GATEKEEPERS OF PROSPERITY: HOW THE STATE AND BUSINESS BLOCK THE PATH TOWARDS FUNCTIONING MARKET ECONOMIES IN DEVELOPING COUNTRIES

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ABSTRACT:

A well-functioning market economy is crucial for prosperity. However, there is considerable variation across countries in the cost of doing business. This invites the question of why governments impose these costs and why societies fail to enact reforms reducing them. This thesis seeks to solve this question by looking at the case of Brazil, a large economy riddled with state imposed transaction costs. It argues that the existence of a healthy business environment is analogous to the provision of a public good. The lack of it reflects an equilibrium where actors fail to coordinate. In this suboptimal equilibrium, political agents use discretion over transaction costs as a power resource. Business insiders nurture relationships with these agents, accessing low transaction costs and gaining a competitive edge over the outsiders. As such, insiders have weaker preferences for reforms that could decrease the overall cost of doing business. The four empirical chapters oer a diverse set of evidence substantiating this argument. First, Brazil's intricate tax system stems from politicians and businesses clinging to discretionary tax exceptions that benefit the few. Second, econometric analysis comparing patterns of lobbying among exporters suggests that industry leaders are the most politically engaged. They try to `buy' access to power, rather than to push a reformist agenda. Third, the case of the pharmaceutical industry shows that stringent regulation affects the new entrants more than it affects incumbent rms. This heterogeneous outcome contributes to the absence of a coalition that would push back heavy regulatory standards. Fourth, the study of agriculture explains how convergence between insiders and outsiders involved in exporting activities enables collective action towards reforms. The thesis also highlights the relationship between state-imposed transaction costs to explain long term prosperity. These costs undermine growth by making capital less productive and limiting the pool of value-creating entrepreneurs. While secure property rights became a catchall explanation for development, social scientists will benet from expanding their investigation towards overlooked dimensions of state-business relations

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Abstract

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Chapter 1

Introduction

Ricardo had just finished his MBA at a Boston-area business school and went back to Brazil to take over his family' s business, a mid-sized multi-sector corporation located in central Brazil. He decided to embark on some more innovative activities and signed up for the federal government's Proinfa, a program subsidizing private investment in clean energy. Ricardo was interested in using the by-products of his sugarcane production to feed a bioenergy mill, and selling electricity to the public grid.

The government was subsidizing production but an entrepreneur would have to break several government-imposed barriers to succeed. First, Ricardo had to apply for an authorization from the electricity sector regulatory agency (ANEEL) to generate energy, which involved submitting a detailed engineering plan. He paid R$300,000 (US$80,000) to a consulting firm that had expertise in addressing the specifics ANEEL requested. He submitted

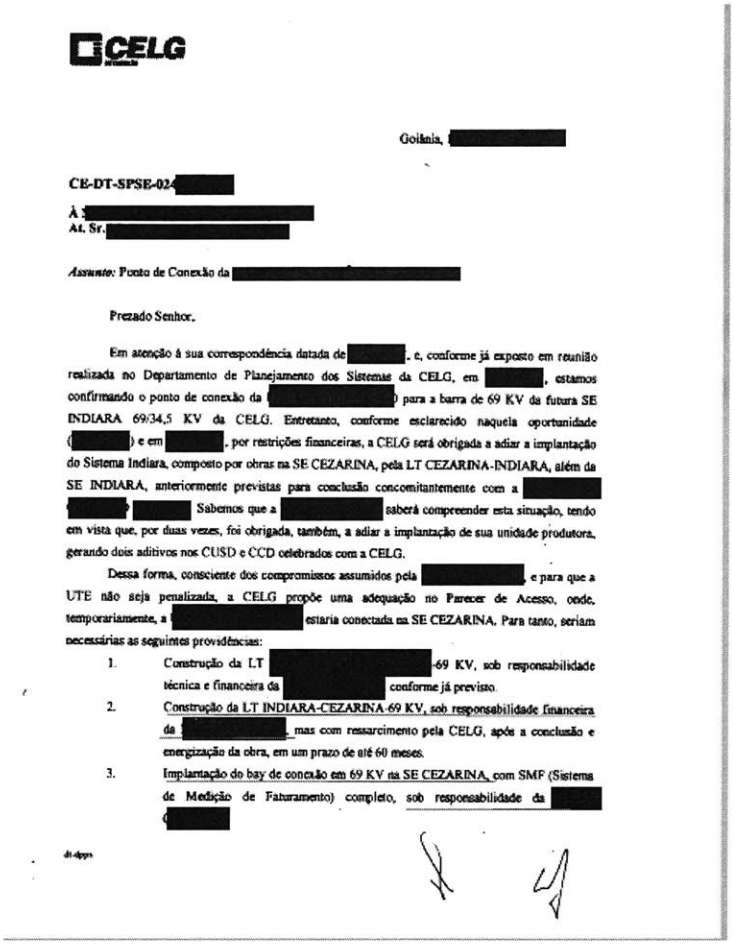
a similar plan to obtain a license from the mayor's office and the state-level environmental agency. These licenses can easily take more than a year to be issued, unless one has good contacts within the agencies. He also needed to apply for an energy sale contract with the state-owned energy company, Eletrobras, which controls the electricity market in Brazil. Finally, he had to make an agreement with the state-level energy company, also government-controlled, in order to connect the power he generated to a certain point in their grid.

To raise capital for his enterprise, he applied to the government-owned National Development Bank (BNDES), a behemoth that at the time disbursed more money than the World Bank. Given the very high interest rates in Brazil, BNDES-subsidized loans are one of the few sources of capital for investment. Alas, his loan application was denied. As an alternative source of capital, he reached out to Petrobras, the state-controlled oil giant which was branching out into clean energy. The successful negotiation with Petrobras resulted in a joint venture which would manage the bioenergy project.

After three years stumbling through a bureaucratic maze, Ricardo was excited to move his family's business into a new phase. But a few months afterwards, people at the local energy company, Celg, contacted him with unfortunate news. The company, under investigation for corruption and mismanagement, had to delay the construction of new distribution lines. The point in the grid where he was planning to connect his generator would not be available and he would have to pay for building a link between his

plant and the grid, an expense that totally subverted the economics of the project. He and his partners at Petrobras decided to abort the project. He had to pay further lawyers' fees to rescind the energy sales contract he had with Eletrobras.

After three years dealing with different governmental agencies, the project ended up producing 0 watts of energy but had required an investment of around US$1 million in consultants, lawyers and licensing fees. It was a disappointing end for a program aimed at incentivizing private sector investment in clean energy production.



CELG

Goiânia, [redacted]

CE-DT-SPSE-024[redacted]

À [redacted]
At. Sr. [redacted]

Assunto: Ponto de Conexão da [redacted]

Prezado Senhor,

Em atenção à sua correspondência datada de [redacted], e, conforme já exposto em reunião realizada no Departamento de Planejamento dos Sistemas da CELG, em [redacted], estamos confirmando o ponto de conexão da [redacted]) para a barra de 69 KV da futura SE INDIARA 69/34,5 KV da CELG. Entretanto, conforme esclarecido naquela oportunidade ([redacted]) e em [redacted], por restrições financeiras, a CELG será obrigada a adiar a implantação do Sistema Indiara, composto por obras na SE CEZARINA, pela LT CEZARINA-INDIARA, além da SE INDIARA, anteriormente previstas para conclusão concomitantemente com a [redacted] Sabemos que a [redacted] saberá compreender esta situação, tendo em vista que, por duas vezes, foi obrigada, também, a adiar a implantação de sua unidade produtora, gerando dois aditivos nos CUSD e CCD celebrados com a CELG.

Dessa forma, consciente dos compromissos assumidos pela [redacted], e para que a UTE não seja penalizada, a CELG propõe uma adequação no Parecer de Acesso, onde, temporariamente, a [redacted] estaria conectada na SE CEZARINA. Para tanto, seriam necessárias as seguintes providências:

1. Construção da LT [redacted]-69 KV, sob responsabilidade técnica e financeira da [redacted] conforme já previsto.
2. Construção da LT INDIARA-CEZARINA-69 KV, sob responsabilidade financeira da [redacted], mas com ressarcimento pela CELG, após a conclusão e energização da obra, em um prazo de até 60 meses.
3. Implantação do bay de conexão em 69 KV na SE CEZARINA, com SMF (Sistema de Medição de Faturamento) completo, sob responsabilidade da [redacted]

Figure 1.1: Letter received by Ricardo from the local electricity company proposing that he build the electricity line using his own resources. The company proposes he build himself a 25-mile distribution line to connect his project to another point in the grid. The respondent authorized the use of this letter. Original name changed.

1.1 Ricardo's predicament and the argument in short

Ricardo's case connects to important debates on the causes of long-term development. Scholarly arguments posit that that the key to long-term prosperity is to either secure property rights or to design government intervention in the market. Neither side can explain why Ricardo failed to create social value from his private entrepreneurial endeavor. As a member of Latin America's land-owning elite, Ricardo was under no threat to his property rights. Quite the opposite; the Latin American state has fiercely protected the property rights of its elite through history. Neither was there a lack of governmental policy that supposedly sought to support private entrepreneurship. While trying to set up his business, Ricardo interacted only with government agents. His electricity buyer (Eletrobras), financial backer (BNDES), joint-venture partner (Petrobras) and infrastructure provider (Celg) were all state-owned companies.

This thesis looks at an element other than secure property rights and government interventions to provide a better account of Ricardo's predicament. This element also generalizes into an explanation of long-term prosperity that is at least as important as property rights and government intervention: state-imposed transaction costs. This element has been either misconceptualized or overlooked by both sides in the debate. While proponents of government interventions have underestimated the impact of these policies

on economy-wide transaction costs, the proponents of secure property rights have conflated it (property rights) with state-imposed transaction costs.

Property rights, especially for economists, became a panacea explaining nearly any incentive structure that is conducive to long-term prosperity. By doggedly focusing on property rights, conflating them with other variables such as state-imposed transaction costs, or simply overlooking the role of transaction costs, a significant part of the economics and political science literature failed to properly explain all the components of the incentive structure that discourages or promotes investment and therefore drives long-term growth. And this incomplete view leads to a second just as important failure, which is to misunderstand the politics sustaining poor economic performance in the long term.

They do so at their own peril. When one measures the weight of transaction costs on economic growth, the results are staggering. Kovač et al. (2016) found that the effect of transaction costs on growth is comparable to those of investment/GDP. The leading literature claims that securing property rights is key to inducing investment; i.e., it is, at best, a mediate cause of the true driver of growth, which is investment. But the findings of Kovač et al. (2016) suggest that transaction costs are as important as investment itself.[1] Therefore, it may be about time to turn away from the fixation with secure property rights and look at state-imposed transaction costs as a key source of long-term prosperity. And as a key concern of the research agenda in the

[1] I will come back to Kovač et al. and other authors with similar findings later.

past decades was to explain the roots of secure property rights and government intervention, given their importance for development, understanding the causes of variation in state-imposed transaction costs is in order.

This thesis seeks to understand the politics sustaining high state-imposed transaction costs.[2] To do so, I base this on a fundamental conumdrum: *If high transaction costs harm economic agents, and economic agents are usually a politically influential class, why do they fail to use their political clout to push reforms that would decrease state-imposed transaction costs?* The answer I offer to this question is that there is a political equilibrium sustaining a high transaction cost economy. A healthy business environment with low transaction costs is a public good and there are collective action dilemmas blocking its provision. These dilemmas derive from strategic interactions between subsets of political agents and business. They do not have enough incentives to change their behavior towards the provision of this public good.

In a nutshell, the argument goes as follows. Determining transaction costs is a power resource for political agents. If they have discretion over policies that determine transaction costs, they can decrease or increase them and use this discretion as a leverage over business. But political agents do not play this game alone. Well-connected businesses profit from this leverage by accessing or restricting low transaction cost routes. The low transaction cost

[2]The thesis does not focus on determining the relative importance of property rights, government intervention and transaction costs for long-term growth. I rely on the many empirical studies I review below, taking for granted that transaction cost, in its many dimensions, is a key variable for long-term development.

routes then become, for a subset of businesses, a competitive edge over the less connected businesses. As long as politicians have discretionary power to reduce transaction costs for well-connected businesses and those businesses gain a competitive edge from this, both actors have no reason to deviate from this symbiotic relationship. The whole economic system becomes stranded in a low-level equilibrium of high transaction costs that harm long-term prosperity. *This subset of political agents and businesses acts as a gatekeeper to prosperity by blocking access to and the creation of a healthy business environment and a low transaction cost market economy that would benefit the many.*

The current debate

The need for governmental intervention to speed up the development process goes back at least a couple of centuries, with Hamilton (1791) and List (1841) proposing the use of tariff protection and incentives to develop infant domestic industries in the manufacturing sector. More contemporary authors articulated the need for state intervention based on what they saw as structural differences between developed and developing economies, whether that be how they are embedded in international trade networks (Prebisch, 1962; Singer, 1975) or the inadequate domestic supply of capital or human talent (Gerschenkron, 1962). These authors challenge the idea that the developmental process has a similar pathway in developing and developed countries.[3]

[3]One of the most famous proponents of this idea of common stages of development is Rostow (1960).

Given this supposed need for state intervention, the debate then evolved to understanding which type of policies worked better, and under which conditions they are more likely to happen and the types of states that are more conducive to successful policies (Johnson, 1982; Okimoto, 1989; Kohli, 1994; Amsden, 1992; Dobbin, 1994; Evans, 1995; Amsden et al., 2001; Wade, 2004; Doner et al., 2005; Schneider, 2015). A comparative approach dominated this field of the debate, as these authors would take most of their working material by comparing cases of success, such as East Asian countries, with less successful ones, usually in Latin America. However, there was also ground for some formal theory by economists showing the need for state interventions to fix market failures (Hausmann and Rodrik, 2003; Rodrik, 2004; Stiglitz et al., 2013).

The profusion of arguments in favor of industrial policy is matched by the abundance of advice against it. One of the most important critiques came from the World Bank in the early 1990s. The Bank pushed back on the idea that the developmental state was behind the post-WWII East Asian miracle. It proposed instead that the key drivers of the Asian Miracle were sound macroeconomic policy and investment in human capital, rather than classic industrial policy (Bank, 1993), a point Noland et al. (2002) corroborated with more data a decade later.[4] Other authors argue that in addition to being

[4]The Bank's report, on the other hand, was met with criticism, the most fundamental one being that the data presented in its report simply did not support the conclusion that industrial policy was not crucial for the region's remarkable growth rates Amsden (1994); Rodrik et al. (1994).

ineffective in the Asian case, government interventions actually create the wrong incentives for businesses. Tariff protections and government subsidies are an irresistible invitation for business seeking governmental rents (Krueger, 1974; Pack and Saggi, 2006).

Even some more 'modern' arguments in favor of industrial policy, such as fixing information and coordination failure, are equally rebuked. Pack and Saggi (2006) contend that governments may not be able to execute information exchanges necessary to fix coordination failures and that it is unclear why firms would not be able to coordinate, when inter-industry contracts are used for other type of coordination between firms. They point out that this argument relies too much on nontradable intermediate products, implying that global markets should be able to replace local suppliers that fail to coordinate. As for information failures, barriers to entry to new sectors, more pervasive in developing countries, make the problem of information externalities less serious. Finally, they posit that in order to effectively enact industrial policy, the government should possess a demanding list of knowledge and skills, a set of requirements exceeding "that possessed by almost any institution, including the best consulting firms" (p. 16).

Somewhat aligned to the industrial policy skeptics, other authors propose a much more limited role for the state. In their view the role of the state is to be embedded into "good institutions" that protect property rights (North and Thomas, 1973; North, 1981, 1990; Knack and Keefer, 1995; Acemoglu et al., 2001; Easterly and Levine, 2003; Rodrik et al., 2004; Acemoglu and

Johnson, 2005; Acemoglu et al., 2005). The reasoning here is that economic growth depends on investments and this is less likely to happen when there is risk of expropriation, as Besley and Ghatak (2010) summarized.[5]

The most prominent author in these incentive-driven explanations is North, so let us look more closely at his work. North focuses on institutions, or "the rules of the game," and posits they are important because they can reduce transaction costs and make the gains of production realizable. In one of his analyses North (1991), he claims that in primitive societies, people rely on close-knit personal relationships to assess the performance of economic agents and decide whether transacting with them is worthwhile. As an economy grows in scale and transactions become more impersonal, the enforcement of contracts becomes necessary because the gains from defection are large enough to prevent transactions from taking place. Institutions become indispensable to enable collaboration between economic agents at manageable costs and also to assure they will be able to realize the gains of their economic activities. Therefore, institutions that protect property rights and make contracts enforceable are the key to economic growth. For North, the long-term growth of a society ultimately depends on its being able to develop these cost-reducing institutions that protect property rights.

In a variant of this incentive-based approach that focuses on a Latin American case, De Soto (2000) argues that the problem with developing

[5]Within this approach there is a debate on whether the state should go beyond the minimalist role of just securing property but also fix market failures and provide the appropriate environment for capital. See Weiss (2010) for a review.

countries is not bad policies, lack of entrepreneurial spirit or market orientation. De Soto claims that poor people hold resources in a very defective form, through inadequate ownership rights and as their ownership in not correctly recorded, they cannot be easily turned into capital. Consequently, they cannot be traded outside narrow local markets where people know and trust each other nor be used as collateral in capital markets and shares against investment. On top of that, rampant bureaucracy keeps these entrepreneurs from entering fully legalized activities. The implications are similar to North's conclusions: trade does not take place and production fails to upgrade because this environment of weak rights and enforcement results in ownership uncertainties.

This emphasis on institutions securing property rights is not unanimous, though. Some authors argue that other factors outplay property rights, such as human capital (Glaeser et al., 2004), geography (McArthur and Sachs, 2001) or a mix of changing technology and human physiology (Fogel, 2004), to cite just a few. Other authors claim that excessively secure property rights can actually undermine entrepreneurial efforts (Schmid, 2005), generate conflict, and increase inequality, harming long-term growth, Latin America being a case in point (Sokoloff and Engerman, 2000). Yet other authors even challenge the loose way that economists have defined property rights (Everest-Phillips, 2008).

The problem with theories based on institutions protecting property rights, as championed by North in general and De Soto in the case of Latin Amer-

ica, is not that they are inaccurate, but that they seem insufficient. They are based on the premise 'if you build it, they will come;' i.e., if a society builds the institutions protecting property rights, it can sit back and enjoy all the investment and trade that will follow. It is true that enforceable contracts reduce risks in economic transactions and are an extra incentive for investment, production and trade. It is reasonable to expect that if ownership of assets is granted to poor people, they will have additional motivation to scale up their economic activity. However, it is less certain whether lack of enforceable contracts is what prevents the landed elite of, say, Argentina from investing their accumulated capital in innovation in the manufacturing or service sectors to compete in global markets.

The property rights institutions that create these incentives are probably welcome, but they are unlikely to provide laggards with all the tools necessary, or even the most important ones, to promote long-term economic growth. Land-owning elites in Latin America had their property rights and contracts fiercely protected by the State throughout generations, yet their economic activities failed to promote long-term growth. All in all, if property rights protection triggers investments, why does Latin America still have the lowest rate of saving and investment in the world?

Patterns of State–society relations and the developmental process

The two approaches reviewed above; i.e., the need for state intervention and the need for institutions securing property rights, have their shortcomings. The state intervention literature seems to overestimate the capacity of the state to devise and implement the 'right' policies and to underestimate the collateral effects of these policies, such as increasing transaction costs, as I will discuss later. On the other hand, the property rights literature also underestimates the need for additional factors to put a society on track for long-term development. To go back to our opening anecdote about Ricardo, he had secure property rights and the state was intervening strongly in economic activities in an attempt to fix market failures. Indeed, secure property rights were not enough for him to make an investment and the state interventions did more harm than good.

A place to look for alternative explanations is to examine how patterns of State–society relations shape the market. One can, for example, slightly change Evans's (1995) conceptualization of the ideal type of State–society relations and think about how a responsive yet autonomous State can explain several other cases where countries achieved high levels of development through history and which the incentive-driven approach to property rights would find it hard to account for.[6]

[6]Here I propose to change the concept of embedded autonomy proposed by Evans (1995) to that of a responsive and autonomous state. The difference is subtle but useful

Examples of these activities are coordination efforts by a central authority that led to technological upgrading in long-distance navigation in the Iberian Peninsula during the sixteenth century; the coordination effort by a central authority that led to an elaborate scheme of public–private partnership leading to the exploitation of natural resources and cheap labor abroad in the Netherlands during the seventeenth and eighteenth centuries; the coordination effort by a central authority that led to using cannonball diplomacy to pry open global markets for its firms in England during the nineteenth; the coordination effort by a central authority that led to rapid development of human capital, labor repression and administering foreign exchange rate to keep production costs low in China during the late twentieth and early twenty-first centuries. All these coordination efforts stemmed from patterns of State–society relations and were spearheaded by a capable, responsive

and necessary. Responsiveness implies that State agents are not only embedded into a network of contacts in which they collect information (Evans, p. 57) but also that they are capable of delivering what is requested from market players and civil society – conditional on reasonable constraints given by a society development level. Evans's 1995 concept of 'embeddedness' suggests having systematic contact with civil society; 'autonomy' implies mostly being able to avoid cooptation. Neither clearly indicate that the State is capable. Indeed, Evans suggests that a Weberian bureaucracy would also be capable. However, it is unclear how necessary or sufficient a Weberian bureaucracy is to build State capacity. The New Public Management School (Dunleavy and Hood, 1994; Hood, 1995; Ferlie et al., 1996; Lane, 2002) rightly criticizes Weberian structures for not being result-oriented and therefore being suboptimal in terms of delivery, which harms state capacity. Also, it is not difficult to imagine Weberian structures in which functionaries holding stable careers become self-serving and barely accountable. For these reasons, one should not equate an autonomous State, at least as described by Evans, with a State that is capable of delivering. On the other hand, a State said to be responsive must have the capacity to deliver public goods requested by private agents, whether physical infrastructure or the design and enforcement of a legal framework that reduces transaction and production costs. So, 'responsive autonomy' makes Evans's concept more complete, as it implies also that a responsive State is a capable one as well.

State. On the other hand, it is unclear why this set of complex activities would spontaneously arise from the mere protection of property rights and enforcement of contracts.

States shaping the market economy

As another example of how State–market interactions shape the developmental process is the way that the existence of a functional market, with price-based exchanges and low transaction costs, is not the spontaneous evolution of a social process. We know at least since Polanyi and MacIver (1944) that the creation of the market in England in the aftermath of the Industrial Revolution was a political imposition by the government over social actors. It replaced a set of transaction modes based on reciprocity and redistribution so that one could put a price tag on labor and land. The commodification of labor and land in England that Polanyi describes was arguably the most consequential pro-market reform in recent ages. It enabled the formation of industrial capitalism that started in England and spread to the rest of the world.

Polanyi's Great Transformation made eighteenth-century England more 'business-friendly.' Had there been a Doing Business index at that time, England would have risen to the very top of it. The Great Transformation highlights a key point in how the interaction between State and markets impacts the developmental process and how it goes beyond instituting property rights or enacting industrial policy. Crucially, the Great Transformation

reminds us that *politics not only plays a role in directly defining resource allocation but also shapes at what cost private agents will make their transactions within the realm of price-based exchanges in the marketplace.*

Recently, scholarly works have looked more deeply into how governments impose transaction costs over private agents and how this affects development.[7] This research agenda is encapsulated under the measures conducted by World Bank economists on how hard it is to do business in a given country. They look at various dimensions, such as the time and cost of i) starting a business, ii) dealing with construction permits, iii) registering property, iv) obtaining credit, v) protecting investors, vi) paying taxes, vii) trading across borders, viii) enforcing contracts, and ix) resolving insolvency.

The Doing Business index actually revisits a point Hernando De Soto had proposed decades before. In the *The Other Path* (De Soto, 1989) documented the cost of doing business in Peru and how the poor was pushed towards informality because the state imposed very high costs of legal compliance, especially for low-income people. This high cost of compliance required that Latin American economies carried out reforms to push back regulation, a point Williamson explicitly proposed in one of his Washington Consensus tenets (Williamson, 1990). Other economists in Latin America, even be-

[7]Throughout this thesis I will use the term transaction cost to refer to State-imposed transaction costs, which may or may not be the same as the classic transaction costs Coase had in mind in his original formulation of the concept.

fore De Soto's seminal book, also highlighted the burden cause by excessive regulation over productive activities, such as Balassa et al. (1986).[8]

The first publication of the index was in 2003, as a result of a collaboration among economists in the World Bank and in US universities. [9] The index was first used in Djankov et al. (2002a), in a paper where the authors measured the cost of starting a business in 85 different countries and showed that tighter regulation of entry correlates with higher corruption and larger unofficial economies.

Key to a beginning of understanding the interplay between politics and the business environment, this paper showed that regulation to start new firms is lighter under more democratic governments. This research agenda also found how ease of doing business positively affects economic growth (Djankov et al., 2006; Divanbeigi and Ramalho, 2015; Kovač et al., 2016).[10] and some follow-up papers delved into the social and economic impacts of

[8](De Soto, 1989) nonetheless somewhat equates excessive regulation with lack of secure property rights (pp 158-159). For him, the fact that Peruvian informals had to go through excruciating process to register their business meant that they did not have secure property rights over their assets. This is a contentious argument: a more restrict view of secure property right would claim that they are related to the risk of being expropriated, not necessarily that it is costly to register a business. As I argue below, conflating fragile property rights with costly regulation risks overlooking the correct mechanism connecting institutions and long term prosperity.

[9]Djankov recalls that one of the main inspirations of this data collection effort was Hernando De Soto's *The Other Path* (De Soto, 1989).See Djankov (2016) for more details on how the project started.

[10]Djankov et al. (2006) find that improving from the worst to the best quartile of the Doing Business index implied a 2.3 percentage point increase in average annual growth between 1993 and 2002. For the sake of comparison, they note that improving from the second-worst to the best quartile of countries in primary school enrollment is associated with a 0.9 percentage point increase in growth rates. Meanwhile Divanbeigi and Ramalho (2015) find similar, though more modest results. In their estimation, moving from the lowest quartile of improvement in business regulations to the highest quartile is associated

variations in the different measures related to the Doing Business index (Djankov et al., 2003, 2007, 2008b,a, 2010).

The Doing Business literature, implicitly or explicitly, supports the idea that property rights are the main engine for growth because they also connect secure property rights with low transaction costs. Transaction costs can be broadly defined as the cost of doing transaction in an open market (Coase (1937); North (1990)), which can be before exchanges, such as search and negotiation, and after exchange, such as monitoring and enforcement (Coase (1960)) The core reasoning of this group of authors is that secure property rights reduce transaction costs and, conversely, low transaction costs imply well-defined and protected property rights and easily enforceable contracts. The improvement of both property rights and transaction costs create the right incentive structures for economic agents to behave in ways that are more conducive for development, especially by increasing their level of investment.

More recently, Kovač et al. (2016) drive this point home by explicitly linking the measures of the Doing Business index to the concept of transaction costs and then incorporating transaction costs into standard growth theories, based on the Solow model. Empirically, they show that high transaction costs significantly harm growth and even trump the contribution of

with a significant increase in annual per capita growth of around 0.8 percentage points (similar to the improvement in school enrollment benchmarked by Djankov et al..

investment/GDP in their model (p. 146). In their estimate, a 10 basis point increase in transaction cost is associated with an approximately four-fold decrease in per capita output, roughly the gap between Argentina and Switzerland (p. 13).

These are remarkable insights and findings. The debate about economic growth in the last decades has focused mostly on capital accumulation (exogenous growth theories) or innovation (endogenous growth theories). Much less attention has been placed on the effect of high transaction costs or on how to integrate transaction costs into traditional growth models, and Kovač et al. (2016) made an important contribution in this direction.

In sum, one could call the approach reviewed in the last paragraphs the *New Institutional Economics (NIE) synthesis.* Arguably, this synthesis currently dominates mainstream economics' beliefs on the drivers of long-term prosperity.[11] Some authors within this approach do bring some nuance to this synthesis, claiming that the 'good' institutions should also have some political inclusiveness grounds (Acemoglu and Robinson, 2013), but even in this more nuanced view, the goal of political inclusiveness is ultimately to also protect property rights.

[11]See a summary in Williamson (2000).

1.2 Contribution: Understanding Ricardo's predicament

There is a fundamental gap in the NIE synthesis. For these authors, transaction costs, property rights and economic growth are connected through the uncertainty about losing one's investment due to high costs of enforcing property rights or contracts. I contend, alternatively, that the transmission channel through which high transaction costs harm prosperity is a different, simpler and yet more pervasive one. Rather than the uncertainty of property rights and the risk of expropriation, high transaction costs imply sheer waste of entrepreneurial time and capital. These costs dissuade investments not because there is a perceived risk of expropriation of the fruits of this investment, but rather because they divert the allocation of physical and human capital away from productive activities because most of the output will be wasted on non-productive activities.

The consequence of waste in non-productive activities is twofold: first, the ratio of capital invested over output is decreased because a good part of capital 'leaks out;' i.e., it is wasted on activities that have little or no value (rubber-stamping, dealing with senseless procedures, negotiating with government officials and other activities that will become clear in the empirical investigation). Second, only the few who can bear the high transaction costs, or who have the right means to decrease them through privileged connections, will be able to invest time and capital in entrepreneurial activities.

This reduces the pool of talent and capital that can actually be translated into productive investment and create growth and prosperity.

The variation and impact of this waste and the restriction it imposes on directing entrepreneurial energy should not be underestimated. To illustrate this, let us briefly look at some comparisons of the Doing Business index. While processing all its taxation costs takes an average firm in the United Arab Emirates around 20 hours a year, the same compliance costs an average Brazilian firm 2,000 hours. This is 100 times more human labor spent on non-productive activities. Also, while in Canada the cost of starting a business is 0.4% of the gross national income per capita, in Chad this cost jumps to 202%. This means that starting a business in Chad is restricted to those who can afford the equivalent of two years of work to bear the bureaucratic startup cost, while in Canada this restriction drops to those who can afford 15 days. The differences in wasted capital and restriction to entrepreneurship are staggering. Kovač et al. (2016) theoretically demonstrated this point by inputting transaction costs into the Solow growth model and empirically showing that the impact of transaction costs on growth trajectories is comparable to that of the investment/GDP ratio. More specifically for the case of Brazil, Dutz (2018) argues that while incumbents have learned to live in a high transaction cost environment, these costs still prevent new entrants and make it more difficult for innovators and disruptors to grow, resulting in long-term productivity stagnation

This approach to transaction costs highlights the role played by what the rent-seeking literature calls unproductive activities (Tullock, 1967; Krueger, 1974; Bhagwati, 1982; Baumol, 1990; Murphy et al., 1993). Nonetheless, unlike these authors, I argue that the unproductive activity is not necessarily pursued in the expectation of obtaining a rent in the end. Rather, the unproductive activity is just a prerequisite for passing the gatekeepers of the market economy, not for seeking rents. This approach is also aligned to the spirit of De Soto's original work (De Soto, 1989): he computed how costly it was for a poor person to formalize a business in Peru, although he extends his reasoning, arguing that the subsequent informality harms growth because of insecure property rights.

Connecting transaction costs to low growth through the waste of capital and time, rather than through the risk of securing property rights and contracts, provides a better account of the opening anecdote about Ricardo's journey. What dissuaded Ricardo from carrying out a productive investment was not the risk that his future clean energy business would be expropriated. He had no problem with securing his property rights. What plagued him and eventually shut down his plan were the waste of capital and entrepreneurial time on activities that led nowhere, not even to the extraction of rents, and eventually dissuaded him from investing.

Therefore, *the first contribution of this work is to offer an approach that differs from the New Institutional Economic synthesis on how transaction costs affect economic prosperity.* Rather than affecting growth through inse-

cure property rights and contracts, *high transaction costs make capital less productive and limit the pool of people who can direct their entrepreneurial drive towards economic activities that enhance social well-being.* This approach, moreover, departs from the view of the rent-seeking literature on unproductive activities. Instead of expecting an upside in the end, a considerable part of the non-productive activities are just a way to pass through state-imposed transaction costs.

But another failure of the NIE synthesis and its associated literature is that they are thin on politics. These authors seldom discuss the politics that sustain these high transaction costs. The key, but overlooked, question is: If these costs are so high and so consequential for long-term development, why do societies fail to reduce them? By overlooking this question, they do not provide a satisfactory explanation for the enormous variation in transaction costs across different societies.[12] *The second contribution of this work is to fill this gap by looking at the political roots of high transaction costs.* I contend that high transaction costs are sustained by the interactions between political and market agents and the incentive structure shaping these interactions. Low transaction costs are analogous to a public good, so their provision depends on overcoming dilemmas of collective action. I provide a theory

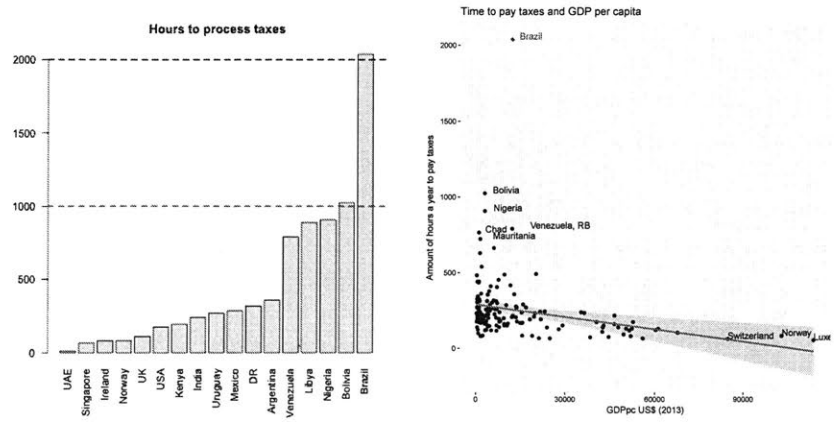
[12]This variation is usually accounted for by what scholars call the legal origins of governance in these countries, usually deriving from some type of judicial tradition adopted by different societies (Glaeser and Shleifer, 2002; La Porta et al., 2008; Aldashev, 2009; Balas et al., 2009). This type of *long durée* explanation misses the details of more immediate political variables driving and sustaining this outcome.

that explains the actors involved in this process and the Nash equilibrium sustaining it.

Moreover, there is seldom an explanation for change in the cost of doing business or for when change is more likely to happen. The World Bank pushes a reformist agenda to decrease the cost of doing business but is puzzled by why these reforms do not happen despite all the available information about its importance. *The third contribution of this work is to provide a theory of change in transaction costs and explain under what conditions the political equilibrium sustaining high transaction costs falls apart and reforms become possible.*

Empirically, this work looks at the case of Brazil, a country that is among the top 10 GDPs in the world, but is at the lower end of the Doing Business index (125th out of 183 countries). In one specific dimension of the index, Brazil's performance is particularly poor. It takes an average Brazilian firm 2,000 hours a year to process all its tax payments. The second-worst country in this measure is Bolivia, with 1,000 hours a year, as can be seen in Figure 1.2(a). Also, state-imposed transaction costs are more prevalent in lower-income countries, as seen in Figure 1.2(b). What makes Brazil an interesting case is that it is representative of other large countries in Latin America, a region that chronically suffers from a poor business environnment. What makes Brazil methodologically useful is its diverse economy. There are relevant industries in both the primary and the manufacturing sector, allowing us to test hypotheses of how different production technology and business

strategy affects our proposed explanation. Therefore, *the fourth contribution is empirical: I look at the Brazilian case to substantiate the argument and, by doing so, hope to cast light on the cases of other similar developing countries.*



(a) Time required to pay taxes: selected countries

(b) Tme to pay taxes and GDP per capta

Figure 1.2: **The issue of state-imposed transaction costs is common to lower-income countries.** Notice in (a) that the more developed countries are at the lower end of the distribution. More systematically, notice in (b) the downward-sloping line in the linear model. The richer the country, the less painful it is to do business. The case of Brazil is especially conspicuous. It takes an average firm 2,000 hours to pay taxes. **Source:** Author, based on World Bank Doing Business Index data.

High transaction costs and crony capitalism

The case of Brazil is also useful for understanding how high transaction costs are intertwined with deeper patterns of State–society relations. I look at crony capitalism in Brazil and argue that it reinforces high transactions, and vice-versa, in a positive feedback loop. I build on Haber's (2013) definition of crony capitalism, a market economy system in which those close to political

authorities who make and enforce rules receive economic favors that enable them to earn returns above what would prevail if factors were priced by the market. Nonetheless, I depart from his explanation for why crony capitalism takes place. Instead of a problem of credible commitment to protect property rights, I prefer a historical explanation that goes back to the colonial period but still shapes the relations between market and states in these countries, as Sokoloff and Engerman (2000) propose. In the next chapter I will describe how a combination of pervasive state penetration in the economic realm, high transaction costs and discretionary power over these costs reinforces cronyism. The costly business environment becomes a power resource for political agents and well-connected business. *The fifth contribution is to cast light on how transaction costs and and crony capitalism reinforce each other.* (I elaborate on this in Chapter 2.)

1.3 Roadmap: A central puzzle and its explanation

The case of Brazil is a good starting point for understanding how politics drives transaction costs. Indeed, the Brazilian business elite constantly complains about the high costs of doing business in the country and is especially vocal about transaction costs imposed by the state, which they refer to as the 'Brazil cost' (*custo Brasil*). Nonetheless, the business class is an influential group and this invites the following questions: *If business is influential*

and state-imposed transaction costs harm their interests, why do they fail to push through the reforms that would bring down the cost of doing business? Resolving this puzzle drives the empirical part of this thesis.

I argue that the high transaction costs in Brazil are related to the way the capitalist economy formed in the country and the political equilibrium sustaining it. In Chapter 2, I put forward my description of crony capitalism in Brazil, a particular case of a market economy in which the state controls key market functions and has leverage over firms' production process by imposing or releasing transaction costs. I describe the incentive structure of three core social actors and how they sustain this system: business, politicians and bureaucrats. I claim that in this setting, a privileged relationship with state agents is a key strategic asset. Using a stylized view of divisions within the business community, I claim that businesses are split between those who can nurture these relationships – the insiders – and those who cannot – the outsiders.

When insiders and outsiders compete for the same domestic market, the insiders have a competitive edge because they can access faster regulation, subsidized capital, trade protection and tax benefits. As such, their urge to bring down transaction costs is weaker than that of outsiders. Without the cooperation of insiders, it is more difficult to reform transaction costs. In this dynamic, insiders and outsiders are locked in a low-level equilibrium where cost-reducing reforms do not take place.

High transaction costs are an opportunity for politicians. If state agents can use discretion to increase or release the cost of doing business, this cost becomes a power resource. Ultimately, if they can use this discretion at the individual level, switching it up and down for each firm, the result is to divide the business community and prevent it from overcoming problems of collective action and mobilizing against high transaction costs.

Finally, I look at the role played by bureaucrats. I focus on the Weberian burcaucratic model in Brazil to argue that these actors operate under an incentive structure that prompts them to maintain control over opportunities for profit, to focus on processes rather than economic efficiency and to be risk-averse instead of result-oriented. The outcome is a state apparatus that is slow and unresponsive to stakeholders' needs, driving up transaction costs.

The theory also describes one of the cases when changing the system is possible. I focus on business-driven change and show that when an industry is export-oriented, such as grain producers in Brazil, the lines between insiders and outsiders become blurred because they are not competing against each other for the same market. This being so, they can mobilize to push cost-reducing reforms, as long as they are embedded in encompassing business associations that coordinate their effort.

I provide empirical evidence of these claims in Chapters 3 to 6. Chapter 3 addresses the most conspicuous transaction cost in Brazil. The country has the most complex tax system in the world and also one of the highest import tariffs. I build on the concept of disjoint layering (Schickler, 2001)

to explain the politics behind the creation of such a complex system. Taxation rules evolve much more as a response to the material interest of groups pulling them in different directions, lacking minimal commitment to long-term functionality. The high complexity is path-dependent because different tax regimes create their own constituents and grant politicians and bureaucrats discretionary power which they then cling to. In sum, the short-term pursuit of self-interest by a fragmented business community and politicians created a byzantine tax system. A similar process applies to the case of import tariffs.

In a taxation system with huge social costs, some types of actors particularly benefit from it. I build on theories of heterogeneity among firms to show that industry leaders are capable of bypassing some of these social costs and comparatively benefitting from the system. I use Multinational Corporations (MNCs) as a proxy of industry leaders and show that they are more likely to receive tax breaks or more eager to engage in costly governmental procedures to be protected from foreign competition. This evidence gives credence to the theoretical argument that a group within the business community, the insiders, benefits from or is less affected by an environment riddled with high transaction costs, and that politicians use their discretionary power over these costs as bargaining chips with the business community by, for example, dispensing tax breaks.

In Chapter 4, I further discuss the argument that there is a group of insiders in the business community which are more likely to invest in priv-

ileged connections with political agents. This insiders are industry leaders and their political engagement results in a positive feedback loop: industry leaders become more politically engaged because connections with the state is an important strategic asset. Their growing political engagement, in turn, helps with their performance, which feeds into more political engagement and so on.

To test this hypothesis, I exploit an exogenous variation in exchange rates to reveal businesses' underlying market performance level – a proxy for being an industry leader. Using records of campaign donations for the 2010 elections, I show that industry leaders are indeed more politically engaged. Their donation patterns also suggests they are trying to buy access to power, rather than pushing a policy agenda. The result implies that industry leaders that could lead business coalitions towards reducing transaction costs actually prefer to solve their problems individually by buying privileged access to the state, rather than by lobbying for an encompassing reformist agenda. The lack of a reformist coalition supports the low-level equilibrium sustaining state-led capitalism.

Chapter 5 is a case study of the pharmaceutical industry in Brazil. Two core components of crony capitalism in Brazil are the capacity of the government to micro-manage private sector production and the fragmented nature of business interests, which prevent the industry from pushing back on high transaction costs. The case of the pharmaceutical industry provides the opportunity to look closer at these two components. The pharmaceutical sector

is heavily regulated by Brazil's National Health Regulatory Agency, Anvisa, and is mostly focused on the domestic market. The industry is divided by technology profile, ownership structure and business strategy. Moreover, regulation affects business in heterogeneous ways. Given the fragmentation within the sector, reforms are not Pareto optimal, but rather zero-sum games. In this context, business fails to coordinate to push back high-cost regulation.

