the organization and promote accountability
1, 3, 14	Operational safety	Set of practices, procedures, equipment and management systems for establishing safety barriers within oil and gas exploration and production	Bureaucratic-legalistic	Set standards and Enforcement
2, 4, 16, 23, 26	Inspection of gas stations	Specification and inspection of the quality of the products offered at gas stations	Bureaucratic-legalistic	Set standards and Enforcement
9	Quality monitoring	Specification and inspection of the quality of the regulated products (biofuels, gas, oil and ethanol)	Social	Consumer protection
12,13,20, 25	Bidding rounds	Bidding Round of Blocks for Exploration and Production of Oil and Natural Gas	Regulatory	Promote competition
22	Human resources training program	Program to support the development of skilled labor for the industry	Developmental	Human capital investments
24	Pre-salt exploitation	Production sharing regime for the pre-salt area	Regulatory + Developmental	Promote competition with market reservation
29	Price survey	Weekly price monitoring of the following products: gasoline, hydrous ethanol, non-additive diesel, S-10 diesel, natural gas and liquefied petroleum gas (LPG)	Regulatory	Preventing anti-competitive practices
15, 27	Market data	Communication of market evolution	Regulatory	Performance monitoring
28	Local content	Local content requirements that bidders have to comply with in order to win a bid	Developmental	Market reservation scheme
10	Public exams	Meritocratic recruitment for entering in the public service	Bureaucratic-legalistic	Meritocratic recruitment

In the case of ANP, two topics are composed by social and regulatory, and regulatory and developmental elements, respectively. Empirically, this means that we have in the same topic two policies with distinct orientations, which is the case of the pre-salt production-sharing regime and the social stamp policy, which are embedded in a regulatory mechanism - the bidding rounds and public auctions. These instruments are designed to promote competition. However, in the first case competition is affected by imposing a restriction to foreign capital and the other by requiring a social stamp to participate in the auction.

The social stamp is given to producers that promote the social inclusion of family farmers. The social stamps are so important that the last three biodiesel auctions news all start informing the percentage of the total volume that are from producers holding it. Tables 5.7 presents the first line of each of those news.

Table 5.7: Press Releases from Biodiesel Auctions

Auctions 52nd, 51st and 50th

52nd Biodiesel auction

”No 52º Leilão de Biodiesel da ANP, foram arrematados 545,7 milhões de litros de biodiesel, sendo 99,9% deste volume oriundo de produtores detentores do selo Combustível Social”.

Free translation: ”At the 52nd ANP Biodiesel Auction, 545.7 million liters of biodiesel were sold, 99.9% of which came from producers holding the Social Fuel Stamp”.

51st Biodiesel auction

No 51º Leilão de Biodiesel da ANP foram arrematados 636,3 milhões de litros de biodiesel, sendo 100% deste volume oriundo de produtores detentores do selo Combustível Social.

Free Translation: At the 51st ANP Biodiesel Auction, 636.3 million liters of biodiesel were sold, 100% of this volume coming from producers holding the Combustível Social Stamp.

50th Biodiesel auction

No 50º Leilão de Biodiesel da ANP foram arrematados 674,4 milhões de litros de biodiesel, sendo 100% deste volume oriundo de produtores detentores do selo Combustível Social.

Free Translation: At the 50th ANP Biodiesel Auction, 674.4 million liters of biodiesel were purchased, 100% of this volume coming from producers holding the Social Fuel Stamp.

The pre-salt exploration topic was the only developmental labeled as hybrid. The state-controlled

national oil company, Petrobras, announced in 2007 the discovery of oil in the pre-salt layer. Pre-salt is the layer underneath the salt, at depths of up to 7,000 meters from the water line. It is estimated that the pre-salt had an area of 112 thousand of square kilometers. That was the most important discovery of the national oil industry so far and one of the most important recent discoveries of oil in the world. The area produces about 500,000-barrel-per-day of oil with only 25 producing wells, accounting for 22% of Petrobras' production in Brazil**.

Naturally, the oil discovery was extensively explored by politicians. The pre-salt area was considered a "gift from God", and, as such, the wealth it generates should go to the "people's hand"^{††}. The idea that the pre-salt should help the country in solving its social debt culminated with a big change in the regulatory framework of the sector, the creation of a new state-owned company, PPSA, and the Social Fund.

The new regulatory framework was approved at the end of 2010, and established Petrobras, the state-controlled company, as the carrier of all contracted blocks, with a minimal share of 30% in the consortium. While the new regime, the Petrobras's quota and the Social Fund are indicative of a developmental logic, there was still a regulatory logic in this policy, since there was still private investments to attract via bidding rounds. Indeed, the results from the 1st - and so far, the only one - bidding round of the production-sharing regime is displayed emphasizing the government share of profit (see Figure 5.5 for an illustration).

As Figure 5.5 indicates, a law project was recently approved in the Chamber of Deputies^{‡‡} to withdraw the requirement of Petrobras as the carrier, freeing the state-controlled company to make its own investment decisions.

Despite not being labeled as such, all ANP's bidding rounds after 2003 could be seen as "regulatory-

** See <http://www.petrobras.com/en/magazine/post/pre-salt-output-sets-a-new-record-and-surpasses-the-barrier-of-500-000-barrels-of-oil-per-day.htm>

†† Quotes from President Lula, available at: <http://economia.estadao.com.br/noticias/geral,pre-sal-e-dadiva-de-deus-mas-pode-virar-maldicao-diz-lula,427501>

‡‡ Project n. 4567/2016 was transformed into the Ordinary Law n. 13.365/2016

Company Name	Participation (%)	Government Share of Profit Oil (%)
Petróleo Brasileiro S.A.	10,00	41,65
Shell Brasil Petróleo Ltda.	20,00	
Total S.A.	20,00	
CNPC International Ltd	10,00	
CNOOC International Limited	10,00	

Figure 5.5: Pre-Salt Bidding Round: Result

developmental” because of the local content requirements. Local content policies are understood as part of a broader category of policy interventions, called productive development policies or industrial policies (Tordo, Warner, Manzano, & Anouti, 2013). One interesting aspect is that the local content policy was introduced by the regulatory agency in the first Brazilian round in 1999. At that moment, the tender protocol aim to stimulate the acquisition of goods and services in the country, requiring the concessionaire to give opportunity for local suppliers. This opportunity, however, became compulsory in 2003 and stricter in 2007. As is the case of the new regulatory regime of the pre-salt area, the local content policy has been attacked in many fronts. Prieto (2014) for example, had shown that in scenarios of noncompliance, overrun costs or delays related to the local content compromises, the investments have a significant chance of having a negative present value. Simplifying, this means that the core goals of the regulatory policy of bidding rounds - to attract investment - can be undermined by the local content requirements. Because local content has a topic of its own (as well as a coordinating department at ANP), these policies were labeled as purely regulatory for now.

Figure 5.6 exhibits the most frequent bigrams from ANP’s regulatory vocabulary. In this agency, regulation is translated via bidding rounds, exploration and production, signature bonus, exploration phase, development phase, and so on. Even though many of those bigrams regard the upstream activities, there are some mentions to downstream as well, like resellers, fuel quality and diesel oil. ANP’s pro-competition activities are not exclusive directed at the upstream, the fuel price

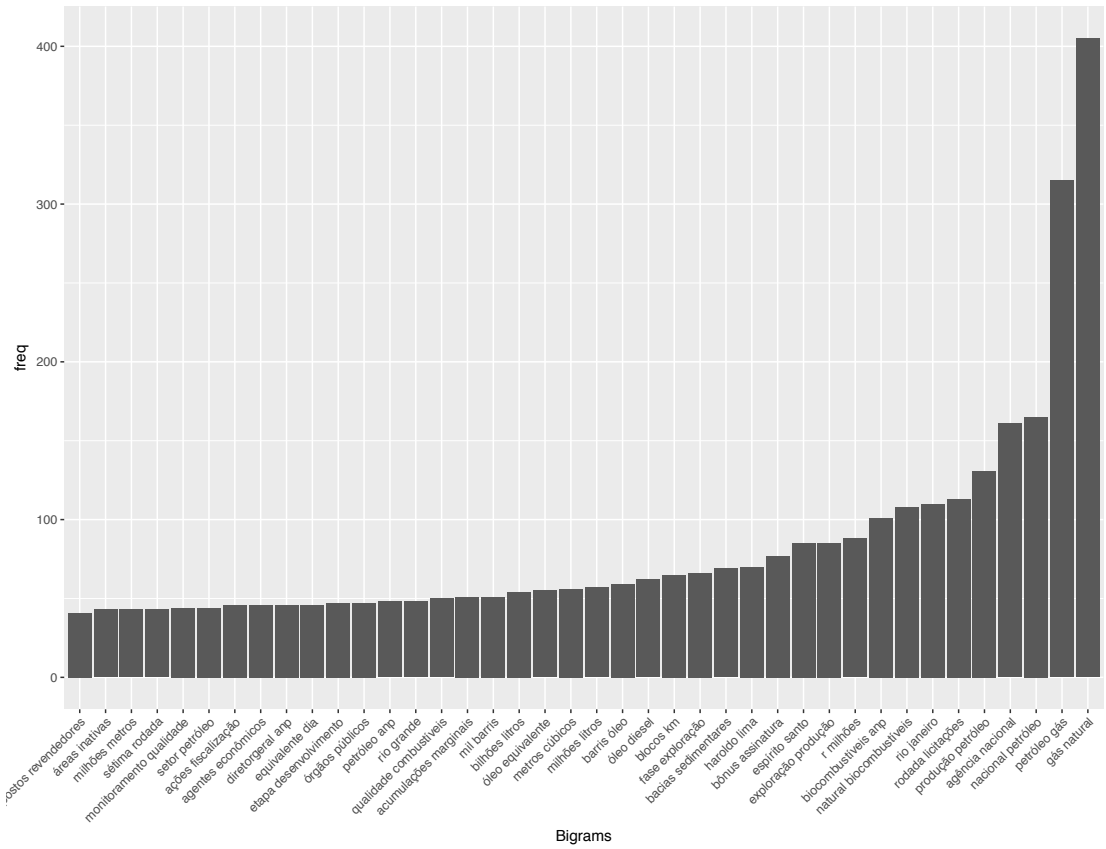


Figure 5.6: ANP's Regulatory Logic: Most Frequent Bigrams

surveys are an important activity related to the prevention of anticompetitive practices like cartel.

Figure 5.7 shows the relationship between ANP's topics. All topics about the bidding rounds are located at the bottom-right quadrant. In fact, quadrants at the bottom are separated according to segments of the productive chain: upstream and downstream. In brief, upstream refer to the activities of exploration and production and downstream to the distribution and resale of fuels. The two topics with a social logic are close to each other (topics 3 and 13, about social stamp and public auction and quality monitoring, respectively). Topic 3, the hybrid social+welfare, is between the regulatory topics (bidding rounds) and the bureaucratic topics (enforcement). This is due to the fact that it mixes the vocabulary of bidding rounds (with words like producers, offers, sold), of fuel inspection (fuels, addition, price, mixture, diesel). It is noteworthy that ANP considers its inspection activities as pro-consumer: *"The inspection of liquid fuels is, together with quality monitoring, an essential tool of ANP for the defense of consumer rights. The two areas act in synergy."*

Table 5.8 displays the sum of the mean \mathcal{D} of each logic. ANP's regulatory logic lost importance since 2001, giving space for both bureaucratic and hybrid logics. The role of those logics will be discussed in the next chapter. For now, what is possible to observe is that, while Ancine and Aneel have a dominant and more solid enactment of logics, ANP's role is still undefined.

^{‡‡} Available at: <http://www.anp.gov.br/site/extras/defesaConsumidor/fiscalizacao.asp>

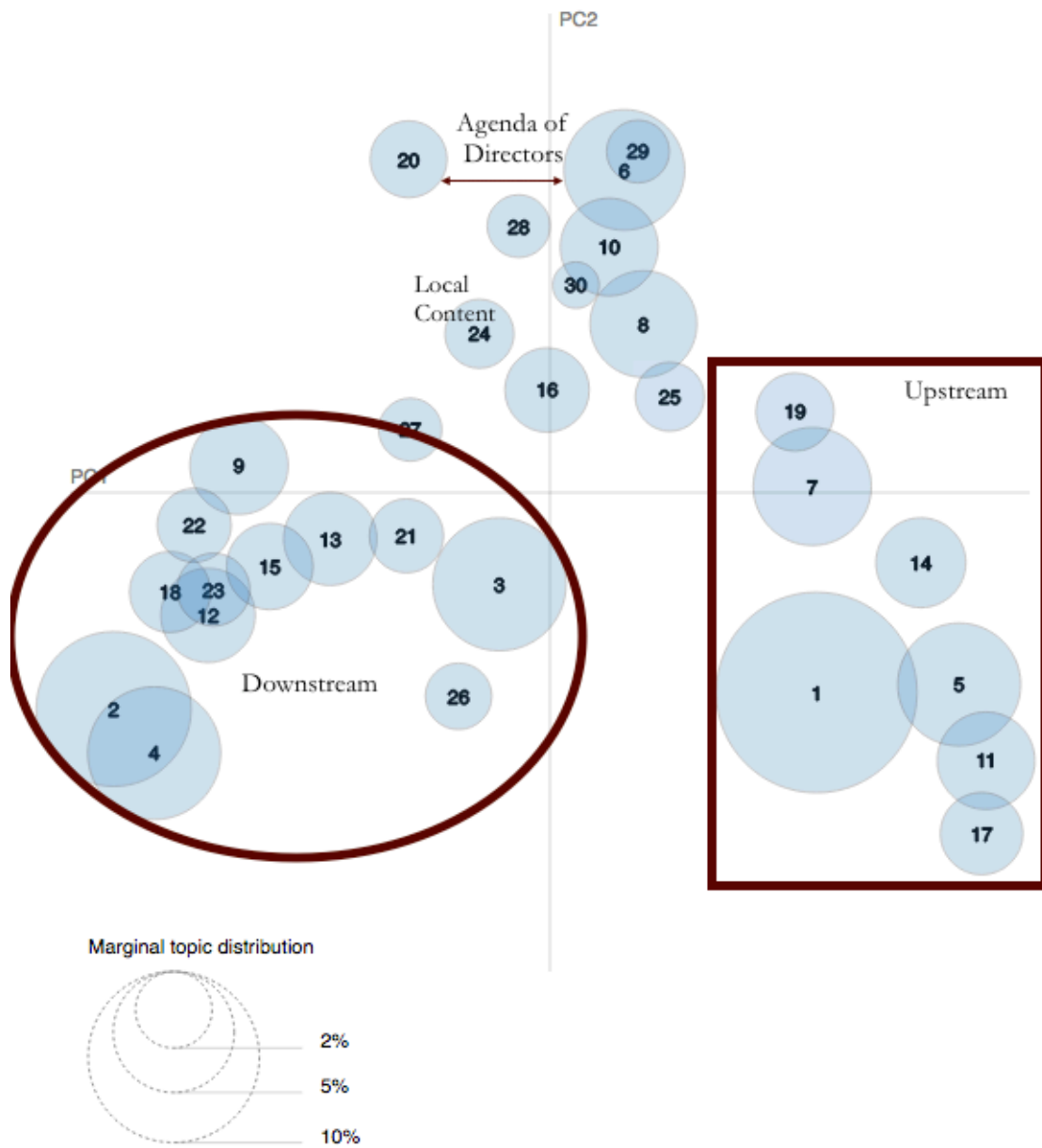


Figure 5.7: ANP: Inter-topic Relationship

Table 5.8: State Logics enacted by ANP

Year	Regulatory	Bureaucratic	Developmental	Social	Hybrid
2002	50.22%	43.33%	2.36%	0.24%	1.01%
2003	57.99%	38.74%	0.41%	1.38%	0.48%
2004	42.73%	40.36%	11.96%	0.68%	1.21%
2005	50.31%	40.81%	4.91%	0.77%	0.90%
2006	47.85%	38.20%	4.99%	0.60%	6.56%
2007	34.42%	45.02%	4.48%	4.22%	10.32%
2008	28.24%	50.40%	4.56%	6.06%	7.75%
2009	24.15%	52.96%	5.79%	0.11%	12.02%
2010	9.58%	65.31%	6.99%	4.98%	12.22%
2011	11.95%	64.98%	4.33%	3.34%	14.00%
2012	37.33%	49.87%	4.81%	2.85%	3.68%
2013	29.87%	54.70%	5.93%	5.32%	1.78%
2014	37.48%	31.70%	5.44%	7.04%	9.31%
2015	33.67%	40.13%	6.43%	0.09%	18.81%
2016	29.62%	56.53%	2.08%	0.18%	6.23%
Average	35.03%	47.54%	5.03%	2.52%	7.09%

6

The Bureaucratic Logic and the Variety of Regulatory Practices

The previous chapter discussed the pattern of activities of three Brazilian federal regulatory agencies. Its goal was to answer my research question: what are the logics that public organizations enact in their daily activities? Logics are "stable constellations of practices", so those analyses only captured patterns of activities and how they are enacted.

As this research was focused on a substantive dimension of the State - in *what* is done, more than *how* it is done - many bureaucratic values were collapsed in the same "bureaucratic-legalistic" logic. However, the results from the three agencies showed that :

1. The bureaucratic-legalistic logic is enacted in very different ways by the three agencies;
2. This logic is the second most important for two agencies, and the most important for one of them;
3. As such, whenever the substantive logic decreases, the bureaucratic logic increases, and vice-versa.

Before analyzing the data, I expected that the bureaucratic logic would permeate the "capitalist" logics, i.e., the set of practices regarding the substantive role of the State. Regardless of the policy, and the organization that was designing and implementing it, a bureaucratic component would always be present. What I did not expect was that bureaucracy would be a logic in its own matter.

In the first years of Ancine's data, most of the policies/activities reported followed a bureaucratic logic. This changed dramatically in the last years of the data. ANP, on the contrary, enacted mainly a regulatory logic in the first years, and a bureaucratic-legalistic in the last years of the data. Although Aneel enacted mainly a regulatory logic in all periods, its bureaucratic logic is enacted more frequently, and its vocabulary is more pervaded by bureaucratic procedures than the other agencies. This chapter explores the bureaucratic logic, investigating how and why it interacts with the capitalist logics about the role of the state.

The central argument that will be developed is that the bureaucratic logic plays a key but distinct role in each agency, as it indicates what the agency does whenever is not focusing on its substantive mission. Bureaucratic practices, therefore, have a paramount importance in the capacity of discre-

Table 6.1: IRA's Mission Statements

IRA	Mission Statement
Ancine	Develop and regulate the audiovisual industry for the benefit of the Brazilian society
Aneel	Provide favorable conditions for the electric power market to develop with a balance between the agents and for the benefit of society
ANP	Regulate the economic activity of the industries of oil, gas, its derivatives and biofuels, in a transparent and effective way, promoting the public interest and attracting investments for the development of the country

Source: Ancine, Aneel and ANP's websites

tionary action of Brazilian IRAs. In scenarios of crisis, regulatory agencies creatively frame such practices according to their perceived needs.

Their substantive mission is not the list of all the responsibilities attributed to the agency by law, but it is how the agency sees defines itself. For simplicity's sake^{*}, I'll assume that IRA's mission statements reflect its core attributes, their *raison d'être*. IRA's substantive missions can be found in table 6.1.

All three agencies mention as their final goal to benefit Brazilian society or, alternatively, to promote the public interest. Ancine and Aneel mention the development of the industry - but in different ways. Ancine's mission is to develop the industry and Aneel is to provide the conditions for the market to develop by itself. ANP goes a little further, including the development of the country. However, like Aneel, this relationship is an indirect one: ANP mission is to attract investments, and those investments will, in turn, help developing the country. As seen in the last chapter, Ancine is the agency whose practices are most aligned with its mission, followed by Aneel and ANP.

The misalignment of agencies' missions and their practices require justification: that is the key role of the bureaucratic logic. Ancine's bureaucratic practices were fundamental to justify its status

^{*}This is not an unrealistic assumption. Ancine, for example, understands its mission statement as a "declaration of broad and lasting purpose,[...] implying an understanding of the organization's role in the face of reality, indicating its nature, its reason for existing.

as an independent regulatory agency whose mission is to develop the industry. ANP's bureaucratic practices replaced its substantive mission of attracting investments when the agency was not able to perform it, providing the agency a new sense of mission related to consumer protection. Lastly, Aneel's bureaucratic practices can be seen as blame-avoidance mechanisms, where the agency abstain from manifesting itself in order to avoid blame for potentially harmful actions.

6.1 UNTANGLING THE BUREAUCRATIC LOGIC

The bureaucratic logic varies between agencies and within the same agency over time. This logic mixed different sets of practices, which were kept together while the focus was on the substantive dimension of the State: the enacted values about the role of the state. This section will untangle the bureaucratic logic in order to explore what it means for the different agencies and why it varies across agency and over time.

Table 6.2: Bureaucratic Practices across Agencies

Practices/Activities	Ancine	Aneel	ANP
Inspection	X	X	X
Standards setting	X	X	X
Organizational publicity	X	X	X
Adoption of procedures	-	X	-
Make rules/subsidiary policy	-	X	-
Meritocratic recruitment	-	X	X
Public Participation	-	X	-
Obtaining information	-	-	X

Table 6.2 displays the bureaucratic practices/activities across the three agencies. Three of them are common to all the agencies under study: inspection, standard setting and organizational publicity. These are different practices/activities, and, therefore, it is not surprising that there is no coherent cluster of bureaucratic topics in any of the agencies. The first two, inspection and standards setting, are associated with the State's police power.