Chapter 6 investigates when change is possible by looking at the case of the agro-export sector. In past decades, this sector was arguably the most successful in seeking a reformist agenda that removed many of the regulatory obstacles they faced. I argue that the agro-export sector is capable of pushing reforms because three conditions applied to their case: 1) their export-oriented business model blurs the cleavages between outsiders and insiders; 2) reforming regulation is Pareto optimal in agriculture, unlike the case of pharmaceuticals; and 3) the sector is embedded in an encompassing business association, which facilitates overcoming hurdles of collective action.

In sum, the thesis corroborates the argument with the following empirical evidence presented in four empirical chapters. By exploring an exogenous variation in exchange rate, Chapter 3 shows that industry leaders, analogous to the insiders, are more politically engaged and try to buy access to power, rather than a reformist agenda. By focusing on Brazil's byzantine tax system, Chapter 4 clarifies how politicians value policy discretion and cling to it, at the same time that discretionary policy creates its own constituents in the business sector that support them afterwards. The chapter also shows

that industry leaders are indeed the those who pursue and benefit the most from discretionary policies, be they local business elites or multinational corporations. Chapter 5, looking at the pharmaceutical sector, illustrates that high transaction costs have heterogeneous effects on businesses, affecting the old incumbents less and new entrants more. The heterogeneous effects of high transaction costs, combined with narrow associations, results in business not being able to mobilize to push back. Finally, after analyzing the case of agro-exporters, Chapter 6 fills in a final piece of the theory and illustrates when business-driven reforms that cut transaction costs become more likely.

Implication

From a policy perspective, this thesis findings imply that the pro-business environment reforms the World Bank pushes for are much harder to achieve than previously thought. A business environment with low transaction costs is a public good and various different actors have to be on board for its provision. As I argue, there is a Nash equilibrium preventing actors from moving towards the provision of this good. The way out of the perverse equilibrium is to change actors' preference profile. I have shown one circumstance under which changes in preference are possible: when export orientation takes place and actors cease to be direct competitors. Moreover, the concluding chapter makes a set of recommendation that makes it easier to push this reforms. This chapter also discusses other trends that may provide an external shock

to this equilibrium such as the rise of new technologies and novel financial institutions.

Chapter 2

Theory

In this chapter I set up the project's theoretical foundations. I start by describing my own perspective on state-led capitalism in Brazil, a particular case of a market economy in which the state controls key market functions and has leverage over firms' production process by imposing or releasing transaction costs. I argue that in such a setting, business strategy is fundamentally different from when the state has a more hands-off approach towards the productive process. While in competitive markets firms invest in strategic assets leading to better market positioning (R&D capabilities, branding, distribution channels), in state-embedded capitalism the type of relationship firms have with state agents becomes a core strategic asset. As a result, the more capable a firm, the more it tends to invest in these relationships.

A privileged relationship with state agents in a setting where transaction costs are variable and the government controls key market functions becomes

a core competitive advantage for firms. This leads to a split in the business sector between insiders – those who have nurtured these relationships, have lower transaction costs and more access to state benefits – and outsiders, the businesses excluded from this symbiotic relationship with the state. Therefore, preferences about pushing reforms that can cut transaction costs and improve the business environment are different for insiders and outsiders. Different preferences are more salient when they compete for the same market, be it the domestic market of consumers or of government procurement. In these cases, the competitive edge gained by insiders is more evident, as I explain below.

Looking only at the incentive structure faced by businesspeople provides an incomplete picture. Two other actors must be accounted for: politicians and bureaucrats. In the case of politicians, the short-term incentive to build political coalitions dominates incentives to improve long-term prosperity. Politicians elected to the Executive Branch use their appointment to government agencies as a tool to form governing coalitions. For these appointees, keeping control of firms' transaction costs is a power resource used to elicit political support for themselves and their patron (the elected politician) and occasionally to extract kickbacks. A well-known maxim in Brazil is that state agents 'create problems to sell solutions.'

Third, Brazil has implemented bureaucratic reforms that have resulted in the adoption of the Weberian bureaucratic model in many of its government

agencies. The incentive structure that Weberian bureaucrats[1] in Brazil face is to strictly follow procedures, as senseless and complicated as they might be, and to be risk-averse. There is little inducement to focus on policy outcomes, stakeholders' satisfaction or management innovation.

The chapter proceeds as follows. Section 1 describes the Brazilian case of state-led capitalism, a particular type of market economy where state agents have discretion over the transaction costs faced by firms and also control key market functions, such as capital markets. Against this backdrop, the subsequent sections discuss the incentive structure faced by three key actors in this system. The first actor is business, discussed in Section 2. In state-led capitalism, top firms invest in creating privileged connections with the state, using politics to obtain a competitive edge against their competitors. Businesses who nurture these connections are the insiders. Those who do not are the outsiders. The second actor is the politicians, introduced in Section 3. A core difficulty faced by Brazilian presidents and state governors is building a coalition in the context of fragmented parties. They do so by granting members of their coalition the prerogative to appoint employees of executive agencies. These appointees use their power to disburse benefits or regulate business as a tool for corporate clientelism. The final actor is the bureaucrats, discussed in Section 4. Bureaucrats are a prominent social actor in Brazil, but the incentive structure they face induces them to choose

[1] I refer to Weberian bureaucrats in Brazil as those who were recruited to the public sector under Law No. 8, 112/1990, which establishes public exams as the only recruitment process and guarantees tenure to employees recruited through this track.

short-term risk aversion rather than to increase long-term overall prosperity, as briefly discussed in the previous paragraph.

Section 5 formalizes the argument. It uses a simple simultaneous game to illustrate how state-led capitalism is a Nash equilibrium, even though it is a suboptimal one in terms of overall prosperity. The formal model is also useful for understanding when and how this equilibrium can be broken, which I explain in Section 6. If the preferences of insiders and outsiders are made more similar, it is possible to achieve a Nash equilibrium where they can mobilize together to push through reforms that improve the business environment. I argue that business-driven changes are more likely in export-oriented industries where encompassing business associations are present.

2.1 Crony capitalism in Brazil

The relationship between state and business in Brazil takes place within an institutional context usually referred to as crony capitalism.[2] I build on Haber's (2013) definition of crony capitalism, a market economy system in which those close to political authorities who make and enforce rules receive economic favors that allow them to earn returns above what would prevail if factors were priced by the market. Nonetheless, I depart from the expla-

[2]Crony capitalism is a more appropriate conception of this relationship than that of state-led capitalism. The problem with state-led capitalism, as discussed in Musacchio and Lazzarini (2014), is that it focuses too much on the state and its agents and overlooks the other actor in this bargain, business. By doing so, it under-theorizes how the business elite takes advantage of the type of market economy that arises. The state is not the sole protagonist as the name suggests. The economy is actually led by a coalition between the state and a few actors within the business community, and the idea of cronyism better conveys this coalition.

nation Haber gives for why crony capitalism takes place. For Haber, crony capitalism arises as a response to a problem of credible commitment faced by governments. Strong governments can confer and abrogate property rights, so they need a way to tie their own hands so that economic agents do not fear future expropriation. An optimal solution is limited governments; a suboptimal one is to guarantee the property rights of a subset of asset holders and make sure that members of the governments themselves, or their relatives, share in the rents these asset holders elicit.

Haber's explanation attributes high agency power to members of a government: they can pick and choose who has assets and select how much their assets will be protected. Nonetheless, it is hard to square this view with the historical formation of political and economic elites in the region he focuses on, Latin America. Sokoloff and Engerman (2000) trace the formation of the economic elite in Latin America all the way back to the colonial period. At the time, a small economic elite of European descendants controlled the market opportunities in the region. This business elite had the incentives and political means to reproduce its exclusive access to market opportunities across several generations. They operated under enclave economies (Cardoso and Faletto, 1979) which preceded the formation of the state by several centuries (Centeno, 2002). Therefore, exclusive economic elites dominated market opportunities in Latin America long before the formation of a government that would need to worry about problems of credible commitment or had the power to confer and abrogate property rights.

A more accurate perspective should account for the fact that crony capitalism does not arise from an atemporal choice of a rational actor, but results from historical processes in which economic elites have the means and incentives, as Sokoloff and Engerman (2000) argued, to maintain its prominence. As the state evolves and becomes more capable and the democratic institutions that could end this prominence are still weak, cronyism lingers.

This historical process has resulted in a very close relationship between a small business elite and the state up to contemporary times. Evans (1979) highlights the alliance between the national business elite, foreign capital and the state during the industrialization period in Brazil.[3] In the military regime (1964–1985), symbiotic relations between state and business insiders went beyond manufacturers in São Paulo and resulted in the creation of the behemoths of the construction sector that became involved in large-scale corruption scandals (Campos, 2012). During the 1990s, the state pulled out of the economy but also gave business insiders many opportunities to earn high profits that could buy cheap state assets with subsidized credit (Panizza, 2013),[4] while Lazzarini (2011) shows how small the networks among the business elites are and how closely to the state they operate in contemporary times.

[3]The state played a crucial role in Brazilian industrialization but to be fair, there is a debate in the Brazilian historiography as to whether the new industrial elite were the direct descendants of the land-owning elite or first-generation European immigrants. See Bresser-Pereira (1994) for a review.

[4]For an anecdotal report about how cronyism also pervaded the liberalization and privatization process in the 1990s in Brazil, see `https://piaui.folha.uol.com.br/materia/agonia-da-oi/`, accessed 21/04/2019.

The latest act in this centuries-old play took place during the tenure of the Workers Party from 2003 to 2016. The party enacted policies that deepened crony capitalism by boosting the national development bank and directing its loans to big domestic incumbents, extensively using tax breaks and subsidies for domestic firms and using the government's purchase power in ways that benefitted the traditional business insiders, such as the aforementioned construction companies (Zanatta, 2012; Kröger, 2012; Almeida and Schneider, 2012; Sierra, 2017).

The next sections make a few additional contributions to an understanding of how high transaction costs and crony capitalism are connected. I start by discussing the operational details of crony capitalism in Brazil and describe how the government deeply penetrates the marketplace across two main dimensions: i) micro-control over private production; ii) macro-control over key market functions. Crony capitalism is composed of a coalition between state agents and market agents; therefore, we need to take a close look at these agents. I describe the core actors of this system, namely business, politicians and bureaucrats. I also connect the incentive structure of crony capitalism with high transaction costs.

Building on this description of processes and actors, the chapter moves on to describe the Nash equilibrium sustaining crony capitalism and its high transaction costs. I argue that a low-cost business environment should be approached as a public good. As such, its provision is dependent on the contribution of all actors, but this does not happen because business insiders

and outsiders have different preferences. Finally, the theory describes when this equilibrium falls apart and reforms to crony capitalism that decrease transaction costs are possible.

Micro-control over private production

The first dimension of state-led capitalism in Brazil refers to how the state micro-manages the production process. The state imposes unreasonably high costs for complying with licensing, regulation and taxation requirements and it holds discretionary power to increase or decrease the costs of doing business. Crucially, manipulating transaction costs is a power resource for state agents.

Licensing and prescriptive regulation

In every country, developed or developing, businesses are required to obtain some level of operational licenses and comply with some level of regulation, which usually varies across sectors. But what makes the Brazilian crony capitalism different is the enormous transaction costs that complying with licenses and regulations implies for business. Instructions for compliance are unclear and conflicting; firms have to fill out highly complex petitions and forms. They usually need to resort to external "consultants." The frequency of interaction with the state is high and there is a high level of discretion about criterion of analysis and deadlines for responses on the side of bureaucrats processing regulations and licenses. These nuisances are clearly

captured by the many dimensions of the Doing Business Index and were exemplified by the case of Ricardo at the beginning of this project.

As the empirical part of this project will show, this scenario applies to several types of interactions a firm has to engage in with the state in Brazil, including tax breaks, anti-dumping processes and some of the several exceptions for import tariffs. Environmental licenses best illustrate this point and were repeatedly cited by interviewees as a particularly taxing process. A firm in Brazil needs three different sequential environmental licenses to operate. Licensing is required for the vast majority of businesses, even small urban shops. The criterion for approving environmental licenses is often unclear and riddled with discretion on the part of the environmental agency. To make matters worse, the deadlines for the regulator to respond are not enforced and public prosecutors can intervene in the administrative process with little or no accountability. It is common to wait around one year for each license, totaling three years to obtain full environmental clearance. The environmental report businesses have to submit is so complex that usually specialized consulting firms have to be hired even for the simplest type of license. Not surprisingly, cases of corruption in which bribes are charged in exchange for speeding up a process are not rare, as I will report later in this chapter.

Discretionary taxation

Brazil has unrealistically high formal tax rates. At nearly 70% of an average firm profits, the rate is well above the global average of 40% (source: Doing Business Index). Nonetheless, or perhaps for this reason, the state dispenses ubiquitous tax break programs. Notably, every state-level government offers some tax break for VAT. The format of these programs varies considerably. In some cases, the eligibility criteria are highly discretionary, such as in Rio de Janeiro and Mato Grosso states, while the criteria for others are formal and objective, as in Goias.

The unrealistic tax rates followed by tax break schemes grants state agents discretion to impose or waive economic extraction on individual firms. This capacity has two main implications. First, discretionary taxation power is employed as a bargaining chip used to coopt, appease or punish local businesses. Second, the burdensome regulation over taxation increases transactions costs for businesses and the resources they spend on non-productive time. Again, this imposes high fixed costs on firms for interacting with the government while doing business.

Macro-control over key market functions

The second dimension of state-embedded capitalism relates to its control over key dimensions of the marketplace; namely, the interface between domestic and global markets, capital markets and demand for business.

Gatekeeper of global markets

Owing to a complex structure of import tariffs, the state has high discretionary power over which firms have access to global markets to buy goods at a lower price and which ones will be protected from foreign competition. The logic of trade protection is similar to that of taxation described above: the state imposes an unrealistically high import tariff for most products, but it also controls the loopholes in the tariff structure. There are at least five different mechanisms which individual firms may apply in order to decrease or increase import tariffs, granting them access to cheaper goods or extra protection. Also similar to taxation, some of these mechanisms are formal and procedural with little discretion for state agents, such as anti-dumping duties; others are subject to high discretion, such as the list of 100 tariff lines that, according to Mercosur rules, local governments can change at will.

Unlike taxation, import tariffs are charged on products and do not affect firms individually. However, the various loopholes in a highly protected market give the state the power to choose which group of firms will face more or less global competition and the power to appease, co-opt and punish economic agents, imposing high transaction costs on firms for their dealings with the state, the main intermediary between them and global markets. Chapter 4 will treat import tariffs in more detail.

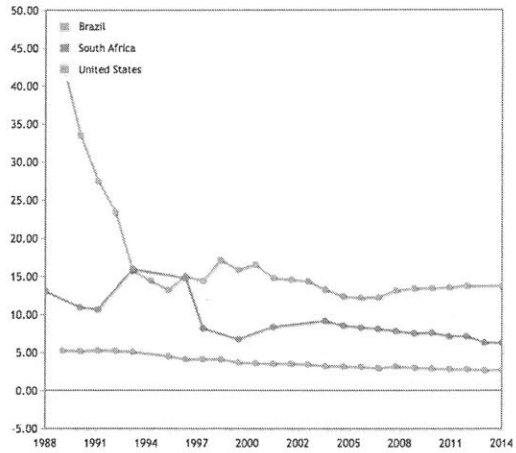


Figure 2.1: **Shielding domestic firms from foreign competition.** The state imposes an unrealistically high import tariff for most products, but it also controls the loopholes in the tariff structure that can grant extra protection or cheaper access to foreign goods to a few firms or sectors.

Control over capital markets

Capital markets are government affairs in Brazil. The Central Bank sets one of the highest real interest rates in the world. For decades, the base rates hovered around 10% to 15% a year, though it has dropped to single figures more recently. As a consequence, private investment must resort to subsidized loans dispensed by state banks. La Porta et al. (2002) document that the Brazilian government owned 31% of assets in the top 10 banks in the country and controlled around 57%. The comparable amount in the US and UK is zero, although Brazil's figure is not very different from that of other developing countries. The National Development Bank, BNDES, virtually monopolizes credit for investment, while Caixa Economica and Banco do Brasil, also controlled by the government, disburse the remaining part of

loans for investment, agricultural production and mortgages. Indeed, BNDES is the third largest national development bank in the world, behind only Germany's and China's. Until recently it disbursed more loans per year than the World Bank. It charges a subsidized interest rate, set by the National Monetary Council, that is considerably lower than the base interest rate set by the Central Bank. The same is true for regional public banks.[5]

At least until a recently,[6] most of BNDES loans had high fiscal costs, were for the largest corporations in the country, and distorted financial markets overall in favor of large incumbents (Dutz, 2018). One of its more recent missions is to support the globalization of Brazilian firms. This can be done by funding the acquisition of domestic firms by one firm and, after the domestic market is consolidated under a leader, BNDES funded the internationalization of that leading firm. By doing so, BNDES can pick the champions. Unsurprisingly, some of the firms it picks are also champions in political engagement. The most emblematic case is JBS, a meat processing company that became a global giant by acquiring a series of international competitors with the help of BNDES funding (see Sierra (2017) for details). JBS was also the fifth largest campaign donor in the 2014 presidential election and its

[5]Currently, the Brazilian federal government also owns two large regional banks which are supposed to address the needs of local businesses in the poverty-stricken northeast region (Banco do Nordeste) and in the sparsely populated Amazonia region (Banco da Amazonia). Although they lend out only a fraction of what BNDES lends, these banks are crucial providers of credit in these regions and their total disbursement increased sharply during the 2000s

[6]A recent change in legislation promises to make the loan rate for BNDES loans converge with the market rate but the effects are yet to be seen.

corrupt ties with government officials were unveiled during the *Carne Fraca* federal police operation.

There is more systematic evidence that that political engagement by firms leads to more access to BNDES financing. Lazzarini et al. (2014) show that an additional donation to a winning Congress legislator increases subsidized loans by around US$45.9 million. Given the overall high cost of capital, the net yearly benefit of such a loan is between US$1.8 million and US$5.5 million up to the subsequent election (p. 250). Bandeira-de Mello (2016) finds that companies in Brazil decide to locate their projects in municipalities where the mayor belongs to a party aligned to the incumbent party at the federal level, so that they can leverage their local political connections to have better access to BNDES loans.

Control over demand for business

Finally, in state-led capitalism the government can control the demand for products and services of some businesses. As Ferraz et al. (2015) document, selling to the state improves a firm's performance and this effect continues well beyond the length of the contract. The state in Brazil uses its purchasing power to dispense benefits for market agents that have strong connections to government agents. Boas et al. (2014) measure how lucrative building political connections in exchange for procurement can be. They show that firms that donate to a winning candidate in Brazil's federal legislature can expect a return of 14 times their donation if the candidate is aligned with the

incumbent Workers' Party. Arvate et al. (2013) extend their study to state governments. They find that donating to winning candidates increases the number of contracts a firm receives on average. The net return in procurement contracts is on average 50 times the amount a firm donates in state-level campaigns.

Procurement for construction projects is perhaps the dimension of public policy where not only government discretion but also the dichotomy between insiders and outsiders is made the clearest. My own empirical findings during fieldwork in the sate of Goias show that government can use its discretion in procurement to reward or punish firms. Despite the facade of objectivity and formality, there is still plenty of room for discretion. Officials can issue benefits for connected firms in the form of '*termos aditivos*,' a contract addendum providing up to 25% additional payment for the winner of a procurement contract. They can also punish non-connected businesses by delaying their procurement payment. Insiders need to coordinate within a close-knitted group of public agents and construction companies. This dynamic is reported by respondents, who describe how well-connected firms coordinate a rotation process at the local construction association, in which they take turns on who gets which project and then coordinate with local agencies through a mix of campaign donations and unofficial kickbacks. As a respondent candidly reports,

> The procurement process is fake. Anyone can bid, but there is already a winner and everybody already knows it, they bid just to

> cover the price. There are only these big firms and they do just what big firms do; 'this project is mine, that project is yours'. They distribute the projects and there is a job for everyone. Everybody raises their price and then you [the previously designed winner] put your price slightly below the others. That is like this, procurement bidding has always been like this." [Respondent 020, a retired partner in a medium-size construction company]

The mechanisms used by public agents to control who gets what are their discretionary power over payments, certification that the project was well-executed, and issuance of *termos aditivos*. Firms that break in and win a procurement that was assigned to someone else may have their payment delayed, disrupting their cash flow, or are simply denied payment. If they are big firms, they can withstand this type of pressure but this is not the case for smaller ones.

> The procurement process works like this. After you win, you sign a contract, then you have 30 days to start working on the project, the government would do the certification and start paying you. It would be great if it was like this, but you know: 'no, this month we are doing some paperwork and we will not pay you this month, but in the next one,' then your cash flow is gone and the government holds your payment for two or three more months, until you get a bit more indebted. When they see you

> are almost drowning, they call you and say 'you are not doing well in the project, you are going too slow, I'll have to pass it to the second place [of the bidding competition] [...] Lets do like this: I'll pay you, but you will have to leave this project.' It is a way of forcing you out of the contract. [Respondent 013, partner in a small construction company]

In some cases, instead of delaying payments for non-connected firms, government agencies reward well-connected contractors with up to 25% more in addition to the contracted amount for a public project, a tool legally known as *termo aditivo*. This enables well-connected firms to offer an unrealistically low price in a bid if they are certain that government agents will boost their project's revenue by 1/4 of the original price.

Data on public contracts in the state of Goias, where I conducted the above interviews, can be used to test whether well-connected firms are more likely to receive a *termo aditivo* or not. In the exercise below, I collected a dataset indicating which firms made a campaign donation to any candidate in the 2010 state executive and legislative elections. I crossed this dataset with another containing information about public procurement contracts. The public procurement dataset also indicates which contracts were boosted by a *termo aditivo*. I subset this dataset for public works only ("*obras*," which excludes goods and services). The bar plot below shows that a higher share of contracts signed with donors received a *termo aditivo* (22%) than those awarded to non-donors (15%).

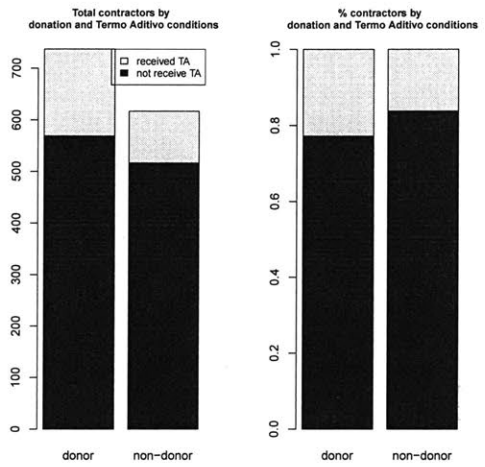


Figure 2.2: **A larger share of firms that made campaign donations obtain a *termo aditivo* compared to the share of those who did not donate.** The left-hand bar graph shows the absolute number of firms that obtained a procurement contract from Agetop, the state agency responsible for contracting infrastructure construction projects. The first bar is the total of contracted firms that made a campaign donation. The bars are divided between firms that were granted a *termo aditivo* (light blue) and those which were not (dark blue). The right-hand graph shows these figures in percentages. Note the higher share of firms that received a *termo aditivo* (light blue) in the donors bar. The bars show that 22% of contracted firms that made a campaign donation were granted a *termo aditivo*, while the percentage for non-donors is 15%. **Source:** Goias Government Public Transparency Website.

Scholarly work has shown how procurement contracts strongly affect the business environment in Latin American countries. Auriol et al. (2016) show that widespread corruption in procurement results in systematic distortion of market competition among firms bidding for government contracts. Non-competitive attribution of government contracts is likely to have a devastating impact on the incentives of economic agents and on the country's productive structure as a whole. Corrupt procurement pushes firms into more rent-seeking instead of investing in competitiveness. Their findings in the case of Paraguay yield important empirical support for this projects' overall argument about the low level economic equilibrium created by crony capitalism.

2.2 Business

Faced with the need to operate within a state-led capitalist system, how will business react? Does this reaction vary across firms? What are the implications of their reaction? The literature on management sciences helps us cast light on these questions.

One of the first lessons an MBA student learns is that a successful business strategy is different from and more important than excellent operational effectiveness. The latter is related to the capacity of a firm to execute its tasks faster and with fewer inputs than its rival. Strategy, on the other hand, is about placing the firm in a unique and valuable position in the market which grants it a sustainable competitive advantage. While firms can reap great

benefits from operational effectiveness, eventually rival firms are capable of emulating the 'best practices.' Then all the firms in the industry will be operating at the same cost/profit level, and the leading firm loses its edge.

A successful strategic positioning, on the other hand, allows the firm to fend off competitors by exploring what is unique about its organization (Porter, 1996). The uniqueness can be exclusive distribution channels that scare away competitors, such as Amazon; a perfect mix of design and technology that is nearly impossible for its rivals to imitate, such as Apple; or developing products that accommodate a niche market within an industry, like Ikea. Long-term above-market returns depend on successfully positioning the firm far away from the swamp of perfect competition and within these strategic sweet spots.

A successful strategy requires acquisition of the resources necessary to implement it. For example, to position itself as an innovative product developer, a firm must invest in research and development. Being capable of delivering virtually any product within 48 hours requires building up impeccable logistics. These resources are what management science calls *strategic factors*. As with any capital budgeting decision, firms decide whether to invest in their acquisition after evaluating whether the expected additional returns will exceed the costs Barney (1986).

In a context of crony capitalism, firms can create highly advantageous strategic positioning by investing in their relationship with state agents. Findings such as those in Fisman (2001); Faccio (2006); Faccio et al. (2006)

show widespread connection between businesses and government officials in different countries and that links with government increase the value of connected firms. As I showed above, the state in Brazil has discretionary power to increase or decrease the hefty transaction costs of complying with several layers of regulation, licensing and taxation. The state can grant strategic protection from foreign competition, guarantee a stream of revenue through procurement contracts or secure exclusive access to cheap capital.

A quick look at the most successful Brazilian business in past decades will illustrate this point. The strategic factor these firms invested in was not a unique mix of design and technology (Apple) or distribution chains (Amazon). Odebrecht, the gigantic multi-sector corporation, guaranteed an enormous stream of revenue through over-invoiced procurement contracts ranging from large infrastructure projects to oil and gas production. JBS, until recently the largest meat processing company in the world, was granted several subsidized loans and equity investments by the National Development Bank (the same bank that denied Ricardo a loan to produce clean energy for a government-sponsored program). This cheap capital funded the series of domestic and international acquisitions that paved the way to the company's internationalization (Sierra, 2017).

Odebrecht's and JBS's patterns of campaign donations give a hint of what type of strategic factors they invested in. They were respectively the first and fifth biggest donors in Brazil's 2014 national campaign, a combined

'investment' of half a billion BR$, equivalent to 17% of all donations made by more than three thousand donors that year.

There are several avenues for well-connected firms to gain a competitive edge by investing in a special type of strategic asset – privileged relations with the state. The edge comes in the form of cheap capital, generous procurement, protection from global competition, fast-tracked regulatory procedures or tax breaks. The question then becomes which firms are most likely to invest in this type of strategic asset.

The Business Insiders

The literature has already shown that sectors that are more heavily regulated or dependent on the government are more likely to be politically engaged, as are larger firms (Boies, 1989; Grier et al., 1994). Nonetheless, there are undertheorized firm-level factors, such as firm-level capabilities. Capabilities are the set of strategic and organizational processes by which a firm combines resources, such as for instance production equipment, sales force, distribution channels, and marketing, to be successful in the marketplace (Eisenhardt and Martin, 2000). A firm's 'success' is usually made visible by measures such as profit, revenue, amount of exports, or market share, but are not limited to these.

An alternative approach to heterogeneity in business capabilities is offered by a new literature on international trade, which I use more closely in this thesis. The 'new new' trade theory tries to understand why, within a

particular sector, only very few firms are exporters while the preceding trade theories would expect that most firms with a comparative advantage in their sector become exporters. Their answer is that engaging in global markets is expensive, and only the most competitive firms will be able to bear the fixed and variable costs of importing, exporting or doing foreign direct investment (Bernard and Jensen, 1999; Melitz, 2003; Osgood et al., 2017; Plouffe, 2017; Kim and Osgood, 2019). Kim (2017) builds on this insight to argue that heterogeneity in capacity translates into different policy preferences. Conveniently, this literature also argues that multinational companies (MNCs) are necessarily part of this group of industry leaders because they were capable of overcoming the high costs of setting up operations in a foreign market. I call these groups the industry leaders and some of the empirical parts of this thesis identify industry leaders based on their engagement in foreign markets; exporting firms and MNCs are considered industry leaders.

I claim that in a context of crony capitalism, industry leaders are more likely to invest in privileged connections. The idea of strategic factor markets implies that a certain level of capability is required to not only pay for the investment but also to put the correct price on it and deploy the necessary management techniques to turn the price paid into the actual strategic positioning it aspired to. Odebrecht, for example, had a whole department to manage its network of bribes which it infamously named its 'department of structured operations.' It follows that the more capable firms are more likely

to invest in the strategic factor market of political connections, to be more engaged with the government, and to reap the benefits of this investment.

This hypothesis and its empirical corroboration presented in the next chapter contrast with empirical results found in developed market economies. Rudy and Johnson (2016) posit that underperforming firms are actually the ones more likely to engage with the state. Governments can offer them protection from competition and subsidies that work as lifelines, preventing them from being washed out of the marketplace by competitors. Adelino and Dinc (2014) exploit the shock promoted by the 2008 crisis in business financing to show that firms with weaker financial health, as measured by credit default swap spreads, tended to spend more resources on lobbying. Finally, Cao et al. (2018) also show a negative association between performance and lobbying – although they put performance as the dependent variable. The reason, according to the authors, is that lobbying may provide limited tangible benefits in terms of helping firms obtain government contracts.

These may be applicable to the context studied by the authors (United States), where the state has a more hands-off approach and does not control key market functions, transaction costs due to bureaucratic discretion are not as high or volatile, and there are market alternatives to strategic positioning. In this case, the default political strategy of firms may be to stay at arm's length from the state, unless something starts to go wrong, or their performance falls below expectations.

Firms play by different rules under crony capitalism. First, the state has much to offer but it may do a lot of harm. It can create strategic advantages for the well-connected by granting exclusive access to loans, protection, or subsidies or fast-track licensing. This being so, guaranteeing that interactions with the state will always have a positive outcome is a core strategic asset. Second, there are considerable costs in seeking rents from the state. Requesting favors requires building an intricate function within the firm. For example, the Goias state tax break program, which I will discuss in a later chapter, requires frequently filling out highly complex forms, so much so that there are consulting firms living on the market of providing this service. The same is true for the market of 'consultants' that help firms apply for a subsidized loans or for changes in import tariffs, such as anti-dumping rights. Only highly capable firms have the organizational capacity to process these transactions without further disturbance to their production operations.

The pervasiveness of this discretionary support for firms contributes to a higher *custo Brasil*; that is, the transaction costs of doing business. The logic is as follows: doing business without resorting to the supporting schemes implies missing opportunities for lower taxes, cheaper financing or trade protection. At the same time, there is also a bureaucratic cost in requesting these rewards. So, the cost of doing business is high whether or not a company resorts to supports. Dutz (2018) explains the situation as follows:

> The institutional damage created by a transaction-based approach to policies in which businesses narrowly seek firm or industry-

> specific privileges [is now evident]. Once privileges are granted, it becomes enormously difficult to wean businesses off government support, and attempts to increase competition are regularly countered by calls for additional subsidies. The distortions created by these business support policies have thus become an integral component of a higher *custo Brasil*. Brazil's business support policies are not a compensation to businesses that is unrelated to *custo Brasil*, as some lobby groups claim, but a large component of it. (Dutz, 2018)[p.102]

A special role for multinational corporations?

There are other types of firm-level characteristics making firms more likely to invest in nurturing a strategic position within the state. This project shows that being a foreign-owned company improves a firms' ability to get something from the state. In my study of tax breaks in the state of Goias, I show that foreign-owned multinational companies (MNCs) are approximately three times more likely to be granted a tax break than similar domestically-owned firms. Various interviewees reported a strong trend by the local government to guarantee MNCs a 'fast track' through the environmental licensing process. The instruction was to 'roll out a red carpet' for foreign investors, as an interviewee put it. I also show that there is a disproportionally high representation of MNCs that are successfully granted anti-dumping protection under Brazil's foreign trade policy. Secondary literature shows how MNCs

in the automobile industry became entrenched in the Brazilian market and succeeded in building a tariff wall that has been protecting them from foreign competition for decades.

Obviously, being foreign-owned is not per se a relevant capability. What is significant are some characteristics usually associated with multinational corporations. First, they are large and therefore they can dilute the fixed costs of investing in strategic factors over a greater revenue base. Second, they have superior management techniques so it is easier for them to precisely evaluate and manage the activities associated with the strategic positioning with the state.

Third, and perhaps most important, their capacity to invest is a resource that government officials are very eager to trade for some type of advantage. Actively seeking outsiders' investment is an effective tool that incumbent politicians carry out in order to claim credit for electoral purposes (Jensen et al., 2015b) or to enable their developmental strategy (Evans, 1979). This scarce resource is even more important in a country where investment/GDP hoovers around a meager 17% – the figure is above 30% in Asian countries.[7]

[7]This finding challenges some expectations of the current literature. Morck and Yeung (2004) suggest that family-owned business, as opposed to professionally managed companies, are more likely to seek rents from the state. They are capable of building and sustaining long-term relationships of trust with governmental elites. In fact, this may be true for rents related to procurement contracts, as the study of construction sector in Goias will make clear. But for other rents, their dynamic capabilities seem to outweigh the capacity to sustain long-term relationships of trust.

2.3 Politicians

Creating barriers to sell solutions

If some businesses have a lot to gain by acquiring these strategic factors, what is in it for government agents? Understanding this question requires looking at the incentive structure that both elected politicians and bureaucrats deal with. This section focuses on the former, the next section discusses the latter.

High transaction costs are an opportunity for politicians. If state agents can use discretion to increase or reduce the cost of doing business, this cost becomes a power resource. If they can use this discretion at the individual level, switching it up or down for each firm, then they can use this leverage to divide the business community and prevent it from overcoming problems of collective action that keep it from mobilizing against high transaction costs. This discretionary power is similar to what Holland (2016) described as 'forbearance:' the power politicians have in informal institutional settings to choose when to enforce formal rules. For Holland, the capacity to pick and choose legal enforcement is a tool politicians use to mobilize voters and implement distributive policies.

The point to draw on in Holland is not so much the informality of these arrangements but how discretionary they are: even if formal rules curtail discretion, politicians can find ways to reclaim discretionary power. The same discretionary power can be applied to increase or decrease transaction

costs: licensing can be expedited (see the case of environmental licensing below), taxation can be forborne (see cases of tax breaks in Chapter 4) and even import processing can accelerated (see the case of special importing regimes also in Chapter 4).

The discretionary power to set the cost of doing business at the individual level would be appreciated by politicians in any setting. But in the Brazilian case in particular this incentive structure is shaped by coalitional presidentialism and clientelism. A core difficulty faced by Brazilian presidents is to build and sustain a coalition in the context of fragmented parties. Scholars have described the resulting equilibrium as coalitional presidentialism, a mathematical response to the problem of building a legislative majority while the incumbent Executive is systematically a minority party (Power, 2010, p. 25). A tool for building and maintaining a coalition is to use appointed positions in the Executive branch as pork to be distributed to legislators and their clients. As the literature on coalitional presidentialism suggests, the leader in the Executive behaves similarly to a European prime minister and his cabinet is populated with various party leaders. Indeed, other authors have identified how the institutional features of Brazilian politics facilitate the influence of big business over politicians (Schneider and Soskice, 2009; Schneider, 2013).

The clientelistic dynamics of Brazilian politics implies that positions in governmental agencies are used as a resource to create reciprocal dynamics of giving and receiving between patrons and clients. Controlling the gates giving

access to cheap capital, cheaper imported goods, lower tax rates and faster licensing is an immense source of power. For a purely clientelistic politician, the harder it is to do business and the more discretion the politician holds over these difficulties, the more power he has to create and maintain clients at the business sector. As mentioned above, interviewees repeatedly referred to this using a well-known expression in Brazil, '*criar dificuldade para vender facilidade*;' creating problems in order to sell solutions.

But while the term coalitional presidentialism refers to at the Executive Branch at the national level, I contend that it is also applicable to the state level. State governors operate under the same electoral rules and fragmented party system. So they need to create a majoritarian coalition when the politicians are systematically elected by a minority party, as shown in Figure 2.1 below.

The following logic thus applies to state governors and local agencies as well as to the president and federal agencies: 1) Politicians elected to the executive branch need to build a government coalition with parties with which they do not have programmatic affinity. 2) They do so by granting leaders of other parties prerogatives over appointments to executive agencies. 3) These appointees use the power to disburse benefits or regulate business as a tool for corporate clientelism; benefiting some business in exchange for a legal or illegal return. These benefits will be granted only to the business insiders, described above. 4) The harder it is to do business and the more discretion a government agency has over a firm's transaction costs, the more

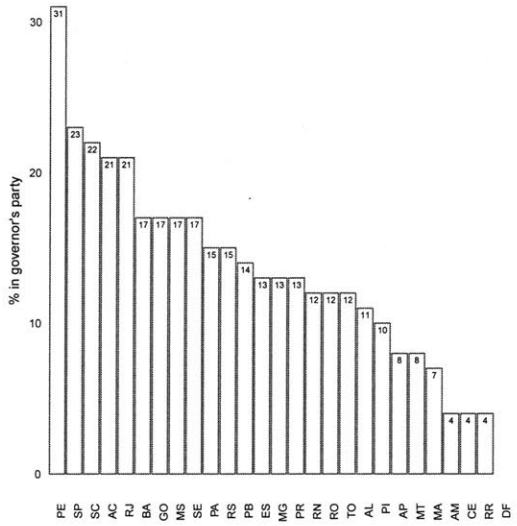


Figure 2.3: **State governors in Brazil face structural problems to form a governing majority.** The figure shows how the governors' parties are minorities in state-level parliaments. While the literature of coalitional presidentialism focuses on the president, the constraints it describes are also applicable to state governors. They operate under the same electoral rules and fragmented party system. There are important implications of these constraints for the way the state interacts with the business sector. **Source:** Author, with data from TSE.

that agency represents a power resource. The more problems are created, the more solutions can be sold.

This dynamic takes place over several regulatory procedures, but we can find a clear illustration by looking at the case of environmental licensing. Many economic activities have negative externality by depleting natural resources; therefore, it is the role of the state to make sure firms internalize these externalities. However, this regulation can become a power resource when there is ample discretion in terms of criterion for obtaining permits and the timing to process and issue them. Since nearly all businesses must have an environmental license, the environmental agencies become a big service counter for back-scratching between business, politicians and their bureaucratic appointees.

To see a concrete illustration of these interactions, let us look at how state-level governments have dealt with environmental licenses. In 2010 the police launched 'Operação Propina Verde,' or Green Bribe Operation, which uncovered a corruption scheme in the Goais state environmental agency. As local news outlets reported, political appointees ran the agency and received bribes from local businesses to speed up their environmental licenses. According to someone interviewed by the local media, "the person who needs an environmental license knows that their case only moves if he pays. If he pays the case goes to the top of the line, otherwise it stands still for years."[8]

[8] https://www.opopular.com.br/editorias/cidades/casos-de-corrup%C3%A7%C3%A3o-no-%C3%B3rg%C3%A3o-ambiental-t%C3%AAm-se-repetido-1.77707, accessed 4/10/2018.

Political appointees played a core role in the scheme. A local news outlet reported that not only was the head of the agency a political appointee but his directors also were. "And how can you blow the whistle against a supervisor who is connected with powerful people, such as a congressperson?"[9] Similar cases involving politicians in collusion with public employees extracting bribes in exchange of licensing fast-tracks are also found at the municipal level.[10] This quote from a local paper summarizes the issue:

> The sequence is more or less as follows: A businessman or farmer needs a license for a particular activity. This person is in a hurry to obtain the license and seeks the licensing agency. As the operating structure is precarious, then this person runs the risk of having to wait too long to have their process approved. "One prefers to pay the bribe to speed up the business than waiting for an indefinite time," explains another source.[11]

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[9] `https://www.opopular.com.br/editorias/cidades/casos-de-corrup%C3%A7%C3%A3o-no-%C3%B3rg%C3%A3o-ambiental-t%C3%AAm-se-repetido-1.77707`, accessed 4/10/2018. For further coverage of these specific cases, see also `https://www.terra.com.br/noticias/brasil/policia/go-24-sao-presos-suspeitos-de-fraudes-na-area-ambiental,89aa5e49aa90b310VgnCLD200000bbcceb0aRCRD.html`, accessed 4/10/2018.

[10] In another case in the same state, a local *vereador* and the municipal director of environmental licensing in were also accused of receiving bribes in exchange for environmental licenses. See `http://g1.globo.com/goias/noticia/2013/03/vereador-e-denunciado-justica-por-receber-propina-para-liberar-obras.html`, accessed 4/10/2018.

[11] `https://www.opopular.com.br/editorias/cidades/casos-de-corrup%C3%A7%C3%A3o-no-%C3%B3rg%C3%A3o-ambiental-t%C3%AAm-se-repetido-1.77707`, accessed 4/10/2018.

2.4 Bureaucrats

The state is frequently depicted as a prominent player in Latin America's economy. Stepan (2015) treats these states as organic statist regimes, which are 'neither capitalist nor communist;' i.e., a societal system in which the state is highly dependent on entrepreneurial initiative and market flows, but still undermined by economic life being deeply regulated (p. 44). The state is relatively autonomous from the rest of society while it also manufactures productive relationships.

This type of state penetration into the economic realm is only possible by development of a bureaucracy, understood as a set of social actors employed within the state, who are relatively autonomous from their peers in the private sector but also frequently engage in symbiotic interactions with some of them. The bureaucracy is capable of collectively engaging in political coalitions to trigger or to block social change. O'Donnell et al. (1988) describes how high-level civilian bureaucrats formed an alliance to push back against pro-labor policies and coalesce with foreign capital during the wave of military coups that occurred in the region in the 1960s and 1970s. Cardoso aptly described some of these symbiotic dynamics in Brazil by the concept of 'bureaucratic rings.'

The prominence of bureaucrats as social actors in Latin America comes to the fore especially in studies of the developmental state (Evans, 1995) or its concrete expression in policy terms; i.e., industrial policy (Schneider, 1991).

Indeed, the capacity of bureaucrats to fully carry out the distribution of opportunities for profit, a tenet of Weber's political capitalism, is most tested in the realm of industrial policy and regulation. The core goal of industrial policy and regulation is to change the incentive structure of business elites at a very micro level, so that they change how they use their own private resources. For example, tax benefits can be used to incentivize investments in sectors considered strategic. Regulation is used to impose rules of behavior over business in a way that may oppose their interests or at the least short term interests of a few of them. High-ranking bureaucrats making these decisions are relevant political actors and their decisions also influence the business environment.

Along with the democratic transition in Brazil there was a wave towards transferring policy-making capabilities from politicians to bureaucrats, a move considered necessary to address the problems of patrimonialism or the lack of domain expertise of other political agents on highly complex agendas. This was done by promoting the adoption of the so-called Weberian bureaucratic model, which in Brazil was enshrined in the 1988 Constitution (Schneider and Heredia, 2003) or by delegating policy-making away from politicians to regulatory agencies, placing the decision power with 'regulocrats' (Cunha et al., 2017). Analysts classify Brazil's civil service as relatively more Weberian than those of its Latin American peers, although the most accurate classification should be a hybrid regime, where the Weberian bureaucracy coexists with patrimonial structures (Schneider, 1993).

The move towards the Weberian model has increased the importance of bureaucrats as social actors. A way to check the social status of a class is to compare its revenues to those of other social classes. The prerogatives of the Weberian model, which guarantees virtually life-time employment with few strings attached in terms of performance, gave Weberian bureaucrats such a high social status and social role that they are by far the top earners of the salaried class in Brazil. In Table 2.1, I rank the top 20 categories of labor earnings declared to Brazil's federal revenue service, *Receita Federal.* This amount includes only salaries and excludes earnings from dividends, incomes or partners' earning – all the earnings that owners of capital would have. In the salaried class, four out of the top five categories are for public employees, as well as seven out of the top ten. An engineer earns 2/3 of what public sector lawyer does. Upper-class professions, such as dentists, are not listed among the top 20 positions – a dentist on average earns 1/3 of what a public sector lawyer earns

How does the rise of the Weberian bureaucracy in Brazil affect the business environment? A useful way to think about this question is to contrast different models of bureaucracy. There are three main models of how a public sector bureaucracy might be organized: the patrimonial model, the Weberian model and the managerial model. The patrimonial model is a pre-Weberian form, in which the political leader directly appoints the public employees at his/her will and uses the public sector to distribute pork to members of his coalition and to implement a mutual exchange of favors between the state

Career	Sector	Income)
Notary Public	Public	100
Member of the Public Prosecutor's Office	Public	51
Member of the Judiciary and Court of Auditors	Public	51
Diplomat	Public	36
Doctor	Private	28
Public Sector Lawyer	Public	27
Public Servant at the Central Bank	Public	24
Public Servant at the fiscal audit careers	Public	24
Aircraft pilot, ship captain	Private	23
Athlete, sportsman or similar	Private	22
Actor, director	Private	19
Journalist, reporter	Private	17
Engineer, architect or similar	Private	16
Director of political party or business association	Public/Non-Weberian	15
Public servant of the legislative power	Public	15
Manager of state-owned company	Public/Not necessarily Weberian	15
Agronomist or similar	Private	15
Stock exchange agent, other financial services.	Private	14
Higher education teacher	Mixed	14
Public servant of the judiciary power	Public	14

Table 2.1: **Four out of the top five salaries in Brazil are for Weberian employees.** Table of top 20 salaries by career in Brazil shows a high concentration of public sector employees at the top. Nine out of the 20 best paid salaries in the country are for public sector careers. Amounts are monthly in BRL. **Source:** Author, with data from Receita Federal of Brazil.

and non-state actors (business, individuals, etc.) The patrimonial model implies that to do business in areas that depend in some manner on some sort of interaction with the state (through regulation, tax breaks or procurement contracts), economic agents will need to engage in clientelistic exchanges with government agents, often paying back government favors with bribery or more general political support.

The patrimonial model affects the cost of doing business because the businesses interact with the government through clientelistic interactions that are costly on their own. These interactions are opaque and risky, and require solving issues of credible commitment. "Contracting" in this environment is challenging: one has to figure out the right price tag for a bribe and there is no court to resort to when one of the parties break the agreement. These interactions are a legal liability, and their outcomes are unpredictable and require monitoring actors' informal commitments. The more business is regulated, the more frequent these engagements are.

As Schneider and Heredia (2003) discuss, to counter the problems of the patrimonial bureaucracy, governments adopted the so-called civil service reforms, which aimed at imposing the Weberian model over their government agencies. In the Weberian bureaucracy, entrance to the public service is by examination, promotion is by merit, employees are often tenured and administration is based on written rules.

Nonetheless, the Weberian model created pathologies of its own, such as excessive regulation, rigid processes and focusing on compliance with rules

rather than results and stakeholder satisfaction. (Schneider and Heredia, 2003, p. 7). Huntington famously went as far as to state that "[i]n terms of economic growth, the only thing worse than a society with a rigid, overcentralized, dishonest bureaucracy is one with a rigid, overcentralized, honest bureaucracy" (Huntington, 1968).[12]

A concrete example of how the Weberian bureaucracy increases transaction costs is how it affects the timing of public employees' decisions on regulatory issues. Carpenter (2002, 2003) models how long bureaucrats take to give a regulatory response as analogous to an optimal stopping problem. That is to say, bureaucrats have to balance a trade-off between the value of additional time analyzing a request (in the case Carpenter uses, a drug approval, but this could also be applied to environmental or construction licensing) and the political pressure to respond to the request as soon as possible. This pressure can come from stakeholders such as politicians, firms or consumers. The career stability of the Weberian model changes bureaucrats' perception of the optimal stop problem. The second item of the trade-off, pressure to expedite the analysis, is weaker because these stakeholders can do little to affect their career as a form of pressure to expedite analysis. The

[12]These pathologies of the Weberian bureaucracy led some authors to understand that some level of patrimonialism is actually necessary to decrease the cost of doing business in developing countries, referring to corruption as necessary to "grease the wheel" (Leff, 1964; Leys, 1965). Interestingly for our study, while some authors have shown evidence that corruption overall decreases growth and worsen firms' performance (Méon and Sekkat, 2005; Colonnelli and Prem, 2017), others have found that corruption indeed greases the wheel especially for small and medium-sized firms in poor business environments (Mendoza et al., 2015).

stable Weberian bureaucrat has a stronger incentive to put more value on the marginal return of extra time to analyze a case and is less pressed by stakeholder interested in expedience. As a consequence, the optimal stop time will be longer, all else being the same. Long waiting times have a direct effect on the cost of doing business, as I will further discuss in the case of the pharmaceutical industry (Chapter 5).

The attempt to provide an antidote to both models is the so-called managerial model, or New Public Management (NPM). This model preaches the incorporation into the public sector of private management techniques, such as orientation towards results, project management, flat hierarchies, competition among agencies, the end of job tenure, and more (Dunleavy and Hood, 1994; Hood, 1995; Ferlie et al., 1996; Lane, 2002; Schneider and Heredia, 2003; Drechsler, 2005). Indeed, from a practical perspective the challenges for NPM, usually unheeded by its proponents, is how to avoid creeping back into the patrimonial model, since many of the incentives for patrimonialism are reinstalled once NPM reforms take place. In any case, this model chases the holy grail of the pursuit of efficiency without the rigidities of the Weberian model at the same time that it seeks to avoid the malaises of the patrimonial model. Despite recent attempts to define a post-NPM paradigm (e.g., Drechsler (2005)), the idea and practical implementation are still conceptually underdeveloped. Practitioners would find it unclear how to avoid creeping back into the patrimonial model once the rigidities of the Weberian bureaucracy are lifted. The diagram below places each of these models in a

timeline. There is usually an expectation that the Weberian model replaces the patrimonial one and then is replaced by the managerial model.

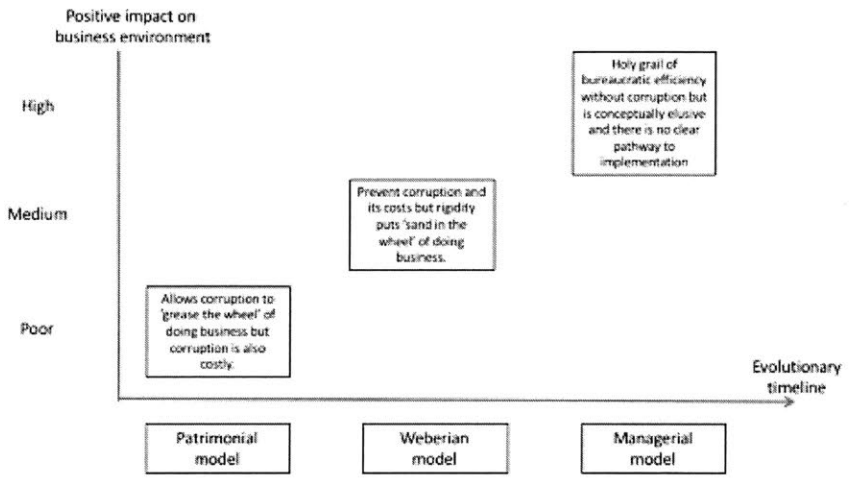


Figure 2.4: **Bureaucratic models and their impact on the business environment**. By author.

Incentive structures for bureaucrats and the cost of doing business

Second, the set of incentives that govern Weberian bureaucrats' behavior make them lean towards maintaining the tenets of crony capitalism and the costly business environment that comes with it. There are three core incentives:

1) **Maintain control over opportunities for profit.** Industrial policy and regulation enhance the core of what Weber called political capitalism: the state's control over opportunities for profits. For example, to

increase capital available for investment, the Brazilian government created the BNDES. At its zenith, the president of BNDES commanded a pool of resources larger than World Bank's global funding. BNDES bureaucrats could shape the competitive landscape of some sectors by betting on a firm and funding its acquisition of its competitors with cheaper capital, as was the case of JBS. In the case of the machinery and telecom import regimes, federal bureaucrats adjudicate whether a company may or may not import particular heavy and expensive equipment using privileged tariffs. If tariffs are cut across the board, the adjudicating power of these civil servants would disappear overnight.

2) **No incentives deriving from policy results or stakeholder satisfaction.** Career incentives are a useful summary of bureaucrats' incentives and a good heuristic for bureaucratic politics (Schneider, 1991). This being so, the career structure of Weberian bureaucrats is almost entirely unaffected by policy outcomes and stakeholders' satisfaction with the services they provide. Once an applicant to the civil service is admitted to a public career through an exam, she receives tenure after three years in the job, guaranteeing life-long employment. The variable part of the salary is usually very small and salary parity is legally guaranteed to all in a given career. The perspective for income growth depends mostly on the capacity of her labor union to negotiate raises with other high-ranked civil servants in the Executive branch and to lobby Congress representatives to approve budgetary provisions cover-

ing these raises. Promotion takes place by appointment by a higher ranking civil servant or by a politician, and is awarded by seniority. Dismissal for underperformance is very rare; in the case of judges, the most severe punishment is compulsory retirement.

Therefore, there are very few, if any, channels through which policy outcomes and stakeholders' concerns feed into the function that determines how bureaucrats progress in their career. Within the Weberian paradigm, the 'short route' of accountability Mundial (2004) is unwarranted. It follows that a civil servant's career incentives are unaffected if a regulation or policy compliance requirement they establish, such as a complex Anvisa regulation, creates an unreasonable amount of transaction costs for those subject to it. The same is true if an agency requires two to three years to issue an environmental license. Stakeholder satisfaction does not affect the career concerns of the honest bureaucrat but will be a opportunity to be explored by the unscrupulous one, as discussed above. Following Carpenter (2002, 2003), this incentive structure problem may have acute consequences in regulatory waiting times, as discussed above.

3) **Incentives for risk aversion.** I argue above that policy outcomes and stakeholder satisfaction are not part of the motivation function of civil servants. Their income derives from the politics of union lobbying, their promotion comes from pleasing a principal who is another

higher ranking bureaucrat or a politician, and there are many legal guarantees that they will not be dismissed due to poor performance. In this circumstances, I contend that public servant behavior will focus on assessing and managing 'tail risks' to their careers; i.e., events that may result in some type of formal punishment or social and peer sanctions. The punishments can extend to criminal prosecution in cases of corruption, but civil servants also value their reputation (Lodge and Wegrich, 2014) and will seek to protect it from being tarnished.

Brazil has also invested a lot in external accountability agencies, such as the Accountant Court (TCU) and the General Comptroller Office (CGU). In the Weberian mindset, culture and incentive structure, the way to avoid sanctions is to rigorously follow procedures, no matter how clumsy they may be. By following procedures by the book, the civil servant can cover herself against punishment and sanctions because she will always be able to claim that she followed any legal procedure required, regardless of the outcome. Additionally, the threat of corruption affects the incentives of noncorrupt policy-makers and they may deny access to representatives of business or civil society as a way to signal they are noncorrupt (Schnakenberg and Turner, 2019). By being inaccessible to potential stakeholders, bureaucrats compromise the acquisition of information necessary for good policies and the 'embeddedness' Evans deemed important for the relationship between the state and business.

Indeed, the Brazilian Constitution establishes the guiding principles of the country's public service in its Article 37. The first principle is 'legality,' which is usually interpreted as the core contrast between private and public management. In private management, the manager can do anything that is not forbidden by the law. In contrast, in the public administration, the 'manager' or civil servant, can only do what is expressly mandated by the law. An excerpt from one of the most important legal scholars in the country encapsulates this understanding:

> It is said, then, that the Public Administrator is only allowed to do what the law authorizes, in a prior and express way. [...] In the Public Administration there is no freedom or personal will. While in the private administration it is lawful to do everything that the law does not prohibit, in the Public Administration it is only allowed to do what the law authorizes (Meireles, 2005).

One of the successful ventures of the administrative reforms of the 1990s was actually to amend the Constitution to include the word "efficiency" as another guiding principle of the national bureaucracy. However, the doctrine texts by some legal scholars, published after the constitutional amendment, state that the efficiency principle is valid as long as it does not conflict with the higher principle of legality:

> Efficiency is a principle that joins the other principles imposed on the administration, and cannot preponderate any of them,

> especially that of legality, under penalty of serious risks to legal security and the rule of law (Di Pietro et al., 2000).

According to yet another Brazilian legal scholar, the principle of efficiency is so fluid that resembles more an adornment that should be conceived within the principle of legality and that the pursuit of efficiency should never preponderate that of legality (Mello, 1999, p. 29).

This understanding by legal scholars is telling of which kind of organizational culture and socialization process will prevail in Brazilian bureaucracies. They are socialized under the culture that legality is the core guiding principle for the civil servant and that they may get in trouble for deviating from legal procedures, even if the legal procedure is cumbersome and collides with efficiency. This type of organizational culture results in the bureaucrat being risk-averse when it comes serving clients or implementing policies in a way that does not totally conform to established procedures.

Therefore, being 'efficient,' in the sense of finding ways to bypass cumbersome regulations to deliver better results, can be risky from a career perspective because it opens up liability for not observing the legality principle. This type of risk aversion complements the other incentives to create bureaucrats who have very little incentive to care about how the policy and regulation affects transaction costs of firms or the business environment in general. This type of concern is either independent of their career progress or income level, or can actually become a personal liability for them if they take action on these concerns. Certainly there are cases where bureaucrats,

as well as politicians, do have a preference for 'good policies.' I will address these potential cases in the end of the next section and in the Conclusion of the thesis.

2.5 Formalizing the argument

After taking into account the incentive structure that business and government actors face under state-led capitalism, we can now look more closely at the strategic interactions among the actors. Analyzing their strategic interactions gives us insights into our core question: if the business environment is so bad, why do business elites fail to use their political clout to improve it?

In this section I propose that the creation of a business environment with low transaction costs can be viewed as a public good: all firms benefit from it. Conversely, the absence of a low-cost business environment implies that low-cost transactions can be dispensed to a few connected firms. By the same token, the provision of this public good suffers from the typical dilemmas of collective action: a condition for its provision is that all the actors have to make an effort towards its provision, but they have incentives to defect from this effort. I model a very simple simultaneous game explaining the equilibrium precluding the provision of this public good.

This model was influenced by Geddes's (1994) approach to the problem of administrative reforms, which also treated it as a problem of public goods provision. In her theory, incumbent parties defect from the provision of

this public good because they prefer the patronage route. Similarly, in my model the business insiders defect from the provision of a healthy business environment because they have privileged access to the government, which can dispense benefits in the form of low transaction costs (i.e., the insiders have access to the receiving side of patronage). I also draw on Popkin's (1988) take on the provision of public goods in peasant societies, where people may be afraid of punishment for participating in a failed rebellion and also need to trust the leadership that is organizing the provision of the public good. In my model, the business outsiders may fear retribution from political incumbents if they push for reforms by, for example, denouncing corrupt ties between firms and government but their effort fails to dislodge the incumbent.

In the next section, I build on this model to explain when this perverse equilibrium changes. Before presenting the model and its components, let us translate the discussion above into the three propositions below:

1. Different firm-level capabilities result in differential access to the market of strategic political factors; i.e., the assets they invest in to leverage their strategic positioning with respect to the state. More capable firms can make investments to place themselves in a position that leads to favorable interactions with the government. These firms take the fast track in licensing, they have better access to cheap capital or revenue streams of procurement contracts, and are granted tariff protection or tax breaks. They are the insiders, the group benefitted by state-

embedded capitalism. Outsiders are the firms that cannot afford to place themselves in this strategic position.

Of course, this binary classification of businesses is an over-simplification. In the real world, many businesses have some access to subsidized loans or some tariff protection. A more correct depiction would be that complete outsiders and insiders are extreme poles, with most firms falling somewhere on a continuous distribution between these two poles. However, the simplification here does not jeopardize the overall argument and the implications of the model.

2. Outsiders are a larger and less resourceful group of the business population. Due to the Olsonian law of group politics, they face more severe problems of collective action to mobilize against the structure of state-embedded capitalism. The more capable members of their group, who could actually provide leadership, will seek to fix their problems individually; i.e., will prefer to become insiders. Overcoming collective action problems becomes less likely when the business community is split into these two groups, capable insiders and less capable outsiders.

3. Political institutions create incentives for government actors to maintain the structure of state-embedded capitalism. Micro-control over productive process and macro-control over market functions is a valuable power resource under the constraints of coalitional presidentialism and clientelistic politics.

A few implications follow from these points. First, insiders are better off with the structures of state-led capitalism rather than with a situation where they would need to mobilize to challenge these structures. The transaction costs they face are not as high as those faced by outsiders because they have better connections within the government. This gives them a competitive edge over outsiders if they are competing in the same market. And doing nothing saves them the costs of mobilizing to challenge the structures of state-embedded capitalism. The resulting equilibrium in this situation is that insiders will keep interacting with state agents through their privileged channels and outsiders will be resigned to dealing with the system as it is.

This equilibrium can be demonstrated through a simple simultaneous game played by the two actors. The players of the game are business insiders and outsiders. The available actions are to mobilize against state-embedded capitalism or to conform to it. We make three assumptions:

1. Assume that a necessary condition for change is that the whole business community, insiders and outsiders, mobilizes, because the structure of state-embedded capitalism are deeply rooted in institutions.

2. Assume that failed mobilization results in sanctions from state agents against the mutineers (state agents benefit from the system, a mobilization entails publicizing the sleazy deals of business–government interactions).

3. Assume also that insiders and outsiders compete in the same market and that the benefits of state-embedded capitalism are rival goods, such as subsidized loans or procurement contracts. The consequence is that insiders' privileges are also a competitive edge or barrier to entry against outsiders.

With these assumptions, we have the following game setup:

- Players = insiders, outsiders
- Actions = conform, mobilize
- Preferences. For insiders the ordering of action profiles is as follows:

$$u_i(\text{conform, mobilize}) = u_i(\text{conform, conform}) > u_i(\text{mobilize, mobilize}) > u_i(\text{mobilize, conform})$$

In the first two action profiles, the system remains unchanged; insiders keep their privileged position and bear no mobilization cost. In the second (mobilize, mobilize), they are capable of decreasing the cost of doing business, which is desirable to insiders but not as good as when they monopolize privileges. In the last situation, they bear the costs of mobilization to achieve nothing, since the outsiders do not follow through.

For outsiders, the ordering of action profiles is as follows (first action in the pair refers to insiders):

$$u_c(\text{mobilize, mobilize}) > u_c(\text{conform, conform}) = u_c(\text{mobilize, conform}) > u_c(\text{conform, mobilize})$$

In the first action profile, businesses cooperate and engender change; in the second, outsiders keep facing the same system but do not pay the costs of mobilization, as well as in the third situation; in the fourth situation, they pay the costs of mobilizing but do not receive the benefits of change.

This setup can be modeled by a simultaneous game matrix. The payoff for each actor (1, 2 or 3) is based on the ordered utility of the action profile above. By iterating over the cells, we find that the resulting Nash equilibrium is (conform, conform), denoted with an asterisk. No actor can make herself better off by deviating from this situation and the system is maintained as is. In this perspective, the apparent contradiction of the noxious business environmental boils down to a failure of cooperation among a split business sector.

The equilibrium in Table 2.2 describes situations in which the benefit disbursed by the state is a rival good; that is, only the insiders can benefit from it. This is the situation of subsidized credit or over-invoiced procurement, for example. When JBS has privileged access to cheap capital, it can decrease

		Outsider	
		Mobilize	Conform
Insider	Mobilize	$(2, 3)$	$(1, 2)$
	Conform	$(3, 1)$	$(3, 2)^*$

Table 2.2: **The Nash equilibrium is to conform to crony capitalism.** This is a result of the preference structure deriving from the three assumptions above.

its total production costs by cutting down its financial overhead and can supply better prices for suppliers and consumers, gaining an edge over less well-connected meat processors. Odebrecht can lower its bidding price on procurement if it has already bribed state agents and secured a large stream of profits from over-invoiced contracts. In both cases, the insiders would be worse off if capital markets and procurement contracts were more inclusive because they would lose their competitive edge over other firms. They have a stake in keeping these aspects of crony capitalism as they are.

The implication of these results is that the interaction between business and the state in this specific setting results in a low-level equilibrium, which concretely is a hostile business environment. Industry leaders are more politically engaged, but their engagement is more likely to be invested in obtaining privileged access to power, not in pushing a policy agenda. Foreign-owned companies are capable of cutting sweet deals with state agents and solve obstacles of doing business on an individual basis, thus being disengaged from the policy agenda of local business. Market incumbents are interested in the keeping cumbersome regulation because it results in erecting barriers

around their market. As long as the industry leader is a competitor with the average firm, this low-level equilibrium tends be perpetuated. Some of the micro-economic reforms are less attainable than previously thought.

In sum, this and the previous sections have argued that Brazilian state-led capitalism is a dysfunctional production system because there is pervasive government-imposed transactional cost for business. But it is sustained by the aggregate behavior of three types of actors: businesses, politicians and bureaucrats, each of them responding to a different incentive structure. Businesses are the actors that would benefit the most from its downfall. But there are different preferences within the business community, resulting in any mobilization being blocked by problems of collective action. Politicians' career strategies lead them to prefer the maintenance of these dysfunctions. The discretion to increase or decrease transaction costs on an individualized basis provides an important power resource. In the Brazilian system, this power resource is used to build coalitions in a fragmented party system or to extract political support or kickbacks from business. Finally, Weberian bureaucrats not only obtain power from the state's penetration of the private productive system, but also have no career incentives to fix its dysfunction.

Now the question becomes: under what circumstances can this perverse equilibrium change and open space for virtuous reforms?

2.6 Change

Crony capitalism is therefore in equilibrium, as argued above. This means that change is hard and slow, requiring a lot of coordination among actors. But it is not impossible. This section examines the task of explaining how it can change. I focus on one of the types of change: business-driven change, when the preferences of the private sector are modified in a way that there are alternatives to the Nash equilibrium formalized in the previous section. At the end of the section I present a brief discussion about politician-driven change and bureaucratic-driven change.

Export orientation, business associations and changing preferences of business

The literature has noticed how integration into the global economy can push market agents with apparent divergent interests into collaboration. Katzenstein (1985) show how deeper integration into globalization forced Northern European countries to adopt what he calls democratic corporatism, a device that enabled different interest groups to cooperate. More recently, Norbäck et al. (2014) show that the more a country is integrated into the international economy the fewer the domestic barriers to setting up a new business, barriers which are in themselves a key transaction cost. In their view, this happens because it is more difficult to protect domestic incumbents the more integrated a country is into international markets. Arguing on the opposite

side, Do and Levchenko (2009) posit that trade liberalization can lead to higher entry costs if it changes political power in favor of a small elite of large exporters. Do and Levchenko (2009) propose an important qualification to my argument. Indeed, the effect of export orientation on building up pressure against transaction costs should be conditional on the exporters being more or less homogeneous if the population of exporters does not follow Zipf's law; i.e., if it is not the case that a most of all exports are concentrated in a few exporters.

I share with this literature the idea that more international integration into the global economy changes the preferences and the behavior of domestic actors. More specifically, I argue that more exports help exporting firms come together to push the same policy agenda because they cease being each other's direct competitor. Let us explain how this may lead to pressure for lower transaction costs by tweaking the formal model described above. The three assumptions of the model were that 1) the whole business community (insiders and outsiders) should mobilize for the reforms; 2) failed mobilization results in sanctions from state agents; and 3) insiders and outsiders compete in the same market and state benefits are a rival good, so insider privileges are a competitive edge or barrier to entry against outsiders.

Let us now drop the third assumption. Suppose insiders and outsiders are not direct competitors, so the privileges of high connections do not give an edge over the competition. In this scenario, losing some privileges would be compensated by a more hospitable business environment. In this case, the

preference over action profiles for the outsider is the same but it changes for the insider, as shown in Table 2.3. The only situation in which the insider is worse off is if it mobilizes but outsiders conform.

$$u_i(\text{mobilize, mobilize}) = u_i(\text{conform, conform}) = u_i(\text{conform, mobilize}) > u_i(\text{mobilize, conform})$$

By iterative exclusion, one can find that the game now has two Nash equilibria, shown in the matrix in Table 2.3. One of these Nash equilibria, (mobilize, mobilize), makes change possible. However, it would be necessary to have some coordination device among the players to signal to one player that the other one will choose mobilization and vice-versa.

		Outsider	
		Mobilize	Conform
Insider	Mobilize	$(2,3)^*$	$(1,2)$
	Conform	$(2,1)$	$(2,2)^*$

Table 2.3: **Mobilization of the business community is possible if assumption 3 is dropped.** The game now has two Nash equilbria and with some coordination device such as a encompassing business association, insiders and outsiders can mobilize.

The task now is to identify 1) when the competitive edge that crony capitalism can grant for insiders is not so sharp, and 2) when coordination to move from the low level to the high level equilibrium happens. I contend that (1) becomes more likely to happen as economic sectors become more export-oriented. As for (2), the likelihood of coordination towards a higher

equilibrium increases with the existence of encompassing business association.

Export orientation

Export orientation blurs the lines dividing insiders and outsiders. In export-oriented sectors private agents are not each others' direct competitors. They are competing in the vast ocean of global markets, instead of fighting in the small pond of domestic markets. Imagine two companies, A (insider) and B (outsider) who are producers of good X. If their target market is Brazil only, when company A obtains some privilege, say subsidized credit from BNDES, and increases its sales, its growth in market share is necessarily at the expense of company B. If this is a slowly growing market, B's revenue will actually decrease as a result of A's BNDES loan. This can pave the pathway for A's domination of product X, boosting even more its long-term competitive edge deriving from its privileged connections. This is not the case if A and B compete in the global market for product X. In this case, A's growth in sales may come at the expenses of international competitors and only marginally affect B's revenue. A is still in a privileged position in relation to B, but the fact that the former is boosted by state agents does not threaten the existence or prosperity of the latter. This will be more the case the more product X is a commodity. In this case, A's privilege has little effect on the absolute sales of B because no global competitor will have a significant market share.

Also, A and B may have some common interests in their attempts to export more and be more globally competitive. State provision of public goods, such as an expedited exporting process or port infrastructure, among others, improves the position of both in global competition and does not take away any competitive edge that A might have over B. This is not the case if A and B compete in the same market. In this scenario, providing public goods for both instead of targeting A for benefits levels the playing field, eroding A's edge deriving from its privileged connections.

Business associations

While export orientation erodes the competitive edge that A has over B and make them have similar preferences over mobilizing, a coordination device is still necessary to make them choose the high-level equilibrium. This role is played by encompassing business associations, a mechanism similar to that anticipated by Haggard et al. (1997) (p. 49), for whom business associations can limit the pursuit of particularistic benefits and promote coordination to overcome collective action problems. More concretely, business associations can force firms into mutual commitments and lower the cost of information necessary for coordination (Doner and Schneider, 2000). Therefore, moving towards the high-level equilibrium is made more likely by the existence of this type of association.

As the empirical chapters will explore, the impact of export orientation and business associations is clear when we look at the agro-export sector in

Brazil. This sector was capable of overthrowing regulations that increased transaction costs and legal uncertainty. For example, in 2012 the sector managed to get approval in the Brazilian Congress for a reform of the National Forest Act despite opposition from the Executive branch. Perturbed by long response times from Anvisa to authorize sales of some pesticides, the sector is managing to push through legislation that would switch the decision about pesticides from Anvisa to the Ministry of Agriculture. Bypassing Anvisa this way was totally unthinkable for the pharmaceutical industry.

The cohesion behind these bold moves stems from the fact that agricultural exporters are not direct competitors in the domestic market. The advantage obtained from privileged access may imply higher profit rates but is less valuable in terms of creating an strategic competitive edge. Additionally, the agricultural sector has highly coordinated unions across several federative levels, the powerful *Confederação Nacional da Agricultural* sitting on the top and the *Bancada Ruralista* being its spearhead in Congress. The association works as a signaling device. By adopting mobilization policies, it assures big producers (likely to be insiders) and smaller ones (likely to be outsiders) that their counterparts will mobilize, pushing the equilibrium to the top left-hand corner of the matrix in Table 2.3.

The model shows that *there are that two necessary conditions for business-driven reform*:

Condition 1: The cleavages dividing insiders and outsiders must be blurred so that the low-level Nash equilibrium is not the only possible outcome.

Condition 2: Some form of coordination device among players is necessary so that the resulting equilibrium is the high-level one, in which business-driven reform is possible.

The presence of these two conditions increases the likelihood of reforms. But it is not possible to claim that these conditions collectively are sufficient to prompt a reform.

Pareto optimal reforms

By contrasting the cases of pharmaceuticals and agriculture, we identify other intervening factors. For example, Anvisa and its stringent regulation do take a toll in terms of transaction costs, but they are performing a key function for the sector: addressing the problem of drugs' credibility in the market. Also, the effects of regulation are heterogeneous across the industry. Some firms are more affected by Anvisa's long response time. Other firms actually do prefer some type of cumbersome regulation as a form of protection. So, rolling back regulation is a zero-sum game within the sector; some would lose more than others, implying redistribution across actors within it. The reason for this is more structural; pharmaceutical manufacturers in Brazil are of three different main types: MNCs concerned with protecting IP rights, domestic firms attempting to innovate and export, and domestic firms focused on the production of generics and not interested in exporting. These groups have different production technology and business strategies, so their preferences for regulation are inherently different. It is harder to find Pareto optimal

reforms. And the structural differences feed into the lack of encompassing business associations.

This is not the case with agricultural exports. The regulations they try to roll back, such as stringent environmental rules or restrictions over the use of pesticides, are not performing any useful function in the short term and affect the whole sector more or less equally. As I will show in the empirical chapter, many of the challenges these businesses face can be fixed by policies that are Pareto optimal within the sector, such providing subsidies for farm insurance.

Other types of change

One way of thinking about different pathways towards reforms is to look at which type of actor clears them. This section briefly describes how reforms could be driven by politicians or bureaucrats. For politician-driven change, a starting point is to look at Geddes's (1994) politician's dilemma. Politicians need to balance the pursuit of short-term political survival goals against reforms that lead to long-term social benefits but may risk their careers in the short term.

Building on this dilemma and on the conditions Geddes proposed that are necessary for overcoming them, one can propose the following conditions for politicians to challenge the structures of crony capitalism: i) the political entrepreneur is a long shot challenger whose only chance of political success is to place a high-risk bet on challenging crony capitalism, ii) politicians

who reach out for and activate the latent support of constituents who would benefit from these reforms but are not organized enough to pressure for it, iii) politicians whose ambitions are short-term only.

A unexpected case of politician-driven reform was the phasing out of the BNDES base rate for subsidized loans, TJLP, enacted by the right-wing government of Michel Temer going against the interests of the organized manufacturing lobby.[13] In this case, two conditions applied: there was widespread pressure from constituents for reform, a condition that Geddes proposed, and the administration had little hope of continuity or re-election. Its popularity was at record low levels, Temer's party did not field a candidate on the presidential ticket and Temer himself did not run for any elected position at the end of his term.

Bureaucracy-driven change is trickier. Change in the bureaucracy is usually theorized as some external shock driven by politicians triggering an administrative reform (Geddes, 1994; Tendler et al., 1997; Gulzar and Pasquale, 2017), not an endogenous movement by bureaucrats to become more efficient.[14] This is not surprising from a rational agent perspective: why would rationality-maximizing civil servants lobby politicians or conduct social mo-

[13]At the time the National Confederation of Manufacturers (CNI) lobbied against the proposal. In their view, expressed in a letter to the confederation's associates, if TJLP was being phased out, "Brazil will lose its main tool to support development." See the official electronic letter sent from '*CNI em acao*' on 21/08/2017.

[14]Actually, the incentives for politicians to reform decrease the less capable bureaucrats are (Huber and McCarty, 2004). This implies that low-capacity bureaucracy is harmful to a business environment not only because the bureaucrats are incompetent but also because they dissuade potentially reformist actors through this additional channel.

bilization in favor of rules that make them work more for less; i.e., be more efficient?

From a rational perspective, they could indeed favor tying their career benefits to policy success or stakeholder satisfaction, rather than placing it in the hands of civil service unions or political patrons. However, this change would be rife with unbearable uncertainties. How would policy success and outcomes be measured? What objective or criterion would stakeholders use to assess their performance? Could they trust stakeholders to be fair in their assessment? What if they lose control of all these criteria once this debate emerges? It is more prudent to be conservative.

Bureaucracy-driven change may also be possible beyond the rational agent paradigm. Cultural changes in the bureaucracy would be necessary. One could actually depict civil servants tinkering with the organizational cultures of their bureaus to make them more 'user-oriented.' However, we are not able to identify any change of this type in recent history in Brazil, a signal that the Weberian bureaucracy is probably the stickiest type of incentive structure among the three actors.

Chapter 3

Industry Leaders and Political Engagement

The theory presented in the previous chapter posits that in the Brazilian type of state-led capitalism 1) firms can create a highly advantageous strategic positioning by investing in their relationship with state agents, and 2) industry leaders are more likely to invest in privileged connections because the idea of strategic factor markets implies a certain level of capability is required to make an investment in privileged relations with state agents. This results in a positive feedback loop: industry leaders become more politically engaged because connections with the state are an important strategic asset. Their growing political engagement, in turn, helps their performance, which feeds into more political engagement and so on.

This chapter provides empirical evidence corroborating this claim. Using exogenous variation that reveals firms' underlying capabilities and using campaign donations as a measure of political engagement, I show that industry leaders are indeed more politically engaged. My evidence also suggests they are trying to buy access to power, rather than pushing a policy agenda. This finding suggests some implications for patterns of coalition formation among businesses. Industry leaders that could lead business coalitions actually prefer to solve their problems individually by buying access to privileged networks, rather than by lobbying for an encompassing reformist agenda. The lack of a reformist coalition supports the low level equilibrium sustaining state-led capitalism.

A caveat is in order before proceeding: the strategy used in this chapter does not precisely identify the channel though which industry leaders become, at the same time, top performers and the most politically engaged. It could well be the case that firms randomly connect better with the state and by doing so they improve their performance.[1] After improving their market performance, they then acquire more political capabilities and lobby more. So there is room for endogeneity or circular causation in the dynamic described below. But even if the causality is reversed, this finding corroborates the broader point in this thesis. It shows a positive relationship between political engagement and market performance as they potentially reinforce

[1]Ferraz et al. (2015), for example, show that firms who were quasi-randomly assigned to government procurement considerably improved their market performance well beyond the length of of the contract.

each other. Industry leaders lobby more, by doing so they acquire more government support, and by acquiring more government support they improve their market performance which helps them build up even more lobbying capability, and so on. And the bottom line is that it is not the poor performers and laggards that are lobbying more, as some authors would expect.

3.1 Theoretical expectations

There are two opposing theoretical expectations when it comes to the relationship between performance and political activity. On the one hand, distressed firms have to make adjustments such as downsizing, moving into another market, and catching up with technological trends. But all these may take time to bear fruit and a faster strategy for them could be to seek support from the government. A subsidized loan, a tax break or a new contract would be very handy in hard times. But on the other hand, engaging with the government is costly: one has to develop contact networks, deal with all the red tape involved in accessing government programs (recall that Ricardo had to pay around BR$1 million to lawyers and consultants who helped him navigate the bureaucracy) or perhaps be ready to pay some kickback. The idea of strategic factor markets suggests that a certain level of capability is not only required to pay for the investment but also to put the correct price on it and deploy the necessary management techniques to turn the price paid into the actual strategic positioning the firm aspired for. The more capable the firm, the more likely it is to engage with the state agents.

The extant literature focuses mostly on the US and expects the first option to be correct. Adelino and Dinc (2014) exploit the shock promoted by the 2008 crisis in companies' financial status. Their findings show that firms with weaker financial health, as measured by credit default swap spreads, tended to spend more resources on lobbying. But empirical findings go beyond critical times such as the 2008 crisis. A complementary approach is offered by Rudy and Johnson (2016). They propose that when a firms' performance falls below its aspiration, it will respond by engaging in non-market activities in the short-term; i.e., resorting to state assistance. The authors find support for their claim by analyzing the largest 100 firms ranked by the 1980 Fortune 100. Their findings suggest that underperformers in the US are more likely to engage with the state by seeking rents and also by offering advantages to state agents. Finally, Cao et al. (2018) also show a negative association between performance and lobbying– although they treat performance as the dependent variable. The reason, according to the authors, is that lobbying may provide limited tangible benefits in terms of helping firms obtain government contracts.

One finds the opposite trend in countries where capitalism is less developed or where the signs of crony capitalism are blatant. Looking at the Italian economy between 1993 and 2014, Akcigit et al. (2018) find that market leaders are much more likely to be politically connected, but much less likely to innovate. Indeed, as reviewed in the Theory chapter, the empirical evidence in Brazil shows that lobbying does lead to more access to government

contracts (Boas et al., 2014; Arvate et al., 2013), more access to subsidized credit (Lazzarini et al., 2014) and overall better performance (Bandeira-de Mello et al., 2012). While there is plenty of evidence for the latter, this chapter will show that the reverse causal relationship is also true: industry leaders, which are expected to be the most capable firms in their sectors, are also more likely to be politically engaged.

3.2 Empirical strategy

A core challenge in testing how performance relates to political engagement is estimating the former. Variables one could use as a proxy for performance, such as profits, market share, past growth, and stock valuation, are not publicly available unless a firm is listed on the stock exchange. In Brazil only around 500 companies are publicly traded, while there are many millions of formally registered companies.

To overcome this challenge, I explore an exogenous variation in the foreign exchange rate in Brazil to measure the effect of firm-level exporting condition (i.e., whether a firm is an exporter or not) on the firms' patterns of campaign donations. The latter is used as a proxy for a firm's political engagement, while exporting condition is used as a proxy for the firm's capabilities. This reasoning is based on the 'new new' international trade theory, which posits that only the top performing firms are capable of overcoming the fixed costs

of exporting and accessing global markets.[2] I find that a firm not expelled from the exporting markets (i.e., a firm with more capabilities) is 38% more likely to make a campaign donation in a given year than a similar firm that lost its exporting condition in that year.

The fact that a firm loses its exporter status is related to my independent variable of interest (firm capability) in two ways. First, the firm loses its revenues from foreign sales, increasing its financial distress; second, the exit from foreign markets is a signal that it could not achieve a 'good enough' productivity level to obtain foreign buyers, given the prevailing exchange rate. In other words, its inherent performance is lower than that of a similar firm that could keep their foreign buyers.

The over-appreciation of foreign exchange rates in Brazil during the 2000s and 2010s caused significant changes in the number of exporting firms. Brazil's exchange rate policy is a "dirty float;" i.e., the central bank does not set targets for exchange rates but does intervene in the market to avoid abrupt swings in the short term. Therefore, the rate level is virtually market-driven and orthogonal to the independent variable of interest (firms' capabilities), which makes it a convenient exogenous variable for this study.

Appreciation (respectively depreciation) of foreign exchange rates make the international prices of domestic exports less (respectively more) competitive. They move the bar of how efficient a firm must be to export up and

[2] As posited by Bernard and Jensen (1999); Melitz (2003); Osgood et al. (2017); Plouffe (2017); Kim (2017); Kim and Osgood (2019). See the discussion of this literature and the definition of industry leaders in the previous chapter.

down. This being so, the number of exporting firms varies according with the exchange rate. For example, a net total of 1,515 firms in Brazil were expelled from the export market as the local exchange rate appreciated from BR$2.43 per US$1 to BR$1.75 per US$1 between 2005 and 2010.

The graphs in Figure 3.1 make this covariation clear. Figure 3.1(a) visually illustrates how the number of exporters in Brazil follows a trend set by the exchange rate. Figure 3.1(b) is a scatterplot of the year-by-year number of exporters by exchange rate from 2001 to 2015. The slope of the regression line makes the positive correlation clear.[3]

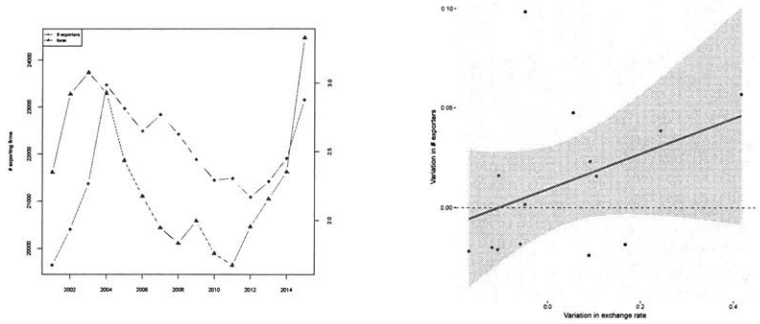
Swings in Brazil's exchange rate are usually triggered by inflow and outflow of capital, which in turn are set by global macro-trends. For example, the sharp drop in exchange rate between 2008 and 2012 is related to the US Federal Reserve Bank's quantitative easing policy in the aftermath of the 2008 crisis.[4]

Defining variables

I use the fact that some firms were expelled from the exporting market to create two comparison groups: Group 1 contains the firms that were expelled from exporting markets, which are a proxy for laggards, while Group 2 contains those who were not, a proxy for industry leaders. Conveniently, the

[3]The lower bound of the confidence interval overlaps with zero, but note that this should not be surprising given the very small sample size (n=14). The overall p-value of the correlation is .17.