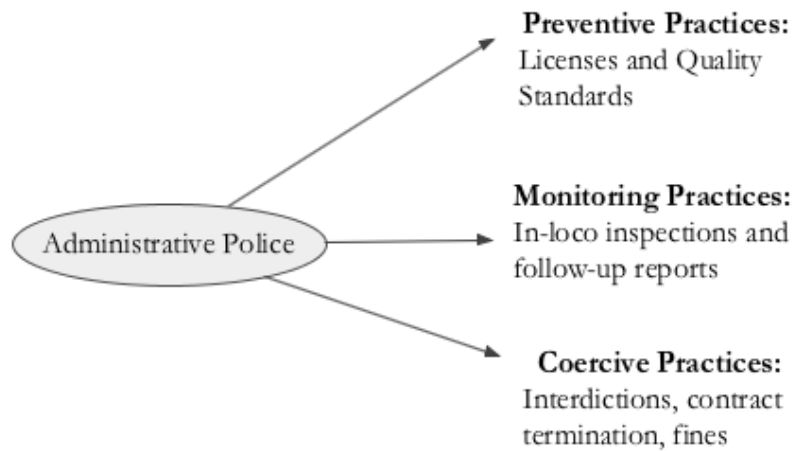


Figure 6.1: Bureaucratic Practices of Administrative Police

Figure 6.1 shows the main bureaucratic practices of administrative police conducted by IRAs in Brazil. This type of bureaucratic practice is considered an "administrative police" practice because it aims to (i) limit the possibilities of free action of individuals and organizations via preventive acts (like licenses for operating), (ii) supervise them via inspection acts and (iii) penalize the infractions via coercive acts (like fines and interdictions) (Mello, 2006). The goal of the "administrative police" is the dispatch of legal provisions that authorize, prohibit, prevent and sanction the practice of certain activities by individuals and organizations (Mello, 2006).

The latter, organizational publicity, is undefined: it could be used as a strategy to gather support for the organization, by convincing its different stakeholders of the importance of their existence. At the same time, it could be used to promote accountability. Regulatory agencies are non-elected and non-representative bodies that exert a specific type of political power and are often criticized for their democratic deficit (Maggetti, 2010). Therefore, one way of increasing accountability may be via public appearances of the board members in events and via public statements about the actions of

the agency.

6.2 AN IRA FOR THE FILM INDUSTRY? ADMINISTRATIVE POLICE AS REGULATION AND ANCINE'S SURPRISING SUCCESS

There are ten independent regulatory agencies in Brazil. Ancine is the most peculiar of them all. As such, it was considered an unduly extension of the IRA model by many Brazilian experts (Fornazari, 2006; Pacheco, 2004; Salgado, 2003). Differently from the other federal IRAs, Ancine was created almost ten years after the extinction of the three central public organizations of this economic sector: (i) Embrafilme, the state-owned company; (ii) Concine, the National Film Council; and (iii) Brazilian Film Foundation, which conducted part of Embrafilme's activities of festivals' promotion and prizes granting. Accordingly, Ancine was created as a broad bureaucratic body that could articulate the functions performed by previous organizations, with a systemic view of the audiovisual industry (Dahl, 2006). What was lacking in this economic sector was a systemic and permanent policy for developing the film industry (CBC, 2011).

The initial instability of Ancine is best illustrated by two examples. First, it is the only agency created by Provisional Measure (PM), a legal entity that allows the president to legislate and establish a new status quo. In Brazil, provisional measures are among the powerful instruments the Executive has to control the agenda of the Legislative power (C. Pereira & Mueller, 2000). Second, the agency was supposed to regulate the audiovisual sector in its entirety. Ancine's (National Agency of Cinema) name was actually Ancinav (National Agency for the Audiovisual) until 7 (seven) days before the promulgation of the PM 2228/2001. In an episode known as the "Night of the Delete" †, "someone" would have descended from a helicopter and spoken directly with Fernando Henrique Cardoso, the Brazilian President at that time, making Pedro Parente, one of his most important

†This episode was also narrated by one of the interviewees who, however, emphasized that it was a small plane, and not a helicopter.

Ministers, himself to "delete" everything in the PM that referred to television (CBC, 2011).

Therefore, Ancine's first years were marked by the necessity of building and legitimating an unique organization: an IRA for developing the film industry. Different from other IRAs that were created in newly privatized sectors, Ancine did not have any concession lease to design or manage, nor tariffs to regulate. Ancine is best explained as resulting from the pressures of the industry for an organization to conduct and coordinate the sectorial policy. Mimetic isomorphism is what explains the choice for the IRA model: when Ancine was created, 26 IRAs have already been established at the federal, state and municipal levels (Holperin, 2012). In legal terms, however, Ancine is just like any other IRA. It is subject to the same rules, it participates in same events, its civil servants and top-managers enjoy the same benefits from other IRAs.

So, if Ancine was not created as a classic regulatory agency and, because of that, had its status contested in its initial years, how did it manage to thrive as a developmental agency? The argument that will be developed next is that the bureaucratic logic played a fundamental role in this process. Ancine's ability to frame its practices of administrative police as regulation approximate it from other IRAs and helped in legitimating both its status as an IRA, and the consolidation of a developmental logic in the Brazil post-Reform.

6.2.1 ANCINE'S BUREAUCRATIC PRACTICES

Ancine's bureaucratic practices focus on preventive and coercive activities. Its coercive acts refer to the irregularities involving the license obtainment (registration of works), the screen quotas, the payment of a mandatory contribution over, among others, the commercialization of cinematographic and videophonographic works within Brazil and the sending of information required by Ancine. Its preventive activities refer to the mandatory registration for any publicitary work conveyed in Brazil.

In the case of Ancine, which lacks a regulatory logic, it is the inspection and the standards setting practices that justify its status as a regulatory agency. These set of activities approximate An-

ciné from other IRAs and legitimate its institutional design. As Ancine's first president Gustavo Dahl highlighted, what characterized Ancine as a regulatory agency was mainly the supervision and scrutiny of the registration, control and inspection activities (Dahl, 2006).

Regulation, in fact, is not an important part of the agency's vocabulary: from the ninety top words distributed among the thirty topics, regulation appears only one time. Support and development, on the other hand, appear 5 and 7 times, respectively. Also, regulation only appears 287 times in the whole corpus, from a total of 738,398 words (about 0.04% of total). In contrast, support, development and promotion appear 3,215, 2,147 and 766 times, respectively (about 0.44%, 0.29% and 0.10% of the total).

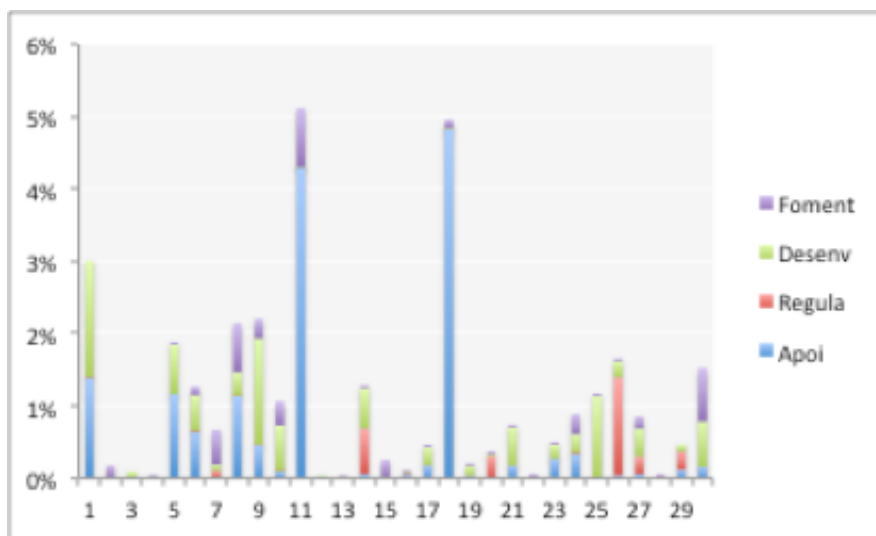


Figure 6.2: Promotion, Development, Regulation and Support: probabilities across topics

Figure 6.2 compares the use of the words promotion, development, regulation and support (words' stem) across topics. As the graphic shows, regulation is far more important to the topic about the registration of advertising works (i.e., a preventive practice of administrative police) than it is to the topic about the regulatory framework (Law N.12.845/2011). One of the interviewees also mentioned that registration of works is the main regulatory activity of the agency. This reinforces

the argument that Ancine understands regulation in a procedural sense.

That is the core argument of this section: to overcome all the questioning involving its existence as an IRA, Ancine re-framed its bureaucratic practices of administrative police as *regulation*. Once its developmental role was consolidated, the bureaucratic logic lost importance when compared to the developmental logic.

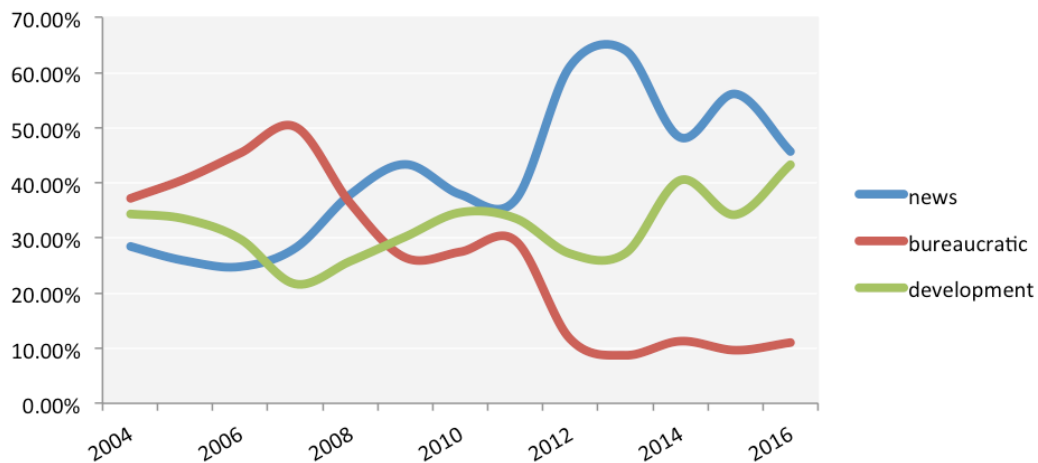


Figure 6.3: Logics in Time

Figure 6.3 shows the evolution of the logics enacted by Ancine. The bureaucratic logic was far more important during Ancine's first years. Once Ancine consolidated its developmental role, the bureaucratic logic lost importance in its official discourse. An alternative way to put this argument is that *the more the agency's practices and activities are aligned with their mission, the less the agency needs to resort to a bureaucratic logic*.

Figure 6.4 shows Ancine's bureaucratic practices and the change in their prevalence from the first to the last three years of the data.

As Figure 6.4 shows, all bureaucratic topics have lost importance over time. The most emphasized bureaucratic activity during Ancine's first years were the registrations of works (licenses), fol-

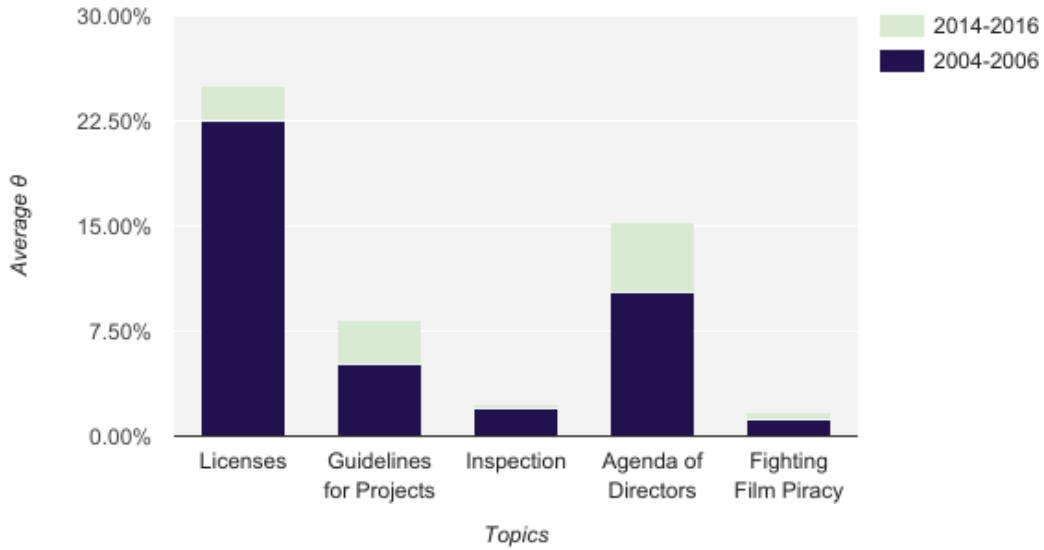


Figure 6.4: Ancine’s Bureaucratic Practices: First and Last Three Years

lowed by organizational publicity (agenda of directors).

It is important to stress that the fall in the bureaucratic logic does not mean that Ancine stopped or decreased its bureaucratic practices. On the contrary, the financial resources that come from fines and refund kept growing since 2009, as figure 6.5 shows. What it means is that *the bureaucratic logic lost importance when compared to the developmental logic*. As Ancine consolidated its developmental role, the set of practices related to its mission predominated over others.

Figure 6.5 shows the evolution of Ancine’s budget from 2009 to 2016. As it displays, the fines and refund derived from the inspection activities represent the the majority of the agency’s revenue. It is important to stress that Condecine’s resources enter as revenue in the Sectorial Fund budget, and not in Ancine’s budget. If they did, fines would not represent 86% of budget in 2016, but 0.21%, as the total revenue would go from about 3 million of reais to 2.1 billion.

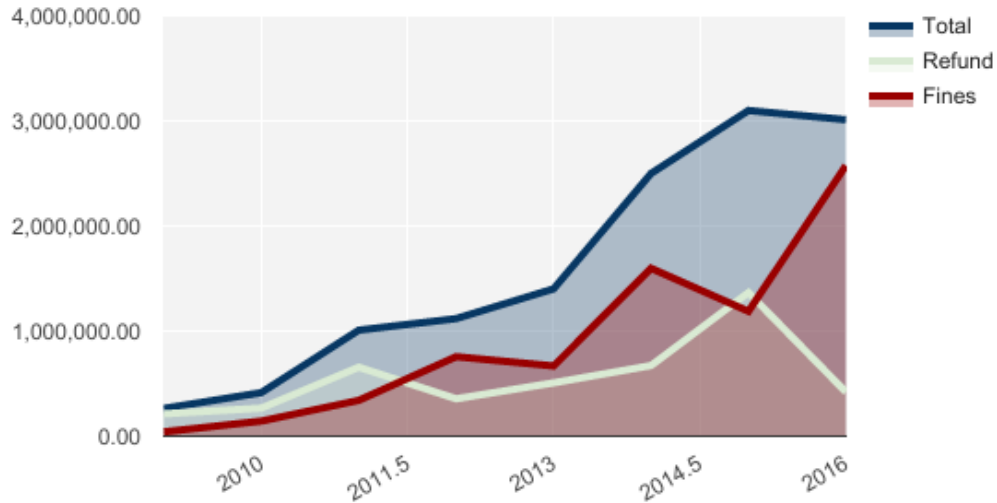


Figure 6.5: Ancine's Budget

In the case of Ancine, enforcement activities were fundamental in the first years of the agency. Ancine did not have enough resources for internal management and for carrying out its mission of developing the industry. This scenario changed with the creation of the sectorial fund, and specially with the approval of federal law N° 12.485/2011. Once Ancine was able to perform its mission - "to develop and regulate the industry" - the inspection activities lost relative importance.

Figure 6.6 shows the evolution of Condecine's revenue from 2009 to 2016. Condecine is the contribution for the development of the national movie industry and is the most significant source of resources of the Sectorial Fund. This graphic shows how the approval of the federal law n.12.485/2011 increased Ancine's capacity to carry out its mission of developing the sector: Condecine's revenues increased 1,596% from 2011 to 2012, i.e., the resources available in 2012 were about 17 times higher than the ones in 2011.

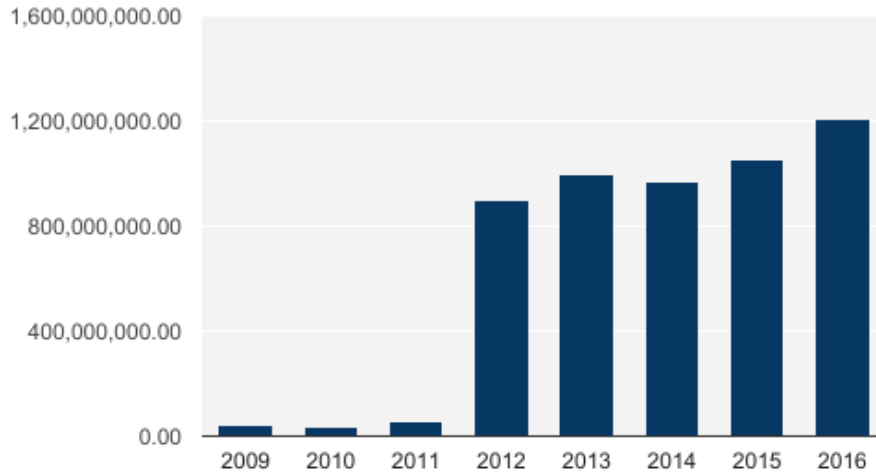


Figure 6.6: Developmental Mandatory Contribution: Evolution of Condecine's revenue

At the same time, Ancine's bureaucratic practices of administrative police are more procedural-oriented. Figure 6.7 displays the most frequent bigrams of Ancine's bureaucratic topics. In Ancine's bureaucratic vocabulary, greater emphasis is given to account reporting, infringement notice (initials *ai ai*), public consultation, normative instruction, superintendence of inspection, board of directors and cnpj process. As this suggests, the vocabulary of the bureaucratic practices of administrative police is permeated by procedures.

That was crucial for Ancine, because, in the lack of a pro-competition logic, it was procedural fairness that approximated it to other IRAs. At the same time, this logic was new in this industry. Ancine's first president declared that the sector reacted to the impersonal practices that were forcibly brought by the new organizational model (Dahl, 2006). In Ancine's case, the emphasis on activities that represented procedural fairness helped legitimating Ancine's status as a regulatory agency. By

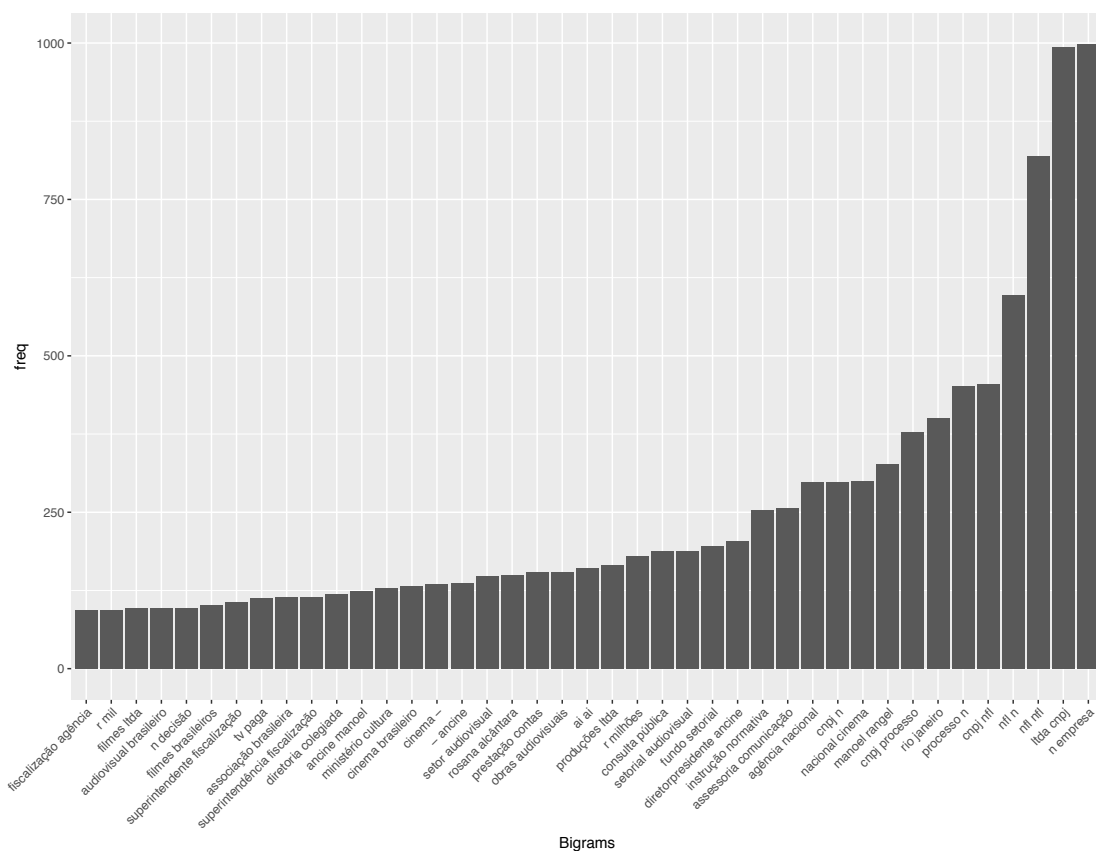


Figure 6.7: Ancine's Bureaucratic vocabulary: most frequent bigrams

doing so, made it possible the thrive of an unique organization: an independent regulatory agency to develop the film industry. Ancine consolidated many developmental policies with important results in the industry. As an illustration, in 2001, the year that Ancine was created , 21 national films were released (Michel & Avellar, 2014). In 2015, 129 movies were released, generating about 277 million of reais of revenue (Ancine, 2015). The cultural industry in Brazil is so strong that the current president, Michel Temer, transformed the Ministry of Culture into a Secretary in one day and had to recreate it seven days after, due to major protests.

6.3 ADMINISTRATIVE POLICE AS CONSUMER PROTECTION: ANP'S NEW SENSE OF MISSION IN A PERIOD OF CRISIS

Like Ancine, ANP's core bureaucratic practices are preventive and coercive activities of administrative police. Yet, those practices are more interwoven in ANP. Standard setting and inspection are blended in many topics. For example, the inspection activity regarding operational safety begins with the definition and with the monitoring of preventive indicators; in-loco inspections are conducted based on the information that ANP has about an installation. The difference is that standard setting practices in ANP regards mainly quality and safety standards, and in Ancine the procedures involved with license obtainment.