[4]QE increased the global availability of capital, which looked for higher returns in emerging markets like Brazil.



(a) Number of exporters compared to forex rate

(b) Variation in number exporters by variation on forex rate

Figure 3.1: **Variation in number of exporters correlates positively with variation in exchange rates.** Source: Author, using data from the World Bank (Brazil foreign exchange rate) and and Brazil's Ministry of Development (number of exporters).

period between the 2006 and the 2010 national elections coincided with a sharp appreciation of Brazil's exchange rate, in which many firms stopped exporting, as can be seen in Figure 3.1. I use this variation to construct different groups of treatment and control firms.

I use four different criteria to define the two comparison groups. The first, and preferred, defines Group 1 units (laggards) as the firms that were exporters in all years since the previous national election (2006) but were dropped from exporting markets in the election year (2010). Group 2 (industry leaders) was populated with firms that exported during the same years *and* continued exporting in the election year. It is reasonable to assume that treatment and control firms are similar given that their exporting status was the same during for several years but different in the election year. To re-

duce the possibility of the results being driven by size, sector or amount of exports, I add firm-level information about these units.

Nonetheless, this definition of groups 1 and 2 may underestimate the effect of being expelled from exporting market on the firms' political strategy in the election year. It may be the case that just one year of absence from the export markets is not enough to reveal different performance levels or even that the supposedly laggard firms were expelled only at the end of the year. To address this problem, the second criterion I use is to compare firms that exported from 2006 to 2008 but were dropped two years before the election (laggards) with firms that exported every year from 2006 to 2010 (industry leaders).

The third criterion compares firms that exported two, instead of four, years before the election but were dropped in the election year (laggards) with those that exported these years and in the election year. Finally, for criterion four, Group 1 was the firms dropped from the export market two years before the election. For both the third and fourth criterion, it does not matter if firms exported or not between 2006 and 2007.

For any of these criteria, donations are rare events: around only 5% of firms in either group made any type of political campaign made any donation in the 2010 elections.

The current literature expects that distressed firms are more likely to be politically engaged, as reviewed above. Therefore, we should see a larger proportion of firms in the distressed "laggard" group to have made a campaign

	2006	**2007**	**2008**	**2009**	**2010**	**Group**
Criterion 1	✓	✓	✓	✓	×	**Laggard**
	✓	✓	✓	✓	✓	**Industry leader**
Criterion 2	✓	✓	✓	×	×	**Laggard**
	✓	✓	✓	✓	✓	**Industry leader**
Criterion 3	-	-	✓	✓	×	**Laggard**
	-	-	✓	✓	✓	**Industry leader**
Criterion 4	-	-	✓	×	×	**Laggard**
	-	-	✓	✓	✓	**Industry leader**

Table 3.1: Criteria for defining the groups of laggards and industry leaders. Checkmarks refer to the years that firms in the respective group exported.

Criteria	Condition	Laggard	Leader
criterion 1	donor	53	1299
criterion 1	not_donor	1476	20148
criterion 2	donor	55	1139
criterion 2	not_donor	1694	15277
criterion 3	donor	103	1040
criterion 3	not_donor	2735	12853
criterion 4	donor	145	1040
criterion 4	not_donor	4619	12853

Table 3.2: Number of firms in each comparison category for the four criteria above.

donation in the 2010 elections. The graph in Figure 3.2 shows the opposite. The bar shows the percentage of firms that made a campaign donation in the 2010 national election for the "laggard" (treatment) and "leader" (control) conditions.

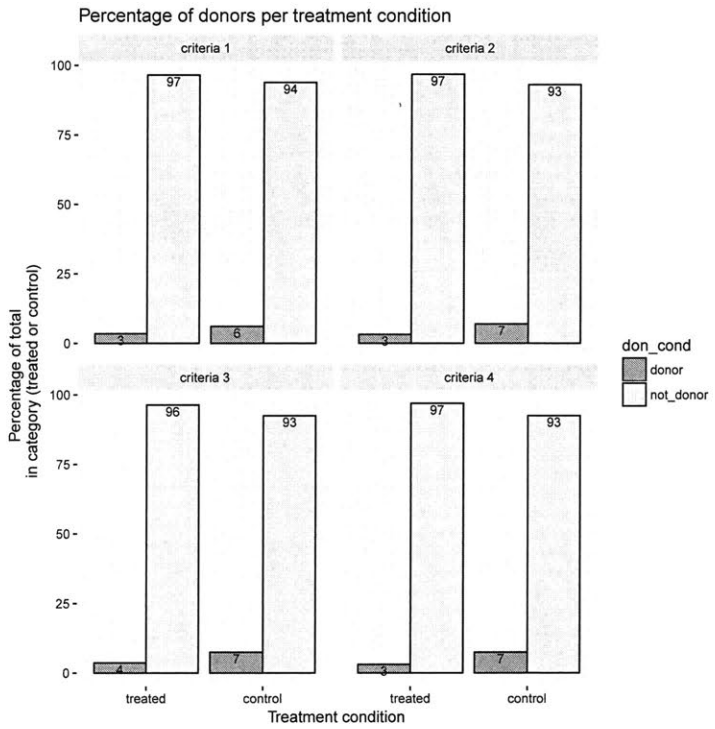


Figure 3.2: **Share of donor firms in the leaders and laggards groups is the opposite of what the current literature predicts.** While the literature would expect laggards to be more politically engaged than industry leaders, the share of industry leaders that donated for the 2010 election is around twice as large in the laggards' group. Source: Author, with data from Brazil's Electoral court (donations by firms) and Ministry of Development (exporting firms) .

Next, Table 3.3 shows the average amount donated by each group of firms. Surprisingly, the average total amount donated by firms that were

expelled from exporting markets is higher than that of firms that continued exporting. This suggests that the less efficient firms are less likely to be politically engaged but willing to make a bigger investment when they decide to enter into the 'political market.'

Criterion	Group	Mean_don	SD_don
1	1	632985.28	2695542.87
1	2	444205.30	3817274.40
2	1	259584.32	685581.49
2	2	463880.94	4013810.37
3	1	450047.41	2037418.47
3	2	375908.62	3385096.76
4	1	466926.58	3684936.04
4	2	375908.62	3385096.76

Table 3.3: **Group definition.** Group 1 is composed of firms that were expelled from the exporting market (laggards), Group 2 contains the firms that continued exporting (industry leaders). See Table 3.1 for definition of each criterion.

3.3 Estimation

I estimate the impact of the treatment on the outcome of interest by using the logit model:

$$\Pr(y_i = 1) = logit^{-1}(\alpha + \beta X_i + \mathbf{BW}_i) \tag{3.1}$$

The variable y_i takes the value of 1 if firm i made a campaign donation in the 2010 elections and zero otherwise. The independent variable of interest is the indicator X_i, which takes the value of 1 if firm i is a laggard (i.e.,

was expelled from the exporting market) and 0 otherwise (i.e., is an industry leader), according to the four criteria described in Table 3.1. $\mathbf{W}_i$ is a $1 \times K$ vector of K control variables for firm i. The coefficient of interest is β, while the $K \times 1$ vector $\mathbf{B}$ contains the coefficients for the control variable.

I estimate the coefficient β for a set of models that differs on the definition of the treatment condition (see Table 3.1) and the inclusion of different control variables. In total, I control for size, sector, a categorical variable indicating the amount of export in the year before the treatment, and whether the firm had made a donation in the previous national election (2006).

Table 3.4 reports a set of models run with the first criterion for treatment, our preferred one, where controls for size, sector, size of exports and previous donation are cumulatively added. The independent variable of interest is "Group = 1," which denotes whether a firm was expelled from the exporting market. The values of the coefficients are not directly interpretable (quantities of interest reported below), but their signs are. All the independent variables are categorical, so a negative coefficient implies a smaller likelihood of donation if that observation belongs to the category corresponding to that variable.

The magnitude of the coefficient and its statistical significance are consistent across all the models. *This provides evidence that industry leaders are more likely to be politically engaged.*

The variable controlling for size and donation in the previous election also has important theoretical implications. Note that the sign of the coefficient

	Dependent variable:			
	Donated in 2010 (yes=1, no=0)			
	(1)	(2)	(3)	(4)
Group = 1	−0.62*** (0.14)	−0.49*** (0.14)	−0.43*** (0.14)	−0.49*** (0.15)
size1		−1.43*** (0.23)	−0.89*** (0.26)	−0.76*** (0.27)
size2		−1.41*** (0.24)	−0.88*** (0.27)	−0.83*** (0.28)
size3		−1.06*** (0.22)	−0.48* (0.25)	−0.32 (0.26)
size4		−0.63*** (0.20)	0.0004 (0.24)	0.09 (0.25)
size5		−0.16 (0.20)	0.48** (0.24)	0.46* (0.25)
size6		0.35* (0.19)	0.96*** (0.23)	0.82*** (0.25)
size7		0.88*** (0.20)	1.42*** (0.24)	1.12*** (0.25)
size8		1.02*** (0.21)	1.51*** (0.25)	0.98*** (0.26)
size9		1.16*** (0.21)	1.71*** (0.26)	1.16*** (0.28)
exp<USD1M			0.01 (0.10)	−0.03 (0.10)
exp>USD100M			0.13 (0.22)	0.16 (0.24)
USD10M>exp>USD50M			0.35*** (0.13)	0.21 (0.14)
USD1M>exp>USD5M			0.26** (0.11)	0.14 (0.12)
USD50M>exp>100m			0.17 (0.22)	0.08 (0.24)
USD5M>exp>USD10m			0.19 (0.15)	0.04 (0.16)
don_061				2.48*** (0.07)
Constant	−2.66*** (0.03)	−2.38*** (0.19)	−4.31*** (1.07)	−4.21*** (1.15)
Controls for 87 sector	No	No	Yes	Yes
Observations	23,274	19,568	19,568	19,568
Log Likelihood	−5,487.11	−4,673.41	−4,431.93	−3,873.82
Akaike Inf. Crit.	10,978.23	9,368.81	9,055.86	7,941.63
Residual Deviance	10,974.23 (df = 23272)	9,346.81 (df = 19557)	8,863.86 (df = 19472)	7,747.63 (df = 19471)
Null Deviance	10,997.97 (df = 23273)	10,260.63 (df = 19567)	10,260.63 (df = 19567)	10,260.63 (df = 19567)
Note:				*p<0.1; **p<0.05; ***p<0.01

Table 3.4: Logistic regression results for first criterion

for size controls switches as we move from the lower end to the top of the size category. Interestingly, this switch occurs exactly at the middle of the distribution, between categories 5 and 6 of the 10 size categories in the second model, and at smaller categories in the other ones. The magnitude of the coefficient increases as we move up in the size ladder. *This implies that the likelihood of political engagement increases monotonically as firms get bigger.* The positive coefficient of the variable for donation in the previous election, don-06, indicates that patterns of political engagement are carried across elections: firms that donated in the past are more likely to donate now.

Finally, note that the models improve in terms of explanatory power as more variables are added, without incurring unnecessary complexity, as measured by AIC. This measure, however, drops more abruptly as we move from Model 1 to Model 2, when size is added, and from model 3 to 4, when we control for donation in previous elections. Therefore, donation and size are more important than sector and volume of exports as predictors for donation.

Table 3.5 shows the results for a model with the same controls as Model 4 above, but across different definitions of the treatment, as explained in Table 3.1. The models consistently shows the same patterns in the coefficients (sign, magnitude and statistical significance) across the different definitions of the independent variable of interest. The patterns (sign and magnitude) are also consistent across the other control variables. The coefficient for size switches signs and increases monotonically as we move up the size categories. The coefficient for donation is also positive and statistically significant in all

models. I also estimated the effect of a "placebo" categorization: I randomly assigned observations to groups 1 or 2, leaving the same proportion of firms in each group as under criterion 1. The goal of the placebo test is to rule out the possibility that results could be driven by mere chance, as if firms were randomly changing their export condition. The placebo test shows null effect.

Quantities of interest

The coefficients for the laggards presented in Tables 3.4 and 3.5 are not directly interpretable. Also, since all the other variables are categorical, their exponents represent the likelihood ratio of the outcome being treatment or control when the other independent variables are held at their base levels.

To overcome this limitation, I calculate different quantities of interest based on the methods suggested by King et al. (2000). I use a parametric bootstrap algorithm to estimate an average for the outcome of interest over 1000 simulations. In a nutshell, the algorithm draws 1,000 values from the distribution $\tilde{\mathbf{B}} \sim N(\hat{\mathbf{B}}, V(\hat{\mathbf{B}}))$, where $\hat{\mathbf{B}}$ is the vector of empirically estimated parameters from my preferred model (Model 4 in Table 3.4). For each of the sampled coefficients I calculate a predicted value for y by maintaining the control variables at their default value, but changing the treatment variable of interest for either all $= 1$ or all $= 0$. More formally, the algorithm enables

	Dependent variable:			
	Donated in 2010 (yes=1, no=0)			
	(1)	(2)	(3)	(4)
Criteria = 2	−0.48*** (0.16)			
Criteria = 3		−0.35*** (0.12)		
Criteria = 4			−0.30*** (0.11)	
Placebo				0.01 (0.05)
size1	−0.62** (0.28)	−0.63** (0.31)	−0.39 (0.28)	−0.22 (0.18)
size2	−0.70** (0.29)	−0.72** (0.32)	−0.24 (0.28)	0.06 (0.18)
size3	−0.30 (0.27)	−0.32 (0.30)	−0.11 (0.27)	0.33* (0.17)
size4	0.12 (0.26)	0.09 (0.28)	0.48* (0.25)	0.89*** (0.16)
size5	0.45* (0.26)	0.46 (0.28)	0.76*** (0.25)	1.31*** (0.16)
size6	0.83*** (0.25)	0.81*** (0.28)	1.09*** (0.25)	1.68*** (0.16)
size7	1.13*** (0.26)	1.09*** (0.28)	1.38*** (0.25)	1.99*** (0.17)
size8	1.01*** (0.27)	0.98*** (0.30)	1.26*** (0.27)	1.89*** (0.18)
size9	1.21*** (0.28)	1.19*** (0.31)	1.51*** (0.28)	1.98*** (0.19)
don_061	2.51*** (0.08)	2.45*** (0.08)	2.53*** (0.08)	2.46*** (0.05)
Constant	−4.23*** (1.15)	12.43 (2,399.54)	−18.92 (1,172.74)	−4.69*** (0.83)
Controls for sector & export volume	Yes	Yes	Yes	Yes
Observations	16,180	15,352	16,797	50,098
Log Likelihood	−3,351.95	−3,248.24	−3,393.37	−7,797.66
Akaike Inf. Crit.	6,887.90	6,682.47	6,978.73	15,801.32
Residual Deviance	6,703.90 (df = 16088)	6,496.47 (df = 15259)	6,786.73 (df = 16701)	15,595.32 (df = 49995)
Null Deviance	8,930.81 (df = 16179)	8,602.45 (df = 15351)	9,045.20 (df = 16796)	20,556.96 (df = 50097)

Note: *p<0.1; **p<0.05; ***p<0.01

Table 3.5: Logistic regression results - different treatment criterion and placebo

me to estimate the equation

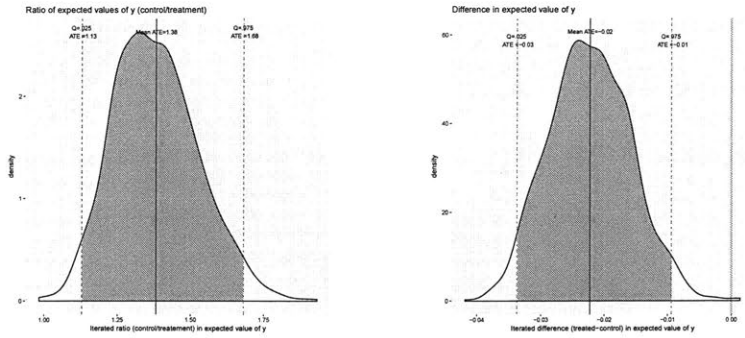
$$\mathbf{E}[\Pr(y_i = 1|X_i = 1, W_i)] - \mathbf{E}[\Pr(y_i = 1|X_i = 0, W_i)], \tag{3.2}$$

where y is the vector $y \in [0, 1]$, X is the treatment variable and W the vector containing the values of all the control variables for observation i. The result can be interpreted as *the percentage point difference between the treated and control group of the likelihood of making a donation.*

Since donations are rare events, this percentage point difference will be very small. A more intuitive way of thinking about the magnitude of the treatment is in terms of ratio of the likelihood of making a donation between control and treatment groups. Hence, my preferred quantity of interest is *how much more likely a firm that was not expelled from the exporting market is to make a campaign donation than one that lost its exporting condition*, as formalized in the equation

$$\frac{\mathbf{E}[\Pr(y_i = 1|X_i = 0, S_i = K_j, W_i)}{\mathbf{E}[\Pr(y_i = 1|X_i = 1, S_i = K_j, W_i)}. \tag{3.3}$$

The graph in Figure 3.5 shows the distribution, average and upper/lower bounds for both quantities, Equations (3.2) and (3.3), as a result of the bootstrap estimation. The estimation shows the group of capable firms being on average 38% more likely to make a campaign donation and a 95% confidence interval of at least 13% to at most 68% more likely.



(a) Ratio in average treatment effect (control/treated)

(b) Ratio of average treatment effect (control/treated)

Figure 3.3: **Industry leaders are on average 38% more likely to make a campaign donation.** The likelihood of donation by firms that were dropped from the export market is 2 percentage points smaller. Since donation is a rare event, this small percentage is not very telling of the magnitude of the effect; the use of ratios is more informative. Distribution of differences and ratio of expected average treatment effect constructed using the algorithm suggested in Kim et al. (2000).

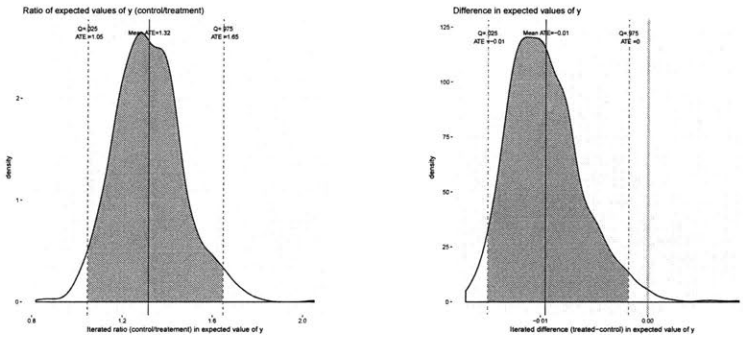
Donating for access or for policies?

If it is the case that industry leaders are more politically engaged, can we infer their expectations from this engagement, in terms of what they are trying to "buy"? I looked at the donation profiles of the two groups and tried to estimate how these change for an industry leader relative to a laggard. To do so, I changed the outcome in the regression model to quantities that could be informative about what they are trying to "buy" with their donations.

I used three outcomes: i) the number of electoral positions for which they donated, ii) whether they donated to the PT or not, and iii) an average "score" indicating whether they donate more to right-wing or left-wing

parties. This score was constructed by Tarouco and Madeira (2015) using a left–right score for each party represented in the Brazilian Congress. I take the average score of all parties that a firm donates to, weighted by the amount of money it donates to each.

The results show that industry leaders are on average 32% more likely to donate to the incumbent PT than are the laggard firms. The PT is the left-wing incumbent not known for being sympathetic to many business agendas: it opposed labor law reform and pension reform, among others. But it was the presidential incumbent in the 2010 election.



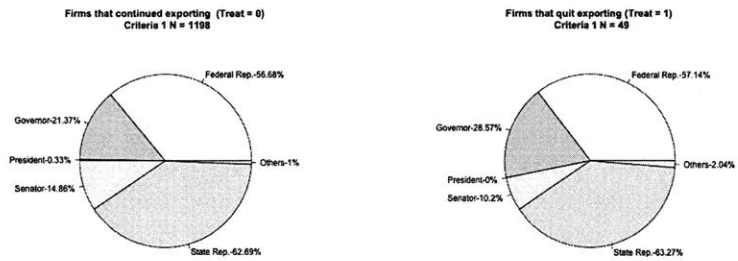
(a) Ratio of average effect (laggards/leaders)

(b) Difference of average effect (laggards/leaders)

Figure 3.4: **Industry leaders are in average 32% more likely to donate to the PT.** Distribution of differences and ratio of expected average effect constructed using the algorithm suggested in King et al. (2000).

Industry leaders also donated to a more diverse spectrum of electoral positions and they donate more to candidates for presidential office and the Senate, indicating that they seek to broaden their accessibility to politicians

beyond the local level.[5] I found no evidence of top-performing firms tending to donate more to right-wing candidates. These candidates would be those more likely to push forward their business-oriented policy agenda.



(a) Industry leaders' distribution of donations in the 2010 election (b) Laggards' distribution of donations in the 2010 election

Figure 3.5: **Industry leaders donate to a wider spectrum of candidates.** The two graphs compare the distribution of donations by position of industry leaders and laggards. Industry leaders donate more to candidates for presidential office and the senate, indicating that they seek to broaden their accessibility to politicians beyond the local level.

3.4 Conclusion

This chapter provides evidence corroborating the claim that industry leaders are more likely to invest in privileged connections with state agents. The more politically engaged firms are not the laggards, as some theories would predict. Industry leaders are more politically engaged and donate more to the incumbent party, even if the incumbent party is associated with a policy agenda that is, at least in expectation, more pro-labor than pro-business.

[5]Regression tables omitted. Positive results for this estimation are heteroscedasticity-robust.

They are no more likely to donate to right-wing parties, which are usually associated with a pro-reform agenda. This suggests that they are more interested in "buying" access to power, rather than trying to push a reformist agenda.

These findings suggest that industry leaders seek to further their interests through individualized channels, rather than collective mobilization, since they apparently prefer to "buy access" to a left-wing incumbent over financing potentially pro-reform right-wing politicians. The lack of a reformist coalition supports the low-level equilibrium sustaining crony capitalism. This results in a feedback loop in which industry leaders become more politically engaged because connections with the state are an important strategic asset that tends to improve their market performance. A better market performance helps them build up capability to engage more in politics and become even more entrenched in the structures of crony capitalism.

Chapter 4

The Politics of Taxation in Brazil

"I love paying taxes. And what I like the most about it is the time I spend processing forms and figuring out how I should give my money to the government and be tax compliant." No human being has ever been recorded uttering these words. Yet extracting taxes is one of the primordial roles of the state. Many scholarly works have probed into the mechanisms explaining the state's capacity to tax, or the broader distributive implications of tax policy (Bates and Donald Lien, 1985; Levi, 1989; Peters, 1991; Steinmo, 1996; Besley and Persson, 2009, 2014) Less studied, though, is the variation between countries in the cost imposed by states of complying with their taxation rules. As Figure 4.1 shows, this variation can be considerable.

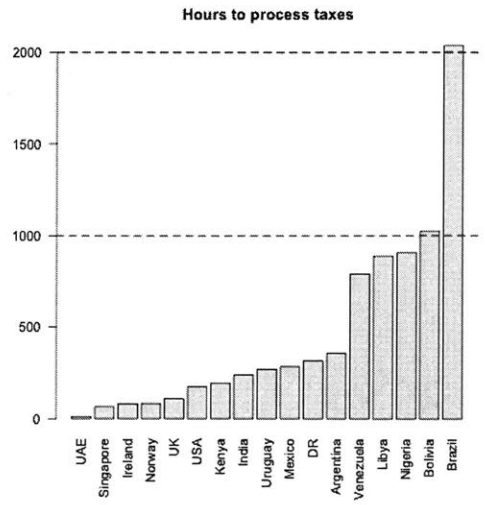


Figure 4.1: **Brazil has the most complex tax system in the world.** An average firm takes around 2,000 hours a year to process all its taxes. The second-worst case is Bolivia, but it still scores only half of this figure. **Author, from World Bank Doing Business Index data.**

In the case of Brazil, the burden is double: not only the is total amount of taxes levied high for its development level but the cost of processing taxes is the highest in the world. An average firm in Brazil needs around 2,000 hours of work to be tax compliant. This figure is around 175 in the United States and the world average is 272 hours. Brazil is a big outlier; nearly ten times the world average and twice as much as the next-worst country in the ranking – Bolivia.[1] The cost of compliance also derives from processing ancillary tax obligations and tax returns, and also litigation (Machado and Utimati, 2017). In 2016, there were 1.6 million new lawsuits in the Brazilian courts related to tax disputes (de Justica, 2017). Also relevant to the argument I will develop

[1]Source: World Bank Doing Business Index.

below are multiple tax break programs: exceptions to the tax regimes that grant tax forbearance to different groups. In 2017 the federal government alone disbursed a total of BR$270 billion in tax breaks, equivalent to 5% of Brazil's GDP.[2] Given how generous tax forbearance can be, firms are compelled to navigate its intricate regulation in order to reduce their tax bills.

Why would rulers impose such a high transaction cost on their subjects for the rulers to receive their money? Levi has argued that rulers seek to decrease the transaction costs of taxation by achieving quasi-voluntary compliance (Levi, 1989, p. 48). Therefore, imposing transaction costs on compliance seems counter-productive to the key goal of taxation, generating revenue. If this is the case, what other motives are at play behind the emergence and continuation of such a byzantine tax system?

This chapter approaches the question by focusing on one of the most conspicuous costs of doing business in Brazil, its tax system. It seeks to explain why the cost of tax compliance is so high and what the politics behind this is. In Section 1, I describe the process by which taxation became so complex, which I call disjoint layering. I also show some comparisons across countries along with a preliminary explanation of why this extreme tax complexity developed in Brazil and not elsewhere. Finally, I explain the mechanisms making the complex tax system path-dependent.

[2]Source: Ministerio da Fazenda, 2018, Second Budget on the Subsidies of the Union, p. 4. This does not include tax breaks at the state and municipal level.

In Section 2, I look at the case of subnational tax break programs. Rate level VAT is responsible for a good part of the 2,000 hours required to process taxes, described above. Part of the complexity in this tax is due to local tax breaks. I study the cases of three states in Brazil to illustrate two of the mechanisms making tax complexity sticky. They are the creation of constituents for tax loopholes and the discretionary power that it creates for local authorities, which they cling to. Both mechanisms push against simplification of the tax system.

Also in Section 2 I begin to delve deeper into the role of MNCs in taking advantage of the fragmented tax code, a point that I discuss further in Section 3. I focus on MNCs because they are usually considered by the literature to be industry leaders; firms whose performance is superior to that of their peers. Thus, I treat foreign ownership as a proxy for superior performance, as I will clarify later. The empirical evidence I provide focusing on MNCs supports my broader point that business leaders are more likely to extract advantages from the government, be those tax breaks (Section 2) or tariff protection (Section 3). By doing so, they are capable of obtaining individual fixes for the predicaments of a costly business environment. The presence of these behemoth actors that can bypass the quandaries of the poor business environment further fragments the local business community, making encompassing solutions achieved by collective action less likely.

Finally, in Section 3 I look at a special case of tax policy; import tariffs. Brazil is one of the most closed economies in the world but its tariff sys-

tem is riddled with loopholes. The existence of these loopholes incentivizes businesses to exploit them so that they can obtain protection from foreign competition at the same time as they decrease tariffs for their imported inputs. However, as I detail for the case of anti-dumping rights (AD), there is a high fixed cost for obtaining these benefits and only very large firms, or industry leaders, can bear them. As industry leaders can, individually or through small groups, fix the issues or exploit the opportunities of a closed economy, a broad coalition for trade reforms is not formed.

4.1 Disjoint layering and the tax system.

Five decades ago, Brazil used to have a modern tax system. It adopted a value-added tax in the 1960s, being one of the first countries to do so (Varsano, 1996). We can start to understand how a 'normal' tax system descended into the most complex in the world by looking at De Soto's (1989) explanation for the origin of excessive bureaucracy in Peru. Bureaucratic complexity for De Soto results from what he calls the redistributive tradition: the goal of regulation is to redistribute wealth across different interest groups, rather than establishing institutions that incentivize wealth creation (p. 190). For example, if the state wants to appease food consumers, instead of creating incentives for higher wheat production, it issues a regulation fixing the price of bread. As bread producers demand compensation, the state then creates a tax break for bread or subsidies for wheat producers. Using the state's power to regulate as a means to redistribute wealth across groups therefore

creates layers of regulation upon regulation. The initial regulation creates winners but also losers. Losers then mobilize for compensation. Then another redistributive regulation is enacted, potentially creating another loser and so on.

Granted, not every regulation creates losers, not all losers will effectively mobilize and not all redistributive policies are negative, especially in highly unequal countries like Peru or Brazil. But the point to be highlighted in De Soto's explanation is that redistributive regulation that creates complexity happens all too often. And it happens in a way that the social groups involved, mostly business and policymakers, lose sight of the dysfunctional system they are creating and of how this system harms wealth creation due to its incentives.

In *Disjoint Pluralism*, Schickler (2001) describes a similar process of institutions and rules being layered upon each other when he examines US Congress since the 1800s. Institutional evolution in the congress is portrayed as a "multilayered historical composite that militate[s] against any overarching order" (p. 17). The development of institutions is disjointed in the sense that actors incrementally add new institutional mechanisms without dismantling preexisting ones. This is a result of the pluralist nature of the interests at play, often pulling in different directions. For Schickler, the result is a haphazard accretion of layers lacking an overarching plan.

The process of institutional change through layering was further theorized by Streeck et al. (2005). These authors focus on the *differential growth* of

institutional layers. They argue that each successive layer of the institution outgrows the preceding one, becoming prevalent. The example they use is how the private pension system in the US was layered upon the public system as a minor modification but eventually outgrew it. However, this phenomena of differential growth is less applicable to the case of taxation in Brazil. Rather, the different layers of tax regulation are better understood as being fragmented and more or less equally sized, each one adding to the overall complexity of the system.

It is in Schickler's original version of the institutional layering idea that one can find a suitable explanation for how the Brazilian tax system became such a complicated maze. There are two main driving forces in the process Schickler described. The first is the pluralist nature of the interest groups pressuring decision makers. Rules evolve much more as a response to the material interest of groups pulling the rules in different directions, and this process accumulates over decades. The second is that the rules emerging from this process are 'disjointed' in the sense that they do not evolve according to some series of plans that would keep the rules coherent and minimally functional.

Surrey (1969) describes a similar system when he explains the complexity of the personal tax system in the US. He observes that the nature of regulating taxation in the US Congress is compromise and accommodation. In order to move forward, legislative efforts have to accommodate a particular problem to a particular member of Congress, even at the expense of violating

the logic of the proposed rule. However, compromise usually generates more complex tax rules (pp. 690-691).

> [...] [N]o taxpayer group ever rejects a new tax preference on the ground it is complex. Nor does a group seeking to retain an existing tax preference reject a compromise solution because of its complexity and retreat to a simpler but less favorable result. Nor can the Treasury, when the chips are down, also reject a solution on grounds of complexity if the alternative really means a serious widening of a tax unfairness or unwarranted preference. In essence, all parties to the legislative struggles place substantive positions and results ahead of concerns over complexity. Moreover, the more intense the struggle, the less likely are the parties involved to make the minor concessions here and there that could mean a less complex solution. It is hard for technicians to deal with these aspects of tax structure when the battlefield fire is intense. (Surrey, 1969, p. 691)

Thus interest groups know from past experience, their own or that of other groups, that government officials manipulate taxation rules for those who apply pressure. Given this possibility, there is a strong incentive to lobby for some tax regime exception that grants them some measure of tax forbearance. They may even be self-conscious that their effort to push for an exceptional regime will contribute to furthering a tax system that is costly

for them to comply with. However, they are still compelled to push for disjoint taxation for two reasons. First, they discount the future: the present benefit of a tax break this fiscal year outweighs the future costs of navigating through a tortuous system. Second, the additional costs of complying with a dysfunctional tax system is dispersed across all the actors, while the benefit of a tax exception is concentrated on the few that pushed for that specific exceptional regime.

In the case of Brazil, various different business groups pushed for exceptional tax treatment from the federal, state and municipal governments for decades. In such a diversified economy, multiple business groups found a variety of reasons to 'earn' some type of tax forbearance. In the next sections I will focus on the case of subnational tax breaks and import tariff regimes to illustrate this. But before looking at the more detailed studies, I present a short example of how disjointed layering is created.

Brazil tried to stimulate domestic manufacturing by creating import tariff barriers that protected local manufacturers from competition from imported goods. High tariffs, however, create several distortions. One of them is that domestic manufacturers cannot gain access to imported inputs. This being the case, several exceptional import tariff regimes were created in order to fix the distortions generated by high tariffs. One exception regime, inaugurated in the 1960s, is called 'drawback.' Within drawback, imported goods used as inputs for future exports are exempted from import tariffs. The drawback regime, however, creates complex compliance mechanism because firms have

show the federal revenue system how much of their imports actually become output for exports. To fix this distortion, the federal government created another exceptional regime within the drawback regime. This exceptional regime within the drawback allows for faster customs processing of tariff-free imports. The fast track, called *Regime Aduaneiro Especial de Entreposto Industrial sob Controle Informatizado*, or RECOF, was created in 1997 and initially applied only to sectors considered strategic, such as computer and telecommunications equipment. The fast track helped firms in these sectors save in logistics and storage costs for their imported inputs.

It has been said that business can smell blood in the water. Other business groups ensured that their sectors would also be covered by this fast track. In 2002, the RECOF was extended to the aeronautics and automotive industries. In 2004 it was the turn of semi-conductors and high technology (Piani and Miranda, 2006)[pp. 13-14]. In 2012, RECOF was expanded to any company, as long as it had a net worth of at least BR$25 million and could set up an automated compliance system. As of 15 October, 2018, while the vast majority of firms in Brazil have to comply with cumbersome import tariff rules, 26 firms are eligible to take advantage of fast-track customs processing with no import tariffs for their inputs. These firms are well-known MNCs in the automobile sector such as Peugeot, Renault, Nissan, Toyota, Honda,

and Volvo; in machinery, GE and Caterpillar, in addition to the Brazilian airplane maker Embraer.[3]

Recognizing the distortions created by high tariffs, the government created another special regime that would allow local business to bypass high import tariffs for machinery and telecommunications equipment, usually at a 14% percent rate. This system is known as the "ex-tariff," and will be detailed later. Ex-tariffs allow potential importers to petition for the creation of an exceptional tariff line for machinery, telecommunications and computer goods they want to import. The government then has to evaluate whether any Brazilian producer could manufacture a product with similar characteristics. If government can not find a domestic substitute, then an exceptional tariff line is created with an lower import tariff. The process takes months, while the potential importer waits.

Once this type of exceptional regime is in place, tortuous as it may appear, it is hard to make changes. The interest groups benefitting from it are very defensive of their position, In December 2018, the government ministerial board responsible for setting some of the import tariffs decided to change the ex-tariff regime by reducing import tariffs for machinery and telecommunications from the default 14% to 4%. The reaction from the National Association of Machinery Producers was immediate. In the briefing they released to their associates, reproduced below, they explain to their associates

[3]See `http://www.recof.com.br/regime_recof.htmandhttp://www.recof.com.br/empresas_homologadas.htm`, accessed on 10/04/2019.

that they flew to Brasília the night after they learned about the tariff reduction. The document describes how they activated their supporting *Deputado Federal*, how they met with four ministers and how they managed to speak to the president two days after the decision. In the meeting, the president guaranteed he would reverse the board decision. Ironically, the Association says that trade opening should be conditional on the existence of an agenda to reduce the so-called *custo Brasil*, the term used by Brazilian business to refer to cost of doing business in the country, which includes the tax system.

Disjoint layering is certainly not the only explanation for the byzantine Brazilian tax system. Two other potential reasons can be pointed out. The first is that in Brazil, the quasi-voluntary compliance Levi (1989) alluded to is still absent or weak. This being so, one could argue, the tax authority distrusts the tax payer and has to create many monitoring schemes to reduce tax evasion. A second related reason is that the bureaucracy in Brazil is not accountable to its stakeholders. Thus increasing the efficiency of government procedures and reducing transaction costs for citizens is not a priority. The plethora of monitoring schemes implemented by bureaucracy for which transaction costs are not a top concern can also explain why it takes the average firm 2,000 hours to process taxes.

These other reasons, though, are cumulative, rather then mutually exclusive, with disjointed layering. In the remainder of this chapter, I will explain disjoint layering by focusing on on what political dynamics sustain it, and

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ABIMAQ evita redução do imposto de importação no Governo atual

Prezados(as) Associados(as),

Recebemos, na terça-feira pela noite, a notícia que a redução de 14% para 4% das alíquotas do imposto de importação de Máquinas e Equipamentos havia sido aprovada na reunião da Câmara de Comércio Exterior (CAMEX), que foi realizada na própria terça-feira 11/12. O tema não estava na pauta da reunião, foi inserido de última hora pelo Ministério da Fazenda que já havia negociado o apoio com os outros ministérios. O Ministro da Indústria tentou evitar a votação, porém sem sucesso, permanecendo com posição contrária unitariamente com a Cardex e a Casa Civil. Depois de muita discussão, o Conselho de Ministros aprovou a alteração por unanimidade.

Diante desse cenário, fomos a Brasília mesmo sem qualquer agenda para tentarmos evitar a aprovação por parte da Presidência da República. As primeiras respostas foram de que a decisão havia sido tomada e que a alteração seria irreversível.

Nos reunimos com o Deputado Mauro Pereira, Frente Parlamentar da Indústria de Máquinas (FPMAQ), que nos auxiliou a conseguir reuniões. A primeira foi com o Líder do MDB na câmara Deputado Federal Baleia Rossi que se prontificou a levar o assunto para o Ministro Chefe da Casa Civil, Eliseu Padilha. Dali partimos para o Palácio do Planalto acompanhados do Deputado Federal Mauro Pereira.

Em paralelo, o Presidente do Conselho de Administração da ABIMAQ, João Carlos Marchesan, conversava com alguns formadores de opinião, entre eles o Ministro da Agricultura, Blairo Maggi.

A ABIMAQ conseguiu audiência com o Ministro Chefe da Casa Civil, Eliseu Padilha, mesmo sem agendamento. Tivemos a oportunidade de mostrar a ele o efeito deletério ao setor.

Na quarta-feira a ABIMAQ voltou ao Palácio do Planalto acompanhada de Deputados da Frente Parlamentar da Indústria de Máquinas e Equipamentos (FPMAQ) e conseguiu uma audiência com o Presidente da República Michel Temer por intermédio do Deputado Mauro Pereira.

No encontro também estavam presentes os Ministros Marcos Jorge (Indústria) e Moreira Franco (Minas e Energia). Apresentamos nossos argumentos e finalmente tivemos a garantia, por parte do Presidente Temer, que a decisão da redução das alíquotas de importação de 14% para 4% seria revertida. Se comprometeu que neste governo esta alteração não ocorreria.

Por fim, como é de conhecimento de todos que a abertura comercial é uma das plataformas do próximo governo, já iniciamos conversas com o objetivo de que a provável abertura seja negociada e que ocorra concomitantemente com uma agenda de combate ao Custo Brasil e redução das assimetrias.

Conseguir reverter a decisão da CAMEX foi uma conquista de todos e, para 2019, a ABIMAQ continuará empenhada em buscar a melhor solução para o setor.

Atenciosamente,

José Velloso Dias Cardoso
Presidente Executivo

João Carlos Marchesan
Presidente do Conselho de Administração

Fotos de Reprodução/Reprodução

Ministro Moreira Franco e Presidente Michel Temer

Ministro Eliseu Padilha

Figure 4.2: **National association explains to its associates how they could block one attempt at tariff reduction.** Ironically, the Association says that trade opening should be conditional on the existence of a agenda to reduce the so-called *custo Brasil*, the term used by Brazilian business to refer to cost of doing business in the country, which includes the tax system.

delving deeper into the case of state-level taxation. As I will show, this type of taxation accounts for a great part of the complexity described above.

Explaining continuity

While disjointed layering can explain how the Brazilian tax system became so dysfunctional across years, the next question then becomes: What forces keep it this way? As the dysfunctionality grows, should actors not realize that the aggregate cost of distortive layering outweighs the individual benefits for each one of them? Why do the actors not agree on carrying out reform to simplify it?

I argue that there are three mechanisms explaining why distortive layering is path-dependent. They are: loss aversion by actors, the creation of new constituents that benefit from each 'layer' and political actors clinging to discretion.

Loss aversion

The idea of loss aversion is that the probabilities of losses and disadvantages have a stronger impact on a decision than the probabilities of gains and advantages (Tversky and Kahneman, 1991). Loss aversion in tax reforms occurs because actors cannot be sure of the outcomes. Tax authorities are unsure about the fiscal impact of new tax rules. By the same token, taxpayers are uncertain what their tax obligations might be after reforms. This is especially true when there are several loopholes in the system that allow more generous tax regimes. Are the exceptional situations covered by the loopholes

to be brought into the default system, harming those who benefitted from loopholes? Or is the default going to be pushed closer to the loopholes, therefore harming total tax levied? The more loopholes, the more this type of doubt emerges. And in a federal system there is also the issue of how the future tax revenues are going to be distributed. This being so, taxpayers and tax officials at different government levels may fall prey to loss aversion and stick to the status quo unless they can be very sure about the outcomes.

Junqueira (2010) alludes to loss aversion as a deterrent for tax reforms in Brazil when he analyzes the failed reform attempts in the 1990s and the 2000s. He shows how loss aversion materializes in the case of the state-level VAT, called ICMS in Brazil. The 1988 Constitution delegated the regulation of this VAT to the states, so each of the 27 Brazilian states has a different set of rules, and firms have to comply with as many different rules as the number of states in which they operate. In addition, state governments implemented tax break programs using the ICMS. The intricacies of local tax break programs can be highly complex. Therefore, a central theme of a tax reform that simplifies the tax system is to unify the ICMS under a single piece of legislation and end local tax break programs.

Nonetheless, as Junqueira argues, unifying the ICMS could also unify the tax rate of products across every Brazilian state. However, the current product-level rates are very diverse between states. Junqueira gives the example of oil and its derivatives. The ICMS rates for these products range from 12% to 25% and represent between 13% and 34% of total state revenue.

If the rate that prevails after the reform is not the upper bound, a few states will experience considerable losses (Junqueira, 2010). But if the highest rate is the outcome, this implies a sharp tax increase for the producers that were under the 13% rate.[4]

Now imagine having to estimate the potential impact on revenue and tax payment for rate changes across thousands of products. The potential for loss is enormous and the loss aversion mechanism has a good chance of prevailing. A state governor could reason that is better to have a highly complex tax system for which revenue can be estimated than to risk losing significant amount of tax revenue for the chance of a simplified system. And the state governor has considerable influence over federal legislators from his/her state.[5] A tax reform that depends on legislation approved by the National Congress, the federal parliament in Brazil, has a good chance of being stalled by loss aversion.

[4]Additionally, unification of the ICMS must be done through a constitutional amendment but the actual rate setting and further regulation come in a posterior stage, through a complementary law. Since the reform would be carried out in two stages, it would be a problem of credible commitment. First, state representatives would give carte blanche by acquiescing to a constitutional amendment that says nothing about future tax rates, but only transfers taxation power from the state level to federal officials. After losing this discretion power, the states would face another round of negotiation with all the other states and government officials to set the rates and draft a unified regulation. There is no guarantee that whatever bargain they cut when negotiating the constitutional amendment would be observed in the second round of the negotiations, when every state is scrambling to protect its future tax revenue.

[5]State governors restrict federal government; see Abrucio (1998); Stepan (1999).

Creation of new constituents

As they create advantageous tax regimes for diverse social groups, distortions breed their own supporting base. As De Soto described, bureaucratic distortions are carried out as a form of compensation for a social group, but they also sow the seeds of their continuity:

> The laws enacted as a result of a redistributive agreement between the state and a combine [the social group that pushed for it] establish a legal system which gradually becomes untouchable because the combine will demand it be maintained and the demand is supported by the bureaucracy. (De Soto, 1989, p. 194)

The logic here is very similar to the politics of welfare state retrenchment, described in Pierson (1996). For Pierson, once the welfare regime is constituted, it changes the political landscape. It creates concentrated groups that have an interest in keeping it, mostly the regime's beneficiaries but also bureaucrats administering it. Those who could benefit from rolling back the welfare state are dispersed and therefore harder to organize. The policy feedback loop that involves constituent creation and asymmetries in the capacity of different social groups to overcome problems of collective action preserves the welfare state against the constraints of globalization and fiscal limitation.

A similar process happens with the many special regimes within the Brazilian tax system. Indeed, it is not hard to see tax breaks for business as an expression of the 'corporate' welfare state. They are implicit

government transfers to interest groups and, as such, their constitution also changes the political landscape through a policy feedback loop. The business groups that benefit from it have all the incentives to keep fighting for its continuation. Politicians who seek to close the many tax loopholes would be fighting against influential business leaders eager to use their instrumental and structural power.

The Olsonian logic behind policy persistence is also stronger in 'corporate' welfare programs such as tax breaks. The loopholes in a regulation provide exceptional treatment for a few eligible actors. Groups with small number of members, the Olsonian logic posits, face fewer barriers to organizing and advancing their interests. Therefore, the more distortive exceptions one finds in the tax system, the larger the number of small groups well-equipped to defend them. The anecdote above about import tariffs showed how manufacturers that compete with imported machinery could meet the president and overturn a decision they disliked in less than 72 hours. The cases in the following section will illustrate this point in more detail, showing how the business elite in the state of Goias wielded their instrumental and structural power to fend off reforms to the highly complex local tax break programs.

Clinging to discretion

Finally, distortive layering is usually, though not necessarily, accompanied by discretion on the part of those administering its rules. Exceptional tariffs or other tax rates set by local level politicians create opportunities for discretion

that can be turned into a power resource. For example, politicians and bureaucrats can use tax discretion as a tool to enact local development policies. Their discretion can be deployed as tax breaks to attract new investments. Attraction of new investments does generate political capital through what Jensen et al. (2014) called pandering, as I will detail in the next section. In a less benign fashion, discretion also creates conditions for back-scratching politics aiming at eliciting political support or kickbacks from the local business elite in exchange for generous tax forbearance. In either case, once political actors acquire this source of power, there is little reason to believe they would readily relinquish it.

As I will show in the next section, the vast majority of state governments in Brazil used their autonomy over the ICMS to launch a tax break program. In many cases, these programs descended into business clientelism: tax forbearance was granted to firms in exchange for campaign donations or blatant kickbacks, as the cases of the states of Mato Grosso, Mato Grosso do Sul and Rio de Janeiro will illustrate.

Why in Brazil?

The two sections above sought to explain the origins and the continuation of Brazil's byzantine tax system. The next section provides case studies showing evidence of the two mechanisms: creation of constituents and clinging to discretion. However, before moving to the case studies, it is necessary to address a remaining conumdrum: why in Brazil and not elsewhere? To fully

understand the phenomenon of tax complexity in a way that makes explanations for the Brazilian case generalizable to other countries, it is important to understand the reasons why Brazil is such an extreme case when compared to other countries. We need to enter into the realm of cross-country explanations.

Unfortunately, the extant literature is very thin on explaining tax complexity from a comparative perspective. Scholars usually approach tax complexity as an independent variable that predicts, for example, the level of compliance (Milliron, 1985; Dean et al., 1980; Krause, 2000). When delving into the causes of complexity, scholars tend to deep-dive into one specific country and describe the tax system there and its roots (Surrey, 1969). Comparative studies understanding the drivers of complexity across countries are virtually absent.

A way around this lacuna is to find out which variables explain between-country variation in tax complexity and assess how Brazil fares in this explanation. This section will seek to find these variables and then test whether Brazil represents a 'perfect storm;' i.e., a case of extreme values for many of these variables. Notice that the goal here is just to scratch the surface of cross-country explanations through simple regression analysis. Therefore the nature of the results should be seen as only preliminary.

What would be good predictors for between-country variation in tax complexity? The discussion of the Brazilian case and the previous chapters seeking to explain the poor business environment in Brazil provide some starting

points. First, as argued in this chapter, the federative system contributes to the creation of complex taxation by delegating taxation authority to local governments. Most of the time spent on tax compliance in Brazil is due to state-level VAT, which is often used for some sort of industrial policy, making it even more complex because of excessive prescription and required conditions for accessing tax exemptions, as the next section discusses. This leads us to the first hypothesis.

H1 - The more fiscally centralized a country, the less complex its taxation system.

Second, a logical expectation is that the more the government extracts through taxes, the longer it will take for citizens and firms to be tax compliant. A higher tax take is likely to go hand in hand with multiple taxes and overlapping tax schemes.

H2 - The higher the ratio of taxes to GDP, the more complex the taxation system.

Third, one of the drivers of the plethora of tax exemption and loopholes in Brazil is what De Soto called the redistributive combines, or economic groups that manage to self-organize and successfully push for favorable tax treatment for their sector. Therefore, the more diverse the economy of a country, the more of these potential redistributive combines will exist, leading to multiple groups pushing for different exceptional treatment.

H3 - The more diverse the economy of a country, the more complex its tax system.

Fourth, the previous chapters argued that exporting creates the conditions for improving the business environment. Recall the argument: exporting sectors are more likely to overcome challenges of collective action and push for reforms that cut the cost of doing business. If the cost of doing business is related to a challenging tax system that drags down their competitiveness abroad, the exporting sectors will push for tax simplification. So, the more of a country's economy that is composed of exporting firms, the more likely they are to come together to push for tax simplification.

H4 - The higher the ratio of exports to GDP, the less complex the taxation system.

One could also expect that the larger the country, the more complex the taxation system. Compare a situation in which an entity has to extract taxes from 100 people with another where the tax base contains 10,000 people. It seems reasonable to expect that it is much easier to collect information about the capacity to pay taxes and to monitor compliance in the former than in the latter. Also, the types of taxable activities are probably more heterogeneous in a group of 10,000 people than in a group of 100, requiring more diversity in the tax payment schemes. For these reasons, I also hypothesize that the larger the country, the more complex its tax system.

H5 - The more populous a country, the more complex the taxation system.

I further hypothesize that rich countries will have more efficient taxation systems. The relationship between wealth and tax complexity is actually indirect and runs through good governance. Rich countries have better governance (La Porta et al., 1999), and more efficient governments are better capability to deploy more efficient taxation systems.

H6 - The richer a country, the less complex its taxation system.

Data

I test these hypotheses by running a simple linear regression of the World Bank measure of tax complexity (average hours a firm needs to process taxation) on independent variables related to the above hypotheses. For the first hypothesis, I use the IMF's measure of fiscal centralization, which is the share of total government tax or revenue that goes to the central government. The indicator is averaged for the years from 2010 to 2017 or to the last available year. For taxation over GDP, I use the 2018 indicator compiled by the Heritage Foundation. I do not use the World Bank's measure because it does not account for revenues accrued from social contributions, thereby considerably underestimating the total fiscal revenue of a country.

For a measure of economic diversity, I use the World Bank's Economic Fitness metric. The higher a country's score on this indicator, the more capable it is of producing a diverse portfolio of products and of upgrading into ever more complex goods. I average the values from 2010 up to the last available year. Finally, I use the World Bank measure for export over GDP,

population and GDP per capita, and average it for the years between 2010 and 2017 to account for any abrupt change in these measures in a single year.

Table 4.1 summarizes the expected theoretical relationship between the independent variables and the outcome, based on hypotheses H1 to H6 above.

Variable	**Expected sign (Hypotheses 1 to 6)**
Centralization	+
Taxation/GDP	+
Economic diversity	+
Export/GDP	−
Population	+
GDP per capita	−

Table 4.1: Expected coefficient signs for regression variables, according to hypotheses 1 to 6 above.

Results

The econometric results partially support the hypothesis above. The signs of the coefficients are consistent with the theoretical expectations. On the other hand, statistical significance was not present for all variables and mode specifications (heteroskedasticity-robust standard errors reported). The only variables that significantly predicted tax complexity were GDP per capita and the level of taxation. Population size was significant in most specifications, but not all. Exports over GDP was significant in only one model specification, as was level of centralization. The issue with statistical significance may be related to sample size: there are only 40 to 50 complete observations across all the variables.

The measure of economic diversity seems to deserve particular attention. Its coefficients are particularly small compared to the standard errors and the sign is reversed in one of the model specifications. Additionally, one could raise doubts about to what extent the measure actually represents the underlying concept. The two diversity indexes used actually measure economic complexity, or the capacity of a country to build and competitively export unique products. This may have less to do with economic diversity and more to do with economic sophistication. To bypass these doubts, I ran an F-test comparing the unrestricted and restricted models (containing and not containing the variables, respectively). The F-test did not reject the null hypothesis that the indicator of economic diversity is irrelevant; i.e., the indicator is likely irrelevant for predicting the outcome. Therefore, I ran other models dropping these variables, in which the statistical significance of fiscal centralization was increased.

This brief exercise reveals some variables that seem to be good explanations for tax complexity. However, there are still a few limitations in these models that should be addressed before we move forward. The most obvious one is the possibility that the results are actually being driven by an outlier or, more concerning, that the outlier is Brazil itself. If the latter is the case, we would be attempting to extrapolate from hypotheses based on a one-case observation and testing these hypothesis through regressions that are driven by this same case. This would make the regressions redundant.

	Dependent variable:			
	(1)	(2)	(3)	(4)
Export/GDP	−0.241	−0.408*	−0.203	−0.302
	(0.163)	(0.213)	(0.169)	(0.198)
Tax centralization	0.824		0.856	
	(0.592)		(0.569)	
Revenue centralization		0.721*		0.745*
		(0.425)		(0.390)
GDP per capita	−0.349***	−0.394***	−0.349***	−0.393***
	(0.082)	(0.095)	(0.075)	(0.094)
Economic complexity	0.003	0.070		
	(0.318)	(0.344)		
Population	0.106	0.092	0.126***	0.138***
	(0.117)	(0.135)	(0.039)	(0.050)
Taxation/GDP	0.032*	0.038**	0.032***	0.041***
	(0.017)	(0.019)	(0.009)	(0.013)
Constant	6.081***	7.299***	5.588***	6.126***
	(1.979)	(2.475)	(1.188)	(0.918)
Note:				*p < 0.1; **p < 0.05; ***p < 0.01

Table 4.2: **What determines between-country differences in tax complexity?** This very preliminary exercise showed some high-level variables that impact the complexity of a tax system. Variable description: Export, population, GDP per capita and economic complexity were averaged over recent years and log-transformed. Tax and revenue centralization were also averaged for recent years. See page 157 for details. Heteroscedasticity-robust standard errors reported

To rule out this possibility, I conducted a set of tests to identify outliers and leverage points. Figure 4.3 shows plots of the residuals and of Cook's distance. The residual is an indicator of outlier-ness but a large residual does not necessarily mean that the corresponding observation is a leverage point, since an outlier can be close to the average of the x values. In this case, outlier-ness may not translate into leverage over the whole regression. Cook's distance, on the other hand, is the sum of the squared difference between the fitted values of an observation j and the fitted values of the same observation when observation i is excluded, for all data points i, j in the regression.

Indeed, Brazil, indicated by the index number 28, has the largest residuals and its Cook's distance is also large, but not the largest. The largest Cook's distance corresponds to the United Arab Emirates (1.79), followed by Brazil (0.59) and Uganda (0.13). The UAE actually has the opposite issue from Brazil; an abnormally simple tax system, requiring only 20 hours on average for a firm to be tax compliant.

I re-ran the models above, after dropping the proxies for economic diversity, which I established above are not relevant, and after excluding these three outliers. The results are shown in Table 4.3 (heteroscedasticity-robust standard errors reported). The signs of the coefficients are maintained, except for the variable 'exports.' Fiscal decentralization loses its statistical significance across all the models. The other three variables, GDP per capita, population and tax over GDP, are still statistically significant.

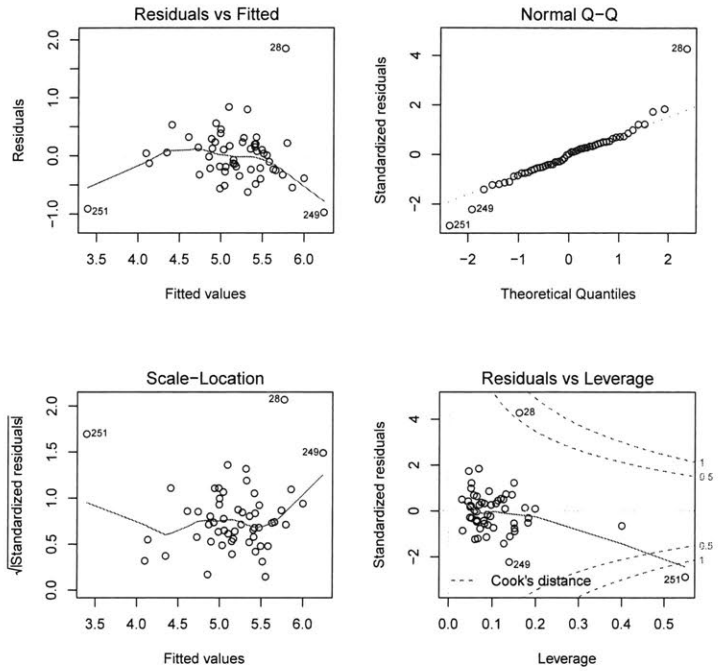


Figure 4.3: **Brazil and UAE are outliers and leverage points in these models.** The plots show different measures of outlier-ness and leverage points for Model 1 in Table 4.2. The data points highlighted are Brazil (28), United Arab Emirates (251) and Uganda (249)

	Dependent variable:	
	(1)	(2)
Export/GDP	0.039	0.018
	(0.086)	(0.099)
Tax centralization	0.185	
	(0.303)	
Revenue centralization		0.218
		(0.234)
GDP per capita	−0.368***	−0.336***
	(0.062)	(0.068)
Population	0.089***	0.088***
	(0.028)	(0.030)
Taxation/GDP	0.019***	0.017*
	(0.006)	(0.009)
Constant	6.410***	6.237***
	(0.839)	(0.672)
Note:	*p < 0.1; **p < 0.05; ***p < 0.01	

Table 4.3: **Tax complexity compared across countries, omitting leverage points**. This table replicates the results of the regressions in Table 4.2, dropping three leverage points that were pulling the results in their directions (Brazil, UAE and Uganda) and the variable 'economic complexity.' Variable description: Export, population, GDP per capita and economic complexity were averaged over recent years and log-transformed. Tax and revenue centralization were also averaged for recent years. See page 159 for details. Heteroscedasticity-robust standard errors reported.

The takeaway here is that these three outliers were pulling the whole regression in their direction, but they were distorting models only for export over GDP. This makes sense because Brazil is poor in export over GDP and has the most complex tax system, while the reverse is true for the UAE. So these outliers were pulling the model in their directions for this variable. The other variables still have predictive power, although less so for fiscal centralization.

Hence, this brief exercise reveals that GDP per capita, taxation over GDP and population size are good starting points for explaining tax complexity. In the between-countries comparison, the direction of the correlation between these variables and the outcome of interest is as theoretically expected in nearly all model specifications. The only exceptions were fiscal centralization and export over GDP, which are sensitive to the influence of outliers and the signs of their coefficients were the reverse of the predicted signs.

The next step is to assess how Brazil fares in values of these variables. Is it the case that what happened in Brazil was a 'perfect storm,' in which these explanatory variables jointly present high values?

Brazil's position in the explanatory variables

I answer this question by individually looking at the scores for Brazil for the main predictive variables. Indeed, Brazil does have high values for all of them. Table 4.4 shows Brazil's ranking in each variable. So, a partial explanation of why such a complex tax system happened in Brazil but not elsewhere

is because Brazil does score high in the main structural predictors of tax complexity. This is only a partial explanation because the country also has the largest residuals in the regressions, implying that the complexity of the Brazilian tax system is far above what it should be considering the predictive power of these variables. So, the high complexity of Brazil tax system is because of its size, tax take, GDP per capita and fiscal centralization but the the extreme value of the dependent variable cannot be explained by the model alone because Brazil is an outlier in it. Possibly part of the explanation was not tapped by the models due to omitted variables in the regressions or because of factors that are indeed unique to the Brazilian context and no comparison across countries would be able to capture them.

Variable	Position
GDP per capita	17th poorest
Population	3rd largest
Taxation/GDP	17th largest
Tax decentralization	7th most centralized
Revenue decentralization	17th more centralized

Table 4.4: **Brazil has high scores in the variables explaining tax complexity**. But these scores are not enough to explain its extreme position. Ranking does not refer to world-wide data, but only to the 50 countries for which there are complete data on these variables.

While the explanation is only partial and admittedly preliminary from a scientific perspective, these findings can be good news from a policy perspective. The presence of high residuals implies that Brazil is not stuck in a situation where its tax complexity is determined by a combination of struc-

tural variables which are hard to change, such as size, GDP per capita, or even its federative structure. Extreme tax complexity is probably due to inherently local factors, which could be reversed if the country implemented reforms based on the experience of other emerging countries. There is no structural stickiness to its complex tax system.

4.2 Subnational taxation and tax breaks

Out of the 2,000 hours required to comply with taxation in Brazil, some 1,100 hours go to consumption taxes, while the remaining 900 are divided between corporate income taxes and labor taxes (PwC, 2018, p. 84). The most complex of the consumption taxes is the ICMS, the state-level VAT mentioned above. Each of the 27 Brazilian states has a different set of ICMS regulations. The regulations also differ between goods sold within the state, those sold to other states, and those which are exported.

Product-level tariffs vary by state and product. Junior and Júnior (2017) found that states have between two and eleven different product-level tariffs. The typology for classification of products can be extremely detailed. For example, the state of Bahia, not satisfied with setting the tariff rate for pasta at 7%, detailed that this tariff rate would also be applicable to pasta used for soup, spaghetti and lasagna. The manual for product classification in the state of Mato Grosso has 424 pages (Junior and Júnior, 2017, pp. 24-25). Also, there are frequent legislative and regulatory changes, which firms have to keep up to date with. Companies have to comply with as many different

ICMS regulation as the number of states where they have operations (i.e., a firm that operates in all 27 Brazilian states must comply with 27 different ICMS regulations). This is because the cost of non-compliance is also very high. For example, in the state of São Paulo, the penalty for failing to make a tax payment is 80% of the unpaid tax on top of the tax itself (Machado and Utimati, 2017).

Compounding this highly complex scenario is also the issue of tax break programs. These programs are firm-level exceptions to the ICMS rules that are used as tools to attract investment.[6] The story of subnational tax breaks in Brazil go as far back as the late 1960s. Although during the military regime (from the 1960s to the 1980s) the federal government exercised tight control over state-level taxation, some states could avoid federal control and use the discounts on what was then the ICM as a tool for industrial policy. Minas Gerais inaugurated this scheme by enacting a state law (*Lei* 5.261/1969) that would return up to 25% of ICM to selected firms (Alves, 2001, pp. 20, 96).

But it was not until the 1990s, following democratization and the devolution of taxation power to state authorities that the manipulation of ICMS for tax break programs mushroomed. The possibility of legislating over ICMS was quickly adopted by state governors purportedly as an opportunity to compete against other states for private investment by offering advantageous tax conditions, triggering what some analysts call the 'fiscal wars' of the 1990s

[6]Though it is illegal to design a tax break program to target a single firm, most programs are designed in a way that eligibility for the tax benefit is evaluated at the firm level and the firm has to go through an individual application process.

(Nascimento, 2008; Dulci, 2002; Rodríguez-Pose and Arbix, 2001). ICMS breaks are dispensed in form of reduced rates, higher tax credits, tax deferrals and refund timing (Alves, 2001, p. 6). Nascimento (2008) reports that at least 12 out of the 27 Brazilian states engaged in some ICMS tax break program, including the populous states of São Paulo, Rio de Janeiro and Minas Gerais (p. 686). Lima et al. (2010) add another five states to the list, and Piancastelli and Perobelli (1996) estimate that 25 out of the 27 states have some sort of ICMS tax exemptions, the only exceptions being the sparsely populated states of Amazonas and Acre (pp. 24-25). Tax break programs related to the ICMS have become ubiquitous.

The layers of complexity that ICMS exceptions create become even more distortive due to a particularity in its governance. Federal legislation maintained a rule that state-level tax breaks should be unanimously approved by the CONFAZ, the National Council of State Secretaries of Finance. This rule was supposed to slow down tax competition across states. So, to bypass the authority of the CONFAZ, states became very creative in disguising their tax break programs. The state of Goias, for example, grants a loan to a company to pay the ICMS and then pardons the loan a few months later, provided the firm has successfully achieved a certain 'score,' which can be increased by running training programs, employing elderly people, or other actions (the criteria for the score also changed over time). There is an entire bureaucratic apparatus responsible for overseeing these 'loans.' One agency administers the financial procedures of the 'loan' and another monitors firms' compliance

with the eligibility rules and also sends their staff to the field to make *in loco* visits to firms in order to assess their tax break score.

Why tax breaks?

What drives decision-makers to create such a bureaucratic quagmire in enacting tax break programs? The academic consensus on investment incentives designed to influence the location of firms is that they are rarely a good policy. As Thomas (2010) argues, firms will auction their investment even when they have already made their location decision, wielding their bargaining power and exploring the information asymmetry inherent to location negotiation so that they can extract as much tax forbearance from states as possible. Local governments usually end up "paying" more for the investment than necessary. Thomas (2011) uses the case of Goias to illustrate poor decisions. The state gave a "US$125 million subsidy to Usina Canada for a US$25 million investment in an ethanol facility in 2009, which came to over US$200,000 per job" (p. 2). Therefore, from a functionalist perspective, the 'success' of tax break programs like these is questionable.

There are at least two explanations. The first is that incumbent politicians use investment attraction for credit claiming. Jensen et al. (2014) used a survey experiment to show that voters were more likely to vote for an incumbent who used tax incentives to attract investment and even more so when incumbents used tax breaks in a failed attempt. Incumbents are heavily punished when they lose the opportunity to attract an investment because they

have failed to use a tax break. This creates a dominant strategy for incumbents to always offer tax breaks because they expect "to receive a large vote bonus from the investment coming to his or her state and a slightly smaller vote bonus just for offering the incentive" (p. 444). Jensen et al. (2015c) further show that electoral competition plays a role in heightening the incentives for providing tax breaks. US municipalities with elected mayors, in contrast to those with non-elected city managers, offer more tax breaks, and the effect is amplified during election years. Credit claiming heightened by electoral competition may explain why fiscal incentive programs mushroomed in Brazilian states after re-democratization in the late 1980s, after which the electoral landscape became much more competitive.

One could add, I argue, a second motivation complementing the credit-claiming explanation. The capacity to disburse tax breaks creates bargaining chips that can be used to extract rents from business. Discretionary power over who gets a windfall in tax forbearance creates the opportunity for a dynamic similar to clientelism, in which the incumbent can proffer material goods in exchange for political support (Stokes, 2007, p. 1). Incumbents can elicit electoral support from local business elites, which can come in the form of campaign donations. But they do not need to stop there: tax breaks using public funds can be used in exchange for kickbacks. For the incumbent, the benefit is personal enrichment and the costs are the forfeited opportunity to use these funds in other policies, and the possibility of being criminally prosecuted. For business, the benefit is the amount of tax forbearance and

the costs are the amount of the kickbacks and, again, the possibility of being prosecuted. Short of any moral consideration on the part the actors involved, incumbents can create auspicious opportunities for shady deals by adjusting the amount of bribes they demand and the tax breaks they disburse. As mentioned above and detailed later, this was the case in the states of Mato Grosso, Mato Grosso do Sul and Rio de Janeiro, which I will discuss in the next section, after looking at the case of Goias.

Case studies – Goias, Mato Grosso, Rio de Janeiro and Mato Grosso do Sul

The remainder of this section looks in more depth at four cases: Goias, Mato Grosso, Mato Grosso do Sul and Rio de Janeiro. To collect data for these cases, I spent three months in Goias in 2016 and another seven months in 2017.[7] The fieldwork for Mato Grosso was more modest, only 10 days. In both cases, I conducted semi-structured interviews with government officials and business leaders. There was no fieldwork for Rio de Janeiro and Mato Grosso do Sul. The discussion for these latter two states was based mostly on secondary research. The information on these cases, though, was enriched by the results of the wave of corruption investigation that took place in Brazil.

Goias is an interesting case because it is the most aggressive user of fiscal incentives programs in Brazil. Fiscal incentives in this state were generally recognized by interviewees to be 'programatic,' meaning that they are in gen-

[7]This phase of fieldwork was used also to collect data on the sector studies of pharmaceuticals and agriculture and not exclusively dedicated to studying tax breaks.

eral not disbursed in exchange for political support or bribes. Of course, most of my interviewees were beneficiaries of this program, so there is a chance of bias in the way they describe it. But in any case, at least when compared to Mato Grosso and Rio de Janeiro, so far no overarching scandal involving tax breaks has emerged. All in all, I use the case of Goias to illustrate how the creation of constituents explains the persistence of complex bureaucracies. This explanation is independent of whether tax breaks are 'programmatic' or riddled with corruption. If I am mistaken and the programs are shown to be corrupt, the core argument that distortive layering creates its own constituents is still valid. It could simply be added that it does so through corruption as an intermediate variable. Below I will document how the local business elite fought against reforms in the tax break programs. And there is a tweak to the story: it was local firms more than multinational companies that put the most effort into fighting for these programs.

The cases of Mato Grosso, Mato Grosso do Sul and Rio de Janeiro are interesting because they are the three states for which there is plenty of evidence from federal prosecutors that tax breaks descended into corruption schemes; so much so that the former governors of these states are currently serving jail time due to malfeasance in tax breaks, among other accusations. These cases therefore illustrate how a complex bureaucratic scheme such as ICMS becomes a tool for discretionary power wielded by incumbent politicians. In these cases, this power was used for self-enrichment, rather then for for credit claiming.

Tax breaks in Goias – Creation of constituents

Goias is probably the most aggressive state in Brazil when it comes to disbursing tax breaks. This claim is backed by the data in Figure 4.4 but was repeated, with some sense of pride, by more than one government official I interviewed. Interestingly, the pride in using tax breaks derives from a general perception that tax incentives were a core driver of the impressive industrialization of the state in recent decades. In the past 30 years, Goias moved from an essentially agricultural state to hosting production plants of big-name multinationals such as Mitsubishi Motors and Kraft Heinz Foods, not to mention the state's thriving pharmaceutical industry (see Chapter 5).

But the tax incentives that make local officials proud came at a cost. Data recently released by the local government indicates that in 2016 it waived a total of BR$2.02 billion (US$640 million) of its potential revenue in tax breaks, while total public spending was BR$2.49 billion. That is to say, tax breaks cost nearly the equivalent of the whole state budget. Granted, this measure probably overestimates the amount of forfeited taxation. It assumes a flat Laffer curve; that is, that production is inelastic to taxation level and the same amount of output would happen with much higher taxation. But this amount gives an idea of the potential for tax forbearance at the disposal of the local government.

In broad outlines, the program works as follows. The main formal eligibility criterion for a firm is to present a plan for creation, expansion or

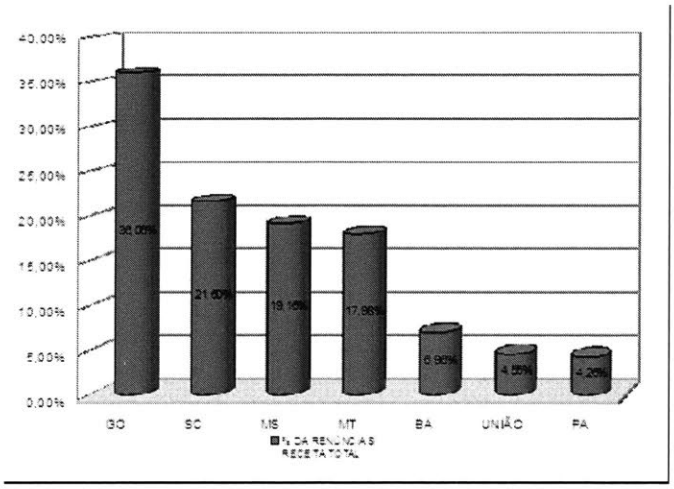


Figure 4.4: **Goias is the most aggressive Brazilian state in terms of tax break disbursement.** This figure compares tax forbearance as a share of total tax revenue in selected states and shows that Goias is ahead of other states well-known for also being aggressive in terms of tax break disbursement, such as Bahia. **Source:** Mato Grosso Accounting Court 2009 report. Unfortunately, there are no data available comparing all Brazilian states and these states are not a random sample of all states.

reactivation of production units that should create jobs. The application consists of a business plan and letter of intent. A group of analysts examine the business plan and issue a technical opinion. The process then proceeds to a committee composed of representatives of civil society and the local legislature. The decision to concede the tax benefit is cross-validated by two agencies, the Secretariat of Development and the Secretariat of Finance.

After this point, things can become fairly complicated. If approved by this committee, the firm requests a visit from a Development Agency official in order to show that it has already completed at least 20% of the investment project. Once the Development Agency approves the project, the firm signs a credit contract which finances 73% of its ICMS. 10% of this loan has to be paid upfront. The remainder is paid at the end of the fiscal year. Twelve months after the contract is signed, the firm requests to pay off the loan. The government can forgive up to 100% of this loan, depending on whether the firm has fulfilled certain prerequisites. There are different prerequisites, such as not falling behind in paying other taxes, running labor training programs, employing people with disabilities, buying local inputs, and more. This generates a "score" and the loan discount is proportional to the score. Firms are regularly visited by government auditors to check whether they fulfill the requirements they claimed in their applications.

The complexity of the program prompted the creation of an industry of 'consultants' in the state who act as intermediaries in the relationship

between firms and governments. According to a consultant I interviewed,[8] they usually charge BR$50,000 (US$15,000) to submit the investment project and business plan for initial evaluation. Consulting firms also offer services to manage the ongoing relationship with the government throughout the duration of the program – note that every fiscal year a firm applies for 73% of the ICMS loan to be forgiven, it also needs to show that it is compliant with the prerequisites previously specified.

This complication does dissuade potential beneficiaries. The quote below, from the owner of an award-winning seed producer in Goias, exemplifies this point.

> We never tried it [fiscal benefits]. To tell the truth, we had access [to tax breaks] but with our own resources it is much faster. [The tax break program] is more complicated, it is very bureaucratic to obtain those benefits and it was not very important to us. We never focused much on this part of the government because their structure is very weak [...] BNDES was important but the state and municipal level were not [...] We never tried to obtain an area for construction either [...] we really never tried to get much help from the government for many reasons, one of it is the bureaucracy. We had no time to wait and we did not depend on it to grow. Unfortunately, in Brazil the govern-

[8] Respondent 026

ment structure is not so prepared and we had to do it ourselves. [Respondent 006]

However, only a small share of eligible beneficiaries are discouraged from applying to the program by the bureaucracy. During the interviews, several other respondents, despite general complaints about the "bureaucracy," reported that it was not complicated to access tax break programs and that the result of their application was relatively fast: 3 months was the modal response. On the other hand, a Goias state official informed me that around 400 firms that are eligible to the benefit from the tax break programs do not apply for it.

I investigated why potentially eligible firms would not apply for a tax break. To do so, I looked for the 400 or so companies that are eligible but do not benefit from tax breaks by comparing the database of enrolled firms[9] with the *Relação Anual de Informações Sociais* RAIS, a dataset containing all formally registered firms in Brazil and their respective number of employees. Due to the existence of a simpler tax regime that only small enterprises (SMEs) can apply for, I could establish a lower bound threshold for size. I looked for firms with at least the same number of employees as the smallest firm enrolled in tax breaks. I found a figure similar to that given by the Goias officials.

[9] I obtained this database by using the state Information Access Law, after I negotiated the disclosure of the data with local officials.

If the tax breaks are designed to be attractive to firms, why do such a large number of eligible business do not enroll in the program? To answer this question, I set out to interview firms that were not enrolled. Out of the 400-some firms that are not enrolled, I drew a random sample of 100 firms. Of these, I found contact information for 26 of them and contacted them by telephone. For those who answered (70% or 18 firms) I asked their manager or accountant why they were not enrolled in the local tax break program. I categorized the answers to this open-ended question as shown in Table 4.5.

Reason why not enrolled	**% Respondents (# respondents)**
Is enrolled in a different tax break program (sector-based, federal program)	19.2% (5)
Was removed from tax break program because of overdue tax bills	15.5% (4)
Is already enrolled under another tax number	15.4% (4)
Production structure makes other taxation regimes more advantageous	15.4% (4)
Cost to apply (make a business plan, handle bureaucracy, etc.) is too high	3.8% (1)
Did not answer phone call/Was removed from tax base/Did not know	30% (8)
Total of respondents	26

Table 4.5: **Most respondents that are not enrolled in the tax break programs have another tax benefit**. Results from telephone interviews with 26 firms in Goias.

The survey reveals that the main reason why firms do not enroll in the tax break program is not because of the bureaucracy (only one respondent mentioned this), but because they have access to other tax regimes they find

more advantageous. For example, a rice processing firm was enrolled in a food security program that subsidized rice producers. The second reason is directly related to their performance: firms that fall behind and then cannot pay their taxes are pushed further down by being expelled from this type of government program.

These findings for the state of Goias have important political economy implications: the fragmented taxation system has split the business community even further. The various loopholes in taxation have resulted in firms being faced with a menu of options to benefit from different tax schemes. As a consequence, instead of a large group of firms bearing the same preference profile over taxation, the various loopholes in the tax regime mean that the business community is split into smaller groups with different taxation experiences and therefore preferences.

Even firms within the same industry, which one might expect to have similar preferences, are split because of how the plethora of taxation regimes affects their productive strategy. For example, two of the surveyed firms are in the textile sector. Both reported that due to the recent recession they changed their business strategy and now rely on outsourcing their production and managing contracts with smaller producers. This rendered the tax incentive programs unappealing to them and they preferred to operate under another taxation system.

The implication is that firms within the same sector, which would result in similar taxation preference profiles, end up being split into different taxation

experiences and preferences. Bringing them together into a sector-based tax policy agenda becomes even more difficult. The labyrinthine tax code, with many options for different taxation regimes, splits the business community by design.

This finding is consistent with the description of the political dynamics driving distortive layering that I gave in the previous section. The presence of multiple exceptional taxation rules increases the likelihood that firms will cling to their tax regime niches as they fear the uncertainty that a tax reform can imply. Any reform that could close these many loopholes could potentially face opposition from the many beneficiaries of these loopholes.

Tax breaks are supported by local constituents

Unlike what Jensen et al. (2014, 2015c) would predict, tax breaks in Goias were not prompted by incumbents' need to claim credit for attracting investment. Indeed, the history behind tax breaks aligns more with De Soto's idea that interest groups seek compensation for some alleged disadvantage and thus create more distortions.

According to Respondents 014 and 056, both of them former high-ranking officials in the Goias government, tax break policies in Goias begun when the incipient community of Goiano manufacturers gained some traction in the 1980s. They needed to expand their consumer base beyond Goias, and reached out to the populous coastal states, particularly São Paulo. But to compete in São Paulo they had to cut costs to overcome some disadvantages,

such as moving their products through poor infrastructure and across long distances to reach this new market. Local manufacturers then pressed the governor to reduce ICMS for sales to outside the state. By lowering their tax bill, they expected to be more competitive in the larger markets of Brazil's coastal states.

That tax breaks were more oriented towards local business during their early years is also supported by the data in Figure 4.5. The figure shows that the number of firms enrolled in tax break programs particularly increased in the early 2000s. One respondent, Respondent 012, reported that tax breaks were originally directed only to "friends of the boss;" i.e., politically connected business elites, but from the mid-1990s onward, the eligibility criterion became transparent and any eligible firm could in fact access it.

As tax breaks became widespread, the local businesses benefiting from them became the programs' supporting base and were not shy about putting up a political fight for their continuation. In the mid-1990s, an association was created with the core purpose of organizing businesses that wanted to push for the continuation of the tax break programs (Respondents 011 and 025). The same association went as far as helping the governor fight a legal claim against Goias's tax breaks filed by the state of São Paulo in Brazil's Supreme Court in 2001 (Respondent 012).

The best evidence of how much the tax break program is valued by the local business community is what occurred in 2015–2016. At that time, a nation-wide recession caused the state government's finances to come under

pressure due to an abrupt fall in revenue. As a countermeasure, the local government sought to cut back tax incentives by introducing a 10% linear reduction in ICMS abatements (i.e., the total of tax forbearance would be decreased by 10%). The local business association fiercely resisted the measure, threatening to disinvest. A high-ranking government official recalls the strong reaction this proposal prompted from the business association referred to above:

> A few days before it was about to be voted on in the Assembly [the state legislature], the governor withdrew the bill once again due to pressure from [names the association]. They went to the [governor's] Palace and said "look, we are leaving Goias if you approve this." They brought a list showing the number of people each firm employed and said they would fire those people by December. So the governor acted and withdrew the proposal. [Respondent 025]

Members of the local business community openly admitted that they oppose any change to the tax break programs. They argue that in their decision to immobilize capital in an investment, the cost/benefit analysis of the project takes into account the level of tax breaks offered. Changes in the tax code could affect the financial sustainability of the project. They cannot "change the rules in the middle of the game," as Respondent 011 put it. According to this interviewee, the attempts to change tax breaks happen because the government sees the thriving business community as an

"attractive cash mountain" and "these incentives are part of our production costs, they don't go into the owner's pockets." Another industry leader (Respondent 057) also confirmed that the local business association fought hard against the reduction of tax incentives. In his opinion, the cash pressures in the government finances are because the "state is bloated" and has too many expenses, especially payroll.

In sum, as Goias became the most aggressive user of tax breaks in Brazil, the expansion of these programs also changed the political landscape. The business elite that thrived under this tax regime now clings to it fiercely and fends off any attempt at reforms. It is not hard to foresee how local business would react to an attempt to reform the ICMS by unifying it under national legislation. Such a reform would result in the end of their tax incentives. Federal legislators from Goias should expect unrelenting pressure to oppose such reform.

It could be, though, that Goias is an extreme case and business elites in other states are less dependent on local fiscal breaks. Therefore, it is worth thinking about what other mechanisms could be at play sustaining the byzantine tax system in other states. The next section looks at how tax breaks in certain other states created discretionary power and how incumbents used this power as a tool to extract support and kickbacks from the local business elite.

Tax breaks and discretion as a power resource – Mato Grosso, Rio de Janeiro and Mato Grosso do Sul

In 2008 Sergio Cabral, then governor of Rio de Janeiro, went to a public event where he inaugurated new high-security features at the Bangu 8 Prison. In his remarks, he highlighted how the new equipment would "increase the penitentiary's security capacity by 100%."[10] At the time, Cabral was a rising star in Brazilian politics. The following year, Rio de Janeiro would be chosen to host the 2016 Summer Olympics and he received the *Légion d'Honneur* in Paris. In 2010 he won an easy re-election, with 66% of voters supporting him for a second term. But Cabral's thriving political career was halted when he became the centerpiece of a corruption scandal in his state. Currently, Cabral might regret having ramped up the security equipment in Bangu 8. He is a inmate there, serving jail time for charges of corruption involving, among other schemes, the disbursement of tax breaks in exchange for bribes.

Rio de Janeiro state massively disbursed tax breaks during Cabral's administration. The State Accounts Court (TCE-RJ) estimated that between 2007 and 2015 the state forfeited around BR$47 billion of ICMS revenues. The TCE-RJ also documented several weaknesses in oversight of the program, such as a lack of criteria for which firms would receive a tax break and failure to record how much of the tax discounts were actually given to firms.