ANP is also the only among the three agencies where the most important topic is a bureaucratic-legalistic one. In fact, about 50% of all ANP's press releases represent the enactment of this logic. From those, about 37% refers to enforcement activities.

Figure 6.8 shows that, in the last three years of the data, inspection and standards setting activities grew in ANP. Gas station inspection are the most common coercive act. Operational safety and quality monitoring are the most common standard setting practices. Differently from Ancine, whose bureaucratic practices lost importance over time while its developmental role was being consolidated, ANP's regulatory role was put in jeopardy, and its bureaucratic practices gained predominance over others.

Figure 6.9 shows that, from 2002 to 2006, most of agencies activities were associated with a regulatory logic. From 2007 on, this scenario changed drastically, and the regulatory topics were reduced to about 10% of the press releases in 2010 and 2011.

ANP's main pro-competition policies are the bidding rounds of blocks for exploration and production of oil and natural gas. As Figure 6.10 indicates, no bidding round was conducted for five years - between 2009 and 2012, and in two years after that, 2014 and 2016. Bidding rounds were

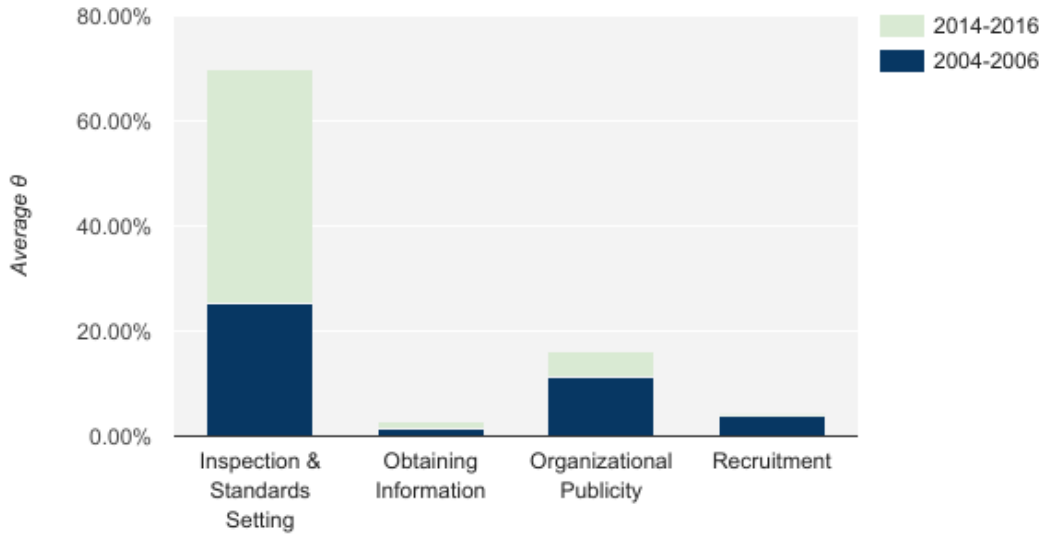


Figure 6.8: ANP's Bureaucratic Practices: First and Last Three Years

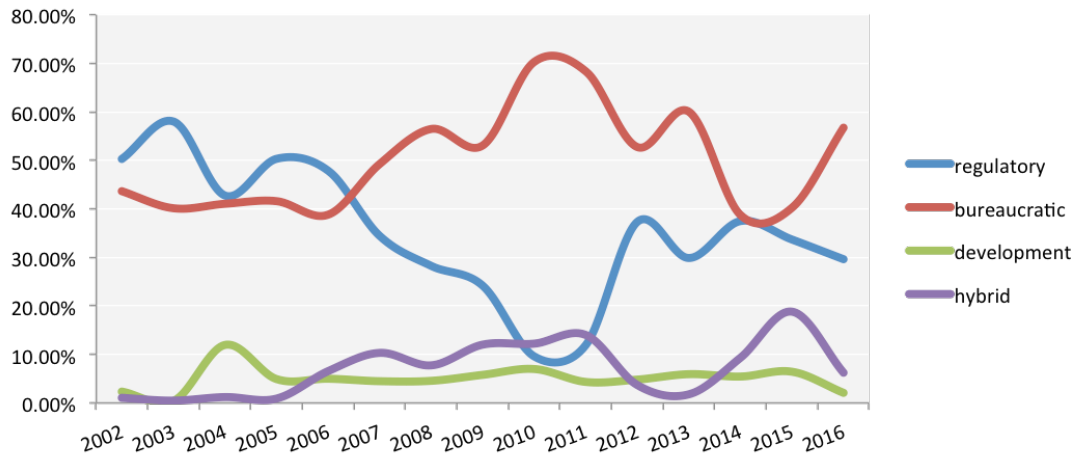


Figure 6.9: ANP: Logics in Time

conducted in a yearly basis from 1999 to 2008. ANP's lack of capacity to conduct its yearly bidding rounds directly hazarded its mission to "attract investments". A technical report from the Federa-

tion of the Industries of the State of Rio de Janeiro (Firjan) estimated that, for every year without a bidding round, the Brazilian industry "loses" about US\$11.5 billion in future demands (Firjan, 2015).

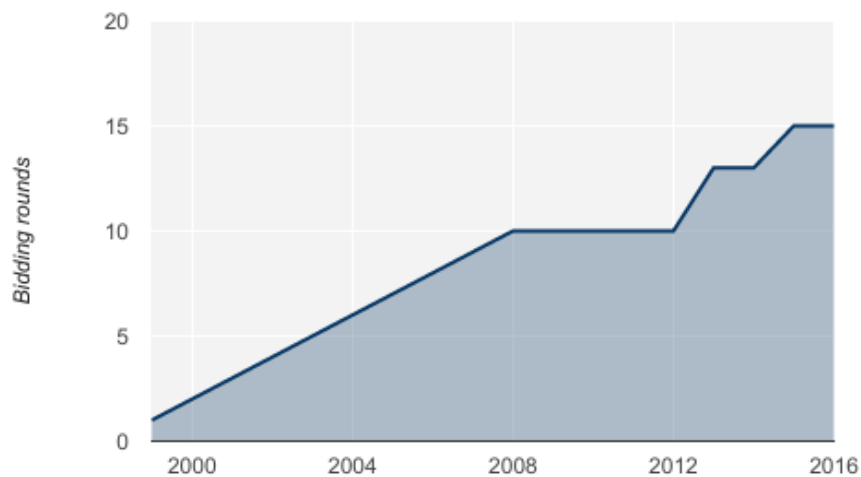


Figure 6.10: ANP's Regulatory Practices: Bidding Rounds conducted from 1999 to 2016

Additionally, ANP was having some judicial problems, which can be traced back at least to the 8th round, held in 2006[‡]. This round was suspended by a court injunction after receiving the first offers. Seven years later, in 2013, the board of directors finally canceled the the round, ordering the refund of all fees and bid warranties to the participants. In 2007, the National Council for Energy Policy (CNPE) withdrawn 41 blocks from round 9. Round 12th was also judicialized and the judiciary suspended the effects only in relation to the exploitation of shale gas, known as "shale gas" fracking mode (hydraulic fracturing) in the Sergipe-Alagoas basin. The last bidding round conducted by ANP only sold 14% of the offers. The main reasons were probably related to the absence

[‡]Bidding rounds can be assessed here: http://www.brasil-rounds.gov.br/index_e.asp

of Petrobras, due to the huge scandal involving the company[§], and the current prices of oil.

However, competition promotion is fundamental in this industry. ANP's creation was foreseen in the same Constitutional amendment that broke Petrobras's monopoly in the execution of the economic activities of the oil production chain. The goal was to attract investments for exploring Brazilian sedimentary basins and discovering new oil reserves that could bring the so-desired oil self-sufficiency. Once this scenario almost became true, ANP's regulatory logic decreased, and its inspection activities gained importance, as well as its hybrid policies. Indeed, ANP's bureaucratic practices of administrative police fulfilled the space left by its regulatory logic, giving a new sense of mission to ANP.

One of the events that account for the decrease in the regulatory logic at ANP is the regulatory change promoted by the Federal Law n.12.351/2010. As mentioned in the previous chapter, the major oil discovery in the pre-salt layer was extensively explored by politicians and it was supposed to solve Brazilian's social and economic problems. Because that represented a major regulatory change, all the bidding rounds were suspended. ANP stopped conducting the bidding rounds for 5 years, and have been conducted them irregularly since 2012. The first, and so far only, bidding round under the production sharing agreements regime received only offer. In the same year, another bidding round was conducted, but under a different regulatory regime. While the pre-salt bid had only one offer and no premium, the bid round under the old regulatory regime had 34 participants, 30 winners and a premium of about 800% over the minimum signature bonus determined by the government. A second evidence that the regulatory change of 2010 has weakened the agency's mission is that another regulatory change has been proposed and approved at the end of 2016. Project n. 4567/2016, transformed into Ordinary Law n. 13.365/2016, gave Petrobras the preemptive right - withdrawing the obligation - to participate as an operator and hold a minimum interest of 30% (thirty percent) in the consortiums formed for the exploration of blocks tendered under the production sharing regime.

[§]For brief information, see <https://www.ft.com/content/6e8boe28-f728-11e5-803c-d27c7117d132>

This means that instead of a mandatory quota, Petrobras now has an optional quota to participate in the pre-salt bidding rounds.

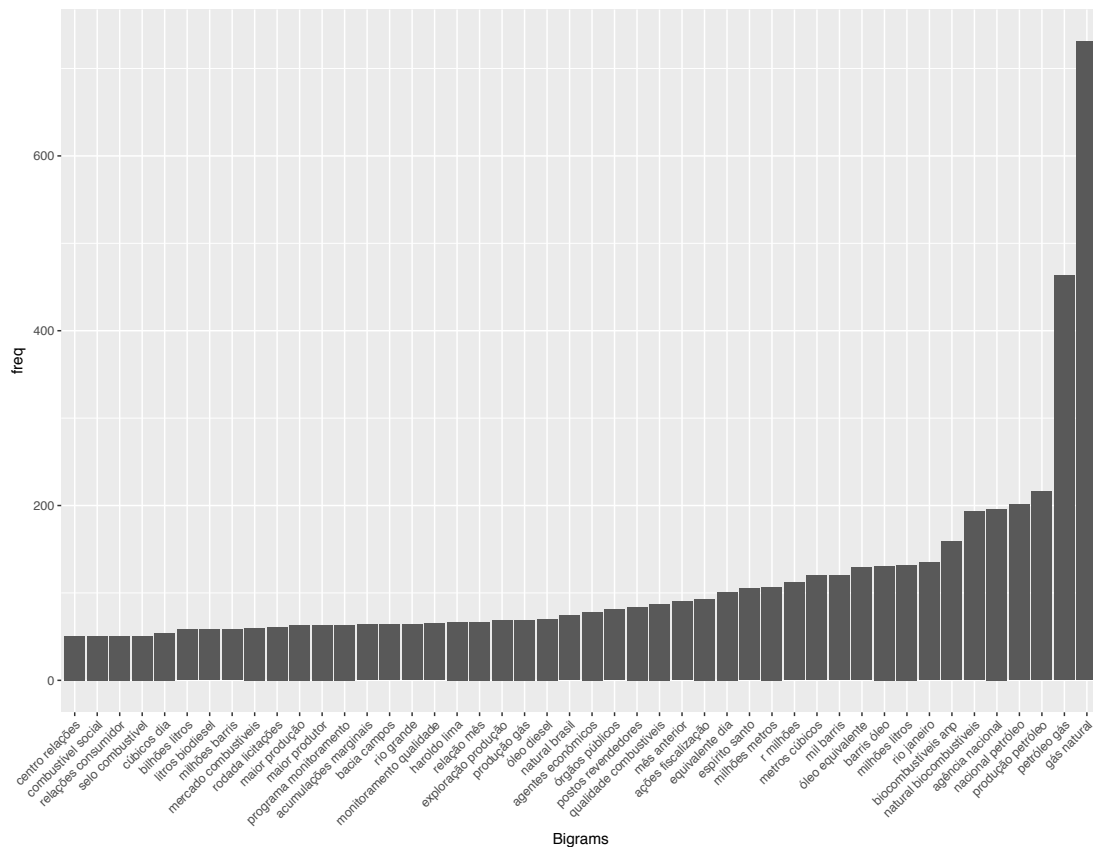


Figure 6.11: ANP's Bureaucratic vocabulary: most frequent bigrams

Figure 6.11 displays the most frequent bigrams of ANP's bureaucratic topics. Although ANP focuses on the same type of bureaucratic practices than Ancine, their vocabularies are very distinct. This difference does not only reflect sectorial specificities, but also the meaning of such practices for each agency.

ANP's vocabulary stresses inspection actions, fuel quality, quality monitoring and consumer relations. Legalistic procedures - like normative instructions and public consultation - are not among its most frequent tokens. At the same time, its enforcement practices are justified on different grounds:

the inspection of liquid fuels, together with quality monitoring, are an essential tool of ANP for the defense of consumer rights. Bureaucratic practices of administrative police do not emphasize procedural correctness, but consumer protection. The first president of this agency was emphatic in one interview in asserting that this should not be a function of ANP [¶]. Because the nature of those inspections, ANP has seven regional centers to help performing it. These are the agency's only decentralized activities.

Curiously, ANP currently presents itself as a "federal special autarchy that implements the national policy for the sector, with a focus on guaranteeing fuel supply and protecting consumers' interests" ^{||}. In ANP's case, the bureaucratic logic, translated as activities of administrative police, replaced ANP's pro-competition logic by giving the organization another *raison d'être*. In the absence of a substantive end, classic bureaucratic activities of preventive and coercive control are reframed to provide a new sense of mission to the organization.

While Ancine's policies thrived, ANP's are immersed in uncertainty and instability. Administrative police activities occupied the space left by regulatory practices when ANP stopped conducting its yearly bidding rounds, which are fundamental for its mission of "attract investments". Its case, however, is slightly different. The decrease of a regulatory logic was not only followed by an increase in bureaucratic logics, but also by an increase in what I called *hybrid logics*, i.e., sets of practices that embody distinct - and conflicting - values. Two practices were considered hybrid: the biofuels auction and the production-sharing agreements. Both have the goal to attract investments and promote social inclusion and development, at the same time. As these goals are often at odds with one another, the law that established the production-sharing agreements was recently amended, and the pre-salt area can have other operators than Petrobras, the state-controlled company. ANP's other developmental policy, the local content requirements, was also modified in 2017. Among its main

[¶]This interview was conducted by a member of another research group, about the oil and gas sector, and it was recorded and made available for all the research members of the group

^{||}Available at: <http://www.anp.gov.br/wwwanp/institucional>

criticism was its complexity and bureaucratization, as well as the enormous fines imposed by ANP for non-compliance (Almeida, Losekann, & Vitto, 2016).

6.4 DEMOCRACY OR PROCEDURAL RITUALS? THE ROLE OF BUREAUCRATIC PRACTICES IN ANEEL

Aneel's bureaucratic practices are more heterogeneous than the ones of Ancine and ANP. It involves adoption of procedures (3%), public participation (7,5%), enforcement (5,2%), making rules (subsidiary policies, 2,46%) and organizational publicity/support (7,9%). Enforcement involves monitoring and coercive acts, via the supervision of management activity that could jeopardize the economic and financial balance of the concessions, in-loco inspections, fines and even contract termination. The associated vocabulary involves injunction, judicial, control, process, penalty, interruption, noncompliance.

Figure 6.12 exhibits the most frequent bigrams from Aneel's bureaucratic vocabulary. The similarity between the most frequent terms of the regulatory and the bureaucratic vocabularies is striking. Public meetings, public hearings, general protocol, normative resolution, board of directors, agency address are among the most frequent bureaucratic as well as regulatory terms (See Figure 5.4 in chapter 5). ANP's regulatory and bureaucratic vocabularies are also very similar, specially because they mix upstream and downstream terms. In the case of Aneel, however, the similarity regards the procedures of the agency: address, protocol, meetings, hearings, board of directors, council of administration, among others.

Like Ancine and ANP, Aneel alternates its substantive (regulatory) and bureaucratic logics. Its bureaucratic logic is enacted frequently, and its importance have been growing since 2011. About 34% of Aneel's press releases in 2016 were attributed to this logic.

Figure 6.13 shows a decrease in Aneel's regulatory logic after 2011. As the regulatory logic de-

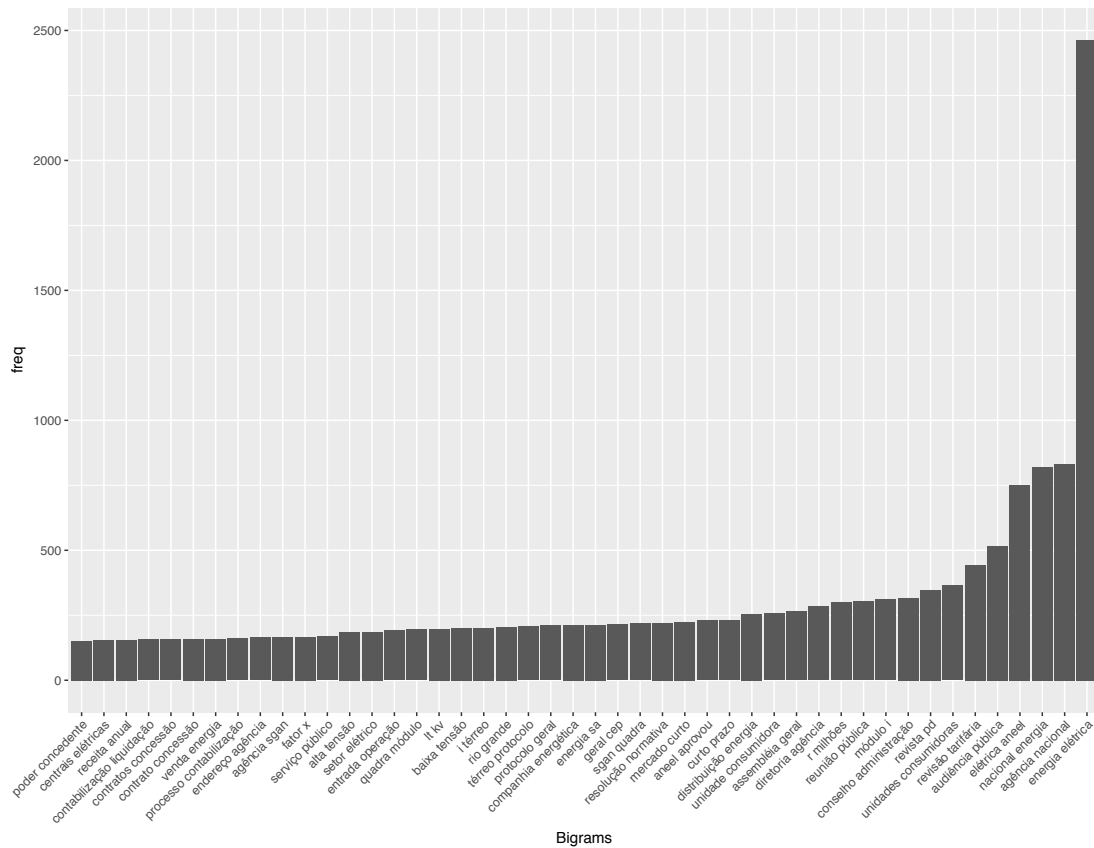


Figure 6.12: Aneel's Bureaucratic vocabulary: most frequent bigrams

creases, bureaucratic-legalistic topics gain importance. Similar to the case of Ancine, Aneel's second main logic is the bureaucratic-legalistic. Both logics alternate their importance over time; when one increases, the other decreases and vice-and-versa.

Yet, there are two important differences from Aneel's bureaucratic practices to the ones enacted by Ancine and ANP. First, Aneel's practices are more ritualistic and the agencies public acts are very frequent in both its regulatory and its bureaucratic corpora (as Figures 6.12 and 5.4 show). Second, as figure 6.14 indicates, the type of bureaucratic practices has changed over the years.