[10]Source: `http://g1.globo.com/rio-de-janeiro/noticia/2016/11/cabral-inaugurou-melhorias-de-seguranca-na-presidio-onde-esta-preso.html`, accessed 25/01/2019

Local lawmakers granted the governor the power to disburse tax breaks by decree, strengthening his discretionary power over this enormous sum of resources. This information can be found tin he Rio Janeiro's Court sentencing records on Case 0334903-24.2016.8.19.0001, in which the Public Prosecutor's Office requests the suspension of tax break programs in the state. In the court case, the public prosecutor argues that tax breaks were poorly managed, there was no cost/benefit analysis, and they had substantial negative impact on Rio de Janeiro's state finances – the state was virtually bankrupt just two years after hosting the Summer Olympics. The judge agreed with the public prosecutor and decreed the immediate suspension of new tax breaks.

In the case of Rio de Janeiro, discretion over tax breaks was used for the self-enrichment of politicians. The former governor bestowed a total of BR$231 million in tax exemption for jewelry in exchange for in-kind kickbacks. The commercial director of one of the benefitted firms confessed that she used to sell pieces of jewelry in person in the governor's house, and a renowned jewelry store signed a plea bargain describing how sales of jewelry to the governor and his wife were used as bribes.[11]

But Rio de Janeiro is not alone. In Mato Grosso, a neighbor of Goias in the central region of Brazil, tax incentives were riddled with malfeasance. In a

[11]Sources: http://g1.globo.com/rio-de-janeiro/noticia/2016/11/joalherias-receberam-mais-de-r-200-milhoes-em-incentivos-fiscais-no-rj.html , http://www1.folha.uol.com.br/poder/2017/06/1891170-h-stern-delata-mais-r-4-mi-em-joias-compradas-com-propina-por-cabral.shtml, https://oglobo.globo.com/rio/incentivos-fiscais-muito-alem-do-essencial-20548622, accessed 15/05/2018.

2009 report, the state Accounting Court highlighted many signs of corruption in the program. Only a handful of firms received the bulk of all tax breaks; there was conflict of interest in the case of a consulting firm that wrote applications for firms and was also contracted by the government to ensure compliance by its former clients; and the amount of tax breaks disbursed for each firm was inconsistent across different datasets[12].

What could be seen as minor mismanagement was just the tip of the iceberg. As corruption investigations carried out by Brazil's Federal Police dug deeper, they revealed a corruption network involving high-ranking officials and business people, focused on selling access to tax breaks in exchange for bribes. The governor Silval Barbosa and part of his cabinet were jailed in 2015 and in 2017 were found guilty of corruption charges. The total amount of public funds diverted by fraud from 2011 to 2014 was BR$2.5 million.[13] The governor eventually signed a plea bargain and gave details about the scheme. Local lawmakers and high-ranked officials would solicit bribes from business in exchange for tax forbearance.[14] Some business people were also arrested, and revealed details of the scheme through plea bargains. The owner of a local business group also stated that he paid monthly bribes in exchange for tax exemptions. "If the government helps you, you need to

[12]Mato Grosso Accounting Court 2009 report, pp. 99-110

[13]Source: `https://g1.globo.com/mt/mato-grosso/noticia/ex-governador-de-mt-e-condenado-a-13-anos-de-prisao-por-desvio-de-r-25-milhoes.ghtml`, accessed 25/01/2019.

[14]The corruption scheme was broader than tax breaks and also involved public works contracts for 2014 World Cup projects, bribes for councilors of the State Auditing Court to approve the accounts of these projects, over-invoiced public works, and more.

help us," a high-ranking official allegedly told him. Footage showed some 10 local lawmakers and elected politicians receiving bribes in cash. In his plea bargain, the governor described how a large meat processing corporation was given tax exemptions in exchange for paying his overdue debts from previous campaigns.[15]

The same happened in the state of Mato Grosso do Sul. In July, 2018, former governor Andre Puccinelli and his son were also arrested under charges of using tax breaks for bribe extraction. In a plea bargain agreement, representatives of the Brazilian meat producer JBS stated that they had paid bribes that averaged 30% of the fiscal benefits they received from state officials.

Granted, these cases are only 3 out of 27 states in Brazil for which there is clear evidence, backed up by police investigations, that discretion over tax breaks was used as means of self-enrichment by politicians. However, it is important to highlight that discretion over taxation can be used not only for self-enrichment through corruption, which is an extreme case, but also when states use tax breaks to enact local development policy. As described above, using tax breaks to attract investment can be highly rewarded by voters. The 'Fiscal War' was ubiquitous in the 1990s, showing that Brazilian governors relish this tool. Therefore, there is no widespread evidence for cases where discretion was used for self-enrichment and public agents were prosecuted for doing so. However, the incentives to cling to discretion go beyond self-

[15]Source: `https://g1.globo.com/mato-grosso/noticia/jbs-pagou-propina-para-esquema-de-corrupcao-em-mt-apos-incentivos-ilegais-diz-delator.ghtml`, accessed 15/05/2018.

enrichment. Discretion over taxes also generates electoral opportunities by prompting the pandering effect uncovered by Jensen et al. (2014), and this is even more the case in competitive electoral politics.

Multinational corporations and subnational tax breaks

In January 2019, the president of General Motors in Brazil, Carlos Zarlenga, sent a memo to GM employees in the two factories located in the state of São Paulo. In the letter he said that he feared the company might have to shut down its operations in the region because they were not profitable. Less than a week after Zarlenga sent this letter, São Paulo's finance secretary announced that his team was studying how to cut the company's tax bill through ICMS abatement in order to avoid their closing. A few days after he issued his memo, Zarlenga also met the mayors of the two cities where the GM plants are located. The mayors declared to the press that they were already doing all they could in terms of tax benefits to the firm "but there is also something else we could do," one of them reportedly said.[16] While Zarlenga could count on the sympathy of local authorities, the federal government was less yielding. "If you need to close it [the plant], just close it," the current federal secretary for productivity and competitivity said in a meeting with

[16]Source: https://www.valor.com.br/empresas/6074147/general-motors-busca-incentivos-fiscais-em-sao-paulo, accessed 25/01/2019 and https://www.reuters.com/article/us-gm-brazil/gm-warns-workers-in-brazil-on-losses-tough-turnaround-plan-idUSKCN1PD0L1.

GM representatives in Brasília.[17] This reaction from federal authorities is unprecedented and surprising. The automobile sector has enjoyed generous tax breaks and tariff protection in Brazil for decades. As recently as July 2018, the government launched the *Rota 2030* program, an extension of its predecessor *Inovar-Auto*. The program guaranteed cuts in federal taxes to the auto sector totaling BR$3.7 billion over two years.

The federal government can afford to say 'no' to MNCs once in a while. The number of jobs and amount of tax revenue created by a single MNC is relatively small compared to the national total. But this loss would be much harder for local governments to absorb. In São Caetano, one of the cities mentioned above, GM is responsible for 5% of tax revenues, its suppliers pay another 5% and its plant employs 9,300 workers. Recall that according to Jensen et al. (2014), voters harshly punish incumbents when they fail to use a tax break to attract a new investment. So being responsible for the closure of an investment already in place that generates revenue and employs voters is potentially political suicide. For the incumbents in a small town hosting a large MNC, the rational decision is to surrender to the MNC's structural power.

The anecdote of GM above illustrates how MNCs contribute to the creation of exceptional tax regimes. And they can be more effective in pushing for the creation of exceptional tax regimes because they have more structural

[17]Source: `https://www1.folha.uol.com.br/mercado/2019/01/se-precisar-fechar-fecha-diz-secretario-de-guedes-sobre-a-gm.shtml` accessed 25/01/2019.

power than domestic firms. MNCs can move their production facilities more easily and, since they are more footloose, their threat to disinvest is more credible. So they may exert more leverage than domestic firms to extract regulatory exceptions, including tax breaks. One can point out a few reasons for their being more footloose. They have better access to the global capital pool, they have more information and connections to potential suppliers in different parts of the world and they have amassed management skills that decrease the costs of redeploying productive units at different sites. Their sheer size implies that they can dilute the fixed costs of negotiating deals with local authorities into a larger revenue base. All in all, the structural power of multinational corporations is more pronounced than domestic firms for the obvious reasons that they effectively operate in multiple jurisdictions, by definition.

The historically high stock of foreign direct investment (FDI) in Latin America prompted an important debate about the role of MNCs in the developmental trajectory of these countries (Kohli, 2009). Within this debate, theoretical expectations about the effects of MNCs on local business politics have been mixed. On the one hand, their size and resourcefulness may help them lead collective action among the local business community towards the provision of public goods by state agents. On the other hand, their preferences may differ from local business and the exit option is always easier for them than for local firms (Schneider, 2004, 2013).

The first step in evaluating whether MNCs do engage more in the business community in pushing for public goods or whether their exit option makes them more apathetic to local business concerns, and therefore less engaged, is to ascertain whether MNCs can actually obtain more benefits than local firms. If in fact they are more effective than local firms at extracting solutions from the government at an individual level, then they have fewer incentives to engage in costly collection action. The evidence I show below suggests that MNCs are indeed more effective at extracting benefits from state authorities at the firm level.

MNCs are more likely to obtain tax breaks in Goias

MNCs in Goias are 5% more likely to obtain a tax break than domestic firms of similar size and the same sector. To estimate this likelihood, I used data on the companies that have obtained a tax break in Goias since the mid-1980s. I collected these data by personally negotiating access to it with Goias officials, followed by submission of a formal petition. Data on foreign ownership was originally collected by the author through a formal petition to Brazil's Central Bank. The data are from the Foreign Capital Census, collected by Brazil's Central Bank. I accessed micro-data showing individual company IDs (CNPJ) and the share of foreign ownership over each firm's social capital. Data on firm size and sector were taken from RAIS, a dataset provided by Brazil's Ministry of Labor. Some of these datasets were only available for certain years. Foreign ownership refers to 2010, while data on

firm size and sector were taken from RAIS 2008. The assumption, therefore, is that foreign ownership, sector and size are fairly constant over time for the firms in this sample. This assumption may be too strong, so a less demanding assumption that still renders the econometric estimation valid is that the variation in size over time is independent of foreign ownership. In this case, variation in size is incorporated into the error term of the econometric equation and does not affect the independent variable of interest.

To match observations across these different datasets, I used the first 8 digits of CNPJ and ignored the last 6 digits. The first 8 digits of CNPJ refer to the holding firm and the last 6 digits refer to the subsidiaries of these holding firms. A subsidiary of a holding firm registered in Brazil does not count as a foreign firm in the Central Bank dataset. Therefore, using the last 6 digits would underestimate the number of MNCs. Using only the first 8 digits assumes that the subsidiaries of a MNC are also foreign-owned, a logical assumption and a relevant one for this analysis.

Figure 4.5 shows the number of new enrollments in Goias's tax break program by year. Total new enrollment during the most recent decades was 564, of which 480 took place after the 2000s (these data cover the period up to mid-2016). Next, Figure 4.6 shows the presence of MNC businesses in Goias's economy. The y-axis represents the share of these businesses over the whole pool of firms registered in the state in 2008. The x-axis classifies this number by sector or size. Note that MNCs are more preponderant in the manufacturing and primary sector and at the upper end of the size scale.

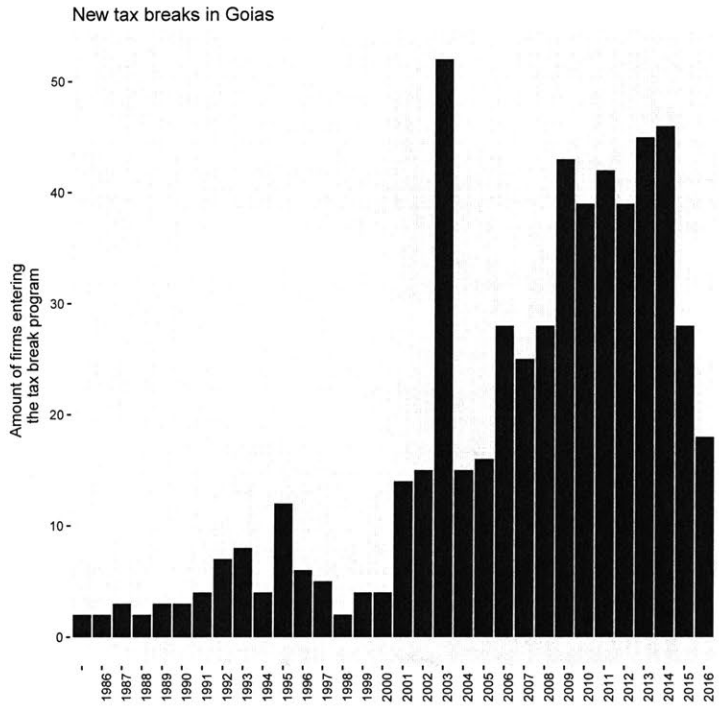
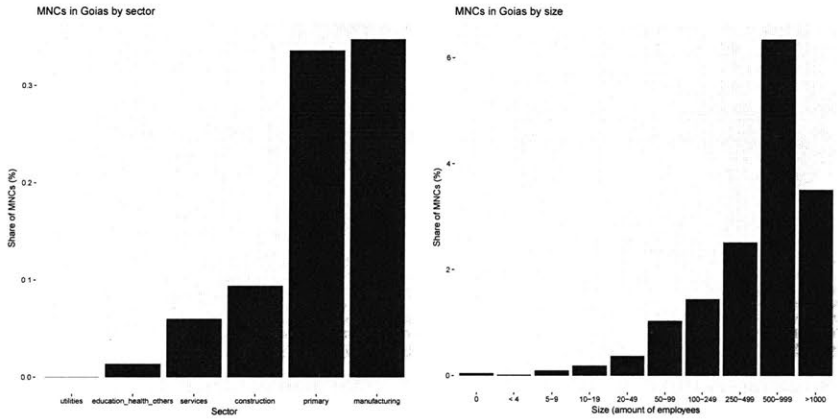


Figure 4.5: **Number of new firms enrolled in the Goias state tax break program.** Author, using data from Goias Secretariat of Finance obtained through the Access to Information Act. Data to mid-2016 only.



(a) MNCs in Goias by sector (b) MNCs in Goias by size

Figure 4.6: **MNCs are more predominant in the manufacturing and primary sector in Goias.** The sectors were classified according to an aggregation of Brazil's economic classification system. Officially, the most aggregated sector level encompasses 20 sectors, which were collapsed into the 6 sectors shown below. Author, using data from Brazil's Central Bank, RAIS and the Goias Secretariat of Finance obtained through the Access to Information Act.

MNCs and local business have access to identical programs and officially there is no discrimination between tax break applicants according to the firm's nationality. Even so, 12 out of the 74 MNC businesses in Goias are enrolled in the tax break program (16%), while 347 out of the 75,668 domestic businesses are enrolled in the tax break program ($< .5\%$). While the raw share of MNCs with a tax break is much higher, one can still argue that this is the case because larger firms, not necessarily MNCs, are more likely to obtain a tax break. One could also argue that MNCs are more likely to operate in economic sectors that are somehow targeted to receive more tax breaks. A completely accurate estimation of foreign ownership's causal effect would only be possible if one could randomize the national origin of firms applying for a tax break in Goias. Since this randomized experiment is not possible, a second-best approach is to control for these most obvious potential cofounders. To do so, I estimate the probability of a MNC enrolling in the tax break program using this logit model:

$$\Pr(y_i = 1) = logit^{-1}(\alpha + \beta X_i + \mathbf{B}\mathbf{W}_i). \tag{4.1}$$

In this model, y_i takes the value 1 if business i received a tax break from the Goias government and zero otherwise. The independent variable of interest is the variable X_i. It indicates whether a firm is foreign-owned ($X_i = 1$) or not $X_i = 0$. $\mathbf{W}_i$ is a $1 \times K$ vector of K control variables for firm i. The coefficient of interest is β, while the $K \times 1$ vector $\mathbf{B}$ contains the coefficients

for the control variables. The set of controls consists of size and sector. Size is measured by placing each firm i in one of ten different size categories, according to the number of registered employees in that firm in 2008. This year is the midpoint between when the tax breaks were ramped up in 2001 and the last year in the series. Also, although the ideal estimation should account for size in the year in which they were enrolled for the tax break, at this point of the research I only have access to the 2008 employment dataset. The MNC indicator is also a snapshot of firms' nationality in 2010. This is the only year for which Brazil's Central Bank released micro-data on FDI.

I fitted two different models which are identical except for the definition of the variable indicating economic sector. In Model 1, I use the 87 different sectors by which firms are officially classified. Model 2 aggregates these sectors into the 6 industries shown in Figure 4.6(a). Table 4.7 reports the results for both models. The values of coefficients in the table are not directly interpretable. They reflect the odds ratio of the outcome, calculated as $e^{coefficient}$. This raw calculation would imply that a MNC is 178% (Model 1) or 203% more likely to obtain a tax break. However, this is the case only when all the control variables are maintained at their base level. But the direction, magnitude and statistical significance of the coefficient are consistent across the two models. All the independent variables are categorical, so a positive coefficient implies a larger likelihood of the outcome for observations belonging to that category. *This result suggests that MNCs are more likely to be politically engaged.* The preferred model is Model 1, although it has

a smaller coefficient. Its smaller residual deviance implies that the data fit the maximum likelihood estimator better. The better fit is not penalized by unnecessary complexity; AIC for Model 1 is also smaller than that of Model 2.

Table 4.6: Logistic regression results

	Dependent variable:	
	Obtained tax break (yes=1, no=0)	
	(1)	(2)
Foreign ownership (yes=1, no=0)	1.024**	1.109**
	(0.442)	(0.435)
Constant	−8.387***	−10.765***
	(0.806)	(1.004)
Sector and size controls	Yes	Yes
Observations	75,667	75,667
Log likelihood	−1,158.965	−1,292.379
Akaike inf. crit.	2,511.931	2,616.758
Residual deviance	2,317.931 (df = 75570)	2,584.758 (df = 75651)
Null deviance (df = 75666)	4,547.456	4,547.456
Note:		*p < 0.1; **p < 0.05; ***p < 0.01

Table 4.7: **Logistic regression results of foreign ownership on tax breaks in the state of Goias.** In Model 1 the sector control variable was aggregated in 87 different categories. In Model 2 sectors were classified into 6 different categories.

As mentioned, this coefficient is interpretable only when the control variables are kept at their base levels. To produce a more interpretable result, I built on King et al. (2000) and calculated how much more likely a MNC is to obtain a tax break than a similar domestic firm, given the complete set

of values for the control variables. To do so, I used a parametric bootstrap algorithm to estimate an average for the outcome of interest (receiving a tax break) over 1000 simulations. In a nutshell, the algorithm draws 1,000 values from the distribution $\tilde{\mathbf{B}} \sim N(\hat{\mathbf{B}}, V(\hat{\mathbf{B}}))$, where $\hat{\mathbf{B}}$ is the vector of empirically estimated parameters from the models (Model 1 only). For each of the sampled coefficients I calculate a predicted value for y by maintaining the control variables at their original values, but changing the treatment variable of interest to either all $= 1$ or all $= 0$. More formally, the algorithm allows me to estimate the following equation:

$$\frac{\mathbf{E}[\Pr(y_i = 1 | X_i = 0, S_i = K_j, W_i)}{\mathbf{E}[\Pr(y_i = 1 | X_i = 1, S_i = K_j, W_i)}, \tag{4.2}$$

where y is the vector $y \in [0, 1]$, X is the treatment variable and W the vector containing the values of all the control variables for observation i. The result can be interpreted as the ratio of the likelihood of receiving a tax break between MNCs and domestic firms that are similar in terms of size and sector, or *how much more likely a MNC is to receive a tax break in Goias than a similar domestic company.*

The distribution of $\frac{ATE_{mnc}}{ATE_{domestic}}$ estimated in the simulation described above is plotted in Figure 4.7 below. It shows that on average, MNCs are 5% more likely to receive a tax break. Upper and lower bounds (95% confidence interval) of this distribution are 14% and 0.5%. The "effect" of being a MNC is numerically small; however, it is important to keep in mind when inter-

preting this quantity that, first, the part of the literature would expect the opposite to happen, i.e., MNCs would be less likely to benefit from governmental exceptions. Second, receiving a tax break is a very rare event, out of the 75,667 firms in the sample, only around 500 received a tax break. So, an increase in 5% over this rare event may be not negligible.

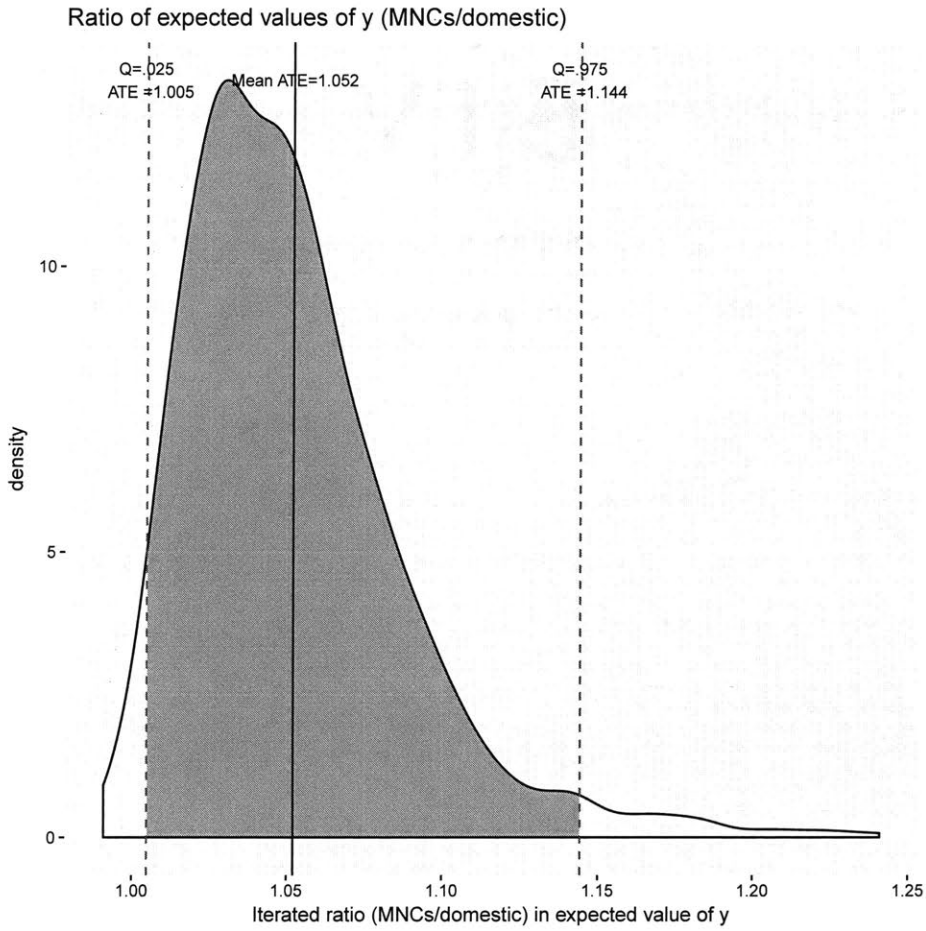


Figure 4.7: **MNCs are on average 5% more likely to receive a tax break in Goias.**

4.3 Tariff policies

Of all tax policies, tariffs are arguably the one that attracts the most attention from political economists. This may not not come as a surprise, because tariffs determine how a country connects to international trade and have been the protagonist of notorious political disputes, such as the repeal of the Corn Laws in nineteenth-century England. The classic debate about business preferences over trade opening evolved around two main axes. On the one hand, the Stolper-Samuelson model predicts that trade increases asset returns for owners of production factors that are abundant in a country while it decreases returns for scarce factors (Stolper and Samuelson, 1941). The political consequence are deep conflicts among owners of production factors such as capital, land and labor (Rogowski, 1987). On the other hand, the Ricardo-Viner model focuses on the immobility of production sectors, so that capital, labor and land may coalesce together to fight against trade opening if they compete with imports or to promote more trade opening if they are exporters (Jones, 1971; Mussa, 1974). Empirically, business preferences over trade have been shown to depend on how mobile production factors are (Hiscox, 2002; Imai and Tingley, 2012).

The debate became more nuanced as it brought in the whole of government into this dispute. Some authors seek to explain tariff policy as the outcome of a bargain between protection-seeking interest groups and the government, who wants their political support but also needs to maximize

welfare for the rest of the population (Grossman and Helpman, 1994). Other authors focus on how institutions shape tariff policies (Keohane, 1984) or how the delegation of authority to set tariffs enables trade opening (Bailey et al., 1997). But as Kim (2017) observed, these authors implicitly or explicitly assume that individual preferences are tied to industries.

A more recent approach is inspired by the so-called 'new new' trade theory, which introduces firm-level explanations for international trade. The basic insight here is that engaging in global markets is expensive and only the most competitive firms in an industry will be able to bear the fixed and variable costs of importing, exporting or doing foreign direct investment (Bernard and Jensen, 1999; Melitz, 2003). Kim (2017) builds on this insight to argue that preferences for tariffs depend on firm-level characteristics rather than on industry. His theory and empirical findings show that US productive exporting firms with differentiated products lobby for trade opening. Similar findings appear in studies of Japan (Plouffe, 2017) and Costa Rica (Osgood et al., 2017).

The idea of firm-level heterogeneities shaping the political behavior of businesses fits well with the broader argument of this work, which is that business insiders are more likely to seek individualized rents than outsiders. This is even more the case because the dimension of heterogeneity that the new new trade theory, and its ramifications, identifies as determinant for firms' behavior coincides with my own approach; namely, that bigger and

more competitive firms behave differently from smaller and less competitive ones.

Nonetheless, one could put forward a hypothesis different from the idea that competitive firms will push for trade opening, which applies when these firms are exporters, as described by Kim (2017). The political behavior of import-competing firms can be very different. Their optimal behavior is actually to push for trade barriers for competing products and for trade liberalization for their inputs.

Indeed, the case of Brazil is very conducive to this kind of behavior, as it is a large and closed economy. Most firms, including large multinationals which would be the leaders in terms of competition, are more concerned with selling domestically than with exporting. The tariff policy is ripe with several exception mechanisms that enable firms to pick and choose a tariff position, in favor of lower or higher tariffs according to their circumstantial convenience.

In the rest of this section I will show how Brazil is closed to the international market and how its tariff policies are full of loopholes, mostly because of Mercosur rules. I will present anecdotal evidence showing that a given group of firms within an industry does explore these loopholes to push for higher or lower tariffs, according to their economic convenience. Second, I have collected an original dataset of anti-dumping petitions over 15 years and crossed the petitioners with Bureau van Dijk's Orbis dataset. By doing so, I could identify the national origin of anti-dumping petitioners. I found

that the proportion of multinational firms seeking tariff protection through anti-dumping measures is more than three times greater than the proportion of multinational firms in the Brazilian economy. The literature cited above usually identifies multinationals as the competitive leaders who are expected to push for more free trade.

These findings challenge this literature. By drilling down on the political dynamics surrounding tariff policies in a closed, not export-oriented economy like Brazil, I suggest that the political behavior of heterogeneous firms actually conforms more to the expectations of the insiders/outsiders dichotomy than to the 'big firms like free trade' hypothesis. Insiders will use their privileged position and higher capacity to seek advantages in tariff policies in both directions. They push for free trade for their inputs, but at the same time favor protectionism against foreign competitors.

Brazil's tariff policies

Brazil is one of the most closed economies in the world. Even after after a sharp reduction in the 1990s, its import tariffs are considerably higher than in large developed countries such as the US, or other developing countries, such as South Africa (see Figure 4.8). The simple mean of Brazil's import tariffs applied in 2014 was 13.74%, placing the country as the 17th most closed country in the world. The closed nature of the Brazilian economy is an invitation for business groups to obtain and/or maintain some government-granted advantage in terms of either protection from foreign competition or

privileged access to imported goods. This section will examine how these processes take place and how the business leaders are those who take more advantage of loopholes in a highly complex tariff system.

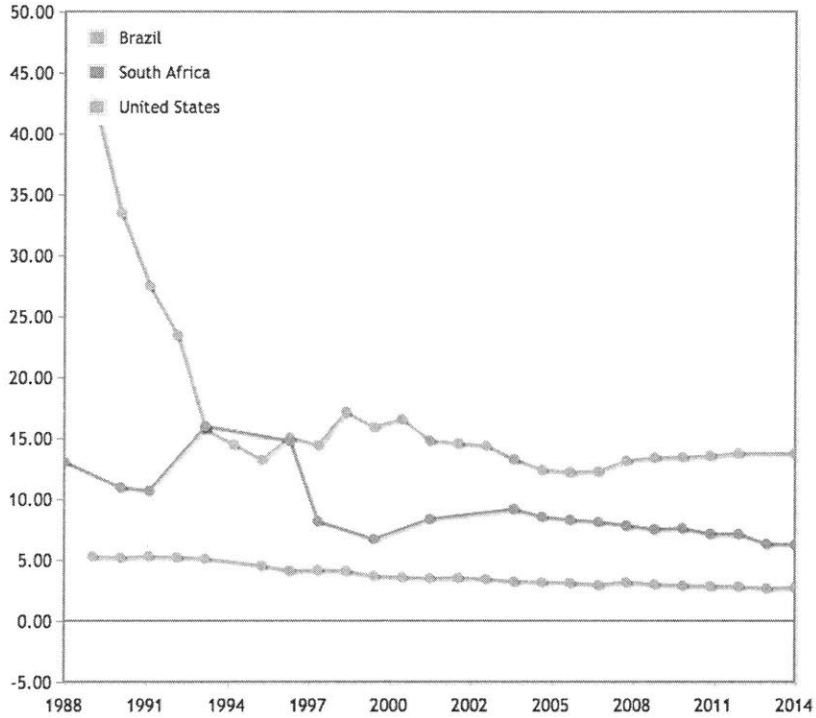


Figure 4.8: **Brazil is a very closed economy.** The graph shows the average tariff for Brazil, South Africa and the US over a 26-year period. Despite a significant drop in the the 1990s, Brazil's average tariffs are still much higher than those of the US or other large middle income countries, such South Africa. **Source:** Graph produced by indexmundi.com. Replication of same figure in Chapter 1

Brazil is part of Mercosur, the regional trade block and customs union whose other members are Argentina, Paraguay and Uruguay. Technically, all Mercosur members should have similar import tariffs but in practice they also allow their members to implement several tariff exceptions. Additionally,

as a member state of the WTO, Brazil can change its tariffs under some WTO rules, such as hiking tariffs against products coming from some specific countries through anti-dumping rights (AD).

Below I briefly explain the main mechanism through which import tariffs can be changed in Brazil. These changes can be triggered by a petition from a firm or a business association or they can originate by a government's initiative. The procedure varies according to the mechanism, but it can be very costly and complex, as in the case of ex-tariffs and AD.

Permanent changes Mercosur's common external tariff (TEC)

A firm can file a petition to change Mercosur's common tariff, known as the *Tarifa Externa Comum* in Portuguese (or *Tarifa Externa Común* in Spanish) for a specific product or to create an new tariff line. One of the justifications guiding the TEC is that goods not produced by any firm in the four member states should have lower import tariffs than those that are also produced locally. So, a firm can file a petition to reduce tariffs because it has a demand for inputs that cannot be met by local firms or it can request to increase the tariff on a product it claims to produce. Proving their case can be quite complex; the petition is released for public consultation so that other firms have the chance to challenge the claim by arguing that they can meet the demand for some good locally. Changes in tariffs must be approved by all the countries in the bloc.

ANEXO II – Versão em Português

SITUAÇÃO ATUAL			MODIFICAÇÃO APROVADA		
NCM	DESCRIÇÃO	TEC %	NCM	DESCRIÇÃO	TEC %
8431.49.29	Outras	0 BK	8431.49.23	Tanques de combustível e demais reservatórios	14 BK
			8431.49.29	Outras	0 BK
8433.60.21	Com capacidade superior ou igual a 36.000 ovos por hora	0 BK	8433.60.21	Com capacidade superior a 250.000 ovos por hora	0 BK

Figure 4.9: **How Mercosur changes its tariffs.** Excerpt of Resolution Mercosur/GMC/Res 26/12. The table shows new and old tariff lines. The new tariff breaks down tariff line 8431.49.29 into two. One of them (8431.49.23) ended up having a higher tariff (14%). The second row shows a change in the description of a tariff line. These types of changes can be proposed by any Mercosur member (Argentina, Brazil, Paraguay and Uruguay) but must be approved by all of them.

The national Exception List

Since the beginning of the customs union (1995), Mercosur countries have been able to maintain a list of exceptions to the bloc's common tariffs, with no need for approval from other member countries. Brazil and Argentina can keep 100 exceptional tariff lines, while this number is higher for Uruguay and Paraguay; 225 and 649 respectively. In Brazil, the process to include a tariff line in the Exception List is less transparent and government-driven. The decision is formalized through a resolution issued by the *Câmara de Comercio Exterior* (Camex), an interministerial government council. There is no technical criterion for adding or removing products from the list. Informally, firms and associations submit their claim to a ministry sympathetic to their economic agenda and the different ministries negotiate the spots among the

100 in the list, and balance out conflicting interests. Sectors may also be pitted against each other during these negotiations.

For example, in March 2005, Camex included 15 tariff lines related to rolled steel in Brazil's exception list. The import tariffs of these products were reduced from 12% or 14% to 0%. The targeted products are important inputs to the domestic home appliances, apparel, automobile and food industries but increased competition with imports could harm domestic producers such as *Companhia Siderurgica Nacional* (CSN), Gerdau and USIMINAS. The official motivation for the tariff reduction was the steep price increase of steel in the domestic market during previous years. In 2004, the price of steel in Brazil increased 54%. This surge impacted the price of consumption goods in domestic markets. Prices increased 9.62% for home appliances, 13.65% for automobiles and 19.5% for auto parts. According to the Executive Secretary of Camex, the appeal for tariff reduction was started with a request by the Minister of Finance and the justification was that it would help stabilize domestic prices.[18]

BIT & BK 'ex-tariff' regime

Mercosur rules allow countries to create exceptional tariff lines ("ex-tariff") within a main tariff line of capital goods (*bens de capital*, known as BK), informatics and telecommunication goods (BIT). These ex-tariffs are defined domestically and, in Brazil firms can petition the government for the creation of an 'ex-tariff.' The petitioning firm wants to import these goods

[18]See: `https://www1.folha.uol.com.br/fsp/dinheiro/fi0403200514.htm`.

NCM	DESCRIÇÃO	PUBLICADA	VIGÊNCIA	TIPO
7309.00.10	Ex 001 - Silos verticais metálicos, fabricados em aço ASTM A-653, utilizados para armazenagem de grãos, dotados de 40 anéis, com capacidade máxima de 769kg/m.3, altura de 36,3m, diâmetro de 14,63m, projetados de acordo com a norma técnica USC97 para zonas sísmicas 0-1.	RESOLUÇÃO CAMEX Nº 22 DE 24 DE MARÇO DE 2016	31 de dezembro de 2017	BK
7309.00.90	Ex 007 - Tanques circulares fabricados em chapas de aço carbono vitrificado, para tratamento de resíduos industriais, armazenamento de água potável ou águas residuais, com capacidade igual ou superior a 50m3, com diâmetro máximo de 39.075mm e altura máxima de 14.500mm.	RESOLUÇÃO CAMEX Nº 117 DE 17 DE DEZEMBRO DE 2015	30 de junho de 2017	BK
7309.00.90	Ex 008 - Tanques fabricados em chapas de aço, revestidas com camada de vidro, para tratamento de resíduos industriais, armazenamento de águas potáveis ou águas residuais, com capacidade igual ou superior a 15m3, com diâmetro máximo de 75.000mm, com altura máxima de até 30.500mm.	RESOLUÇÃO CAMEX Nº 117 DE 17 DE DEZEMBRO DE 2015	30 de junho de 2017	BK
7309.00.90	Ex 011 - Tanques circulares fabricados em chapas de aço revestidas por epóxi fundido tipo "Optibond", para armazenamento de água potável, com diâmetro do tanque igual ou superior a 31,50m, altura do tanque igual ou superior a 11m e capacidade total de armazenamento igual ou superior a 8.400m3, dotados de cobertura de alumínio tipo "domus" com capacidade para suportar cargas do vento de até 128kph e capacidade para suportar até 75kgf/m2 de carga viva sobre o teto. (Conforme retificação publicada no DOU de 08/12/2014).	RESOLUÇÃO CAMEX Nº 114 DE 25 NOVEMBRO DE 2014	30 de junho de 2016	BK
7309.00.90	Ex 013 - Tanques circulares constituídos de chapas de aço parafusado revestidas com camada de liga de epóxi a pó, eletrostaticamente fundido e molecularmente ligada, com projetos e materiais atendendo às normas AWWA-D103, NFPA-22, FM-4020 ou TCL próprios para armazenamento de água bruta, potável, de reuso, sistemas de proteção contra incêndio, líquidos e resíduos industriais, águas residuais e tratamento de esgoto, com capacidades igual ou superior a 300m3, com diâmetro máximo de 70.000mm, altura máxima de 40.000mm, dotados de cobertura em aço ou cúpula geodésica em alumínio autoportantes.	RESOLUÇÃO CAMEX Nº 64 DE 22 DE JULHO DE 2015	31 de dezembro de 2016	BK
7309.00.90	Ex 014 - Tanques circulares fabricados em chapas de aço revestidas por epóxi fundido tipo "optibond", para armazenamento de água potável, com diâmetro do tanque de 45,187m, altura do tanque de 10,061m e capacidade total de armazenamento de 15.648m3, dotados de cobertura de alumínio tipo "Domus" com capacidade para suportar cargas do vento de até 161km/h e capacidade para suportar até 75,20kg/m de carga viva sobre o teto.	RESOLUÇÃO CAMEX Nº 112 DE 24 DE NOVEMBRO DE 2015	30 de junho de 2017	BK
	Ex 012 – Tanques circulares fabricados em chapas de aço carbono parafusadas, revestidas com epóxi em pó fundido diretamente nas chapas, com projetos e materiais	RESOLUÇÃO CAMEX Nº		

Figure 4.10: **Firms can file a petition to create exceptional tariff lines within a current tariff for capital and computer goods.** This figure is an excerpt from the BK list within Brazil's TEC. Note the first line, 7309.00.10, in the TEC list. Its tariff is denoted as "14BK," meaning that the tariff is 14% and that this is a capital good subjected to the creation of an ex-tariff. The ex-001 in front of it is an specification of a particular capital good within this tariff which can be imported at a lower tariff rate.

using a lower tariff and has to demonstrate that domestic producers cannot meet their needs. After the petition is filed, the government has to evaluate whether any local producer could manufacture a product with similar characteristics. If government does not find a similar good produced nationally, then an exceptional tariff line is created with a lower import tariff.

Anti-dumping rights

Another exception mechanism is the petition for anti-dumping rights (AD). A firm has to make a compelling case that 1) a foreign producer has sold a good in the Brazilian market below the "normal" price (the price in the original market), 2) the firm or industry was harmed by the dumping and 3) there is a causal relation between the dumping and the harm. The government conducts an investigation and if it agrees with the petitioner's claims, it

imposes a penalty on the foreign producer, usually in the form of a higher tariff for specific products imported from that country.

Mercosur Resolution 08/08

This rule grants member states the possibility of reducing tariffs for up to 36 months. This is supposed to address exceptional cases of product shortages, and countries should specify the quantity of the good to be imported under this provision. The measure is not unilateral and must be approved by the other member states. Below I will show how the sardine industry uses this mechanism to obtain cheaper access to imported fish.

Rent-seeking with tariffs

High average import tariffs combined with a series of loopholes make conditions ripe for rent-seeking. Some businesses are able to to work through the several loopholes in the tariff policies to bypass the dangers of a highly closed economy and reduce the cost of imports. This also allows them seek protection from foreign competition. And as tariff lines can be very detailed, firms can fine-tune their protection in a highly individualized manner. Moreover, creating a lobbying structure or being capable of building a case for changing tariffs requires overcoming high fixed costs. Analogous to the reasoning of Melitz (2003) on why only the most competitive firms can export, these high fixed costs mean that only large or highly competitive firms will be capable of overcoming the barriers to apply pressure for changes in tariffs. Again, these business leaders, which I previously called the insiders, have the incen-

tives and resources to push a dual position – pro free trade for their inputs, protectionist for their own goods. And as they can do so in a individualized way, there is little incentive to push for a broader liberalizing reform in trade.

In Section 4.1 above, I discussed the case of RECOF to show how these business insiders manage not only to access lower import tariffs but also to expedite bureaucratic custom processes, helping them to shave inventory costs. Now let me show an anecdotal example of how a sector virtually dominated by two multinational firms has been capable of successfully pushing the dual position, exploring the multiple channels for changing tariffs described above. The Brazilian sardine market is controlled by two brands; Coqueiro, owned by Pepsico, an American multinational, and Gomes Costa, owned by the Spanish multinantional Calvo. They respectively control 39.5% and 44.5% of canned sardine domestic sales, according to a 2009 report by the National Council of Fisheries and Aquaculture (Pepsico disputes this figure)[19]. Since 2001, the Brazilian government has conceded a temporary tariff reduction under the mechanism created by Mercosur Resolution 08/2008 (formerly Resolution 69/00). This enabled local producers to import raw sardines during the fish breeding season, during which the environmental agency forbids fishing. Moreover, in 2005, 2006, 2013 and 2014 the sector managed to create ex-tariffs that reduced import costs for machinery related to sardine processing to 0% or 2%.

[19]See https://economia.estadao.com.br/noticias/geral,disputa-na-bilionaria-industria-de-sardinhas-imp-,569569, accessed 26/03/2019.

Product	Tariff line	Original	New	year	chann
sardines	0303.71.00 & 0303.53.00	10%	2%	every year	Resolution
processing machine	8462.10.19 ex 002	14%	2%	2005	Ex-tar
processing machine	8462.10.90 ex 022	14%	2%	2006	Ex-tar
processing machine	8438.80.90 ex 050	14%	2%	2013	Ex-tar
processing machine	8417.80.90 ex 024	14%	2%	2013	Ex-tar
processing machine	8417.80.90 ex 056	14%	0%	2013	Ex-tar
fish preparation – sardine	1604.13.10	16%	32%	2010	Exceptior

Table 4.8: **Tariff changes in the sardine industry.** Original and new import tariffs for various goods related to the sardine industry. The duopoly of sardines was capable of exploring different mechanisms to change import tariffs in Brazil to successfully push forward a dual position: trade liberalization for its inputs, trade protection for its outputs across different years.