In the first years of the data, the main bureaucratic practices were the activities of administrative police, similar to Ancine and ANP. In the last years of the data, those activities lost importance

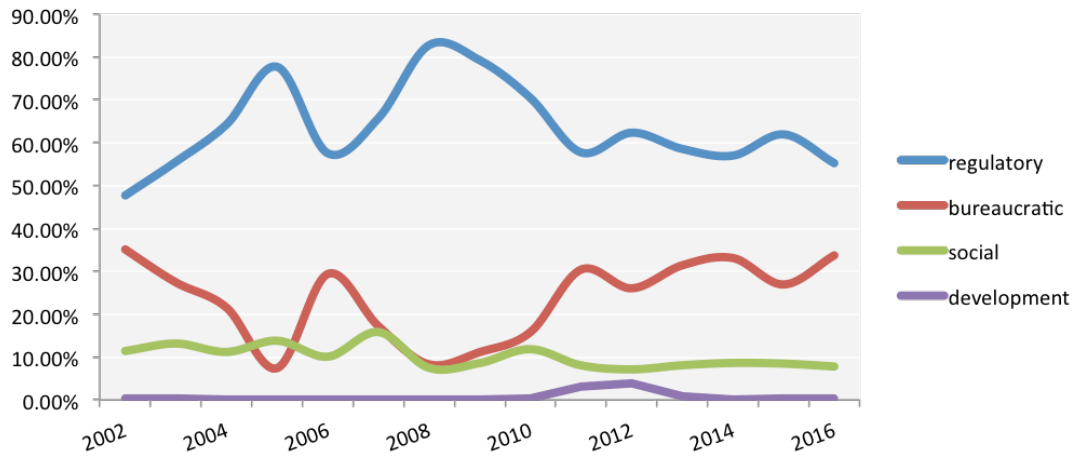


Figure 6.13: ANEEL: Logics in Time

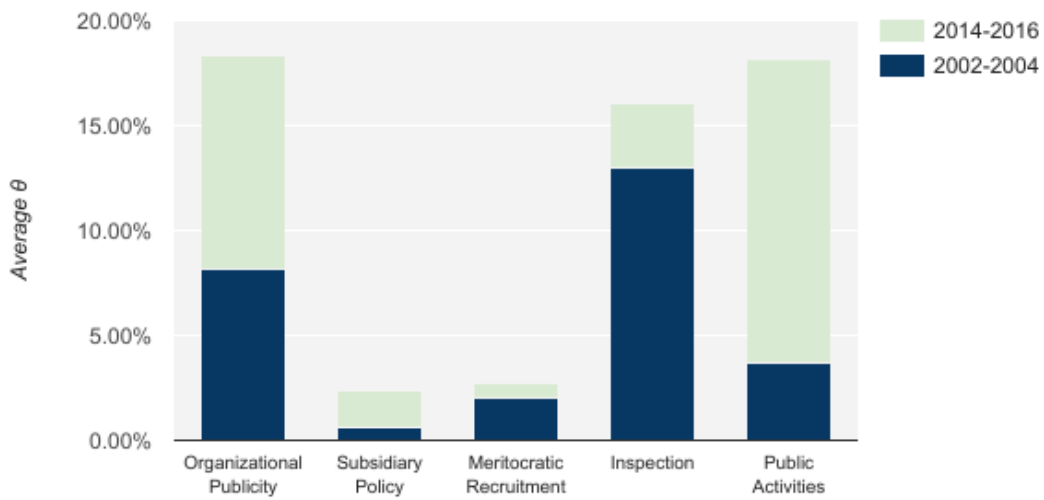


Figure 6.14: Aneel's Bureaucratic Practices: First and Last Three Years

when compared to the public acts of the agency: the public meetings and the public hearings. Those practices are crucial for transparency and accountability. However, the associated vocabulary and

their frequency suggests they may have become procedural rituals.

Public Meetings	Public Hearings
agência	audiência
pública	contribuições
aneel	pública
elétrica	agência
reunião	módulo
diretoria	sgan
julho	endereço
energia	cep
data	geral
nacional	email
disponível	quadra
prorrogação	proposta
alteração	protocolo
concessionárias	interessados
realizada	térreo
terça-feira	aneel
resolução	apaneelgovbr
mudança	elétrica
feita	brasilíia
atualização	enviar
período	energia
segundo	fax
novembro	resolução
contrato	objetivo
ambas	procedimentos
vai	enviadas
audiência	período
informações	normativa
geral	discutir
referência	aprimoramento

Figure 6.15: Aneel's Public Acts Vocabulary

Figure 6.15 indicates the words associated with Aneel's main public acts: the board meetings and the hearings. The vocabulary is permeated by procedures: module, information, fax, resolution,

protocol, email, address, proposal, alteration , Tuesdays, extension, date, contract. Different from Ancine and ANP, Aneel's monitoring activities are not so important. One of the reasons is that the supervision of the electricity services is often decentralized for state regulatory agencies.

Hence, although Aneel's public acts may be seen as enactments of the bureaucratic values related to accountability, their frequency and capillarity are also indicative of a *bureaucratization of democratic instruments for public participation and transparency*. Still, it is not possible to make inferences about the effectiveness of those instruments; and that would also be beyond the scope of this research.

Like Ancine, Aneel's bureaucratic practices emphasize procedural correctness. At Ancine, enforcement practices are permeated by procedural correctness and, in Aneel's case, it is its public acts. Another difference is that Aneel's procedures permeate its entire vocabulary, being very frequent in regulatory and bureaucratic documents alike. While in Ancine this logic declined with the consolidation of its developmental logic, Aneel's bureaucratic practices continue to play an important role.

It was argued that Ancine's emphasis on procedural correctness had an important role in legitimizing the agency's status as an independent agency. The role of a procedural focus is not so clear in the case of Aneel.

It is important to remember that Aneel's public acts represent *how* the agency makes its decisions. According to its website ** :

The transparency granted by ANEEL to its administrative procedures, especially the decision-making process, has contributed to strengthen the regulatory agency's action, to legitimating it and to allowing the social control of its actions (Free translation).

Aneel's careful attention to its decision making process can actually be thought as aligned to its substantive mission, which stresses the balance among the interests of the distinct agents in this eco-

** Available at: <http://www2.aneel.gov.br/area.cfm?idArea=416>

conomic sector. First of all, the electricity sector is much more complex than the one in which Ancine operates. The segments of generation, transmission and distribution have their own specificities and approximately 4,188 companies operate in those segments ^{††}, being 4,048 in the generation segment, 77 in transmission and 63 in distribution. Although the creation of Eletrobras, the state-owned holding company, in the 1960s represented the beginning of a centralized power dispatch system, the system was never fully centralized. Eletrobras accumulated several functions often at odds with one another, and the disputes between the major state-owned vertical utility companies and the Eletrobras group were constant (Walvis & Gonçalves, n.d.). It is not surprising that the balance between the agents is mentioned in Aneel's mission statement.

In this sense, Brazilian media has been emphasizing the problems related to the judicialization of regulatory agencies's decisions. In the electricity sector, many of such news suggested the increasing number of court injunctions following the promulgation of the provisional measure n. 579 (MP 579) ^{‡‡}. MP 579 was considered the 9/11 of the Brazilian electricity sector, as it was a populist measure aimed at reducing the tariffs for all classes of consumers, and not only low-income consumers.

Provisional Measure 579/2012 had a negative impact on Aneel's capacity to perform its mission of "providing favorable conditions for the market to develop" as well as balancing the interests of the different agents in the sector. Aiming at reducing in about 20% the energy bills of all consumers - a populist policy, as it reduces the tariff for all consumers, and not only those in trouble - the PM 579/12 jeopardized the sustainability of the electricity sector. The Federal Courts of Account (*Tribunal de Contas da União*, TCU) estimated an additional cost of 61 billion in the Energy Development Account (CDE), only in 2013 and 2014, almost the double of the reduction in the tariff structure, estimated in 16.8 billion per year (TCU, 2014). Besides jeopardizing the sustainability of the

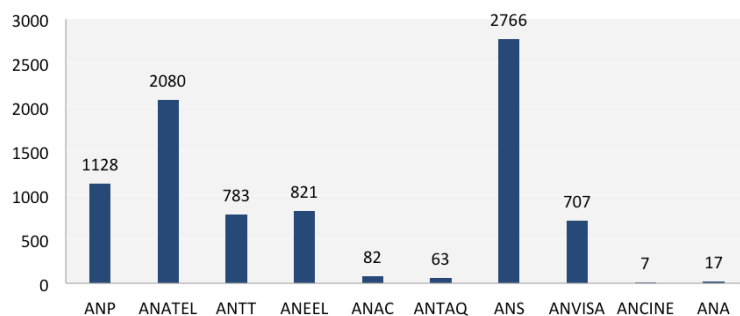
^{††}Data from Brazilian Association of Electric Power Distribution Companies. Available at: <http://www.abradee.com.br/setor-eletrico/visao-geral-do-setor>

^{‡‡}For some examples, see <http://blogs.correiobraziliense.com.br/vicente/brasileiro-paga-prejuizo-da-corrupcao-na-counta-de-luz/and>

sector by hurting a key pillar of the model - that all agents, free and captive, are 100% hired (TCU, 2014) - the measure is associated with a significant and persistent increase in the market risk of the electric sector. This risk has extrapolated the electric sector, increasing the risk of the telecommunications sector as well, as a recent study of IPEA, a Brazilian think-tank, has shown (de Bragança, Pessoa, & Rocha, 2015).

Despite an increase in court injunctions in 2013 - from 47 in 2012 to 113 in 2013 - Aneel is not the agency whose activities are most judicialized (Ragazzo, *in press*). In fact, the most judicialized agency is a social one: ANS, the National Regulatory Agency for Private Health Insurance and Plans.

Figure 6.16: Regulatory Agencies: Total Court Injunctions



Source: Reproduced from

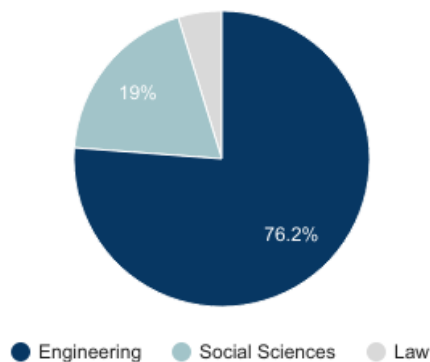
Ragazzo (in press)

Figure 6.16 displays all the lawsuits processed and being processed by the Superior Court of Justice (STJ) with regulatory agencies as interested party or third party. The data was collected by Direito Rio, the School of Law of the Getulio Vargas Foundation, in Rio de Janeiro. As it shows, ANP is involved in more court injunctions than ANEEL. This suggests that judicialization alone don't explain its procedural emphasis.

The literature suggests that an emphasis in procedures can be attributed to the educational background of civil servants. Meyer and Hammerschmid (2006), for example, attributed the legalistic character of Austrian public sector to the "the majority of public executives having a background in

legal studies and the strong legal focus of the training system”. This is not the case of Brazilian IRAs in general, and of Aneel, in particular.

Figure 6.17: Aneel board of directors: Educational Background



Source: Data provided by

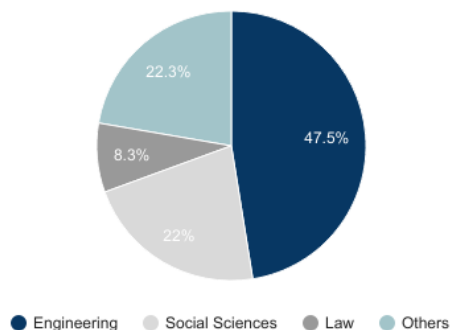
(Vieira, 2015)

Figure shows the educational background of all the 21 directors that Aneel had since its creation. Aneel’s board of directors has been composed mainly by engineers (16), followed by economists and accountants (2+2), and just one director had a background on Law. With respect to its overall public servants, the presence of engineers is also remarkable (Figure 6.18).

Figure 6.18 displays the educational background of all the civil servants that were working at Aneel in 2015. From the 737 active employees, 637 hold a higher education diploma. Aneel provided the educational background of 628. From those, 298 are engineers, 138 are social scientists (Economics, Business and Public Administration, Accounting and/or Political Scientists), and only 52 hold a law degree.

This is even more interesting when you consider that about 40% of all major degrees in Brazil are in the law, business and social sciences area, and only 8% in engineer (Inep, 2013). However, one of the rationales for the creation of IRAs is the need of technical expertise, which justifies the

Figure 6.18: Aneel's Civil Servants: Educational Background



Source: Data provided by Aneel

via Brazilian Access to Information Law. Received in 2015.

proportion of engineers in infrastructure IRAs. Yet, Aneel procedural emphasis is not due to the educational background of its staff.

An alternative argument is that, given the variety of interests in this sector, procedures can be used as blame-avoidance mechanisms by the agency. Blame-avoidance underlies much of political and institutional behavior (Hood, 2007). In complex sectors such as the one in which Aneel operates, the emphasis on transparent, predictable and open procedures can be an effective way to avoid blame for decisions that will most likely affect some of the agents in a negative way.

To further explore Aneel's emphasis on procedures, and the hypothesis that it serves as a blame-avoidance mechanism, the next section will explore how these three IRAs responded to major regulatory changes in their respective sector. The goal is to capture subtleties in their discourse not captured by the analysis so far and, with it, some insights about the differences between them.

6.5 AGENCIES' RESPONSE TO MAJOR INSTITUTIONAL CHANGES

One of the assumptions of this research is that the politics-administration dichotomy is, at best, an ideal. Bureaucracies and bureaucrats are *active participants in determining the will of the state* (Fredrickson et al., 2015). The three agencies analyzed, however, enact very different sets of practices.

Interestingly, Aneel, the most *regulatory* among the agencies - in a pro-competition sense - is also the most *bureaucratic* - in a procedural sense.

The argument of this chapter is that the bureaucratic logic plays a key role in the organizations studied: they indicate what organizations do when they're not performing their substantive mission. Ancine focused on inspection and license obtainment, ANP in inspection and Aneel in transparent and routine procedures. Those practices, however, were justified in a different manner.

Table 6.3: The role of Bureaucratic Practices across Agencies

IRA	Core Bureaucratic Practices	When	Justification	Role
ANP	Preventive, monitoring and coercive practices	2007-2014	Consumer protection	New sense of mission
Ancine	Preventive and coercive practices	2004-2011	Regulation	Legitimizing its existence
Aneel	Public activities: Meetings and Hearings	2011-2016	Transparency and social control	Blame-avoidance

Table 6.3 summarizes the discussion so far. In scenarios of institutional crisis, each agency opted for a different response. They emphasized a different set of bureaucratic practices, re-framing them according to their needs.

Ancine focus on preventive acts related to license obtainment was necessary for legitimizing its institutional design. As regulatory agencies were created to promote competition in the aftermath of the privatization process, the creation of an IRA to promote industrial development needed justification. Administrative police activities are common to all IRAs, and preventive and coercive acts represent how Ancine understands its regulatory role.

ANP was created to attract investments in an industry where Petrobras, the state-owned company, had the legal monopoly of the research, mining, refining and transportation of oil and gas for

54 years. The opening of the industry for private companies was motivated by the need to increase the amount of investments rather than by a government desire to promote competition in the domestic industry (Brandão, 1998). When ANP stopped the bidding rounds in 2008, the agency had to find another sense of mission. The administrative police preventive and coercive acts, specially the last type, provided the answer, and the defense of the interests of consumers via rule enforcement became ANP's new *raison d'être*.

Lastly, and differently from Ancine and ANP, Aneel has not been emphasizing its administrative police activities. At Aneel, procedural correctness via an open, transparent and regular decision-making process occupies a central role. Differently from the other two agencies, Aneel's industry is more pulverized, and the balance between government, consumers, distributors, transmission companies and generation enterprises interests require for the agency an increased focus on stable and predictable activities. Still, the judicialization of its decisions and the educational background of its top-level managers and civil servants alone do not explain its emphasis on procedural correctness.

Such an emphasis can be seen as *fundamental for fairness* and also for protecting *consumers, regulated company and investors alike* (Brown et al., 2006). That is a positive view of adopting procedures. At the same time, procedural rituals "provide procedural armor against blame" (Hood, 2010). Hood, Rothstein, and Baldwin (2001) suggested in a previous study that procedures adopted to improve decision making also served to an alternative and important objective of limiting blame. To verify the use of procedures to avoid blame, this section explores how Aneel, as well as Ancine and ANP, responded to the major institutional changes in their respective sectors.

All three economic sectors - audiovisual, oil and gas, and electricity - went through important regulatory changes after 2010. On the top of those changes are the Federal Law n. 12.485/2011 for the audiovisual industry, the Federal Law n.12.351/2010 for the oil and gas industry and the Provisional Measure n.579/2012 (latter converted into Federal Law n.12.783/2013), for the electricity industry.

Those changes affected the agencies' mission in different ways. As shown in the last section, Fed-

eral Law n.12.485/2011 increased in about 1,600% the revenues available to develop the audiovisual industry . As Ancine's mission is to develop the industry, the regulatory change greatly strengthened its capacity to carry out its mission.

Federal Law n.12.351/2010, on the other hand, affected negatively ANP's mission to attract investments. The agency stopped conducting the bidding rounds for 5 years, and have been conducted them irregularly since 2012, with a major impact in terms of attracting investments for the industry (Firjan, 2015). Also, the only bidding round conducted so far under the new regulatory regime had no competition: only one offer was made, with no premium over the minimum signature bonus determined by the government. The lack of investments forced the government to review the two main developmental policies of this industry: the production-sharing agreement and the local content requirements.

Lastly, Provisional Measure 579/2012 had also a negative impact on Aneel's capacity to perform its mission of "providing favorable conditions for the market to develop" as well as balancing the interests of the different agents in the sector. As discussed in the last section, the costs associated with the measure were far superior to its benefits in terms of tariff reduction (de Bragança et al., 2015; TCU, 2014).

Despite of the different impacts on the agencies' missions, the above mentioned changes were oddly received by each agency. Ancine's response was the most adequate. Ancine's mission is to develop the sector, the regulatory change increased its capacity to do so and, accordingly, the agency responded with great enthusiasm. The following quote is a press release published three days after Law N.12.485 was approved, in September 15th , 2011. The title is "Sanctioned Law 12.485, which regulates the paid-TV market in Brazil" (Free translation of *Sancionada Lei 12.485, que regula mercado de TV por assinatura no Brasil*) and can be found in Ancine's website .

^{††} <https://www.ancine.gov.br/pt-br/sala-imprensa/noticias/sancionada-lei-12.485-que-regula-mercado-de-tv-por-assinatura-no-brasil>. Accessed in 04/25/2017.

A lei 12.485/2011, sancionada ontem pela Presidenta Dilma Roussef, estabelece um novo marco legal para a tv por assinatura no Brasil e *garante a presença da produção audiovisual brasileira na maioria dos canais*. [...]

Entre os *pontos mais importantes da nova lei* estão a *abertura do mercado* aos novos competidores, ampliando a oferta do serviço e estimulando a *diminuição do preço final ao usuário*, bem como a *adoção de cotas de programação e de canais*, destinadas a *potencializar o mercado de conteúdos brasileiros* como filmes, documentários e séries, incluindo animação.

[...]

“As cotas de conteúdo nacional criam uma *extraordinária oportunidade* para que o Brasil produza mais obras audiovisuais e o cidadão brasileiro veja mais Brasil em todas as telas”, afirma o diretor-presidente da ANCINE, Manoel Rangel.

Rangel lembra, ainda, que a *política de cotas existe em diversos países*, como na União Européia, por exemplo, como *instrumento eficiente para o desenvolvimento de uma atividade econômica e cultural pujante*. A política de *proteção à produção independente* praticada nos Estados Unidos entre as décadas de 50 e 90 é apontada como fator determinante do *fortalecimento do mercado* de seriados naquele país, garantindo *inovação e diversidade* de conteúdos. O modelo proposto na nova lei brasileira, ao aliar fomento e regulação, pretende garantindo a *independência, o fluxo contínuo e a qualidade da produção brasileira* disponível na televisão por assinatura.

A nova legislação também oferece impactos importantes em relação à oferta de serviços de banda larga. [...] “A lei viabiliza uma *rápida expansão* da banda larga no país, e por meio dela *novos serviços* audiovisuais chegarão ao cidadão brasileiro”, comenta Manoel Rangel. [...]

Ancine demonstrated great excitement with the approval of new framework. The agency enunciated all the main advances obtained with the approval of the law, and Ancine's president himself manifested about it, mentioning the *extraordinary opportunities* brought by the policy of national quotas. This policy, in turn, is justified based on the international experience - "*a policy of quotas exist in many countries*". This is not "modeling", or a mimetic process of isomorphism (DiMaggio & Powell, 1983). In this case, national quotas are a re-reading of old market reservation schemes that marked the developmental state in Brazil. As Ancine is a regulatory agency, and the developmental state was supposed to be buried with Embrafilme, the previous state-owned company of this industry, this type of intervention needs a different justification. The text above illustrates how Ancine settled the conflict between developmental and regulatory/pro-competition values. At the same time that an increasing participation of the national industry is emphasized, so it is the *efficiency* of this policy, the *independence and quality* of the national products and the availability of *new services*. Interestingly, industrial protection is associated with a stronger market, innovation and diversity.

Aneel's response to the announcement of PM 579/2012 was completely different. MP 579 was published in September 11st of 2012, and there are two press releases about it right after its publication. The following quotation is a press release published the day after MP 579 was approved, in September 12th, 2012. The title is "Aneel begins the work to calculate tariff reduction" (Free translation of *ANEEL inicia trabalhos para cálculo da redução tarifária*).

Agência Nacional de Energia Elétrica (ANEEL) iniciou os trabalhos para a implementação das medidas anunciadas ontem (11/9), pelo governo federal. A presidente Dilma Rousseff e o Ministro de Minas e Energia, Edison Lobão, apresentaram a Medida Provisória nº 579 que reduz o custo da energia elétrica para os consumidores brasileiros, em média, 20,2% – a partir da antecipação da renovação das concessões e da homologação das novas tarifas das distribuidoras pela Agência, prevista para 5 de fevereiro de

2013. Os consumidores residenciais terão redução média de 16,2% e, as indústrias, de até 28%.

Segundo o diretor-geral da ANEEL Nelson Hubner, o cálculo dos valores da distribuição leva em consideração as reduções tarifárias nos segmentos de geração e de transmissão, além da diminuição dos encargos setoriais – Reserva Global de Reversão (RGR), Conta de Consumo de Combustíveis Fósseis (CCC) e Conta de Desenvolvimento Energética (CDE). A Agência fará uma revisão tarifária para todas as concessionárias de energia elétrica a fim de que as medidas surtam efeito e reduzam os custos para os consumidores.

The document above shows ANEEL as an "implementer" of measures announced "by the government". The agency opted for a discourse based on neutrality - the agency will act (promote a tariff revision) in order to comply with a governmental decision. Although regulatory agencies are not supposed to be policy-makers, the measure affected directly the sustainability of the electricity sector, which the agency is responsible for. Differently from Ancine, Aneel's general-director's opted for a technical speech that emphasized *how* the discounts would be achieved. Aneel did not publicly supported or rejected the regulatory change, but simply stressed that the agency was aware of the regulatory changes, and intended to implement them.

Different from Aneel and Ancine, ANP made no press release specifically about the regulatory changes of 2010, as it can be seen in table below.

Table 6.4 display the title of every press release published by ANP between December of 2010 and June of 2011. I've also searched every title one year before and one year after the publication of the Federal Law n.12.351/2010. As the title of the press releases indicates, there was no manifestation specifically about the regulatory change.

That doesn't mean, however, that ANP did not manifested about it. The following quotes are

Table 6.4: ANP's Press Releases: December of 2010 to June of 2011

Date	Title
22/12/2010	Recurso da ANP sobre abrolhos é acatado pelo Tribunal Regional Federal da Primeira Região
27/12/2010	Produção de petróleo e gás natural foi recorde em novembro de 2010
14/01/2011	Pesquisa semanal de preços da ANP está disponível por celular
31/01/2011	ANP divulga novo recorde de produção de petróleo e gás em dezembro de 2010
17/02/2011	Consumo aparente de combustíveis no Brasil cresceu 8,4% na comparação entre 2009 e 2010
17/02/2011	Retificação: reservas provadas de petróleo cresceram 10,65% em 2010, em comparação a 2009, e as de gás natural 15,23%
25/02/2011	Ministro da Ciência e Tecnologia visita a ANP
02/03/2011	Produção de petróleo sobe 6,3% e a de gás 13,2% em relação a janeiro de 2010
03/03/2011	ANP recebe visita do governador do Piauí
03/03/2011	ANP divulga as tarifas de transporte de gás natural e critérios de reajuste definidos até a publicação da lei do gás
16/03/2011	ANP sedia décima edição de evento sobre bancos de dados de E&P
21/03/2011	Diretores da ANP destacam importância dos TRRS em evento no Maranhão
31/03/2011	Queima de gás em fevereiro de 2011 é a menor desde abril de 2008
01/04/2011	Secretário do Interior dos EUA visita a ANP e diz que deseja estreitar relações no setor de petróleo e gás
19/04/2011	ANP realiza hoje (19/4) Audiência Pública relativa à minuta do Contrato de Concessão
19/04/2011	ANP assina dois convênios com a secretaria da fazenda da Bahia
26/04/2011	ANP intensifica fiscalização e denuncia indícios de cartel em Brasília e em São Luís, no Maranhão
28/04/2011	11ª Rodada de Licitações terá 174 blocos em nove bacias sedimentares
28/04/2011	CNPE aprova medidas para as pequenas e médias empresas de petróleo
31/05/2011	22º Leilão de Biodiesel, o maior realizado até hoje, teve deságio médio global de 5,01% e R\$ 1,5 bilhão negociados
1/6/2011	Abril de 2011 teve menor queima de gás dos últimos 11 anos
3/6/2011	Preço do etanol cai 2,12% e o da gasolina 0,75% em relação à semana passada
6/6/2011	ANP coloca em consulta pública em 15 dias primeira resolução como reguladora do mercado de etanol
10/6/2011	Preços médios da gasolina e do etanol voltam a cair no Brasil
10/6/2011	Resoluções para novo Marco Regulatório do etanol já estão em consulta pública
17/06/2011	BDEP: PETROBRAS assina novo termo de uso

Source: ANP's website

extracts from three different press releases published before the regulatory change. The titles are "ANP receives members of the Standing Committee on Energy and Environment of the Norwegian Parliament" (9/22/2010), "Energy regulators meet at ANP" (11/5/2010), and "ANP holds a course on regulation of the oil and gas sector for representatives of 13 countries in Africa and South America" (11/8/2010).

September 9, 2010

Haroldo Lima destacou a participação de 77 grupos econômicos no setor de explo-

ração e produção no Brasil, sendo 38 estrangeiras, entre as quais as norueguesas Statoil e Norse. O diretor-geral da ANP apresentou os pontos principais do *marco regulatório em tramitação no Congresso Nacional e lembrou que a experiência norueguesa foi analisada pelo o grupo de trabalho formado pelo governo brasileiro para discutir a nova legislação*. Ele citou o exemplo da Petoro, que serviu de referência para os estudos que levaram à criação da Pré-sal Petróleo, empresa que ficará encarregada de acompanhar a execução dos contratos de exploração no pré-sal, no sistema de partilha da produção.

November 9, 2010

”Precisamos partilhar nossas experiências. No caso do Brasil, temos um acontecimento recente, que é o pré-sal. *Chegamos à conclusão de que nosso marco regulatório, um dos mais estáveis do mundo, não pode ser estático*. A descoberta desses reservatórios, de potencial elevadíssimo, trouxe a necessidade de aprimoramento. Estamos estudando a experiência de Angola com os contratos de partilha da produção, já que eles deverão ser aplicados no pré-sal, como forma de *garantir para o Estado a propriedade do petróleo extraído dessa área, o que reforçará os recursos para o desenvolvimento econômico e social do Brasil*”, afirmou.

November 8, 2010

Na aula inaugural, ministrada na manhã de hoje (8/11), o diretor-geral da ANP, Haroldo Lima, traçou um panorama da regulação do setor de petróleo e gás natural no Brasil, com destaque para a ANP e os avanços do setor de petróleo e gás no Brasil ao longo dos 12 anos de existência da agência. “Há dez anos, a participação do petróleo no PIB brasileiro era de 2%, hoje chega a 10%. A produção de petróleo está em 2 milhões de barris/dia e passamos de uma única empresa atuando no país para 76.

Diversificamos a nossa matriz de combustíveis, que atingiram padrões de qualidade in-

ternacionais. *A regulação tem participação decisiva nesse cenário positivo e não pode ser estática. Deve acompanhar o desenvolvimento da sociedade e da economia dos países*”, afirmou.

Haroldo Lima citou o marco específico proposto para as áreas do pré-sal como *ex-emplo recente de aperfeiçoamento do regime regulador vigente no Brasil*. “O governo brasileiro criou um grupo de trabalho para debater o pré-sal e chegou-se à conclusão de que o sistema de partilha da produção, e não o de concessões é o mais adequado para as áreas do pré-sal, caracterizadas por potencial extraordinário e baixo risco exploratório”, explicou.

Differently from the case of Aneel, which did not foresee the regulatory changes, the new regulatory regime for the pre-salt area was being discussed for a quite long time. An Interministerial Committee was created in 2008 for studying and suggesting the necessary changes to current regulatory framework because of the pre-salt discoveries. The president of ANP was part of the committee. Accordingly, the change was discussed publicly by ANP before the approval of the law. Like Ancine, ANP’s general director also mentions some of the international benchmarks, like Norway and Angola. It supports the new framework by stating that “Regulation [...] can’t be static. It must follow the development of the countries’ society and economy”; therefore, by framing the regulatory change as an *improvement* of the previous framework.

Also, differently from Ancine’s support of the new regulatory framework, which attempted to mix regulatory/pro-competition and developmental values - the framework would potentially *open the market, reduce the final prices and increase the local content* - Haroldo Lima has focused on developmental values, like *state ownership* and *Brazil’s economic and social development*, although recognizing technical aspects, like the *potential [of new oil reserves] and [their low] exploratory risk*.

Agencies’ positioning to major regulatory changes in their respective economic sector suggest

some important explanations for the enactment of logics across agencies. First of all, it is important to note that Ancine and ANP's presidents /general-directors make public statements more often than the ones of Aneel. "Haroldo Lima" and "Manoel Rangel" are among the most frequent tokens of their corpora; and only appear as much as 61 times in Aneel's corpus (Romeu Rufino, which is the most frequent token among the board members). However, while Ancine's positioning is not surprising nor awkward, ANP and Aneel reacted differently to the changes that negatively affected their capacity to perform their missions.

One of the main reasons for the difference between the positive reaction of Ancine and ANP and the neutral reaction of Aneel is that the first two agencies were involved in the discussions regarding the regulatory change. In fact, the changes in the audiovisual and the oil and gas industry were discussed from 3 to 5 years before the law was finally published. In the electricity sector, the changes were made via provisional measure, a legal entity that allows the president to legislate and establish a new status quo. The regulatory change in the electricity sector was not discussed with the regulator. The government bypassed Aneel and used its legislative power to introduce controversial changes.

This suggests another use of a bureaucratic/procedural logic, beyond blame-avoidance: bureaucrats and bureaucracies may enact it more frequently when they have less autonomy to execute their missions. In this sense, it is not that rule following hamper reason giving and discourse (Olsen, 2006), but rule following as an end in itself may indicate that there is no other reason for a bureaucratic organization do whatever it is doing. When this happens, society must look for reasons elsewhere, like politics, for example. In the case of Aneel, the enactment of a bureaucratic logic may indicate not the absence of a substantive end, but a helplessness attitude towards a substantive end that the organization does not recognize as legitimate. If the organization is doing something that it doesn't agree with, the only plausible reason was because it was forced to do so.

6.5.1 DISCUSSION AND FUTURE RESEARCH

Brazil went through important changes during the 1990s, associated with the Washington Consensus and its neoliberal ideas, as it has been extensively discussed in this dissertation. At the same time, new studies have been suggesting the rise of a "New Developmental State", and an increasingly state interventionism after 2002 (Prado, 2012). This section showed that ANP and Ancine reacted in a more friendly way to the rebirth of old developmental ideas. This is not odd in the case of Ancine, whose mission is to develop the audiovisual industry. However, ANP's mission is to attract investments. One immediate hypothesis to this puzzle is that the board members of ANP were more aligned with the developmental ideas of the Executive. Indeed, 50% of the board of ANP in 2010 was affiliated with the left-wing party, PCdoB (initials of the Communist Party of Brazil). At Aneel, only 20% of the board in 2012 had party affiliation. In this case, it was only the general-director which was affiliated to PT (initials of the Labour Party), the left-wing party of the Presidency. Wood and Waterman (1991) already demonstrated that political appointments are amongst the most important instruments of political control of the bureaucracy.

Indeed, board members with party affiliation and politically aligned with the government talked more about the regulatory changes (Table 6.5).

Table 6.5 displays the 30 bigrams with higher correlation to the general-directors of Aneel, Ancine and ANP in charge when the regulatory changes occurred. The three general-directors were affiliated to left-wing political parties. Haroldo Lima and Manoel Rangel are affiliated to PCdoB and Nelson Hubner to PT. Two of them have as associated tokens their respective ministers, and all talked about the regulatory changes: "renovação concessões", "marco regulatório", "manutenção autosuficiência", "aprovação lei", "fundo setorial".

Table 6.6 displays the top-30 bigrams more correlated with three different directors of Aneel. As it indicates, the mention to the Minister and the Ministry of Mines and Energy is not common

among its directors. In fact, only the director with party affiliation mentions them. Jerson Kelman and Romeu Rufino mention more frequently the other members of the board.

Despite some evidence that agencies whose board of directors have party affiliation and are aligned with government ideas were more welcome to the new ideas about the state brought by the regulatory changes, the relation between board composition, the background and expertise of the civil servants and the logics enacted by the agencies will be explored in future research.

Table 6.5: General-Directors 30 Most Frequent Bigrams

Aneel: Nelson Hubner	ANP: Haroldo Lima	Ancine: Manoel Rangel
hubner representantes	anp haroldo	diretorpresidente ancine
diretorgeral nelson	diretorgeral anp	ancine manoel
renovação concessões	lima destacou	rangel diretorpresidente
energia edison	diretorgeral agência	diretorpresidente manoel
segundo diretorgeral	lima disse	diretorpresidente agência
compreendem instalações	destacou crescimento	rangel participa
empresas arremataram	lima ressaltou	rangel diretor
segmentos geração	economia brasileira	marta suplicy
edison lobão	evento contou	rangel destacou
aneel nelson	segundo haroldo	rangel fez
ministro minas	setor petróleo	apresentação manoel
destacou importância	contratos assinados	juca ferreira
evento diretorgeral	assinaram contratos	ministro cultura
julião coelho	oferecidas áreas	rangel presidente
simultaneamente	américa latina	aprovação lei
agência licitadas	disse ainda	ministra cultura
aneel atuou	marco regulatório	rangel é
aneel contou	oferecidos blocos	secretário audiovisual
aneel mandato	pequenas médias	agência manoel
centro universitário	dois países	audiovisual brasileiro
consequências formação	afirmou diretorgeral	cada vez
contempla atividades	médias empresas	cargo diretorpresidente
critérios técnicos	anp fará	diretores ancine
decisões aneel	diretores anp	rangel participou
desenvolvidas área	nona rodada	secretário executivo
discutir impacto	discurso abertura	abta evento
é organizado	evento diretorgeral	cultura juca
econômicos mercado	desenvolvimento setor	fortalecimento empresas
estudos econômicos	é importante	fundo setorial
expoabar mostra	manutenção autosuficiência	rangel falou--

Table 6.6: Aneel's Directors: 30 Most Frequent Bigrams

Nelson Hubner	Romeu Rufino	Jerson Kelman
hubner representantes	diretorgeral romeu	aneel jerson
diretorgeral nelson	rufino é	kelman representantes
renovação concessões	aneel romeu	lote detalhes
energia edison	diretores agência	vencedores lote
segundo diretorgeral	desde onde	anos funcionamento
compreendem instalações	ciências contábeis	autorizou quilômetros
empresas arremataram	contabilidade gerencial	detalhes concessões
segmentos geração	primeiro servidor	estatais individualmente
edison lobão	servidor efetivo	relação vencedores
aneel nelson	agência romeu	funcionamento agência
ministro minas	auditor cinco	subestações deságio
destacou importância	rufino destacou	aguiar companhia
evento diretorgeral	rufino ressaltou	averbuch enersul
julião coelho	discutir cenário	construção novos
simultaneamente	gerencial fundação	consumidoras interventor
agência licitadas	investidores próximos	deságio quase
aneel atuou	rufino reconduzido	empreendimentos beneficiará
aneel contou	andré pepitone	gama caiuá
aneel mandato	márcio zimmermann	interventor celtins
centro universitário	alberto calixto	kelman afirmou
consequências formação	bacharel ciências	kelman cemat
contempla atividades	calixto mattar	linhas sistema
critérios técnicos	cenário energético	ms jerson
decisões aneel	diretor romeu	mt jaconias
desenvolvidas área	discutidos enviados	operação energizados
discutir impacto	energético ótica	pr sinval
é organizado	engenheiro civil	to isaac
econômicos mercado	h abertura	agência licitou
estudos econômicos	interesse participar	coletiva diretorgeral
expoabar mostra	nacional combate	participaram coletiva

7

Concluding Remarks

This dissertation was initially motivated by the discomfort I had with the association between the rise of the regulatory state - specifically, the diffusion of regulatory agencies - and neoliberalism. After reading Levi-Faur's (2014) paper about hybrid forms of the state, and how the state was expanding via regulation, instead of declining, I decided to study what form the regulatory state took in Brazil.

I found in the institutional logics theory a promising venue to explore this subject. I didn't agree

with Levi-Faur's formulation, which put the regulatory state as a neutral state - specifically, as a "administrative police state". He defined the regulatory state as the "state that applies and extends rule making, rule monitoring and rule enforcement either directly or indirectly" (p.9). Those are the fundamental instruments of the state, the instruments that make the state different from other societal institutions, like the market or religion. I was interested in the values ; in the variety of ideas about what the state should do.

The institutional logics theory, by assuming institutions as symbolic and material, could bring back the symbolic aspect of public policy: the importance and endurance of different set of beliefs about the role of the state. Values are not out there, they are not something that you say and then do something else: they are enacted by practices and activities. When the state makes industrial policy, it is enacting the value of development: the idea that the state should promote economic development. At the same time, multiple ideas coexist within the state: the state is an institution that carries more than one paradigm at the same time.

The problem then became how to measure the logics of the state. I knew that ANP established developmental policies and that Ancine was fundamentally a developmental agency - despite the insistence of their civil servants that they are a regulatory agency. But I didn't know how to compare them, and how to find out about policies and activities that I didn't know as well.

That was when I found about topic models. From a totally different area, I was lucky to find out about them late enough; there were already many applications within the social sciences, and enough R packages that make it possible for me to apply it. Topic models are scenic frames, they outline the scenes where actors act (Mohr et al., 2013). As seen in this dissertation, topics represented the policies and activities of each IRA, indicating what was happening and who was involved. Some policies support, others promote, some revise and some require. They can involve producers, companies and/or consumers. However, this aspect of the analysis was not the focus of the research.

The goal was to find out what types of policies Brazilian IRAs were promoting; and to be able to

compare them - across agency and over time. Here is what I found out:

1. *The three agencies have very different patterns of enactment of state logics. Logics vary both across agencies and within agencies over time. Those logics are all internal to the state: they indicate that, within the state, both what should be done and how it should be done are subject to multiple interpretations.*

Ancine is mainly a developmental agency: about 55% of its activities are enactments of a developmental logic. Ancine is the central public body of the audiovisual sector: the agency has a role to play in the entire production chain of the sector. In fact, Ancine has policies for funding, special taxation regimes for expanding and modernizing movie theaters, policies for fighting piracy, and establishes quotas for national participation in movie theaters and cable TV. Its scope of action is much broader than I originally expected.

ANP is an interesting agency: besides enacting bureaucratic, developmental and regulatory logics, the agency enacts "hybrid" logics. Those hybrid logics have been growing in importance since 2007, and they perfectly mix, both in the vocabulary as well as in the policy mechanisms, a social and a regulatory logic, and a regulatory and a developmental logic. ANP went through a major shift in 2007: the dominant regulatory logic began to lose importance, and the bureaucratic-legalistic logic, specially in the form of inspection activities, began to predominate. From 2001 to 2003, 50% of the agencies activities indicated a regulatory emphasis, and 40% bureaucratic emphasis. From 2014 to 2016, that percentage changed to 30% and 50%, respectively. The regulatory logic lost space not only for the bureaucratic one, but also for the hybrid ones. The importance of the practices of administrative police was unexpected, as well as its hybrid social policy.

ANEEL presents a dominant regulatory logic, but also a strong bureaucratic-legalistic and social institutional logics. Regulation is enacted via tariff setting and tariff readjustment poli-

cies. Social policies are performed in distinct ways. One is pro-consumer, enacted as awards according to the performance in a consumer satisfaction index. The vocabulary reflects the bureaucratic value of *efficiency*. The other is intended for low income citizens, enacted via subsidies and universal service provision. The vocabulary reflects the bureaucratic value of *procedural fairness*: law, program, resolution, rights, register, deadline are some important keywords. ANEEL's development policy is very restrict when compared to Ancine and ANP, since the agency only invests on research and development projects. The capillarity of Aneel's procedures, and the importance of its bureaucratic practices were also unexpected.

2. *Despite the importance of the capitalist dimension of the state, i.e., of what the agencies were doing, the bureaucratic dimension has played a key role in the three agencies analyzed. It was via bureaucratic practices that they were able to perform their role as political actors in periods of crisis.*

Ancine survived its initial years and thrived as a developmental independent regulatory agency due to its capacity to re-frame the bureaucratic practices of administrative police as *regulation*. In other words, Ancine used bureaucracy in its strategy of decoupling: it conformed with the meanings and categories of the regulatory logic (Pache & Santos, 2013), in order to prosper as a developmental agency. It seems the most successful among the agencies analyzed here.

ANP's role as a regulatory agency was compromised about ten years after its creation. The agency was born with a clear regulatory logic. However, the political scenario changed in Brazil after 2003. The agency, instead of opting for a strategy of decoupling, like Ancine, or by selective coupling intact elements from each logic (Pache & Santos, 2013), it developed hybrid logics; which proved to be unstable over time. At the same time, it opted for a controversial strategy: it re-framed its practices of administrative police as consumer protection

and gained a new sense of mission. Probably due to a political alignment between its board of directors and the government, the effectiveness of this strategy still needs to be proved, and ANP's role is the most questionable among the agencies analyzed here.

Aneel's bureaucratic practices suggested, at a first glance, a focus on democratic values. "Public" is the 6th most frequent word in the entire corpus. The first five represent the name of the agency, in a different order: energy, aneel, electric, agency, national - National Agency of Electric Energy, Aneel. Yet, procedures are so frequent that any attempt to separate its corpus to different analysis was unfruitful. That was when I realized that the problem was actually the solution: Aneel's corpus was permeated by procedures. Its discourse was almost *neutral*. The agency embraced the neutrality presupposed by the model of independent bureaucracy, based on the belief that politics and administration can be separated, and that regulation is a technical issue. There are two competing views about the emphasis on procedures. According to a positive view, an emphasis on procedures is fundamental for fairness and protect the interests of all the interested parties (Brown et al., 2006). The negative view sees procedural emphasis as a mechanism for blame-avoidance (Hood, 2010). I suggested here a third view: procedures as a helpless attitude towards a political interference non-endorsed by the agency.

This dissertation adds important insights to the current literature. First, it explored the pluralism within a specific societal institution, the State, an often neglected institution (for exceptions see Greenwood et al., 2010 and Meyer and Hammerschmid, 2006). It argued and then tested that the State logics so far suggested by the literature only address a part of State's dimension: the bureaucratic one. By doing so, it rescued the relevance of logics as dependent variables, whose study allows a deep understanding about the movement of ideas within and across societal institutions. Logics are "meant to represent lived social realities" (K. Weber et al., 2013), and can contribute to the study of institutions-as-equilibria, which goes beyond the more common notion of institutions-as-rules

(Alesina & Giuliano, 2015).

The bureaucratic institutional logic is, indeed, very pervasive within the IRAs analyzed: it permeates substantive logics (as developmental, social or regulatory), but also it stands up as a logic of its own. Bureaucracies and bureaucrats are not only concerned about how to act, but about the content of the policies that they many times help to design.

It also showed which bureaucratic practices are more emphasized and when. Agencies enact bureaucratic practices more often in periods of crisis, and according to their needs. Therefore, it contributed to the literature by showing how they use their discretionary power and under which circumstances they feel the need to act politically. While Ancine opted for a decoupling strategy, and was successful at it; ANP decided to incorporate social and developmental elements to its regulatory logic, blending two competing logics in a perfect yet unsustainable way. There is one important thing to note: this blending was successful while the developmental logic was not compulsory. It was only when the developmental policy of local content became more strict and bureaucratic to the point of becoming a department and of having its own topic that it clashed with ANP's regulatory logic. Aneel focused mainly on the two logics presupposed by its institutional design. When it was not emphasizing its regulatory logic, it focused on procedural correctness, a logic grounded on the classic value of neutrality, which is at the core of the *independent* regulatory agency model.