In 2010, when faced with competition from canned sardines imported from Thailand, the sector managed to include imported sardines in the Exception List, doubling the import tariffs on the product from 16% to 32%. According to Brazilian newspapers, the move was a reaction to a surge of imported sardines promoted by a new competitor. This new competitor was a former shareholder of the firm Gomes Costa, which had been bought by the Spanish group Calvo. The sale contract imposed a non-compete clause of five years. After the non-compete period expired, the Brazilian shareholder created the company Ampex Food Holdings, through which he imported canned sardines from Thailand and sold them to local retailers for 10% less than other brands.

The reaction of the two multinational companies that dominated the sardine market was not to ramp up their competitivity. Instead, they took

action in the political realm and requested the tariff increase from the Ministry of Fishery through the Brazilian Food Industry Association (ABIA) and the National Council of Fisheries and Aquaculture. "The Ministry took part in the dispute and sided with the dominant market players," a newspaper reported, "and managed to double import tariffs." The Minister of Fisheries is quoted as criticizing the new players that cut prices through imports: "He [the importer] prefers to attack the main local industries instead of recognizing that we have a fleet of 200 boats that exclusively catches this fish while his company imports the product already processed and creates no jobs here."[20] The same article claims that there was a price surge of 13.28% after the tariff increase.[21]

Figure 4.11 shows the imports of tariff line 1604.13.10 from all countries and from Thailand. Total imports were not affected by the measure but Thai imports decreased after the measure was implemented. The potential explanation for this trend is that importers of Thai sardines are more sensitive to changes in tariffs than the average sardine importer.

The example of sardines is just illustrative and the best test for my argument would be to randomly assign different levels of competitivity to firms in

[20]See https://www.correiobraziliense.com.br/app/noticia/economia/2010/08/01/internas_economia,205455/disputa-entre-gigantes-alimenta-salto-de-13-28-no-preco-das-sardinhas-indice-quatro-vezes-superior-a-inflacao.shtml, accessed 14/04/2019.

[21]For similar reports on this case, see also http://exame.abril.com.br/revista-exame/noticias/a-sardinha-e-noss, accessed 26/03/2019; and https://economia.estadao.com.br/noticias/geral,disputa-na-bilionaria-industria-de-sardinhas-imp-,569569, accessed 14/04/2019.

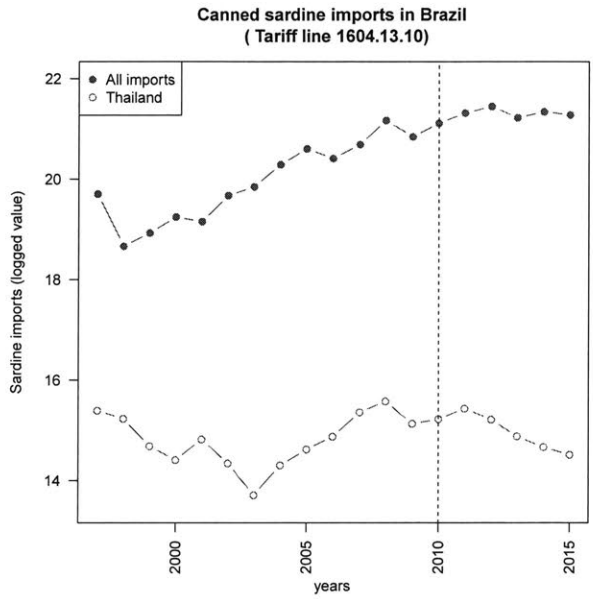


Figure 4.11: **Sardine imports to Brazil.** The graph shows the evolution of canned sardine imports in Brazil (values in logged local currency). The vertical line marks the year when the canned sardine tariff was increased from 16% to 32%. The total amount of imports does not seem to be affected by the measure, but imports from Thailand decreased after the measure was implemented. A possible explanation for this trend is that importers of Thai sardines are more sensitive to changes in tariffs than the average sardine importer.

Brazil and observe their political behavior in relation to trade policies. Such experiment is obviously not viable and we are left with observational estimation. For this section, I looked at firms filing cases claiming anti-dumping rights (AD). The choice of AD was because the Brazilian government does not reveal firm-level data for the other channels to change tariffs but the AD investigation is made public by the former Ministry of Foreign Trade, which allows us to identify exactly which firms or associations filed AD claims. This information can then be used to figure out the profile of these firms.

Who claims anti-dumping rights?

The literature has found interesting results on the motivation for using AD and which types of firms are more likely or less likely to do so. Knetter and Prusa (2003) evaluated the relation between GDP variation and exchange rate with AD filings in developed countries and found that currency appreciation and slower GDP lead to increasing AD filings. The authors conclude that AD law is not being used to combat unfair trade, but as a mechanism to protect domestic firms from competition. Other authors found that AD filing is decreasing in developed countries but has increased in developing economies (Irwin, 2005; Bown, 2010). More recently Jensen et al. (2015a) sought to explain why the use of AD in the US is declining and found that it can actually be explained by firm-level heterogeneity in international investments and global supply chains: 1) firms that have investment and intrafirm trade with a country are less likely to file AD against that country; and 2) as

the number of MNCs engaging in FDI and intra-firm trade grows, it becomes more difficult to meet the 25% market share threshold to file claims (required by US legislation). They also found that filers are larger and more internationally engaged in trade and that AD filings are much less likely against a country in which a firm has vertical affiliates with whom they trade, even in the context of currency devaluation.

The findings I will report below do align with the literature above in the sense that large firms and/or industry leaders file more AD than small firms. Assuming that, as Knetter and Prusa (2003) have argued, AD are used by domestic firms to avoid competition, this implies that these market leaders are indeed more engaged in the selective protectionism, as I argued above.

This should not be surprising because filing an AD claim is demanding and expensive. Below is a list of some of the information that a petitioner has to collect to have its claim analyzed by the government.

1. Detailed information on the target product and how it is produced in the target country (inputs, chemical composition, model, dimension, capacity, power, presentation types, uses and applications, distribution channels). If it is produced in more than one way by foreign firms, describe each of them.

2. Describe how the target product is produced domestically (same details as above, plus production flowchart, stages of the production process

and equipment used). If petition filled by more than one firm, provide individual details for each firm.

3. Provide domestic production (volume and value) of the product by petitioning firms as well as total domestic production. Provide the type of competition in the product's market (price, differentiation, advertising). State why domestic buyers may prefer the imported good (price, quality, delivery, etc).

4. Describe the similarities and differences between domestic and foreign products.

5. Provide the amount of imports by target exporter in the investigation period. Give names and addresses of known exporters.

6. For each targeted country, provide the normal price (representative price in domestic market of exporter (domestic sales volume, currency, sales condition, ex works unit price), price exported to a third country, or constructed price.

7. For each targeted country, state its productive capacity for target good, existence of idle capacity, existence of AD by other countries, evolution of exports to Brazil by third countries.

8. For each petitioning firm, present firm's type of accounting, how sales are registered in its books, complete accounting plan, accounting software used, firm's accounting balance. Also state distribution channels,

type of packaging, type of sales contract, list of clients (in the case of sales by contract).

9. For each investigation period, give effective production capacity and details on how it was calculated, amount of stock, number of employees, total salaries paid, return over investment, cash flow, access to credit, loans, etc.

10. Detail how domestic firm was injured (if it lost domestic clients, state which client(s)).

Collecting this information and building a case implies significant fixed costs. Therefore, either a company is large enough to dilute these costs over a large revenue base, or if they are a small firm, they may either coordinate with other firms to file jointly or rely on an association to coordinate the efforts and distribute the costs across several companies. However, 4.12 shows, associations file only 1/3 of the AD cases in Brazil.

Granted, the data in Figure 4.12 do not show the actual sizes of firms and concluding that it is large firms that file for AD rights most is based on the assumption that small firms cannot overcome the fixed costs of filing ADs, described above. This may not be the case. The best way would be to to generate descriptive statistics correlating the filing of ADs with variables that signal size and industry leadership.

Unfortunately, MDIC reports on anti-dumping do not reveal the unique ID numbers of Brazilian firms, CNPJ, which are necessary to cross informa-

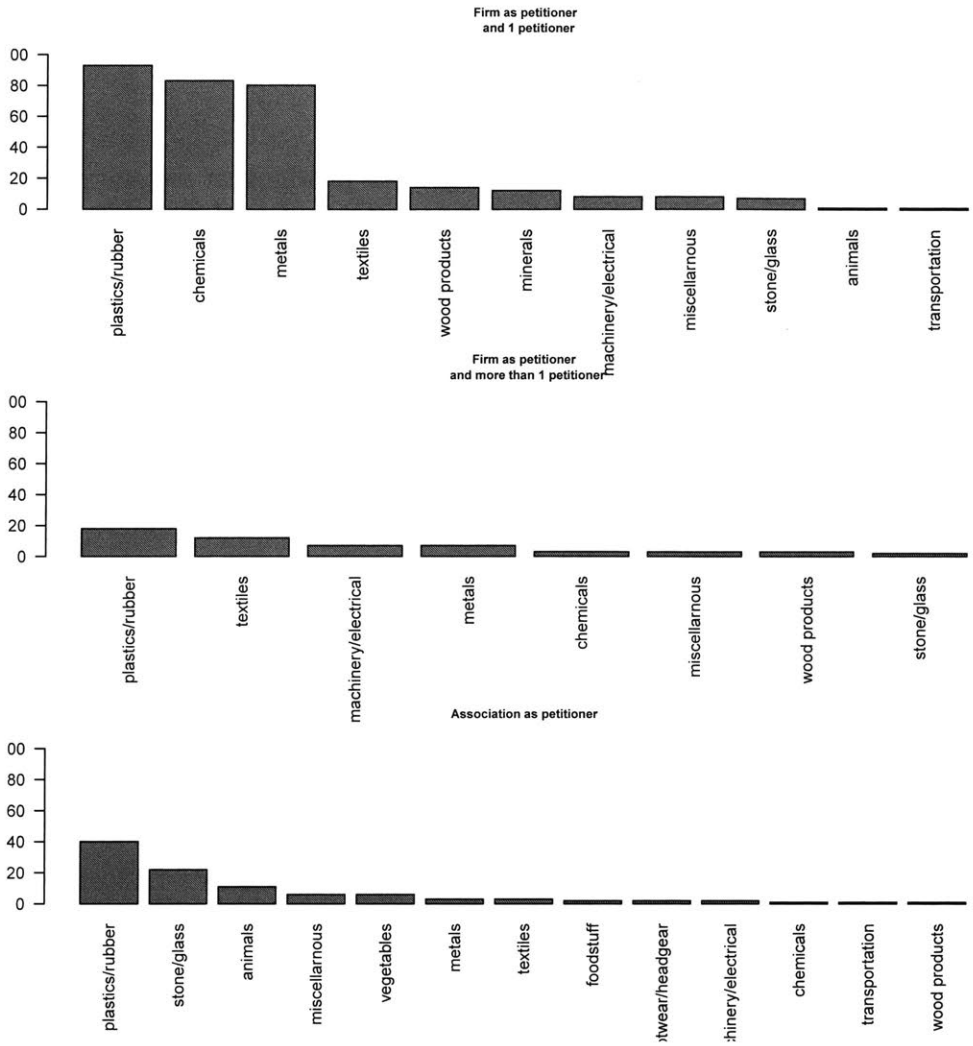


Figure 4.12: **Most AD filings are submitted by individual firms**. The graph shows the number of AD filings between 2000 and 2014 by the type of filer (row) and the type of good. Filing an AD case is expensive, and small firms would be able to do so only through groups of firms or associations. However, the data shows the vast majority of cases are filed by one firm (first row), a tiny minority are filed by more than one firm (second row) and around 1/3 of the cases are filed by associations. Given the high cost of filing AD, this distribution suggests that it is large firms and/or industry leaders that benefit the most from AD, aligned with the findings of Knetter and Prusa (2003). **Source:** Author, from original data from the Ministry of Development, Trade and Industry (MDIC) anti-dumping annual report.

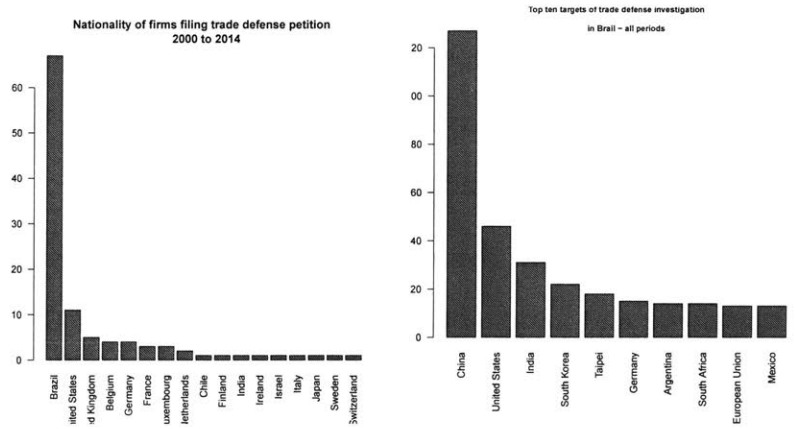
tion with other datasets, such as RAIS. The latter dataset carries information on the employment profile of a firm and was used to control for size and sectors in all the statistical estimates calculated in this thesis. In the absence of CNPJ, this type of control is not possible. The absence of CNPJ also results in not being able to identify which firms are registered with Brazil's Central Bank as foreign-owned firms.

There is an alternative way to check whether firms are large and/or industry leaders. Being a foreign multinational firm operating in Brazil is indeed a accurate proxy for being a large company or an industry leader. As made clear in the literature review by Kim and Osgood (2019) and argued above, engaging with global markets is more expensive than engaging with domestic markets so it can be expected that foreign MNCs in Brazil are likely to be in the category of large firms or industry leaders.

Accepting this assumption, the next step is to compare whether proportion of multinational and national firms filing AD petitions in Brazil corresponds to the same proportion for other categories, such as size and sector. If the proportion of MNCs is the same in AD petitions and in other categories, it signals that being a multinational is unlikely to have an effect on the odds of a filing a petition. This is the best approximation we can have to a conditional expectation function (regression analysis), controlling for size and sector, in the absence of individual identifiers for firms.

To do this analysis, I collected all the yearly antidumping reports released by the MDIC. The reports describe and give the name of the entities that filed

the AD claims, the goods they claim are unfairly priced, and the countries of origin of these goods. I used the names of the firms to look them up in Bureau van Dijk's Orbis dataset (BVD). This is a proprietary dataset that shows the Global Ultimate Owners of entities. If the GUO resided outside Brazil, I counted that firm as a MNC. Interestingly, the BVD data also enables me to identify the countries of origin of those firms, which was not possible with the Central Bank data. Figure 4.13 shows the number of AD cases filed per country. Of course, Brazilian firms dominate the distributions, but one can already see the relevance of MNCs in AD filing.



(a) Nationality of firms filing ADs

(b) Nationalities targeted by ADs in Brazil

Figure 4.13: **A significant proportion of AD filings in Brazil are related to multinational firms**. Graph a) shows the number of AD claims filed in Brazil between 2000 and 2014 by country of Global Ultimate Owner of the entity filing it. Graph b) shows the top ten countries targeted by AD claims in Brazil in the same period. **Source:** Author, using data originally collected from Bureau van Dijk's Orbis dataset (Global Ultimate Owners) and from the Ministry of Development, Trade and Industry (MDIC) anti-dumping annual report.

Now the question becomes how this proportion of multinationals in AD filing fares against the proportion of MNCs by different criteria. The first relevant criterion is size: I argued above that large firms are more capable of bearing the costs of filing ADs. The second, less relevant, is sector. It could be the case that MNCs file more ADs because they are concentrated in a sector in which the propensity to file ADs is higher, possibly because of recurrent predatory foreign competition in that industry. In this case, the mediating cause of more AD filings is sector characteristics rather than the foreign-ness of the filer.

I checked for this possibility by comparing the proportion of MNCs in different size categories and sectors, and their proportion in AD filing. To find the proportion of MNCs per size and sector, I used the 2008 RAIS dataset and crossed it with the Banco Central dataset identifying foreign ownership of firms in Brazil in 2010. The year 2008 was chosen because it is approximately mid-way between 2000 and 2014, the range of the AD dataset. The 2010 Central Bank dataset is the only such dataset that is publicly available. Comparing these categorized proportions is the closest approximation of a conditional expectation function that a regression analysis controlling for size and sector would yield. This is the best possible empirical strategy in the absence of CNPJ identification in the AD dataset.

Figure 4.14 shows that the proportion of MNCs filing claims is three times higher than its proportion in the largest category of firm size (more than 1,000 workers). The graph also shows that the proportion of MNCs

grows as firm size increases, which corroborates the literature review of Kim and Osgood (2019), which claims a direct relation between size and capacity to engage with global markets. The subsequent graph, Figure 4.15, shows that MNCs are more prevalent in utilities and manufacturing. However, this proportion is much less significant than when we look at different sizes – at least with the high-level definition of sectors I used. This implies that there is no strong correspondence between the presence of MNCs and sector in Brazil. In any case, the proportion of MNCs filing ADs is much higher than their presence in any specific sector, and the second-most common sector where they are present, utilities, is not even tradable. This suggests that some sectoral concentration is unlikely to be driving the overproportional presence of MNCs in AD filings.

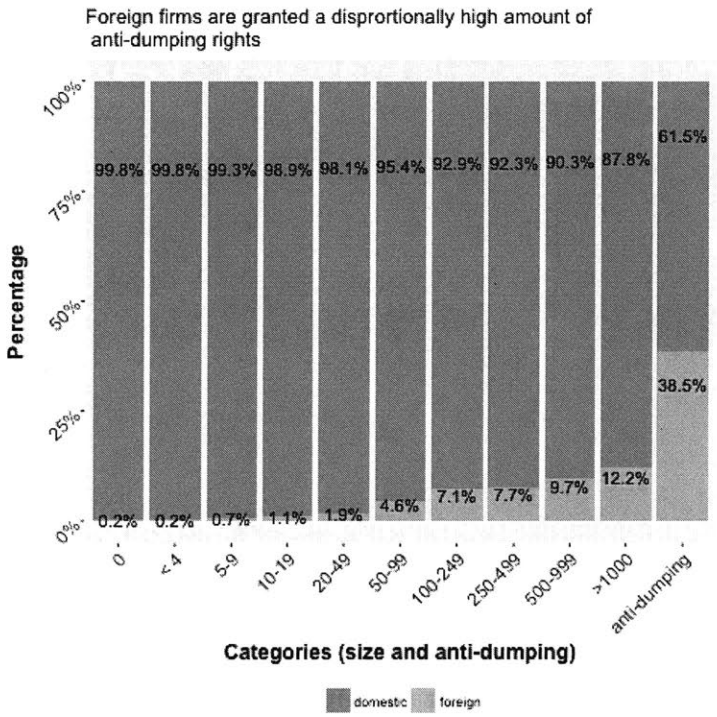


Figure 4.14: **The proportion of foreign firms filing ADs is at least three times greater than their proportion in any size class**. It would be expected that MNCs in general would file more ADs than an average firm because they are likely to be larger and, as I argued, large firms can more easily bear the costs of AD filing. But they are overrepresented in AD filing even after comparing their proportions in the largest size class. **Source:** Author, using data originally collected from Bureau Van Dijk's Orbis dataset (Global Ultimate Owners) and from the Ministry of Development, Trade and Industry (MDIC) anti-dumping annual report and RAIS.

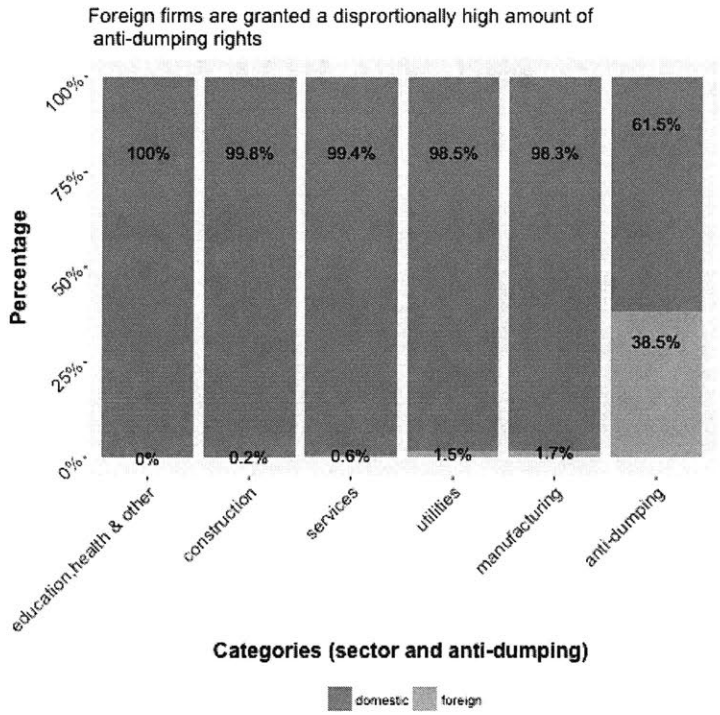


Figure 4.15: **The proportion of MNCs in AD filings is also much higher than their proportion in any sector, at least three times greater than their proportion in any size class**. It could be the case that MNCs are more represented in AD filings because there is a higher proportion of these firms in sectors that are usually more targeted by unfair foreign competition. However, the data show that there is no strong correspondence between the presence of MNCs and sector in Brazil, at least when using a high-level definition of sector. The second most common sector where they are present, utilities, is not even tradable, which implies that foreign predatory competition does not make sense as an explanation. This suggests that some sectoral concentration is unlikely to be driving the overproportional presence of MNCs in AD filings. **Source:** Author, using data originally collected from Bureau Van Dijk's Orbis dataset (Global Ultimate Owners) and from the Ministry of Development, Trade and Industry (MDIC) anti-dumping annual report and RAIS.

Conclusion

This thesis investigates why the cost of doing business in Brazil is so high. It argues that businesses nurture privileged relationships with state agents that can help them bypass these high transaction costs. Business is split between those who can afford these relationships, the insiders, and those who cannot, the outsiders. Insiders can use their privileged connections to individually fix their transaction costs, and they have access to faster regulation, subsidized capital, tariff protection and tax benefits. In this dynamic, insiders and outsiders are locked in a low-level equilibrium where cost-reducing reforms do not take place.

This chapter approached the most conspicuous dimension of the Brazilian business environment: its tax system. It analyzed the process by which taxation became so complex, which I call disjoint layering and the mechanisms that make it 'sticky' or path-dependent. The chapter focused on subnational tax break programs to illustrate two of the mechanisms making tax complexity sticky: the creation of constituents for tax loopholes, and the discretionary power created by tax break systems. The discussion also delved deeper into the role of MNCs in taking advantage of the fragmented tax system. Finally, the chapter discussed a special case of tax policy: import tariffs. Brazil is one of the most closed economies in the world but its tariff system is riddled with loopholes. Industry leaders, exemplified by MNCs, exploit the loopholes so that they obtain protection from foreign competition at the same time as

they decrease tariffs for their imported inputs. All in all, the chapter showed that a fragmented business community furthering its interests results in the creation and continuation of high costs of doing business. Similarly, industry leaders can, individually or through small groups, fix the shortcomings of a costly business environment or exploit the opportunities it entails. A broader coalition for cost-reducing reforms is not formed and high transaction costs are left intact.

Chapter 5

Pharmaceuticals

Two core components of crony capitalism in Brazil are the capacity of the state to micro-manage private sector production and the fact that business has fragmented interests that prevent it from pushing back against high transaction costs imposed by the government. The case of the pharmaceutical industry in Brazil offers the chance to look more closely at these two components. The pharmaceutical sector is heavily regulated by Brazil's National Health Regulatory Agency, Anvisa. Structural factors that I will explain later divide the industry into groups that have different regulatory preferences.

Equally important, the case of Anvisa also illustrates the role of the Weberian bureaucracy in affecting the business environment. Weberian bureaucracy in Anvisa replaced the previous patrimonial model in pharmaceutical regulation. The previous model was notoriously ineffective, opaque, and hazardous, and required solving issues of credible commitment. The Webe-

rian bureaucracy replaced most of these issues with its rigid, and usually transparent decision-making processes. Key to the development of the pharmaceutical industry in Brazil, Anvisa's rigor went an extra mile by helping business solve a key dilemma of collective action and forced the whole sector to adopt high-quality production standards. By doing so, the Weberian bureaucracy boosted the entire pharmaceutical industry in Brazil because it assured consumers of product credibility. Business preferred the high transaction costs imposed by Anvisa to the previous patrimonial model because investing in compliance results in long-term benefits in the form of product credibility, access to markets and even global competitiveness. This chapter explores this apparent paradox.

Moreover, the distortions created by Weberian bureaucracy are not homogeneous across different businesses. In some cases, the high transaction costs caused by bureaucracy install barriers to entry in a sector, protecting incumbent firms or early entrants. In other cases, the long response time of regulators has comparatively less effect on large, older early-entry firms; i.e., firms that are closer to my definition of insiders, while it harms the new entrants, or outsiders, more. Carpenter has also identified this effect in the waiting times of the United States Federal Drug Administration (Carpenter, 2002, 2003, 2004). I will come back to Carpenter in the next section.

I argue that this effect is more acute in a context that has shallow capital markets and access to subsidized capital is controlled by the state, as in Brazil, and is especially intense because Anvisa waiting times are con-

siderably longer than those of the FDA. I detail this effect contrasting the traditional J-curve, which describes the cash flow of innovative firms, and what I call the "pan curve," which describes the cash flow of innovative firms dealing with a slow-response-time regulator.

The key implication is that the incentive to push back against bureaucratic distortion and long waiting times is not uniform within a single sector. In fact, large incumbents, which could lead coalitions to reform the bureaucracy, are comparatively less affected by the high transaction costs imposed on the sector. Granted, this is not to say that large incumbents do not push back against long waiting times or that they like them – indeed the evidence shows quite the opposite. However, the differential effects of regulation on insiders and outsiders deepens the fragmentation within the business community. This, I claim, dissuades incumbents and early entrants from forming coalitions to challenge the negative aspects of the Weberian bureaucracy.

Therefore, the business community is incapable of pushing back against distortive Weberian bureaucracy because 1) its preferences are fragmented given the heterogeneous distortions across businesses within the same sector and the structural differences in terms of production technology and business strategy; 2) as a consequence, reforms are not Pareto optimal and may result in a zero-sum game within the sector (e.g., MNCs had to lose IP rights for the generic drug industry to flourish); and 3) the Weberian bureaucracy is indeed performing functions valued by business; i.e., replacing the distortive and

costly model of the patrimonial bureaucracy and helping business overcome problems of collective action.

These dynamics map well onto the simple formal model I introduced in the theory chapter, in which I show how crony capitalism survives because of a schism in business. That model claimed that 1) the business community is composed of insiders and outsiders; 2) mobilization of both insiders and outsiders is a necessary condition for reforms to happen; and 3) insiders and outsiders have different payoff functions with respect to the outcomes of crony capitalism. In the case of pharmaceuticals, rather than having clear-cut insiders and outsiders, one can think of a continuum where at one end are the incumbents and early entrants who can more easily address the distortive effects of the bureaucracy or even benefit from it when they create barriers to entry – these would be a deep case of insiders. At the opposite end are actors more acutely affected by stringent regulation, such as potential entrants or smaller firms that cannot pay for the high fixed costs of handling rigorous regulation – they are the outsiders.

Data collection

I conducted fieldwork research in the states of São Paulo, Goias and the Distrito Federal, interviewing a total of 19 respondents and participating as an observer in three association meetings. I interviewed 10 people in São Paulo, of whom three were CEOs/founders or VPs of one of the top 10 pharmaceutical manufacturers in the country, an emeritus president of a pharmaceutical

association, two former officials of associations related to multinational companies, one academic, and three consultants. One of the consultants is a former government official and played a key role at the time Anvisa was created and the government rolled out the generic drug policy. In Brasília I interviewed two officials currently working at Anvisa and one working for the executive committee that sets the price of pharmaceuticals. In Goias I interviewed six people. Three were owners/CEOs of top-ten local pharmaceutical manufacturers, one was a vice-president of a local pharmaceutical company in the top five, one was the head of the local pharmaceutical association, and one owned a small pharmaceutical plant. Interviews lasted on average between 45 and 60 minutes.

The chapter proceeds as follows. Section 1 discusses the heterogeneous effects of regulation, focusing on the long waiting time for drug approval from Anvisa. Some analysts show how more bureaucracy to set up a business favors incumbents. I add to this debate by showing how long response times from the regulator also results in a competitive edge for incumbent firms and a barrier to entry for new entrants. The outcome of these heterogeneous effects are different preferences for regulation within the sector. Section 2 describes how Anvisa regulation and the generic drug policy in the late 1990s worked like an industrial policy for the sector. As a consequence, Anvisa is welcomed but 'unloved' by the sector. This ambivalence stems from the fact that Anvisa does perform needed functions, but also introduces some important distortions, as argued in Section 3. Finally, Section 4 shows evidence that

the sector does not fight back against regulatory distortion and explains why. Changing Anvisa regulations is not a win-win game or Pareto optimal. I track the different regulatory preferences of the sector and how they map onto the fragmented associational landscape, with firms clustering around three main groups according to regulatory preference.

5.1 Functions and distortions of bureaucracies

I contend that Anvisa's main impact in the pharmaceutical market in Brazil was a positive one: it moved the regulation of pharmaceuticals from the patrimonial model to the Weberian model. By doing so, Anvisa removed the deleterious effects of patrimonialism. As Shadlen and Fonseca (2013) amply document, before Anvisa, politicians could appoint bureaucrats to regulatory bodies. Pharmaceutical companies could bribe politicians and/or their appointees in exchange for drug approvals. Also, had the patrimonial model not been replaced, it would not be able to rigorously apply the regulatory requirements of bioequivalence and bioavailability, which were crucial for developing the generic drug market. These authors also argue that Anvisa's regulatory rigor worked as an industrial policy and contributed to pharmaceuticals becoming one of the most thriving sectors of the Brazilian economy.

This brings us to the following point: *interacting with the state under the patrimonial and Weberian systems was and is costly, but interacting with the*

latter at least has a long-term upside because only a Weberian bureaucracy could fix market failures and enabled the whole sector to embark on a high product quality route and become more competitive. This is the core reason why the sector prefers the presence of a stringent regulator, even though it is an imperfect and costly one.

Anvisa's Weberian bureaucracy improved the business environment in the pharmaceutical industry and by doing so it earned the support of the business community. But on the other hand, so far it has failed to move towards the managerial model; i.e., it does not combine rigor with efficiency. For example, the time required for Anvisa to approve a drug is around for times longer than for the FDA in the US. This delay has a big impact on the time-to-market strategy of companies and creates important distortions. I will show in the following how these long response times affect business differentially.

Carpenter conducted several investigations and theorized the issue of FDA drug approval waiting time. He argues that waiting time can be modeled as an optimal stopping problem; i.e., the agency has to find an optimal point at which it stops analyzing a case and makes a decision. It does so by balancing a trade-off between the value of additional time analyzing a drug (if a harmful drug is approved, there will be reputation and social costs) and the political pressure to approve a drug as soon as possible (there is political demand for drug approval from firms, politicians and the media) (Carpenter, 2002, 2003, 2004).

Carpenter's insights have two implications for my case. The first is that waiting times have protectionist effects and favor larger and older producers even when there is no political capture of the agency. Regulators may find incumbents' products less risky, and older firms are more likely to enter niche markets where consumers are more organized and can pressure regulators to approve drugs faster. I extend Carpenter's argument, adding that regulatory protection for the incumbent increases when the capital market is shallow and controlled by the state because the new entrants do not have the financial capacity to weather long waiting times. Very long waiting times, as in the case of Anvisa, intensify the protectionist effect of regulation over incumbents. *Carpenter's insight implies that large pharmaceutical firms in Brazil do need to be actively engaged in capturing the regulator to benefit from strong regulation.* The heterogeneous effects of regulation naturally benefit them in terms of raising barriers to entry against new competitors. The quote below from an interviewee aligns with this implication.

> If you say today 'I'm an entrepreneur, I'm a visionary, I have this drug and I'll start this pharmaceutical company' [...] you would start to earn revenues in 8 to 10 years. Because first you would have to build the manufacturing plant [...] so that Anvisa could approve the plant. After you finish the plant, you would start to make a pilot for the product. You make the pilot, you load its development in around 2 to 3 years for a generic or a copied drug. Then you wait around 3 to 5 years for drug registration

> approval from Anvisa and then you start to earn revenues, after you made disbursements to build the plant and for the clinical trial of the drug. To start a pharmaceutical business, to start playing with it, you will need 50 million or 30 million, to start having revenues, to sell your first drug in 8, 9, 10 years. So nobody does that. [...] So, why do these guys [the incumbents] do this today? Because they created these large holdings that have cash flow, that have revenue and they are just updating their product pipeline. [Respondent 030, director of a well-established pharmaceutical company in Goias]

The second is that the job stability the Weberian model gives to public employees changes their perception of the optimal stopping problem described in Carpenter (2003). Recall that in this optimal stopping problem the regulator has to balance the trade-off between the marginal gain of additional time to evaluate a drug against the pressure to approve the drug that may come from politicians, firms, press or consumers. The Weberian job stability makes bureaucrats more impervious to this type of pressure. Therefore, the optimal stopping time for them is longer because in this trade-off the pressure from these actors has a light weight. By releasing the weight of one side of this trade-off, the Weberian reform allowed the bureaucrats to play it very safe and become risk-averse, causing some misalignment between their incentive structure, the needs of some stakeholders and broader social goals.

The heterogeneous effects of Anvisa regulation of the pharmaceutical industry

Following Carpenter, I contend that the negative consequences of Anvisa's Weberian model affects business heterogeneously. Incumbents and early entrants are favored by the barriers to entry imposed by regulation. The fixed cost of complying with its overall complex regulation can be weathered better by large firms with a large revenue base. Smaller firms with a narrower product portfolio and restricted access to subsidized capital are more affected by long response times. The consequence is that although business generally would favor weaker regulation, the *intensity* of this preference is also heterogeneous. Large incumbents, firms that are part of broad business groups, or that have privileged access to subsidized capital market are comparatively less affected by the high transaction costs imposed on the sector. As such, they have a less intense preference towards deregulation.

These sets of firms within the sector are analogous to the insider in our model. Since they can better weather stringent regulation, they are less likely to mobilize. Yet since they are larger and more capable firms, they would also be the best candidates to lead a mobilization to push back against some of the more stringent and unreasonable regulation and to demand more efficiency from the agency. The other firms, composed of smaller businesses with narrower product portfolios and pipelines, tech startups and potential entrants, are more affected by Weberian distortions. They are analogous to

the outsiders and are also less capable of leading a mobilization towards less regulation.

The above quote summarized how the long waiting times for Anvisa's response affects these insiders less and the outsiders more. Let us now look in a more formal way at how these heterogeneous effects work. Some analysts show how more bureaucracy to set up a business favors incumbents (Djankov et al., 2002b; Klapper et al., 2006). However, they overlook how a slow regulatory agency also favors established competitors. I add to this debate by showing how another aspect of a distortive bureaucracy – long response times from the regulator – also favors, at least in relative terms, some firms within a sector. I employ the analogy of a J-curve, used to explain innovative firms' cash flow, to show how slow responses create more cash flow pressure for the outsiders. This distortion happens when the J-curve becomes a pan curve. These terms are clarified and illustrated in the next section.

Regulation under the Weberian bureaucracy affects incumbent firms less

Scholarly works have already documented how regulatory barriers to setting up a business affect economic growth (De Soto, 1989; Djankov et al., 2006; Monteiro and Assunção, 2012; Autio and Fu, 2015). There is also empirical evidence that costly regulations hinder the creation of new firms, force new entrants to be larger, and cause incumbent firms to grow more slowly (Klapper et al., 2006). Barriers to setting up a business can be interpreted as an

artificial barrier that are compounded onto more 'natural' economic barriers to entry, usually defined as anything that enables incumbents to earn profits that are above normal levels but not high enough to incentivize potential competitors to enter their market (Bain, 1956).

Nonetheless, the barriers to setting up a business do not go far enough to explain how the Weberian model favors the incumbent. Below I propose such an explanation, focusing on one specific aspect of the Weberian bureaucracy: its rigidity and very slow response time. I argue that longer time for regulatory approval results in a competitive edge for incumbent firms as a whole but especially the subset of very large and well-connected incumbents. To understand this claim, we need to look at canonical models of new ventures and how they differ when the venture takes place in a context like Brazil, where the financial markets are shallow, capital is very expensive and the regulator is overwhelmed.

The J-curve and the pan curve

The canonical model of for new ventures uses a J-shaped curve (or hockey stick curve) to show cash flow over time. New ventures burn a lot of capital in the short or medium term but they expect to have steep cash inflow in the long run. If capital markets work well, the negative area of the J-curve – area A in Figure 5.1 – is funded either by the innovator's retained yields or by venture capitalists or other outside funders, private or government.

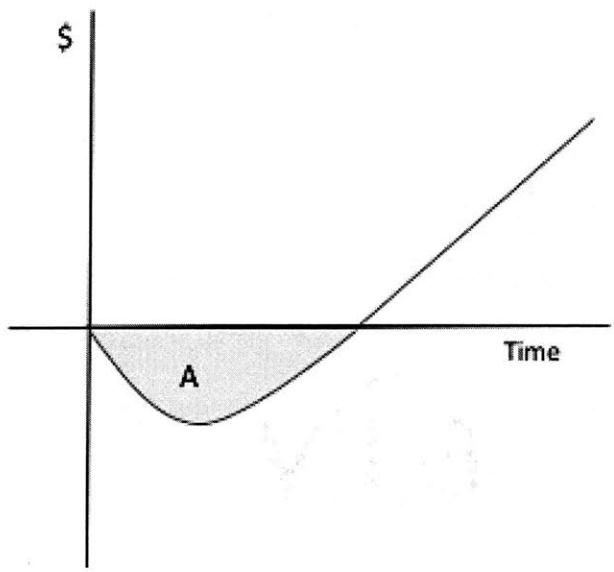


Figure 5.1: **J-curve represents relationship between time and cash-flow for new ventures.** During the first period, firms have negative cash flow because of large upfront investment and no revenue. After some time, investment decreases and becomes smaller than revenue. As the venture scales and revenue continues growing, the firm achieves increasingly positive cash flow. The area A of negative cash flow is financed by the firm itself, outsider funders such as venture capitalists or government subsidies

New ventures in weak capital markets with overwhelmed regulators work in a different way. First, after the new venture locks in a substantial amount of cash for the upfront investment, it has to wait longer for regulator approval before receiving any revenue, therefore the curve takes longer to move into the positive cash flow area. Second, since capital is very expensive, this waiting time implies a high cost either in terms of paying interest or the sheer opportunity cost of immobilized capital (the height of area B is higher). Third, while outside funders for the negative part of the graph can be private or governmental, in this setting it is either the entrepreneurial firm itself or a subsidized loan from the government. Outside private investors are nearly absent. In this context, there is an added area B to the relationship between cash flow and time (the handle of the pan) and options for financing the negative cash flow area are much more limited.

As a result, the break-even point of the venture is significantly delayed. In Brazil, this delay can be around 3.5 years (difference between the time Anvisa takes to grant approval and FDA timing). Therefore, the only businesses that can venture into launching new drugs are large firms with broad product portfolios, so they can use the revenue from established drugs to buffer the longer negative part of the curve; multisector business groups because they can use revenues from other industries for the same goal (an interviewee who founded an generic drug company said he could be patient with his pharmaceutical business because he could use the other business owned by

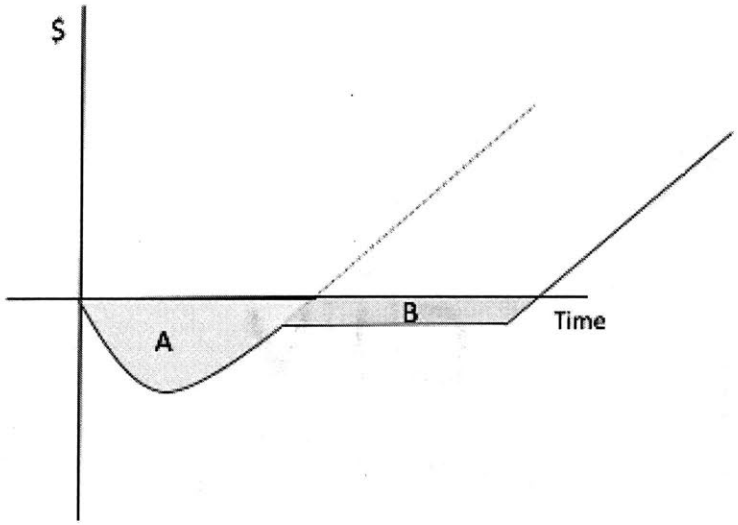


Figure 5.2: **Pan curve represents relationship between time and cash flow for new ventures when the regulator takes too long to approve product launches.** When the new venture has to wait a long time, such as Anvisa's 50+ months, to launch the product and accrue revenue, an extra negative area B is added after area A. This area represents the costs of keeping sunk capital dormant, without sales revenue. In Brazil, given its shallow financial market and high capital cost, area B can be particularly large and firms will be pushed into self-financing or using government subsidized credit.

his family as a source of revenue), or well-connected firms that have easier access to capital subsidized by the government.

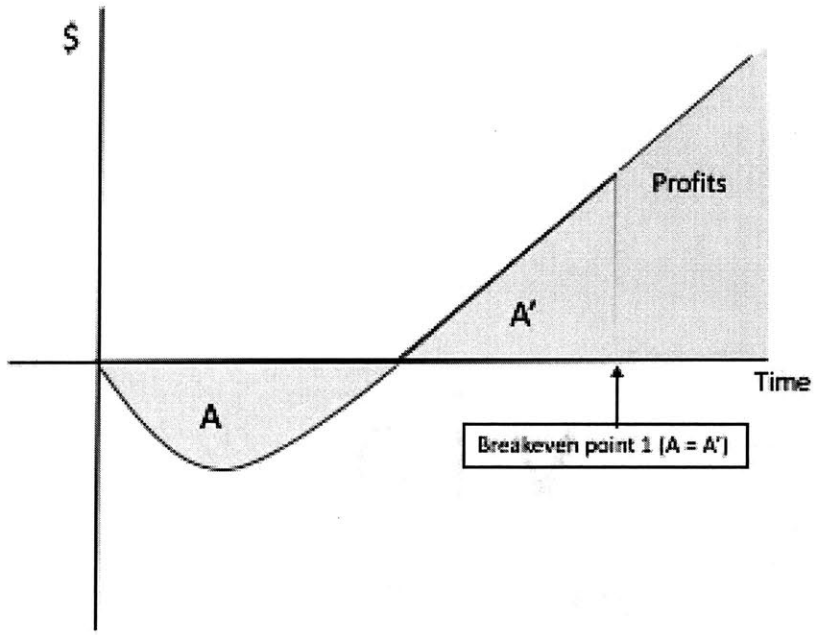


Figure 5.3: **J-curve with break-even point.** To cover the costs of a new product venture (area A), a pharmaceutical company has to earn revenue from sales (area A′) that equals the upfront investment. The break-even point occurs when area A and A′ are the same. After this point, the firm has profits (blue region).