Finally, this dissertation also contributed to the body of literature that suggests that developmental ideas continue to play an important role in Brazil (Arbix & Martin, 2010; Ban, 2013; Prado, Schapiro, & Coutinho, 2016), by demonstrating the enactment of developmentalism by independent regulatory agencies. It also reinforced the argument that social inclusion is part of Brazilian's new belief system (Alston et al., 2013) by showing the regulatory enactment of a social logic.



Appendix

A.1 ANCINE

The next table contains Ancine's stopword list. The measures of model fit can be found in chapter 4. Ancine's final document-term matrix had 832 documents and 9,856 different words that appeared 738,398 times.

Next Tables A.2, A.3 and A.4 contain Ancine's 30 topics and the 30-top words of each.

Table A.1: Ancine's stopwords

Stopwords List
"translate" "imprimir" "compartilhar" "voltar" "aqui início" "você" "está" "aqui" "notícias" "iii" "ser" "um" "dois" "três" "quatro" "cinco" "seis" "sete" "oito" "nove" "dez" "ter" "deve" "devem" "desde" "vai" "sobre" "através" "após" "ano" "anos" "atualmente" "aproximadamente" "anterior" "apenas" "assim" "ask" "cerca" "conforme" "acima" "clique" "cujo" "dar"

Table A.2: Ancine's Topics: 1-10

Ibermedia	News	News	News	News	News	Additional Income Award	Guidelines for Projects	Coproduction Notices	Brazil of All Screens	Training Seminars
Topic 1	Topic 2	Topic 3	Topic 4	Topic 5	Topic 6	Topic 7	Topic 8	Topic 9	Topic 10	
cinema	inscrições	inscrições	melhor	mil	empresas	empresas	projeto	coprodução	Topic 9	seminário
filmes	festival	festival	prêmio	projetos	ancine	ancine	projeto	projetos	produção	audiovisual
ibermédia	inscrição	inscrição	direção	editorial	recursos	recursos	análise	ancine	audiovisual	paulo
curso	abertas	abertas	filme	produção	obras	obras	recursos	editorial	programa	produção
desenvolvimento	edição	site	longametragem	concurso	renda	renda	contas	brasil	todas	cinema
países	brasil	podem	ficção	valor	produtoras	produtoras	acompanhament	mil	recursos	profissionais
formação	programa	informações	documentário	inscrições	prêmio	prêmio	prestação	argentina	fundo	inscrições
apoio	encontros	documentários	cinema	finalização	filmes	filmes	captação	projeto	milhões	produtores
iberoamericanos	selecionados	regulamento	brasil	projeto	milhões	milhões	projeto	países	telas	estado
audiovisual	brasileiros	evento	atraz	ficção	programa	programa	prazo	apolo	brasil	projetos
cinema	mostra	formulário	grande	milhão	distribuidoras	distribuidoras	execução	filmes	linha	evento
filmes	longasmetragens	latina	brasileiro	filmes	cinema	cinema	fomento	brasileira	setorial	novembro
convocatória	internacional	cinema	prêmios	animação	adicional	adicional	normativa	cinema	desenvolvimento	parceria
espanha	marcelo	edição	afritz	produções	brasileiras	brasileiras	audiovisuais	instituto	fsa	seminários
caci	festivais	acontece	roteiro	proponente	salas	salas	serviços	dólares	chamada	rio
coprodução	longas	inscrever	vencedores	apoio	par	par	instrução	concurso	pública	gratuitas
argentina	dias	outubro	longa	seleção	nacionais	nacionais	aprovação	portugal	propostas	fomento
venezuela	programação	interessados	popular	investimento	desempenho	desempenho	apresentação	parceira	obras	cultura
chile	pedro	setembro	júri	editais	exibição	exibição	agência	incaea	prodav	interessados
colômbia	dir	dias	fotografia	comissão	qualidade	qualidade	procedimentos	acordo	ancine	vagas
bolívia	ro	participar	curtametragem	categoria	brasileiro	brasileiro	prorrogação	longametragem	investimento	objetivo
reunião	curadores	internacional	montagem	longa	incentivo	incentivo	gestão	brasileiros	resultado	realizado
distribuição	berlim	selecionados	diretor	desenvolvimento	cinematográficas	cinematográficas	documentos	urgual	prodexine	auditório
autoridades	corita	enviar	premiados	janeiro	editorial	editorial	proponentes	minoritária	regional	indústria
cinematográficas	oliveira	acesse	cerimônia	brdes	exibidoras	exibidoras	proponente	equivalente	linhas	desenvolvimento
iberoamericano	lista	filmes	categorias	total	total	total	financiamento	coproduções	editorial	acontece
iberoamericano	gabriel	email	min	secretaria	projetos	projetos	nova	ltda	investimentos	março
uruguay	andré	américa	vencedor	municipal	premição	premição	dias	apresentado	audiovisuais	palestra
cuba	paulo	novembro	sonora	documentários	inscrições	inscrições	incentivados	financeiro	longasmetragens	realiza
panamá	produções	duração	trilha	obra	festivais	festivais	superintendência	inscrições	públicas	produtoras

Table A.3: Ancine's Topics:11-20

Support for International Participation	News	News	Agenda of Directors	News	Inspection	News	Support for International Participation	Brazil of All Screens	Cable TV Law
Topic 11	Topic 12	Topic 13	Topic 14	Topic 15	Topic 16	Topic 17	Topic 18	Topic 19	Topic 20
filme	filme	filmes	ancine	mostra	nfl	audiovisual	apoio	valor	canais
ministério	festival	evento	audiovisual	evento	ilda	cultura	festival	filmes	programação
participação	mostra	cinema	rangel	cinema	cnpj	projetos	filmes	investido	cinema
ancine	brasileiro	cinema	manoel	filmes	produções	cultural	festivals	fsa	lei
internacionais	audiovisual	paulo	setor	oficinas	filmes	culturais	cópia	roleiro	ancine
filmes	oscar	programação	diretor	festival	empresa	mercado	programa	direção	brasileiro
evento	seleção	rio	diretor	programação	video	inscrições	ancine	projeto	programa
brasileiros	cultura	janeiro	mercado	site	video	secretaria	brasileiros	sinopse	filmes
festival	comissão	exibidos	cinema	acontece	cinema	site	internacionais	série	brasil
eventos	setembro	começa	agência	cinema	comunicação	brasil	filme	produções	programadoras
mercado	indicação	brasil	diretor	inscrições	produção	edit	filme	mil	encontros
representada	prêmio	edição	presidente	edição	cinematográficas	ministério	envio	proponente	festivals
brasileiras	rio	brasileira	nacional	debates	cine	projeto	participação	projetos	espaço
internacional	brasil	cultural	diretora	alem	produtora	artes	cinema	produtora	curadores
laboratórios	janeiro	cinasta	brasileira	dias	artísticas	informações	legendada	brasil	paga
workshops	secretaria	filme	brasil	público	eventos	pessoas	financeiro	distribuidora	conteúdos
audiovisuais	academia	evento	rosana	brasil	publicidade	programa	longa	história	brasileiros
cinema	outubro	tudo	desenvolvimento	audiovisual	marketing	áreas	cannes	milhões	classificação
projetos	premição	exibição	participa	mostras	propaganda	realização	mostra	prodecine	qualificado
audiovisual	agosto	completa	brasileiro	gratuitas	comunicações	podem	diretor	produção	canal
produtores	dias	público	lei	informações	distribuidora	mídias	curta	inscrições	mercado
festivals	paulo	documentários	evento	animação	recurso	área	competição	episódios	mercado
obras	tamaraty	nacionais	representantes	curtas	arte	estado	oficial	investimentos	lista
dias	vaga	exibirá	alcântara	produção	silva	acesse	selecionados	chamada	edição
empresas	inscrições	além	debate	oficial	digital	audiovisuais	agência	fundo	conteúdo
rodadas	artes	centro	televisão	irradiantes	habilitado	digitais	passagem	nacionais	festival
produtoras	brasileira	santos	políticas	curta	casa	novas	categoria	setorial	etapa
produções	fevereiro	entrada	conselho	promove	imagens	cinema	frança	canal	veiculação
representantes	língua	hoje	associação	cidade	films	propostas	mundo	recursos	obrigações
auxílio	comercial	debates	públicas	acesse	abril	difusão	curtas	milhão	

Table A.4: Ancine's Topics:21-30

News	News	News	Fighting Film Piracy	Coproduction Notices	Registration of Advertising Works	Cinema Close to You Program	Inspection	Support public notices: general	News
Topic 21	Topic 22	Topic 23	Topic 24	Topic 25	Topic 26	Topic 27	Topic 28	Topic 29	Topic 30
produção	festival	cinema	ancine	projetos	ancine	salas	empresa	produção	cinema
rio	filmes	janeiro	nacional	encontro	agência	cinema	processo	nacional	brasil
comunicação	inscrições	cultura	ações	produtores	registro	exibição	cmj	ancine	rio
inscrições	internacional	rio	pirataria	coprodução	obras	programa	itda	audiovisual	janeiro
janeiro	cinema	nacional	combate	cinema	audiovisual	complexos	descaço	distribuição	audiovisual
abril	evento	audiovisual	público	internacional	consulta	recine	fiscalização	filmes	filmes
março	melhor	público	campanha	mercado	instrução	perfo	infração	filmes	brasileiros
podem	filme	mercado	produtos	evento	lei	modernização	anulação	projeto	brasileiro
dias	abertas	empresa	produtos	projeto	normativa	exibidor	superintendência	relação	nacional
site	curtas	pode	rio	brasil	pública	implantação	rio	brasil	primeira
objetivo	site	brasil	audiovisual	desenvolvimento	nacional	parque	auto	conteúdo	informações
contato	minutos	cinematográfica	contra	selecionados	condecine	mercado	agência	cinema	projeto
primeira	curtasmetragens	assessoria	comunicação	profissionais	obra	projeto	superintendente	abertura	brasileira
assessoria	oficial	brasileiro	propriedade	dias	sistema	digitalização	processos	fomento	seleção
acesse	prêmio	partir	convênio	acontece	empresas	complexo	janeiro	mercado	outros
seleção	podem	estado	associação	países	informações	constituição	ancine	maior	comunicação
internacional	acontece	valecultura	federal	encontros	audiovisuais	cinematográfica	cinema	assinatura	assessoria
todo	mostras	mês	órgãos	durante	regulação	projetos	multa	câmara	profissionais
participar	júri	site	semana	edição	mercado	especial	nacional	serviços	distribuição
audiovisuais	edição	governo	cinema	pitching	atividade	regime	ciência	incentivo	filme
malo	compelição	ministério	núcleo	informações	dados	brasil	aranha	editai	primeiro
televisão	compelição	país	criação	financiamento	público	cinemas	graça	rio	programa
produtores	obras	profissionais	brasileira	diretor	cinematográfica	expansão	valor	demaís	programa
novembro	animação	outubro	comércio	veritana	artigo	novos	andar	brasileiras	selembro
brasil	informações	vez	conselho	sur	comunicação	tribuição	atribuições	novo	duas
estado	mostra	vale	filmes	fórum	novo	pais	uso	empresas	conta
podem	duração	centro	justiça	coproduções	acesso	shopping	iníma	partir	desenvolvimento
material	ficção	podem	elite	fase	exibição	importação	centro	número	outubro
pais	prêmios	duas	ministério	distribuidores	concurso	crédito	situada	comunicação	partir
julho	competitivas	benefício	além	produção	art	imposto	contato	serviço	participação

A.2 ANEEL

The next tables contains ANEEL's stopword list, and measures of model fit. We decided for the 40-topic solution based on a mix of entropy, perplexity and visual inspection of the results. ANEEL's final document-term matrix had 3,927 documents and 7,062 different words that appeared 615,036 times.

Tables A.8, A.9, A.10 and A.11 contain ANEEL's 40 topics and the 30-top words of each.

Table A.5: ANEEL's stopwords

Stopwords List
"ser" "após" "hoje" "durante" "depois" "antes" "este" "esta"
"estes" "estas" "esse" "essa" "esses" "essas" "neste" "nesta" "nestes" "nestas" "nesse"
"nessa" "nesses" "nessas" "naquele" "naquela" "naqueles" "naquelas"
"dia" "dias" "ainda" "sob" "sobre" "deste"
"desta" "destes" "destas" "desses" "dessas" "desse" "dessa" "aqui"
"serem" "terem" "terão" "teriam" "deverão" "deveriam" "serão" "seriam"
"além" "partir" "podem" "poderiam" "poderão" "deve" "devem" "iii" "vii" "viii"

Table A.6: Entropy and Perplexity: Topics 10-70

Topics	Entropy	Perplexity
10	0.9715628	864.819
20	1.150618	734.0024
30	1.264902	663.2438
40	1.28534	628.499
50	1.359594	593.6635
55	1.488424	622.5613
60	1.610071	639.8213
70	1.6696971	629.8572

Table A.7: Entropy and Perplexity: 40-topics with different seeds

Run	Entropy	Perplexity
1	1.399361	651.2715
2	1.26446	650.7153
3	1.371912	663.8604
4	1.182215	626.9264
5	1.305636	621.9022
6	1.24829	637.4204
7	1.294715	641.5542
8	1.336666	641.1162
9	1.368846	676.6135
10	1.293729	626.7862

A.3 ANP

The next tables contains ANP's stopword list, and measures of model fit. We decided for the 30-topic solution based on a mix of entropy, perplexity and visual inspection of the results. ANP's final document-term matrix had 832 documents and 3,943 different words that appeared 144,373 times.

Tables A.15, A.16 and A.17 contain ANP's 30 topics and the 30-top words of each.

Table A.8: Aneel's Topics:1-10

Tariff Readjustment	Board Meetings	Institutional	Street Lighting	Tariff Flags	IASC	Transmission Concessions	Tariff Revision	Generation concessions	Public Exams
Topic 1	Topic 2	Topic 3	Topic 4	Topic 5	Topic 6	Topic 7	Topic 8	Topic 9	Topic 10
tensão	agência	aneel	pública	energia	iasc	subestação	revisão	estudos	aneel
energia	pública	energia	ativos	bandeiras	mil	linhas	aneel	potência	agência
reajuste	aneel	agência	agência	bandeira	energia	transmissão	tarifária	centrais	público
custos	elétrica	elétrica	transferência	geração	municípios	linha	audiência	hidrelétricas	final
baixa	reunião	setor	aneel	sistema	consumidores	operação	processo	usinas	brasil
aneel	diretoria	nacional	iluminação	kwh	unidades	quilômetros	pública	pch	regulação
agência	juízo	energética	municípios	tarifárias	distribuidoras	minas	concessionárias	pequenas	página
encargos	energia	eficiência	distribuidoras	vermelha	companhia	estado	contribuições	operação	oficial
empresa	data	serviços	limite	cada	empresa	investimento	tarifas	projeto	diário
consumidores	nacional	elétrico	energia	amarela	consumidoras	sistema	distribuição	energia	públicos
Índices	disponível	desenvolvimento	prazo	custo	índice	extensão	consumidores	entrada	abril
tarifas	prorrogação	diretor	máximo	mês	aneel	lote	empresas	inventário	concurso
alta	alteração	informações	serviços	tarifa	concessionárias	concessão	índice	empreendimento	união
elétrica	concessionárias	regulação	responsabilidade	elétrica	região	anual	energia	aneel	administrativo
abaixo	realizada	agências	município	consumidores	sul	leilão	periódica	projetos	anexo
consumo	terça-feira	empresas	paulo	condições	paulista	receita	agência	investimento	novembro
variação	resolução	evento	resolução	consumo	consumidor	empresas	proposta	capacidade	elétrica
classe	mudança	projetos	elétrica	acréscimo	prêmio	região	remuneração	hidrelétrico	realização
média	feita	pesquisa	audiência	verde	luz	origem	distribuidora	geração	superior
médio	atualização	meio	conforme	consumidos	elétrica	geração	serviços	básico	relatório
confira	período	consumidores	condições	custos	força	santa	preliminar	instalada	candidatos
índice	segundo	objetivo	manutenção	valor	empresas	entrada	médio	rio	ano
reajustes	novembro	diretor geral	meio	consumidor	pesquisa	término	distribuidoras	milhões	formação
efeito	contrato	projeto	processo	usinas	serviços	empreendimento	concessionária	empresendedor	aprovados
rural	ambas	programa	sessão	aneel	satisfação	concessões	investimentos	pchs	internet
unidades	val	geração	artigo	reservatórios	média	rio	unidades	municípios	janeiro
consumidoras	audiência	fiscalização	setembro	conta	agência	município	escrito	empreendimento	cargo
consumidor	informações	ações	contribuições	menos	paulo	sul	anos	aproveitamentos	locais
tarifários	geral	osé	nacional	hidrelétricas	ano	aneel	prestação	viabilidade	vagas
pública	referencia	resultados	distribuidora	nacional	desempenho	energia	concessão	aprovação	próximo

Table A.9: Aneel's Topics:11-20

Bidding Documents	Board Meetings	Electricity prepayment	Tariff revision	Distributed Generation	Administrative Intervention	Public Hearings	Commercialization of electricity	Concessões de Geração	Tarifa Social
Topic 11	Topic 12	Topic 13	Topic 14	Topic 15	Topic 16	Topic 17	Topic 18	Topic 19	Topic 20: SOCIA
concessão	aneel	consumidor	revisão	energia	aneel	audiência	energia	energia	tarifa
nacional	nacional	energia	agência	sistema	controle	contribuições	mercado	usina	consumo
aneel	agência	elétrica	publica	consumidor	empresa	publica	elétrica	aneel	renda
edital	distribuição	prépagamento	tarifária	resolução	decisão	agência	agentes	aneel	social
publica	resolução	distribuidora	reunião	geração	agência	módulo	prazo	agência	energia
valores	elétrica	créditos	elétrica	distribuída	concessionária	sgan	comercialização	empresa	consumidores
no	publica	consumidores	técnica	compensação	processo	endereço	aneel	instalada	baixa
agência	reunião	aneel	nacional	rede	transferência	cep	liquidação	consumidor	
meses	diretoria	medidor	nota	aneel	central	geral	coee	ute	atendimento
extensão	audiência	atividades	aneel	distribuidora	energia	email	mae	geração	kwh
prazo	aprovou	agência	diretoria	consumidores	federal	quadra	resolução	diretoria	elétrica
lotes	energia	poderá	energia	elétrica	intervenção	proposta	art	hidrelétrica	unidades
operação	terça-feira	contribuições	processo	potência	companhia	protocolo	contratos	potência	benefício
licitação	concessão	valor	regulação	minigeração	elétrica	interessados	curto	localizada	resolução
contratos	serviço	elétrico	técnicas	acesso	grupo	térreo	câmara	pch	aneel
documentos	contribuições	fisco	período	unidades	prazo	aneel	regas	megawatts	distribuidora
link	ano	publica	distribuição	instalação	maranhão	apaneelgovbr	sistema	reunião	distribuidoras
reunião	decidiu	prazo	contribuições	micro	agosto	elétrica	compra	nacional	consumidoras
diretoria	área	audiência	superintendência	instalações	nacional	brasil	agente	ltda	cadastro
leilão	contrato	modalidade	metodologia	fontes	proposta	enviar	contabilização	rio	programas
interligado	data	meio	econômica	solar	pedido	energia	preço	município	direito
assinatura	acordo	regulamentação	tema	normal	distribuidora	fax	nacional	uhe	critérios
deverá	aprovada	proposta	reunites	geradores	societário	resolução	operação	implantação	descontos
internet	referentes	fornecimento	dez	consumidoras	eliminar	objetivo	contratação	operação	federal
sistema	geral	kwh	proposta	fonte	empresas	procedimentos	conselho	autorização	mensal
sin	alteração	caso	aprovado	grupo	justiça	enviadas	pld	transferência	prazo
janeiro	processo	conta	regulamento	norma	judicial	período	procedimentos	informações	governo
www.aneel.gov.br	objetivo	brasil	base	instalada	desde	normativa	venda	central	social
porto	extraordinária	concessão	parâmetros	unidade	energética	discutir	cada	independente	lei
instalações	atendimento	tempo	ciclo	reduzir	data	aprimoramento	consumidores	ventos	postos

Table A.10: Aneel's Topics:21-30

Transmission concessions	Generation concessions	R&D	Tariff Readjustment	Tariff Revision	Continuity Indicators	Generation concessions	Board Meetings	DUP	CDE
Topic 21	Topic 22	Topic 23	Topic 24	Topic 25	Topic 26	Topic 27	Topic 28	Topic 29	Topic 30
receita	leilão	revisia	tarifas	energia	revisão	mil	reunião	transmissão	energia
anual	energia	energia	energia	publica	tarifária	ano	nacional	energia	valor
lote	elétrica	sistema	reajuste	diretoria	unidade	geração	elétrica	linha	conta
transmissão	empreendimento	projetos	indices	elétrica	consumidora	rio	agência	pública	sistemas
energia	mwh	edicação	indices	periodo	consumidora	concessão	aneel	implantação	elétrica
permissão	edital	tensão	fator	revisão	fec	milhões	audiência	áreas	aneel
empreendimento	aneel	projeto	custos	aneel	dec	capacidade	concessionárias	utilidade	ccc
meses	preço	pesquisa	consumo	extraordinária	energia	municípios	proposta	necessárias	nacional
previsão	certame	equipamento	tarifária	serviço	interrupção	usinas	aprovou	elétrica	geração
operação	suprimento	auxilia	tarifário	resolução	média	lance	assunto	subestação	sistema
região	geração	elétrico	aneel	forma	audiência	potência	ano	municípios	encargo
entrada	anos	monitoramento	reposicionament	ciclo	equivalente	estimativa	realizada	terras	combustíveis
comercial	nacional	modelo	revisão	efeitos	agência	mínimo	terça-feira	aneel	isolados
localização	agência	energética	empresas	nacional	aneel	instalada	serviço	distribuição	tarifa
estimativa	início	citelnet	consumidores	concessionárias	publica	valor	contribuições	resolução	distribuidoras
elétrica	garantia	universidade	aplicação	metodologia	consumidores	hidrelétricas	pública	terra	cde
tensão	biomassa	uso	distribuidoras	capital	elétrica	prazo	periodo	companhia	custo
empregos	estados	rede	percentuais	financeiro	módulo	leilão	brasil	favor	valores
deságio	prezo	elétrica	agência	data	cada	total	referentes	declaração	lei
rio	quantidade	setor	elétrica	cada	tema	localização	contrato	agência	ano
extensão	comercialização	perdas	conta	processos	distribuição	grupo	bens	diretoria	agência
milhões	valor	pesquisadores	variação	vigência	indicadores	previsio	última	consolidados	consumidores
benefícios	contratação	light	gerenciáveis	proposta	conjunto	operação	novo	paulo	consumo
diretos	união	manutenção	empresa	distribuidoras	contribuições	investimento	deverá	nacional	milhões
grande	documentos	estudos	concessionária	componente	tensão	salto	técnica	dup	recursos
leilão	financeira	transmissão	abaixo	custos	considerado	compensação	distribuidoras	município	cotas
empresa	compensação	distribuição	ano	contratual	observação	financeira	critérios	serviço	interligado
empres	data	rio	igpm	peródicas	limites	entrada	forma	gerais	tarifas
vencedor	reserva	análise	percentual	ano	tarifas	aneel	diretoria	administrativa	diretoria
porto	fontes	medição	correção	março	sessão	lta	regulamento	extensão	anual

Table A.11: Aneel's Topics:31-40

Tariff Revision	Institutional	Transmission concessions	Generation Concessions	Transmission concessions	Transmission: states	Cooperatives	Inspection	Transmission: companies	Board Meetings
Topic 31	Topic 32	Topic 33	Topic 34	Topic 35	Topic 36	Topic 37	Topic 38	Topic 39	Topic 40
energia	nova	brasil	energia	transmissão	mva	permissonárias	energia	itda	energia
ciclo	diretor	espanha	geração	lote	rio	distribuição	agência	brasil	aneel
metodologia	elétrica	itda	usinas	recelta	sul	cooperativas	companhia	engenharia	elétrica
perdas	relator	consórcio	elétrica	leilão	grande	tarifas	fiscalização	consórcio	rede
agência	energia	transmissão	aneel	instalações	mab	energia	aneel	energia	concessão
revisões	atividade	abergoa	comercialização	rap	grosso	tarifária	elétrica	serviços	aprovou
distribuidoras	resolução	lider	operações	anual	paulo	elétrica	serviços	espanha	diretoria
base	distribuição	empresas	contratos	energia	bahia	uso	elétrica	participações	publica
elétrica	custo	participações	empresadimento	agência	novo	cooperativa	empresa	elétricas	decisão
remuneração	transmissão	engenharia	agência	permissão	lotes	rural	recurso	companhia	nacional
tarifárias	procedimentos	engenharia	nacional	operação	ceará	aneel	multa	comércio	acordo
técnicas	processo	elétrica	leilões	valor	pará	revisão	energética	comércio	deverá
empresas	normativa	elecor	garantia	lotes	estado	eletrificação	distribuição	técnica	contrato
distribuição	concessionárias	lote	mme	comercial	estados	serviço	centrais	energética	conforme
nacional	publica	isolux	ons	aneel	minas	metodologia	interrupção	constitua	janeiro
cálculo	geração	concessões	disponibilidade	entrada	alagoas	consumidores	distribuidora	empresas	processo
qualidade	revisão	empresadimento	comercial	serviço	goiás	rio	nacional	maior	concessionárias
operacionais	atividades	holding	ambiente	direito	santa	desconto	consumidores	industria	ano
revisão	aneel	linhas	contratação	milhões	gerais	dados	milhões	construções	empresas
recitas	universalização	ecol	sistema	concessão	mvar	tarifário	elétricas	wat	todas
custos	aprimorar	leilão	contrato	elétrica	leilão	grande	indicadores	equipamentos	cada
diretoria	regulatória	paulo	caso	prestação	pátio	agência	desempimento	isolux	cada
periféricas	agência	companhia	termelétricas	linhas	norte	tariffa	decidiu	centig	área
metodologias	dois	rio	usina	subestações	joão	eficiência	provisão	transmissão	distribuição
critérios	investimento	lotes	diretoria	nacional	paraliba	regularização	fornecimento	elecor	caso
aneel	investimentos	lotes	maio	desaço	catarina	alterações	qualidade	ambas	novembro
concessionárias	capital	consórcios	física	resultado	compensador	custos	aplicada	consórcio	dezembro
relação	agenda	custos	janeiro	meses	piauí	publico	interposto	luminar	informações
tarifária	custos	empresadimento	termo	realizado	estático	revisões	diretoria	obras	meio
nível	avaliação	colombia	cronograma	geração	lote	tarifárias	penalidade	lote	parte

Table A.12: ANP's stopwords

Stopwords List
<p>”ser” ”são” ”sendo” ”está” ”estão” ”ter” ”esse” ”essa” ”esses” ”essas” ”deste” ”desta” ”destes” ”destas” ”sua” ”seu” ”deve” ”devem” ”cujo” ”cuja” ”antes” ”depois” ”após” ”durante” ”sobre”</p>

Table A.13: Entropy and Perplexity: Topics 15-90

Topics	Entropy	Perplexity
15	0.9226006	532.1223
20	0.9159142	489.6544
25	0.9540202	460.8645
30	0.9250673	435.3902
35	0.9032847	415.7889
40	0.8623774	410.8325
45	0.8553481	407.776
50	0.9273012	396.5429
55	0.9908028	397.651
60	1.051531	390.2089
70	1.16169	398.1741
80	1.154299	385.3882
90	1.211415	388.2876

Table A.14: Entropy and Perplexity: 30-topics with different seeds

Topics	Entropy	Perplexity
1	0.9084755	438.1032
2	0.8491305	435.1944
3	0.8933162	433.6299
4	0.8109907	427.7165
5	0.8948645	436.7826
6	0.8748435	442.2843
7	0.8947600	431.0191
8	0.9812916	444.9389
9	0.8963478	431.9962
10	0.8187787	429.3547

Table A.15: ANP's Topics:1-10

(Aviation) Fuel Inspection	Fuel Inspection	Operational Safety	Gas Station Inspection	Biodiesel Auction+Social Stamp	Bidding rounds	BDEP	Inspection of bottled gas	Quality Monitoring	Public Exams
nome	anp	anp	anp	biodiesel	rodada	dados	anp	diesel	petróleo
anp	combustíveis	vazamento	combustíveis	leilão	áreas	anp	gás	óleo	anp
segurança	fiscalização	poço	órgãos	litros	blocos	informações	combustíveis	anp	portaria
combustíveis	agência	óleo	fiscalização	milhões	empresas	bdep	agentes	enxofre	gás
autorização	rio	chevron	ações	anp	exploração	produção	glp	janeiro	natural
instalações	convênio	agência	denúncias	produtores	anp	empresas	comércio	rio	derivados
resolução	postos	frade	inteligência	social	bloco	exploração	nacional	partir	técnico
distribuição	estado	petróleo	postos	total	bloco	exploração	mercado	biodesel	estabelece
dia	nacional	dia	públicos	selo	fase	gás	agência	nacional	nível
passo	ministério	área	agência	combustível	licitações	banco	bolíjipes	qualidade	art
gp	secretaria	área	forçatarefa	preço	assinatura	fiscalização	petróleo	resolução	atividade
requisitos	janeiro	brasil	forçatarefa	volume	bônus	milhões	projeto	veículos	superior
armazenamento	estadual	perfuração	irregularidades	médio	bacias	atividades	econômicos	teor	regulação
fundo	público	marinha	estado	nacional	águas	petróleo	qualidade	municípios	vagas
atividade	petróleo	incidente	glp	ofertas	desenvolvimento	natural	itinerante	ppm	dezembro
reverdeador	pernambuco	acidente	além	leilões	etapa	maior	natural	programa	álcool
infração	operação	máximo	qualidade	diesel	concessão	técnicos	fiscalização	paulo	acesso
motivo	gás	plataforma	agentes	partir	oferta	aquisição	consumidor	gasolina	brasil
pública	mercado	investigação	outros	partir	total	podem	consumidores	todo	lei
mínimos	fiscais	mancha	revendas	segundo	produção	anos	biocombustíveis	combustível	transporte
município	revenida	segurança	participação	primeiro	quarta	todas	armazenamento	meio	combustível
revenida	objetivo	ibama	mercado	produção	brasil	acervo	estado	nova	administrativo
revenida	minutas	medidas	realizadas	armatados	espírito	acesso	segurança	emissões	janeiro
processo	federal	cerca	relações	mistura	mínimo	áreas	federalização	agência	geral
distribuidor	gerais	técnicos	econômicos	deságio	mil	disponíveis	revedebres	combustíveis	nacional
servidor	órgãos	nacional	informações	mercado	contrato	orçamento	revenda	pais	internet
manaus	outros	abandono	resultou	mercado	santos	pública	testes	grande	agência
exercício	revededores	hoje	trc	ministério	três	síto	evento	desde	prezo

Table A.16: ANP's Topics:11-20

<i>Institutional</i>	<i>Bidding rounds</i>	<i>Operational Safety</i>	<i>Market Data</i>	<i>Gas station inspection</i>	<i>poorly specified</i>	<i>Institutional</i>	<i>Bidding rounds of marginal fields</i>	<i>Bidding rounds</i>
anp	bacia	petróleo	biombos	anp	brasil	anp	áreas	the
petróleo	blocos	anp	litros	qualidade	grupo	petróleo	rodada	and
lima	bacia	segurança	consumo	paulo	lita	agência	anp	anp
haroldo	gás	produção	aumento	combustíveis	origem	mercado	petróleo	round
diretorgeral	rodada	desenvolvimento	dados	fiscalização	social	nacional	gás	oil
gás	setor	brasil	petróleo	ações	razão	energia	natural	companies
brasil	sedimentares	operacional	mercado	agência	petróleo	combustíveis	licitações	postos
agência	produção	industria	anp	amostras	gás	gás	marginais	exploration
setor	cerca	exploratório	relação	postos	empresas	setor	empresas	atividade
rio	anp	atividades	crescimento	estado	país	ministério	acumulações	agência
natural	área	resolução	combustíveis	ano	nome	regulação	produção	brasil
produção	nova	exploração	derivados	programa	engenharia	defesa	nacional	portaria
diretor	gás	empresas	diesel	monitoramento	capital	brasil	rio	are
biocombustíveis	estudos	sistema	gasolina	gasolina	exploração	hoje	inativas	exercício
licitações	santo	nacional	gás	revendedores	produção	kardec	estado	new
magda	setor	meio	óleo	federal	energia	país	sélma	publicação
desenvolvimento	fronteira	ambiente	etanol	alcool	participações	energética	bacias	registro
brasil	total	agência	milhões	combustível	anp	politica	bahia	bidding
chambariand	modelo	petrobras	ano	índices	rodada	sistema	campos	relação
nacional	paraná	país	biodiesel	diesel	natural	fiscalização	reservas	total
hoje	campos	investimentos	comparação	problemas	oil	economia	segunda	dou
afirmou	empresas	objetivo	biocombustíveis	lubrificantes	energy	biocombustíveis	agência	gas
exploração	ambiental	refino	período	nãoconformidade	estados	cadeia	espírito	revendedores
destacou	áreas	recursos	hidratado	estados	total	econômico	santo	prazo
préfal	paráramanhão	natural	vendas	nacional	comissão	trabalho	participação	that
disse	exploração	tecnologia	setor	índice	universidade	meio	royalties	recadastramento
participação	natural	anos	brasileiro	interdições	parnaba	ainda	terra	brasil
pais	total	volume	mercado	rio	diretor	exploração	petróleo	autorização
segundo	atividades	controla	adulteração	petrobras	uso	interesse	pequenas	natural
diretores	dados	derivados	anidro	corporation	brasil	brasileiro		
industria	poços	trabalho	janeiro					

Table A.17: ANP's Topics:21-30

Institutional	Human Resources Training Program	Gas Station Inspection	Pre-salt exploitation	Bidding rounds + local content	Gas station inspection	Oil and gas production	Local Content	Price Survey	poorly-specified
anp	gás	anp	pré-sal	bloco	anp	produção	anp	preços	petróleo
petrobras	anp	combustível	setor	empresas	posto	gás	local	etanol	nacional
agência	petróleo	álcool	energia	milhões	ltda	natural	conteúdo	anp	gás
diretor	natural	gasolina	produção	rodada	falta	petróleo	região	gasolina	hoje
petróleo	recursos	combustíveis	regime	arrematados	gás	mês	agência	combustíveis	biocombustíveis
federal	programa	produto	anp	bônus	motivo	campos	itens	preço	anp
gás	capacidade	posto	partilha	assinatura	segurança	dia	gás	queda	natural
abastecimento	bolsas	agência	licitação	bacia	postos	barris	participação	consumidor	dia
energia	transporte	qualidade	gás	oferecidos	autorização	mil	produção	pais	desde
biocombustíveis	pesquisa	nacional	nacional	vencedoras	mil	milhões	resolução	agência	janeiro
nacional	instituições	postos	natural	mínimo	auto	óleo	natural	semana	participação
setor	aurélio	anidro	união	contratos	instalações	maior	petróleo	mercado	agência
cargo	milhões	abastecimento	petróleo	total	comércio	poços	empresas	médio	dois
desde	inovação	rio	óleo	exploração	gasolina	campo	nacional	revenda	partir
nova	projetos	consumidor	brasil	petrobras	interdiados	boed	cada	nacional	pais
fiscalização	desenvolvimento	fiscalização	libra	investimentos	combustíveis	aproximadamente	realizado	levantamento	além
hoje	indústria	adição	experiência	programa	agência	equivalente	objetivo	redução	primeira
anos	projeto	etílico	agência	setor	gjp	relação	biocombustíveis	petróleo	rio
natural	tecnológica	distribuidoras	países	cerca	petróleo	api	regulamentação	pesquisa	ano
revista	nacional	mil	área	fase	rua	metros	biodiesel	econômica	principais
diretoria	cláusula	hidratado	regulação	ofertas	processo	concessões	agentes	postos	ainda
época	brasil	solventes	biocombustíveis	áreas	operação	cúbicos	diretoria	gjp	produção
senado	empresa	venda	pais	previsão	natural	bacia	fase	diesel	objetivo
papel	tecnologia	petróleo	cnpe	consórcio	bomba	total	seminário	final	brasil
afirmou	empresas	resolução	regulador	local	rio	terrestres	dia	médios	serviços
qualquer	biocombustíveis	deverá	desenvolvimento	área	administrativo	anterior	união	hidratado	internacional
mandato	programas	revendedores	exploração	mil	nacional	aumento	lei	cade	setor
rio	humanos	marcador	contratos	exploratório	biocombustíveis	produtores	ministério	sede	dias
servidores	ciência	produtores	risco	investimento	classe	marfim	mercado	partir	lei
preto	ano	laboratório	elétrica	conteúdo	interdição	brasil	além	revendedores	trabalho

References

- Aberbach, J. D., & Rockman, B. A. (1976). Clashing beliefs within the executive branch: The Nixon administration bureaucracy. *American Political Science Review*, 70(02), 456–468.
- Alesina, A., & Giuliano, P. (2013). *Family ties* (Tech. Rep.). National Bureau of Economic Research.
- Alesina, A., & Giuliano, P. (2015). Culture and institutions. *Journal of Economic Literature*, 53(4), 898–944.
- Alford, R., & Friedland, R. (1985). *Powers of theory*. JSTOR.
- Almeida, E. d., Losekann, L., & Vitto, W. A. C. (2016). *Custos e benefícios da atual política de conteúdo local* (Tech. Rep.). Cooperação e Pesquisa IBP - UFRJ.
- Alston, L. J., Melo, M. A., Mueller, B., & Pereira, C. (2013). Changing social contracts: Beliefs and dissipative inclusion in Brazil. *Journal of Comparative Economics*, 41(1), 48–65.
- Alvesson, M., & Kärreman, D. (2000). Varieties of discourse: On the study of organizations through discourse analysis. *Human Relations*, 53(9), 1125–1149.
- Ancine. (2015). *Anuário estatístico do cinema brasileiro* (Tech. Rep.). Agência Nacional de Cinema.
- Arbix, G., & Martin, S. B. (2010). Beyond developmentalism and market fundamentalism in Brazil: inclusionary state activism without statism. In *Workshop on “states, development, and global governa”. madison: Global legal studies center and the center for world affairs*.
- Bail, C. A. (2014). The cultural environment: Measuring culture with big data. *Theory and Society*, 43(3-4), 465–482.
- Baldwin, P. (1990). *The politics of social solidarity: class bases of the European welfare state, 1875-1975*. Cambridge University Press.
- Ban, C. (2013). Brazil’s liberal neo-developmentalism: New paradigm or edited orthodoxy? *Review of International Political Economy*, 20(2), 298–331.

- Barro, R. J., et al. (1992). Human capital and economic growth. *Proceedings, Federal Reserve Bank of Kansas City*, 199–230.
- Battilana, J., & Dorado, S. (2010). Building sustainable hybrid organizations: The case of commercial microfinance organizations. *Academy of Management Journal*, 53(6), 1419–1440.
- Benabou, R., & Tirole, J. (2005). *Belief in a just world and redistributive politics* (Tech. Rep.). National Bureau of Economic Research.
- Bermann, C. (2007). Impasses and controversies of hydroelectricity. *Estudos avançados*, 21(59), 139–153.
- Berry, R. S. (1999). Collecting data by in-depth interviewing.
- Birdsall, N., Ross, D., & Sabot, R. (1995). Inequality and growth reconsidered: lessons from east asia. *The World Bank Economic Review*, 9(3), 477–508.
- Blei, D., & Lafferty, J. (2006). Correlated topic models. *Advances in neural information processing systems*, 18, 147.
- Blei, D. M. (2012). Probabilistic topic models. *Communications of the ACM*, 55(4), 77–84.
- Blei, D. M., Ng, A. Y., & Jordan, M. I. (2003). Latent dirichlet allocation. *Journal of machine Learning research*, 3(Jan), 993–1022.
- Bonilla, T., & Grimmer, J. (2013). Elevated threat levels and decreased expectations: how democracy handles terrorist threats. *Poetics*, 41(6), 650–669.
- Boschi, R., & Gaitán, F. (2009). Politics and development: lessons from latin america. *Brazilian Political Science Review (Online)*, 4(SE).
- Bourdieu, P., Wacquant, L. J., & Farage, S. (1994). Rethinking the state: Genesis and structure of the bureaucratic field. *Sociological theory*, 12, 1–18.
- Brandão, F. (1998). *The petrobras monopoly and the regulation of oil prices in brazil*. Oxford Institute for Energy Studies.
- Briggs, A. (1961). The welfare state in historical perspective. *European Journal of Sociology*, 2(02), 221–258.
- Brown, A. C., Stern, J., Tenenbaum, B. W., & Gencer, D. (2006). *Handbook for evaluating infrastructure regulatory systems*. World Bank Publications.
- Campbell, J. L. (1998). Institutional analysis and the role of ideas in political economy. *Theory and society*, 27(3), 377–409.
- Carneiro, R. L. (1970). A theory of the origin of the state. *Science*, 169(3947), 733–738.

- Castles, F. G. (2004). *The future of the welfare state: Crisis myths and crisis realities*. Oxford University Press.
- Cavalcante, P., & Lotta, G. (2015). *Burocracia de médio escalão: perfil, trajetória e atuação*. Escola Nacional de Administração Pública (Enap).
- CBC. (2011). *Congresso brasileiro de cinema: Reflexões e anotações para a história*. CBC Edições.
- Chang, J., Gerrish, S., Wang, C., Boyd-Graber, J. L., & Blei, D. M. (2009). Reading tea leaves: How humans interpret topic models. In *Advances in neural information processing systems* (pp. 288–296).
- Christensen, T., Lie, A., & Lægreid, P. (2008). Beyond new public management: agencification and regulatory reform in norway. *Financial Accountability & Management*, 24(1), 15–30.
- Chuang, J., Gupta, S., Manning, C. D., & Heer, J. (2013). Topic model diagnostics: Assessing domain relevance via topical alignment. In *Icml (3)* (pp. 612–620).
- Chuang, J., Roberts, M. E., Stewart, B. M., Weiss, R., Tingley, D., Grimmer, J., & Heer, J. (2015). Topiccheck: Interactive alignment for assessing topic model stability. In *Proceedings of naacl-hlt* (pp. 175–184).
- Chung, C.-N., & Luo, X. (2008). Institutional logics or agency costs: The influence of corporate governance models on business group restructuring in emerging economies. *Organization Science*, 19(5), 766–784.
- Cunha, B. Q., & Rodrigo, D. (2012). Regulatory governance in brazil: Inconsistent coordination, institutional fragmentation and halfway reforms. In *4th biennial conference of the ecpr standing group for regulatory governance* (pp. 27–29).
- Dahl, G. (2006). *Construindo a ancine*. (Access: https://www.ancine.gov.br/sites/default/files/artigos/construindo_ancine_gd.pdf)
- de Bragança, G. G. F., Pessoa, M. d. S., & Rocha, K. (2015). *Medidas regulatórias, volatilidade e contágio: um estudo dos casos da energia elétrica e das telecomunicações no brasil* (Tech. Rep.). Texto para Discussão, Instituto de Pesquisa Econômica Aplicada (IPEA).
- De Brito, C., & De Mello, L. (2006). *Boosting innovation performance in brazil* (Tech. Rep.). OECD Economics Department Working Papers.
- de Carvalho, F. L., et al. (1998). *Fighting extreme poverty in brazil: the influence of citizens' action on government policies*. OECD.
- DiMaggio, P. (2015). Adapting computational text analysis to social science (and vice versa). *Big Data & Society*, 2(2). doi: 10.1177/2053951715602908

- DiMaggio, P., Nag, M., & Blei, D. (2013). Exploiting affinities between topic modeling and the sociological perspective on culture: Application to newspaper coverage of us government arts funding. *Poetics*, 41(6), 570–606.
- DiMaggio, P., & Powell, W. W. (1983). The iron cage revisited: Collective rationality and institutional isomorphism in organizational fields. *American Sociological Review*, 48(2), 147–160.
- Dunleavy, P. (2014). The state is a multi-system: understanding the oneness and diversity of government.
- Dunleavy, P., & Hood, C. (1994). From old public administration to new public management. *Public money & management*, 14(3), 9–16.
- Dunleavy, P., & O’leary, B. (1987). *Theories of the state: The politics of liberal democracy*. Macmillan.
- Dunn, J. (2014). *Interpreting political responsibility: essays 1981-1989*. Princeton University Press.
- Dunn, M. B., & Jones, C. (2010). Institutional logics and institutional pluralism: The contestation of care and science logics in medical education, 1967–2005. *Administrative Science Quarterly*, 55(1), 114–149.
- Esping-Andersen, G. (2002). *Why we need a new welfare state*. OUP Oxford.
- Esping-Andersen, G. (2013). *The three worlds of welfare capitalism*. John Wiley & Sons.
- Evans, P., & Rauch, J. E. (1999). Bureaucracy and growth: A cross-national analysis of the effects of “weberian” state structures on economic growth. *American sociological review*, 748–765.
- Evans, P. B. (1995). *Embedded autonomy: states and industrial transformation* (Vol. 25). Cambridge Univ Press.
- Feinerer, I., & Hornik, K. (2015). R package, “tm” — a framework for text mining applications within r. *R Foundation for Statistical Computing, Vienna*.
- Feinerer, I., Hornik, K., & Meyer, D. (2008). Text mining infrastructure in r. *Journal of statistical software*, 25(5), 1–54.
- Firjan. (2015). *Rodada de licitação de blocos exploratórios: o impacto para a indústria de um ano sem rodada* (Tech. Rep.). Federação das Indústrias do Estado do Rio de Janeiro.
- Fornazari, F. K. (2006). Instituições do estado e políticas de regulação e incentivo ao cinema no brasil: o caso ancine e ancinav. *Revista de Administração Pública*, 40(4), 647–77.
- Frederickson, H. G., Smith, K. B., Larimer, C. W., & Licari, M. (2015). *The public administration theory primer*. Westview Press.

- Friedland, R. (2009). Institution, practice, and ontology: Toward a religious sociology. *Research in the Sociology of Organizations*, 27, 45–83.
- Friedland, R. (2011). The institutional logic of religious nationalism: Sex, violence and the ends of history. *Politics, Religion & Ideology*, 12(1), 65–88.
- Friedland, R. (2013). God, love and other good reasons for practice: Thinking through institutional logics. *Institutional logics in action: Research in the sociology of organizations*, 39, 25–50.
- Friedland, R., & Alford, R. R. (1991). Bringing society back in: Symbols, practices, and institutional contradictions. In W. W. Powell & P. J. DiMaggio (Eds.), *The new institutionalism in organizational analysis*. Chicago: The University of Chicago Press.
- Friedland, R., Mohr, J. W., Roose, H., & Gardinali, P. (2014). The institutional logics of love: measuring intimate life. *Theory and Society*, 43(3-4), 333–370.
- Friedman, M. (2002). *Capitalism and freedom*. The University of Chicago press.
- Glynn, M. A., & Lounsbury, M. (2005). From the critics' corner: Logic blending, discursive change and authenticity in a cultural production system. *Journal of Management Studies*, 42(5), 1031–1055.
- Gore, C. (2000). The rise and fall of the washington consensus as a paradigm for developing countries. *World development*, 28(5), 789–804.
- Greenwood, R., Díaz, A. M., Li, S. X., & Lorente, J. C. (2010). The multiplicity of institutional logics and the heterogeneity of organizational responses. *Organization Science*, 21(2), 521–539.
- Griffiths, T. L., & Steyvers, M. (2004). Finding scientific topics. *Proceedings of the National academy of Sciences*, 101(suppl 1), 5228–5235.
- Grimmer, J. (2010). A bayesian hierarchical topic model for political texts: Measuring expressed agendas in senate press releases. *Political Analysis*, 18(1), 1–35.
- Grimmer, J., & Stewart, B. M. (2013). Text as data: The promise and pitfalls of automatic content analysis methods for political texts. *Political Analysis*, 1–31.
- Haber, H. (2011). Regulating-for-welfare: A comparative study of “regulatory welfare regimes” in the israeli, british, and swedish electricity sectors. *Law & Policy*, 33(1), 116–148.
- Haggard, S. (2004). Institutions and growth in east asia. *Studies in comparative international development*, 38(4), 53–81.
- Harmon, D. J., Green, S. E., & Goodnight, G. T. (2015). A model of rhetorical legitimation: The structure of communication and cognition underlying institutional maintenance and change. *Academy of Management Review*, 40(1), 76–95.

- Hirschman, A. O. (1987). The political economy of latin american development: seven exercises in retrospection. *Latin American Research Review*, 22(3), 7–36.
- Hoffman, A. J. (1999). Institutional evolution and change: Environmentalism and the us chemical industry. *Academy of management journal*, 42(4), 351–371.
- Hoffman, M. D., Blei, D. M., Wang, C., & Paisley, J. W. (2013). Stochastic variational inference. *Journal of Machine Learning Research*, 14(1), 1303–1347.
- Holperin, M. M. (2012). *O processo de agenciificação no brasil: divergência ou mimetismo?*
- Hood, C. (2007). What happens when transparency meets blame-avoidance? *Public Management Review*, 9(2), 191–210.
- Hood, C. (2010). *The blame game: Spin, bureaucracy, and self-preservation in government*. Princeton University Press.
- Hood, C., & Peters, G. (2004). The middle aging of new public management: into the age of paradox? *Journal of public administration research and theory*, 14(3), 267–282.
- Hood, C., Rothstein, H., & Baldwin, R. (2001). *The government of risk: Understanding risk regulation regimes*. OUP Oxford.
- Hornik, K., & Grün, B. (2011). topicmodels: An r package for fitting topic models. *Journal of Statistical Software*, 40(13), 1–30.
- Inep, C. (2013). Instituto nacional de estudos e pesquisas educacionais anísio teixeira. censo nacional da educação básica. *Diário Oficial da União*, 860. (Access: http://download.inep.gov.br/educacao_superior/censo_superior/apresentacao/2014/coletiva_censo_superior_2013.pdf)
- Jay, J. (2013). Navigating paradox as a mechanism of change and innovation in hybrid organizations. *Academy of Management Journal*, 56(1), 137-159.
- Jeppeson, R. (1991). Institutions, institutional effects, and institutionalization. *The new institutionalism in organizational analysis*, 143–63.
- Jockers, M. L., & Mimno, D. (2013). Significant themes in 19th-century literature. *Poetics*, 41(6), 750–769.
- Johnson, C. (1999). The developmental state: Odyssey of a concept. *The developmental state*, 32–60.
- Johnson, D., & Sinanovic, S. (2001). Symmetrizing the kullback-leibler distance. *IEEE Transactions on Information Theory*.
- Jones, C., Boxenbaum, E., & Anthony, C. (2013). The immateriality of material practices in institutional logics. *Research in the Sociology of Organizations*, 39(A), 51–75.

- Jones, C., & Livne-Tarandach, R. (2008). Designing a frame: Rhetorical strategies of architects. *Journal of Organizational Behavior*, 1075–1099.
- Jordana, J., & Levi-Faur, D. (2005). The diffusion of regulatory capitalism in latin america: Sectoral and national channels in the making of a new order. *The Annals of the American Academy of Political and Social Science*, 598(1), 102–124.
- Keller, J., & Loewenstein, J. (2011). The cultural category of cooperation: A cultural consensus model analysis for china and the united states. *Organization Science*, 22(2), 299–319.
- Keynes, J. M. (2010). The end of laissez-faire. In *Essays in persuasion* (pp. 272–294). Springer.
- Korff, V. P., Oberg, A., & Powell, W. W. (2015). Interstitial organizations as conversational bridges. *Bulletin of the American Society for Information Science and Technology*, 41(2), 34–38.
- Korpi, W., & Palme, J. (1998). The paradox of redistribution and strategies of equality: Welfare state institutions, inequality, and poverty in the western countries. *American sociological review*, 661–687.
- Kraatz, M. S., & Block, E. S. (2008). Organizational implications of institutional pluralism. *The Sage handbook of organizational institutionalism*, 840, 243–275.
- Kurtz, M. J., & Brooks, S. M. (2011). Conditioning the “resource curse”: globalization, human capital, and growth in oil-rich nations. *Comparative Political Studies*, 44(6), 747–770.
- Lee, M.-D. P., & Lounsbury, M. (2015). Filtering institutional logics: Community logic variation and differential responses to the institutional complexity of toxic waste. *Organization Science*, 26(3), 847–866.
- Levi-Faur, D. (2005). The global diffusion of regulatory capitalism. *The Annals of the American Academy of Political and Social Science*, 598(1), 12–32.
- Levi-Faur, D. (2014). The welfare state: a regulatory perspective. *Public Administration*, 92(3), 599–614.
- Lipsky, M. (1969). *Toward a theory of street-level bureaucracy*. Institute for Research on Poverty, University of Wisconsin.
- Loewenstein, J., Ocasio, W., & Jones, C. (2012). Vocabularies and vocabulary structure: A new approach linking categories, practices, and institutions. *The Academy of Management Annals*, 6(1), 41–86.
- Mabbett, D. (2011). The regulatory rescue of the welfare state. *Handbook on the Politics of Regulation*, 215.

- Maggetti, M. (2010). Legitimacy and accountability of independent regulatory agencies: A critical review. *Living Reviews in Democracy*, 2(1), 1–9.
- Majone, G. (1994). The rise of the regulatory state in europe. *West European Politics*, 17(3), 77–101.
- Majone, G. (2011). The transformations of the regulatory state. In *The new regulatory state* (pp. 31–56). Springer.
- Marcuzzo, M. C. (2010). Whose welfare state? beveridge versus keynes. *No Wealth but Life. Welfare Economics and the Welfare State in Britain, 1880-1945*, 189–206.
- Marshall, E. A. (2013). Defining population problems: Using topic models for cross-national comparison of disciplinary development. *Poetics*, 41(6), 701 – 724.
- McFarland, D. A., Ramage, D., Chuang, J., Heer, J., Manning, C. D., & Jurafsky, D. (2013). Differentiating language usage through topic models. *Poetics*, 41(6), 607–625.
- McPherson, C. M., & Sauder, M. (2013). Logics in action managing institutional complexity in a drug court. *Administrative Science Quarterly*, 165-196.
- Medeiros, M. (2001). A trajetória do welfare state no brasil: papel redistributivo das políticas sociais dos anos 1930 aos anos 1990.
- Mello, C. A. B. d. (2006). Serviço público e poder de polícia: concessão e delegação. *Revista Eletrônica de Direito do Estado*, 7.
- Meyer, R. E., & Hammerschmid, G. (2006). Changing institutional logics and executive identities a managerial challenge to public administration in austria. *American Behavioral Scientist*, 49(7), 1000-1014.
- Meyer, R. E., & Höllerer, M. A. (2010). Meaning structures in a contested issue field: A topographic map of shareholder value in austria. *Academy of Management Journal*, 53(6), 1241–1262.
- Michel, R. C., & Avellar, A. P. (2014). Indústria cinematográfica brasileira de 1995 a 2012: estrutura de mercado e políticas públicas. *Nova Economia*, 24(3), 491–514.
- Misra, H., Cappé, O., & Yvon, F. (2008). Using lda to detect semantically incoherent documents. In *Proceedings of the twelfth conference on computational natural language learning* (pp. 41–48).
- Mohr, J. W., & Bogdanov, P. (2013). Introduction—topic models: What they are and why they matter. *Poetics*, 41(6), 545–569.
- Mohr, J. W., Wagner-Pacifici, R., Breiger, R. L., & Bogdanov, P. (2013). Graphing the grammar of motives in national security strategies: Cultural interpretation, automated text analysis and the drama of global politics. *Poetics*, 41(6), 670–700.

- Moran, M. (2001). The rise of the regulatory state in Britain. *Parliamentary Affairs*, 54(1), 19–34.
- Murphy, K. P. (2012). *Machine learning: a probabilistic perspective*. MIT press.
- Mützel, S. (2015). Facing big data: Making sociology relevant. *Big Data & Society*, 2(2).
- Nascimento, R. L. (2016). *Cooperativas de eletrificação rural* (Tech. Rep.). The Brazilian Chamber of Deputies.
- Nunes, E., Ribeiro, L. M., & Peixoto, V. (2007). Agências reguladoras no Brasil. *Observatório Universitário on line*.
- Ocasio, W., Mauskopf, M., & Steele, C. (2015). History, society, and institutions: The role of collective memory in the emergence and evolution of societal logics. *Academy of Management Review*, amr-2014.
- OECD. (2008). The interface between competition and consumer policies. In *Competition policy roundtables*.
- Olsen, J. P. (2006). Maybe it is time to rediscover bureaucracy. *Journal of public administration research and theory*, 16(1), 1–24.
- Öniş, Z., Amsden, A. H., Deyo, F. C., Johnson, C., & Wade, R. (1991). *The logic of the developmental state*. JSTOR.
- Pache, A.-C., & Santos, F. (2013). Inside the hybrid organization: Selective coupling as a response to competing institutional logics. *Academy of Management Journal*, 56(4), 972–1001.
- Pacheco, R. S. (2004). Agências reguladoras na infra-estrutura e na área social no Brasil: gênese e indistinções. *ENCONTRO ANUAL DA ANPOCS*, 28.
- Peci, A. (2007). Reforma regulatória brasileira dos anos 90 à luz do modelo de Kleber Nascimento. *Revista de administração contemporânea*, 11(1), 11–30.
- Pereira, C., & Mueller, B. (2000). Uma teoria da preponderância do poder executivo: O sistema de comissões no legislativo brasileiro. *Revista Brasileira de Ciências Sociais*, 15(43), 45–67.
- Pereira, L. C. B. (1998). A reforma do estado dos anos 90: lógica e mecanismos de controle. *Lua Nova*, 45, 49–96.
- Pereira, L. C. B. (2012). From old to new developmentalism in Latin America. In *The Oxford handbook of Latin American economics*. Oxford University Press.
- Pfieger, G. (2014). What “regulatory state”? Explaining the stability of public spending and redistribution functions after regulatory reforms of electricity and rail services in the United Kingdom and Germany. *Law & Policy*, 36(2), 195–221.

- Pires, R. R. (2015). Por dentro do pac: Dos arranjos formais às interações e práticas dos seus operadores. In *Burocracia de médio escalão: perfil, trajetória e atuação*. Escola Nacional de Administração Pública (Enap).
- Pollit, C., Bathgate, K., Caulfield, J., Smullen, A., & Talbot, C. (2001). Agency fever? analysis of an international policy fashion. *Journal of comparative policy analysis: Research and practice*, 3(3), 271–290.
- Ponweiser, M., Grün, B., & Hornik, K. (2014). Finding scientific topics revisited. In *Advances in latent variables* (pp. 93–100). Springer.
- Powell, W. W. (1990). Neither market nor hierarchy. *Research in Organizational Behavior*, 12, 295–336.
- Powell, W. W., & Colyvas, J. (2007). *The new institutionalism. the international encyclopedia of organization studies*. Sage Publishers London.
- Power, T. J., & Zucco Jr, C. (2009). Estimating ideology of brazilian legislative parties, 1990–2005: a research communication. *Latin American Research Review*, 44(1), 218–246.
- Prado, M. M. (2012). Implementing independent regulatory agencies in brazil: The contrasting experiences in the electricity and telecommunications sectors. *Regulation & Governance*, 6(3), 300–326.
- Prado, M. M., Schapiro, M., & Coutinho, D. R. (2016). The dilemmas of the developmental state: Democracy and economic development in brazil. *Law and Development Review*, 9(2), 369–410.
- Prieto, D. C. M. (2014). *A política de conteúdo local e as decisões de investimento no brasil*.
- Prosser, T. (1997). *Law and the regulators*. Oxford University Press.
- Purdy, J. M., & Gray, B. (2009). Conflicting logics, mechanisms of diffusion, and multilevel dynamics in emerging institutional fields. *Academy of Management Journal*, 52(2), 355–380.
- Quattrone, P. (2015). Governing social orders, unfolding rationality, and jesuit accounting practices: A procedural approach to institutional logics. *Administrative Science Quarterly*, 60(3), 411–445.
- Quinn, K. M., Monroe, B. L., Colaresi, M., Crespín, M. H., & Radev, D. R. (2010). How to analyze political attention with minimal assumptions and costs. *American Journal of Political Science*, 54(1), 209–228.
- Ramage, D., Rosen, E., Chuang, J., Manning, C. D., & Mcfarland, D. A. (2009). Topic modeling for the social sciences..
- Rodrik, D. (2004). Industrial policy for the twenty-first century.

- Rosenbloom, D. H. (1983). Public administrative theory and the separation of powers. *Public Administration Review*, 219–227.
- Rousseau, D. M., & Rivero, A. (2003). Democracy, a way of organizing in a knowledge economy. *Journal of Management Inquiry*, 12(2), 115–134.
- Rubin, H. J., & Rubin, I. S. (2011). *Qualitative interviewing: The art of hearing data*. Sage.
- Salgado, L. H. (2003). Agências regulatórias na experiência brasileira: um panorama do atual desenho institucional.
- Salgado, L. H., Holperin, M. M., & Borges, E. B. d. P. (2010). Qualidade regulatória e fortalecimento do estado e das instituições: o papel da análise de impacto. In *Brasil em desenvolvimento: Estado, planejamento e políticas públicas* (p. 345-356). Instituto de Pesquisa Econômica Aplicada (Ipea).
- Schmidt, B. M. (2012). Words alone: Dismantling topic models in the humanities. *Journal of Digital Humanities*, 2(1), 49–65.
- Schneider, B. R. (1992). A privatização no governo collar: triunfo do liberalismo ou colapso do. *Revista de economia política*, 12(1), 45.
- Schneider, B. R. (2015). The developmental state in brazil: comparative and historical perspectives. *Revista de Economia Política*, 35(1), 114–132.
- Sievert, C., & Shirley, K. E. (2014). Ldavis: A method for visualizing and interpreting topics. In *Proceedings of the workshop on interactive language learning, visualization, and interfaces* (pp. 63–70).
- Silva, R. M. d. (2015). Impactos dos subsídios custeados pela conta de desenvolvimento energético.
- Skelcher, C., & Smith, S. R. (2015). Theorizing hybridity: Institutional logics, complex organizations, and actor identities: The case of nonprofits. *Public administration*, 93(2), 433–448.
- Steyvers, M., & Griffiths, T. (2007). Probabilistic topic models. *Handbook of latent semantic analysis*, 427(7), 424–440.
- Stiglitz, J. E. (1998). An agenda for development in the twenty-first century. In *Annual world bank conference on development economics 1997* (pp. 17–31).
- Stucke, M. E. (2013). Is competition always good? *Journal of antitrust Enforcement*, 1(1), 162–197.
- Swank, D., & Steinmo, S. (2002). The new political economy of taxation in advanced capitalist democracies. *American Journal of Political Science*, 642–655.
- Tabellini, G. (2010). Culture and institutions: economic development in the regions of europe. *Journal of the European Economic Association*, 8(4), 677–716.

- TCU. (2014). *Relatório 011.223/2014-6: Auditoria operacional. impacto da medida provisória nº 579/2012—convertida na lei nº 12.783/2013—na conta de desenvolvimento energético-cde e no sistema elétrico brasileiro*. Brasília.
- Thomann, E., Lieberherr, E., & Ingold, K. (2016). Torn between state and market: Private policy implementation and conflicting institutional logics. *Policy and Society*, 35(1), 57–69.
- Thornton, P. H., & Ocasio, W. (1999). Institutional logics and the historical contingency of power in organizations: Executive succession in the higher education publishing industry, 1958–1990. *American journal of Sociology*, 105(3), 801–843.
- Thornton, P. H., Ocasio, W., & Lounsbury, M. (2012). *The institutional logics perspective: A new approach to culture, structure, and process*. Oxford University Press.
- Tordo, S., Warner, M., Manzano, O., & Anouti, Y. (2013). *Local content policies in the oil and gas sector*. World Bank Publications.
- Vieira, A. S. A. (2015). *Agências reguladoras independentes?: especialização e captura nas trajetórias de carreira dos reguladores federais brasileiros* (Unpublished master's thesis). Brazilian School of Business and Public Administration, Getulio Vargas Foundation, Rio de Janeiro.
- Vogel, E. F. (1991). *The four little dragons: The spread of industrialization in east asia* (Vol. 3). Harvard University Press.
- Walvis, A., & Gonçalves, E. (n.d.). *Avaliação das reformas recentes no setor elétrico brasileiro e sua relação com o desenvolvimento do mercado livre de energia* (Tech. Rep.). Centro de Estudos em Regulação e Infraestrutura, CERI-FGV. (Access: http://ceri.fgv.br/sites/ceri.fgv.br/files/arquivos/avaliacao_das_reformas_recientes_no_setor_eletrico_brasileiro.pdf)
- Weber, K., Patel, H., & Heinze, K. (2013). From cultural repertoires to institutional logics: A content-analytic method. *Research in the Sociology of Organizations*, 39, 351–382.
- Weber, M. (1946). Politics as a vocation. In *Essays in sociology*. Oxford University Press.
- Weber, M. (2002). *The protestant ethic and the spirit of capitalism*. Penguin Classics.
- Wood, B. D., & Waterman, R. W. (1991). The dynamics of political control of the bureaucracy. *American Political Science Review*, 85(03), 801–828.