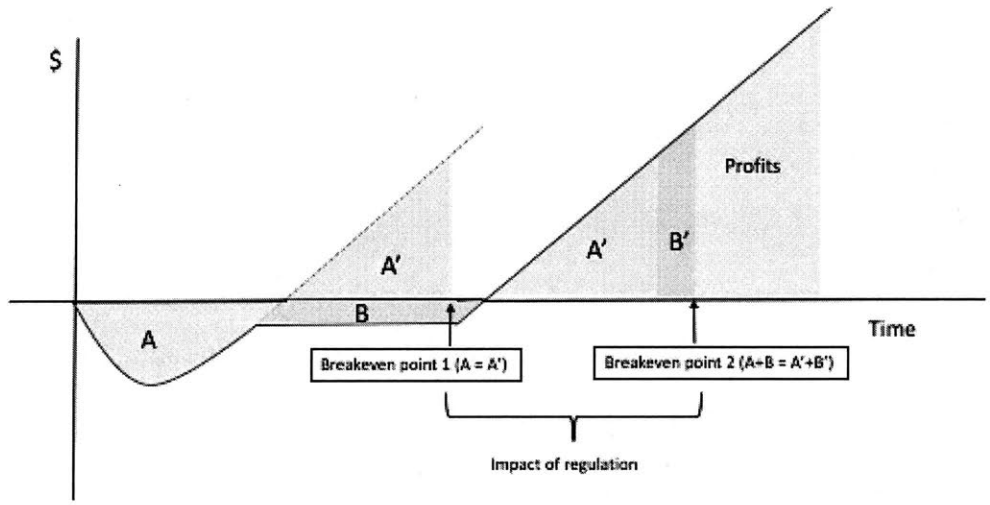


Figure 5.4: **Long Anvisa approval times push the break-even point farther forward.** Long approval time adds area B to the cost structure of the venture (the handle of the pan), the idle time during which the firm has to wait for Anvisa approval after having made the initial investment. In addition to covering the area A with revenue A′, the firm now needs obtain the extra revenue to cover for area B in order to break even. The extra revenue is represented in the figure as area B′. This implies pushing the break-even point of the venture farther forward. Only large and well-connected firms or multi-sector groups/families can weather this extra mismatch between costs and revenues across time. **The pan handle created by long waiting times is a natural barrier protecting incumbents against challengers.**

5.2 The pharmaceutical industry in Brazil

The modern pharmaceutical industry is a remarkable scientific and commercial success. Over its two centuries of history, more than 1,700 product innovations have been introduced. Brazil has had a traditional role in this industry since its inception. It ranked sixth in the list of countries originating the most innovations in the first wave (1800–1880), tied with Switzerland and ahead of the Netherlands. Nonetheless, since the second half of the twentieth century, the industry has become concentrated among a few large companies in the USA, UK, Germany, Switzerland and France. The Brazilian pharmaceutical industry fell behind (Achilladelis and Antonakis, 2001).

The consolidation of the industry into a few large multinational corporations impacted the market in Brazil. The market share of MNCs grew from 33% in 1940 to 82% in 1980 (Del Campo, 2016). However, there has always been a fringe national industry often supported by government programs. The government was concerned with drug affordability and national self-sufficiency, especially during the military regime. The cleavage across foreign and domestic firms was clear in terms of business and political strategy. Domestic firms aimed for market in low-quality products while MNCs dominated higher-end products. MNCs also lobbied against controls on price and advertising and usually opposed policies guaranteeing access to medication, at the same time as they pushed for more rigorous regulation of intellectual property (Del Campo, 2016).

A remarkable turnaround in the industry took place in Brazil between the late 1990s and early 2000s. Domestic firms managed to displace MNCs and become market leaders. In 1999 only one Brazilian firm was ranked among the top 10 pharmaceutical firms in the country. This figure jumped to five in 2010, the year when EMS and Medley displaced Sanofi and Novartis from the top two positions in the ranking. While the commodity boom in the 2000s led to deindustrialization, the productivity level of pharmaceutical companies grew at an above average rate between 2000 and 2007 and Brazil's share of world pharmaceutical exports moved from 0.7% in 1995 to 2% in 2012 (Del Campo, 2016).

	1989		1999		2009	
Ranking	Firm	(%) Share	Firm	(%) Share	Firm	(%) Share
1	Roche	5.5	Aventis Farma	6.8	**EMS***	6.6
2	Biogalénica	5	Novartis*	6.1	Sanofi A.	6.2
3	Merrell L.	4.2	**Aché***	5.7	**Aché***	5.7
4	**Aché***	3.9	BMS	4.6	**Medley***	5.7
5	Rhodia	3.7	Roche	4.2	Novartis*	4.1
6	Prodome*	2.8	Schering P.	3.5	**Eurofarma***	3.9
7	Bristol	2.7	Janssen Cilag	3.5	Pfizer	3
8	Janssen C.	2.7	Boehringer Ing.	3	Bayer S.	2.9
9	Sandoz	2.6	Pfizer	2.7	Astra Zeneca	2.4
10	Byk	2.6	Wyeth	2.6	Boehringer	2.2

Names in bold letters represent local firms.

Figure 5.5: **The number of domestic companies among the top ten firms grew from one to four.** Also, three out of the top five firms are domestic firms. **Source**: Taken from Tolentino 2010, Campo, 2016.

Rigorous regulation and pro-generics policy boosted local business

As various scholarly works have argued, and has been vastly confirmed during field interviews, the turnaround was mostly due to two government policies: strict regulation through the consolidation of Anvisa, and promotion of generic drug production as an alternative to reference (brand name) drugs.

Regulation as industrial policy

In the 1990s and 2000s,[1] the Brazilian state sought to install a new regulatory framework through the creation of Anvisa. Any synthetic drug needs Anvisa approval in order to be marketed in Brazil. This commercial approval looks at three dimensions, the so-called "quality tripod;" i) assuring bioequivalence; i.e., the similar or generic drug has the same chemical composition as the reference drug; ii) bioavaliability; i.e., the drug has the same absorption and distribution rates as the reference drug; iii) and good manufacturing practices (GMP); i.e., not only the drug itself but also its production process must be in accordance with Anvisa guidelines.

This last prerequisite implies a broader regulatory scope for Anvisa. In addition to a very strict end-product approval, the state also surveils private sector production processes. Granted, these practices do not differ much

[1]The idea that Anvisa regulation worked as industrial policy was first proposed by Shadlen and Fonseca (2013).

from international standards of pharmaceutical regulation, which is naturally rigorous given the importance of the issue for public health.[2]

I am not debating the necessity of this level of rigor in pharmaceutical regulation. The point I address is the implication of this level of detailed regulation in a setting where state capacity is still weak. Strict, detailed regulation results in Anvisa becoming overwhelmed, as original data collected by the author shows (details below). Anvisa's staff is 15% of the FDA's staff but they have to deal with 3.5 times as many regulatory applications. A consequence is that the agency's response is also much slower, on average 4.5 times longer than the FDA. But what makes Anvisa's case an interesting puzzle is that instead of a paralyzing bureaucracy, the slow approval time turned out to be a tool of industrial policy for pharmaceutical firms in Brazil. A more recent approach to industrial policy argues that governments should intervene in the market to help business overcome coordination problems within the industry. For example, government can coordinate business when it is necessary for firms to make investments in infrastructure or manufacturing quality at the same time (Sabel et al., 2012; Hausmann and Rodrik, 2003).

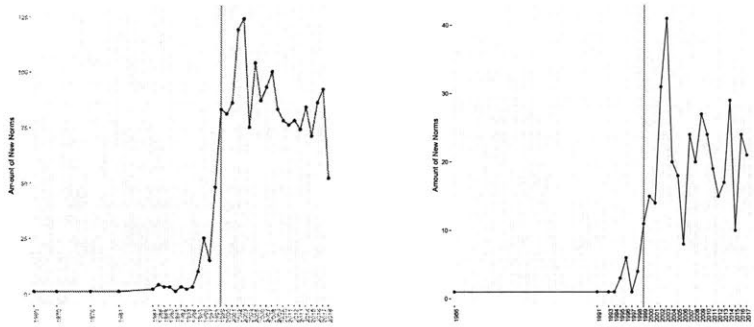
The government played this role in the pharmaceutical industry in Brazil. Anvisa was particularly important in this process, by strictly enforcing regu-

[2]Some interviewees claimed that Anvisa could be more flexible by, for example, granting firms the benefit of the doubt in its GMP diligence: instead of having to process and authorize applications for changes in the production process, Anvisa could simply accept a notification of change made by a manufacturer for a drug that was already approved. This is also a practice of other regulatory agencies.

lation over drug quality in general and bioequivalence and bioavailability of generic medication in particular. The market for drugs is a typical case of asymmetric information. Consumers cannot easily tell effective and useless drugs apart. While MNCs rely on their very strong brands to signal that their medication is effective, local producers have weaker devices to signal quality for consumers. Therefore, some local firms can seek a competitive edge by decreasing the quality of their drugs and competing on lower prices. Local firms that invest in higher quality products would not be able to compete against low-quality products in terms of price, and no domestic firm could signal good-quality products without the stamp of a third-party certifier. Lower price is especially attractive for low-income consumers, the vast majority of the Brazilian population.

Therefore, asymmetric information in an unregulated environment makes a market equilibrium based on low quality/low price more likely among local producers. Moving to a high-quality equilibrium was a coordination problem that the private sector could not solve on its own. By actually enforcing strict quality regulation, the government fixed this coordination problem by blocking the low-quality/low-price strategy, providing a signaling device for high-quality producers – Anvisa's commercial authorization – and making investment in a high-quality product an attractive competitive strategy (Shadlen and Fonseca, 2013; Fonseca, 2014; Fonseca and Costa, 2015; Del Campo, 2016).

Indeed, Anvisa played a central role in a period of prolific creation and regulation of standards in Brazil's healthcare sector. Figure 5.6 shows how many new standards regulating the Brazilian health sector in general (a), and drugs in particular (b), were issued since 1966. Prior to Anvisa, an agency subordinate to the Ministry of Health was responsible for issuing new standards. The number of new standards surged after the creation of Anvisa in 1999. In the case of drug regulation, the pharmaceutical sector had to comply with an average of 20 new standards one year after 1999, as opposed to an average of only two new standards before that period.



(a) Number of standards regulating health sector

(b) Number of standards regulating drug production

Figure 5.6: **Anvisa played a central role in a period of prolific creation and regulation of standards in Brazil's healthcare sector.** The two graphs show the evolution of standards. Industry leaders donate more to candidates for presidential office and the senate, indicating that they seek to broaden their access to politicians beyond the local level. **Source:** Data collected by author from Anvisa website.

Federal government pushes for generic drugs

At the same time that Anvisa issued several new standards and strictly enforced them, the federal government strongly pushed forward a policy for cheaper drugs and greater accessibility centered mostly on developing generic drugs. A pro-generics policy tilted the market in favor of domestic firms at the expense of MNCs, which usually focus on reference drugs and, not surprisingly, pushed back against the regulation of generics.

Promoting generic drugs can be a contentious issue. On the one hand, it affects intellectual property (IP) rights and may slow down scientific progress because innovators are less certain about the degree to which they will be able to turn their R&D costs into revenue. On the other hand, rigorous IP rights can be a formidable source of monopoly power for producers and drive up drug prices. In the case of Brazil, the generics policy indeed reduced prices and improved accessibility. However, there is little evidence that it affected local innovation. The reason was that local firms have low innovation capacity, so making IP more flexible did not affect them much (Caliari and Ruiz, 2013).

Regardless of its impact on innovation, the Brazilian government heavily promoted generic drugs in the market. The push was complemented by other policies that were able to increase local firms' productive capacity, such as access to subsidized capital and partnerships with state-owned laboratories. On top of that, the federal government also guaranteed domestic firms

growth on the demand-side of drugs by creating accessibility programs such as *Fármacia Popular*, and using its enormous purchasing power to stock the Sistema Único de Saúde with national products. So, now that the government had fixed the problem of product credibility, was mounting marketing campaign for generics, had guaranteed a reasonable level of demand and also provided subsidies for manufacturing, it was time for local industry to double down on pharmaceutical production (Shadlen and Fonseca, 2013; Del Campo, 2016). This government-coordinated Big Push resulted in a surge in the market of generic drugs, price drops, and a remarkable increase in the market share of domestic firms. Figure 5.5 illustrates this trend.

5.3 The cases of São Paulo and Goias

In order to understand the politics behind Anvisa regulation, I conducted fieldwork research in the states of São Paulo, Goias and Distrito Federal.[3] As mentioned, the pharmaceutical industry goes back a long way in Brazil. In 1920, chemicals and pharmaceuticals were the fourth largest manufacturing industry in the country, behind food, textiles and clothing. At the turn of the twentieth century, most of the industry was concentrated in Rio de Janeiro (33% of total national output in 1907), with São Paulo in second place with 16% (Stucker and Cytrynowicz, 2007). But São Paulo consolidated its leadership in the sector more recently.

[3]See the introduction section of this chapter for additional information on the data collection process.

While it is natural to expect São Paulo to house the bulk of the pharmaceutical industry in Brazil, as well as its most innovative firms, the case of Goias is more surprising. Goias is the second largest producer of pharmaceuticals in Brazil, behind only São Paulo. In 2015, 718 million units were sold in the state, while this figure for São Paulo was 2.2 billion. In distant third place was Paraná, with 240 million.[4] While São Paulo hosts the industry giants, studying Goias opens a window into middle-level and smaller firms. The profile of these firms is less likely to be that of entrenched incumbents and they can therefore can provide important insights into the difficulties faced by firms in the sector that are not São Paulo giants.

It is surprising that a traditionally backward and agricultural state, located far from the core consumer market in the southeast of the country, could achieve such importance in a relatively sophisticated industry. The origins of the industry in Goias can be traced back several decades, when the local government founded a serum laboratory aiming at producing low cost serum for the low-income population. The private sector followed suit and in the 1970s two local serum producers merged to form a firm that currently is one of the largest serum producers in Brazil, dominant in markets outside the southeast region.

The state government played an important role by using tax breaks and other subsidies to attract manufacturers from other states. Two of the largest

[4]Source: Anuário Estatístico da Anvisa.

Brazilian drug producers, Teuto and Neoquimica[5], started their production in Goias as a result of the local tax incentive policies. Currently they are among the largest pharmaceutical corporations in Brazil. Teuto and Neoquimica provided the demonstration effect for local business to invest in pharmaceuticals, especially after the new generics and regulatory policies of the late 1990s. In sum, public policy attracted new entrants which, in turn, produced a demonstration effect. The ground was ready for the sector to flourish after the policy push in the late 1990s.

After being asked how he decided to start his pharmaceutical company, a respondent summarizes in this narrative:

> You know, the neighbor's grass is always greener. We saw Teuto growing fast, we saw Neoquimica growing fast and we thought that with the generics law which gave more credibility to this medication [...] and with the creation of Anvisa [...] and the requirements of bioequivalence and bioavailability, all the legal framework to improve laboratory processes and generics marketing, so we got into this window and we made it happen. [Respondent 016]

The respondent's family owns a multisector business group so they could hedge the entrepreneurial risk by relying on revenue from their other companies, use part of their wealth for some self-financing and their connections

[5]Neoquimica was recently acquired by another national competitor, Hipermarcas.

with local public banks to raise capital. He also pointed out that the firm still does not generate many dividends but they can be patient because they get cash from their other businesses.

The story of the pharmaceutical industry in Goias fits well into some theoretical expectations of how governments can boost industrialization by fixing information failures (Hausmann and Rodrik, 2003). By providing subsidies for first-comers, the Goias government elicited new information about what it was possible to produce in the region. This information was picked up by capitalized local business elites eager to diversify their activities. In addition to the government fixing information failure, local business made the right bet on investing in higher quality generic drugs when it was uncertain whether the more strict regulation would catch on.

The importance of Anvisa in the case of Goias is very similar to the role it played at the national level (Del Campo, 2016). But, according to an interviewee, the serendipitous element that made Goias a successful case was that firms in Goias were more likely than firms in other Brazilian states to bet on the high-quality route when it was still unclear whether Anvisa regulation would really catch on. This proved to be an advantage over other national competitors as the industry moved beyond São Paulo and towards other peripheral states.

5.4 Anvisa: Welcomed but unloved

The pharmaceutical industry in Brazil views Anvisa with ambivalence. They do praise the agency and recognize its important role in boosting the sector. But at the same time, they complain about the regulators in terms of very slow responses, unnecessary complexity and lack of dialogue with the industry, and little adaptability to innovation.

I argue that this paradox of being welcomed but unloved illustrates the predicaments of a Weberian model of public administration. Anvisa does perform functions that are welcomed by the sector as a whole. However, its rigidity, deriving from the incentive structures of its staff, detracts from the ease of doing business, hampering entrepreneurship and innovation. The industry is unable to influence the agency towards reforming these negative features because i) the incentive structures of Anvisa's Weberian staff do not reward efficiency; and ii) some sectors within the industry benefit from the distortions Anvisa creates and they actively lobby for keeping these distortions. In this section, I first present evidence of the pharmaceutical industry welcoming Anvisa's strict regulation. Next, I document some of the distortions pointed out by the industry. Finally, I discuss the dynamics that sustain such distortions.

The welcomed regulator

Academic studies have already documented the importance the pharmaceutical industry attributes to Anvisa's regulation for the development of the sector (Del Campo, 2016). As Shadlen and Fonseca put it, there is a virtual consensus in the pharmaceutical industry that strict regulation, at first seen as a threat to companies' survival, became crucial for improving their manufacturing practice (Shadlen and Fonseca, 2013, p. 577). Respondents to my interviews in São Paulo and Goias consistently corroborated this view. Many emphasized the role Anvisa's rigorous regulation played in boosting the pharmaceutical industry by pushing out low-quality competitors. A vice-president of a top-five pharmaceutical company summarizes this:

> [...] you have a third change which is continuous improvement of the regulatory agency of the sector, because it starts to raise the bar of quality in the sector, which for me is excellent [...] the more the bar goes up, the more we get rid of those who make low quality stuff and you get a market where there is competition but competition is fair. So, when the bar goes up, I start to get ready to go beyond Brazil. [Respondent 045]

A former president of an association related to multinational pharmaceutical industries also emphasizes this point. Many policies implemented with the help of Anvisa, such as generic drugs and de-branding, were opposed by multinationals. Yet, for this informant:

> When I was president of the association, I complained a lot about Anvisa. But Anvisa is also another watershed within the Brazilian pharmaceutical market. Anvisa and its requirements, its structure, the way it was structured initially as an agency, it established quality standards that were valid for everybody, be it a small, medium, large, domestic or multinational [company], it doesn't matter. So Anvisa gave to Brazil what they call respectability regarding production process and registration. [...] Anvisa was an achievement. Serra[6] said that his legacy was the generic drugs. No, his legacy was Anvisa. [Respondent 049]

The unloved regulator

While the industry recognizes the contribution Anvisa made to boosting the sector, it also made several complaints about the regulator. First and foremost, there was the issue of slow responses to applications. When asked what was the biggest challenge they had while dealing with regulators, the most consistent complaint across interviewees was that Anvisa takes an excessively long time to process their drug application and manufacturing certification. Out of the five private sector respondents in Goias, four spontaneously mentioned that waiting time for license processing was their biggest pain.

[6]Jose Serra, then Minister of Health, responsible for introducing generic drugs and creating Anvisa in the late 1990s. The popularity of the generics program was such that it empowered him to run for presidential office in the 2002 elections in Brazil.

São Paulo's responses were more dispersed. Three private sector respondents (a consultant, a CEO/co-founder of a top-10 company and a former executive of a multinational) referred to the waiting times as a significant regulatory pain. The other three private sector respondents mentioned other issues, such as how Anvisa regulates innovative products. A consultant reported that many of his/her international clients would give up on entering the Brazilian market because of the waiting time. Some clients would complain that they are already operating in other South American markets, but would rather not enter Brazil because "it's too complicated" (Respondent 041). An official from Anvisa also acknowledged that the waiting times for processing regulatory applications are excessive.

I collected performance data from both Anvisa and the US Federal Drug Agency and benchmarked them against each other. As the data shows, the average time for Anvisa to conclude its analysis of an application to register a new generic or biosimilar drug in 2016 was 1288 days, around 3.5 years. This figure groups together both priority and non-priority generic drugs. When they are separated into categories, the wait for non-priority drug applications is 1,606 days (4.5 years) for a conclusive decision from Anvisa, out of which 1331 days (3.6 years) are spent just waiting in the electronic line. The actual time Anvisa takes to analyze the application is only 144 days (comparable to the FDA). The remaining 131 days are waiting times for firms to send supplementary documents. The figure does not account for other necessary approvals, such as approval for drug modification (post-registration), which

is 1028 days on average for generic drugs and 1050 days for brand-name drugs.[7] On top of this delay, they also need to submit and wait for changes in the manufacturing process, which is not accounted for here.

I compare Anvisa's performance to the FDA's, which is guided by the 1992 Prescription Drug User Fee Act (PDUFA). It established a two-tiered system of standard reviews and priority reviews. The former applies to drugs that offer minor improvements over existing therapies, while the latter is for drugs that imply major advances. The FDA 2016 performance report shows a median time to approval of about 10 months for standard reviews and 7.9 months for priority reviews. This is a stark contrast with the time of 3.5 to 4.6 years for Anvisa.

In fact, the delayed responses are probably due to Anvisa receiving many more requests than FDA and having the equivalent of only a small fraction of the FDA's total workforce. There is a much higher number of applications received per year by Anvisa than the FDA, probably reflecting the more encompassing nature of health care regulation in Brazil. In 2016 Anvisa received 8,697 applications for drug approval (not including manufacturing process approval), out of which 1,079 were for new drugs. In the same year, the FDA received a total of 2,674 applications, of which 155 were original applications for new drugs. While Anvisa has to process this application with only 2,185 full-time employed staff, the FDA had eight times more employees

[7]Source: Anvisa, Relatório 2016 Gerência Geral de Medicamentos e Produtos Biológicos.

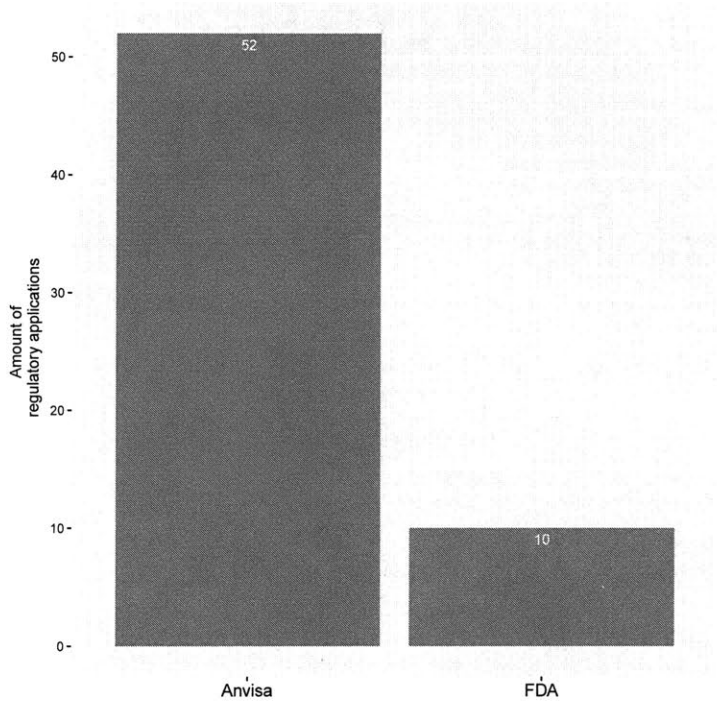


Figure 5.7: **Anvisa takes five times longer than FDA to process drug registrations.** It takes on average 52 months for Anvisa to give a final answer on a non-priority drug application while the average for its US counterpart is 10 months. This difference is similar for other types of applications. **Source:** Performance reports from the respective agencies. See detailed citation on page 256.

(14,648 in 2013) to process a quarter of Anvisa's volume. Compared to the FDA, Anvisa seems to be completely overwhelmed.

Long waiting times have heterogeneous effects for business

This section details these data and their implications for business strategy. It also maps these implications back into the motivating question of this study: if regulation is so costly and hinders business so much, why is business not successful in changing it? I argue that Anvisa's long response time affects large and well-connected incumbents the least. Therefore, they have less motivation to push for a faster Anvisa process.

Anvisa's slow response affects producers' business strategy in a very particular way. Respondents explained that to survive in the sector, firms need to be constantly diversifying their product portfolio and adding new products to their portfolio. Note that in generic drugs there is no patent barring new entrants to the market. Firms with a narrow product portfolio risk ending up in overcrowded markets, so they need to be constantly seeking to add new products to their portfolio.

Therefore, their business strategy consists of anticipating the production of drugs whose patent will expire in a few years and are likely to be a premium market; i.e., few competitors will successfully produce it. As Respondent 017, the founder and CEO of a generics producer, remarked, "A market with 20 producers yields a 10% margin, while with 3 competitors the

margin is around 40 or 50%." After choosing a product, they need to lock a substantial investment in R&D, clinical tests and manufacturing facilities into the project. After they have made this investment, they apply for Anvisa approval of the drug's bioequivalence, bioavailabity and good manufacturing process. Then they wait a few years for Anvisa approval before they can launch it on the market and start earning some revenue from the drug.

Note the key features of this process: 1) it requires a large upfront investment of capital which has no payback for quite a few years because the drug is not marketed until after the regulators' approval is received; 2) the upfront investment happens in a setting where financial markets are weak (few venture capital funds or investment banks), and capital is expensive; 3) the venture has to forecast market conditions, such as therapeutic trends, competition and overall demand, far into the future, making the return on investment hard to predict. Therefore, the additional wait for regulator approval postpones the break-even point, increases capital cost and subjects the venture to higher risks of changing market conditions. Access to investment capital and working capital is crucial to weathering the wait for Anvisa approval. This need for capital brings us back to the the idea of the pan curve, described on page 238, where waiting time is a big barrier to entry to those who do not have access to subsidized capital.

Other dysfunctions

The other dysfunctions mentioned by respondents were those related to dealing with Anvisa personnel. The vast majority of employees at Anvisa were recruited through the Weberian track; i.e., public exams in open competition, and the candidates with top scores are offered a position (see Figure 5.8). After three years, they are tenured and their salary and promotion is set by law. This is a recent evolution. In the beginning, a good portion of Anvisa employees were highly-skilled appointees who were hired through a partnership between the Brazilian government and the United Nations Development Program. These employees were replaced by a Weberian workforce. From 2006 to 2016, the number of non-Weberian employees at Anvisa plummeted from 847 to 18. The number of Weberian employees was already considerable in 2006 (1,025), only seven years after the agency was created, but it had increased to 1,170 by 2016.

According to respondents, this new breed of Anvisa employee is insensitive to the needs of the industry and does not maintain open channels of dialogue. Since they are tenured, lower-ranking '*técnicos*' can act independently of guidelines laid down by those in the upper ranks. So, while the upper ranks are open to listening to the industry's needs, those who actually make the decision on, say, approving the results or design of a clinical study, can do so with considerable autonomy. In a sense, to use Evans's terminology,[8] Anvisa's

[8]Evans (1995) proposes the concept of embedded autonomy.

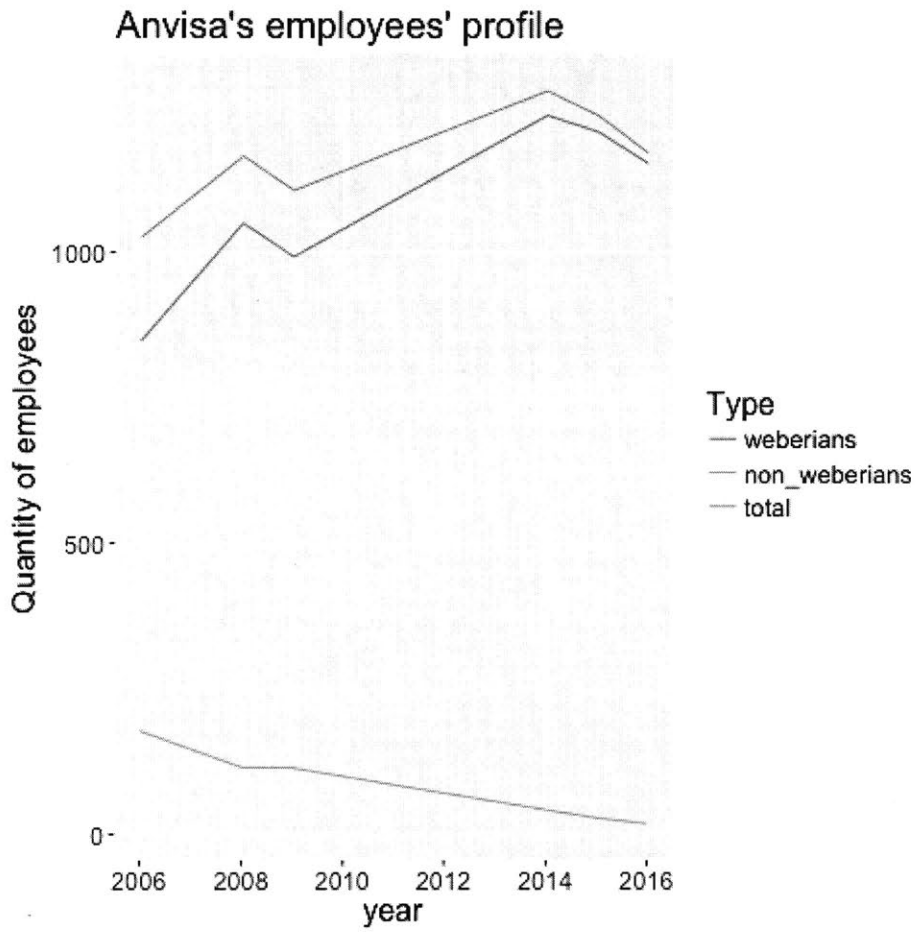


Figure 5.8: **Anvisa replaced appointed employees almost completely by Weberian employees.** From 2006 to 2016, the number of non-Weberian employees at Anvisa plummeted from 847 to 18. The number of Weberian employees was already considerable in 2006 (1,025), only seven years after the agency was created, but it had increased to 1,170 by 2016.

técnicos decided to move closer to autonomy and farther from embeddedness. Denial of access to potential stakeholders can be a strategy by the bureaucrat to signal that they are not corrupt (Schnakenberg and Turner, 2019) but it also undermines their capacity to acquire information necessary for sound policy-making. This is not uncommon in the Brazilian public service, where close relationships with the industry can be seen by peers as the bureaucrat being 'captured' by the private sector and may raise suspicion that they are involved in dodgy deals. To avoid this, it is necessary to build a strong reputation of autonomy. As I argue later, their incentive structure is set up in a way that they have little to lose by avoiding embeddedness.

This point is illustrated by the quotes below. The first comes from someone who worked at Anviso during its inception and is now a consultant who helps firms navigate agency regulations:

> When the *técnico* does not want to, he does not suffer rules. There is no hierarchy of a general manager, much less of a director or the president over a technician. If the government puts some pressure on, they [the *técnicos*] will say: "but I am the one who signs it [the regulatory approval], it is my name in there, the civil responsibility is mine. I will not sign." There is autonomy, sometimes if the technician wants to, they work to rule, this is what happens today. [Respondent 043]

Another respondent, a VP in a top-five pharmaceutical firm, reports that dialogue breaks down as rank in the agency decreases:

> At the FDA there is a lot of it [space for discussion]. Here in Brazil there is little space and within the Agency the more senior executives are open to dialogue and you can talk to them. There are complex discussions. But with the *técnico*... it's by the book. [Respondent 044]

According to another interviewee, being open to dialogue with the industry can represent such a liability that Anvisa recently set up a board to decide more thorny issues, so that accountability for accepting a request from the industry is dissipated across various directors.

> [S]ometimes you see the *técnicos* sue a director who has accepted something [a request from industry]. This exists within Anvisa. So they are very careful, they even established as a governance measure within Anvisa, an executive board, which is Dicol [*Diretoria Colegiada*] which nowadays makes decisions that can be considered more controversial. Then when a rejection [of an application from the industry] is reviewed, Dicol takes away the individual confrontation between the *técnico* and the director, for example. [Respondent 045]

Additionally, according to respondents, Anvisa's staff is still risk-averse: they prefer to follow any specifications strictly by the book rather than make

it flexible to expedite a procedure. And if one looks at the incentive structure within which they operate, it does make sense to behave this way. While assessing the amount of risk they wish to undertake, a rational agent seeks to minimize the impact of negative events and maximize the utility they obtain from positive events. In pharmaceutical regulation, the negative event to be avoided is approving a drug or a procedure that later on may prove to be harmful to public health or ineffective. The public employee will be held accountable for such approval, unless she can show that her decision was based on strictly following procedures. If they deviate from the procedures, employees leave room for potential liability.

Moreover, there is no upside in caring about the needs of the pharmaceutical industry. Neither the growth rate, innovation rate, employment rate or international competitiveness of the industry, nor the time to market of new drugs that could improve patients' wellbeing play any role in their salary, promotion or employment conditions. Their career or material incentives are totally independent of how the industry fares. It makes more sense for an Anvisa technician to follow a procedure that she can use in her defense in the case of future liability than to comply with the guideline of a manager who may not be around when a liability develops. In these cases, it is actually preferable to have very prescriptive and detailed procedures. Such detailed procedures avoid blind spots in the regulation, where the regulator has to make a decision on their own and can be held accountable for it in the future.

So, under the Weberian model, material and career benefits are not attached to stakeholders' interests. Following prescriptive procedures that minimize liabilities will be prioritized at the expense of stakeholder satisfaction. This risk assessment will be especially true in a sensitive area such as health care. In fact, the job stability that the Weberian model gives to public employees changed their perception of the optimal stopping problem described in Carpenter (2003). Recall that in this optimal stopping problem the regulator has to balance the trade-off between the marginal gain of extra time to evaluate a drug against pressure to approve the drug that may come from politicians, firms, press or consumers. The Weberian job stability makes bureaucrats more impervious to this type of pressure. Therefore, the optimal stopping point for them is longer because in this trade-off the pressure from these actors has only a light weight.

As another consultant also puts it:

> From the point of view of the person who works at Anvisa and in this regulatory area, they feel safer when there are clear and specific regulations that they can simply refer to without having to make complicated decisions. So for them there is this apparent safety. [...] There are several factors there, but our main one in the background is still the issue of safety. As long as there is a law, a rule, an ordinance that teaches what and how it should be done, it is easier to check and monitor and keep the situation under control. [Respondent 048]

Another respondent, a CEO and co-founder of a top-10 local firm, adds that "This difficulty happens at Anvisa or in a government where they are all worried about the bureaucracy and not being blamed. Everybody is very afraid of being blamed." [Respondent 044]

5.5 Why not fight back against regulatory distortion?

The previous section depicted a paradoxical situation in which the regulator is welcomed but also heavily criticized because it does impose several regulatory costs over industry. This raises the following question: i) would businesses form a broad coalition to fight back these distortions; and ii) if they did have this coalition, would the fight against regulatory distortions be strong enough to be effective?[9] This section provides an answer to this question. I argue that there are two main factors at play. First, by replacing the previous regulatory regime with one based on the Weberian model of public administration, Anvisa removed the costs of dealing with the patrimonial model. Although complying with the rigor of the new model was also costly, at least paying the compliance costs could lead businesses towards a higher level of competitiveness. As argued above, interacting with the government under either the patrimonial or the Weberian model is ex-

[9]These questions assume that business do have enough political clout to push back regulatory distortion if they organize and put enough pressure. This assumption is based on the case of the agro-export sector which did succeed in this endeavor, covered in the next chapter.

pensive, but the return on investment for the latter is much higher in the long term. Therefore, the sector will not pursue a full-blown attack on Anvisa. Second, the distortions promoted by Anvisa affect the sector unevenly. While the agency's rigorous 'by-the-book' approach is not appropriate for innovative firms, it does offer protection for some other firms. And there is evidence that these firms indeed fight de-regulation, especially when it opens the market to foreign competition.

Weberian bureaucracy replaces chaos

Until the 1990s, the pharmaceutical sector in Brazil was highly unregulated (Fonseca, 2014). Actually, 'unregulated' is an understatement. According to Lucchese (2001), in 1993 the National Secretariat of Health Surveillance, a unit within the Ministry of Finance, had 16 technicians responsible for controlling the entire drug market in Brazil. Between 1992 and 1994, nine different secretaries headed the agency, each spending just a few months in office. The small number of personnel and the discontinuity of leadership crippled any regulatory effort. This is confirmed by a respondent, a former consultant on drug regulation:

> Before [Anvisa], it [the regulatory authority] was a very cumbersome agency in the Ministry of Health, which had problems of various types, especially blatant political interference [...] [t]here was a very small technical body compared to what Anvisa has today. It [Anvisa] has thousands of employees and in the sector had

> at most a few dozen. This is one of the factors that I can tell you is quite important. [Respondent 048]

Forgery was rampant, production inputs were smuggled into the country and the poor quality of products was a real public health hazard. ? catalogues 66 news headlines from Brazilian newspapers between April 1997 and July 1998 of articles telling of babies and elderly dying in hospitals due to poor quality drugs, serums and health care materials, patients being contaminated with HIV virus in blood transfusions, dozens of antibiotics being recalled, and birth control pills that contained only flour and no active ingredient.[10] Before Anvisa, "Brazil was a stage for imports, forgery and smuggling of drugs, making competition through investment in quality virtually impossible," as Respondent 016, an executive of a pharmaceutical association in Goias, put it. The Brazilian Congress launched a parliamentary investigation commission (CPI) in the late 1990s to probe into the various issues plaguing the pharmaceutical sector. It investigated, among other issues, to what extent state agencies were really capable of enforcing regulation. One of the conclusions of its 2000 report was that "*the main critical point is the ineptitude and/or omission by health authorities responsible for enforcing the*

[10]See for example, 17/01/1995, Remédio é feito a partir de contrabando, *Folha de São Paulo*; 28/6/1998, A Schering pode virar farinha, *Folha de São Paulo*; 02/10/97 Governo e sangue assassino – editorial *Folha de São Paulo*; 26/9/1997, Mortes por soro podem chegar a 20, *Folha de São Paulo*; 12/8/1997, Governo proíbe 99 marcas de antibiótico, *Folha de São Paulo*; 10/5/1997 Ministério condena 136 antibióticos, *Folha de São Paulo*; 18/4/1997, Rio investiga morte de 80 bebês em 9 meses, *Folha de São Paulo*; 3/4/1997 Chega a 28 o número de mortos após soro, *Folha de São Paulo*; 25/1/1995, Adolfo Lutz condena 115 remédios, *Folha de São Paulo.*

law of carrying out supervision and punishment."[11] As Del Campo puts it, before Anvisa, pharmaceutical companies could collectively ignore the laws until the state gave up trying to enforce them (Del Campo, 2016, p. 24).

Lack of capacity and corruption combined to cripple regulatory efforts. Public employees responsible for monitoring the industry were found to be owners of firms they were supposed to be monitoring.[12] According to Del Campo (2016), there were "widespread allegations of corruption between public officials and 'cartels' of firms, both local and foreign, seeking government favors and exemptions") (p. 24).

But perceptions about enforcement changed rapidly in the late 1990s, as a result of tough regulatory policy at the federal level. Tougher regulation, as I discussed above, helped firms overcome a collective action problem and move to a high-quality route. According to Respondent 016, an executive of the business association, prior to Anvisa most of the businesses in Goias chose the low-quality/low-price route. Producers were initially skeptical about whether Anvisa regulation would really catch on, but within a few years from its creation, it became clear the agency meant business: Anvisa closed many pharmaceutical plants due to lack of compliance and many others went out of business because they could not keep up with the demanding quality requirements. Respondent 028, the CEO of a serum producer in Goias, said that the serum sector dropped from around 23 firms to 9 because

[11]Report, CPI dos Medicamentos, p. 253.
[12]22/7/1998, Saúde demite fiscais donos de farmácias, *Folha de São Paulo*

of regulation. Respondents also mentioned that unfair competition was a primary hindrance for business (Respondent 016).

As perceptions changed, some firms envisaged an opportunity to obtain an edge as a first-mover into the new regulatory landscape. A former official who worked at Anvisa during the initial rolling out of the generics policy recalls that as business realized that the government would rigorously enforce regulation, they wanted to be ready for it.

> They had to believe that it was for real, that it will happen this way, [...] that it is inevitable, there is no turning back. [Then businesspeople would think] 'if the minister is saying the thing will happen, I want to be the first.' They were very smart. [Respondent 43]

And he/she adds:

> And that was the big catch that made them become millionaires. You take EMS [a top 5 pharmaceutical manufacturer in Brazil] before and after the generic drugs, it's unbelievable [alluding to their exponential growth]. [Respondent 43]

In this way Anvisa provided the opportunity some producers were hoping for to make the leap of faith into high quality products without being hindered by low-quality competitors. It also enabled them to plan more ambitious moves towards global markets. Stringent health surveillance assures

foreign consumers that drugs produced in Brazil satisfactorily meet high standards (Fonseca, 2014). By replacing the previous regulatory regime with one based on the Weberian model of public administration, Anvisa replaced some of the costs of dealing with the patrimonial model. Although complying with the rigor of the new model was also costly, at least the compliance costs could lead the sectors towards a higher level of competitiveness. Interacting with the government under Weberian models gave a higher return on investment in the long term because it enabled firms to do the industrial upgrading they were eager to do and capable of implementing but had been prevented from doing because of a defective market.

Regulation as protection

Once established, Anvisa's strictness also provided protection for firms that were already complying with its rules. The high bar for quality together with very long waiting times dissuaded potential domestic entrants and acted as a barrier to foreign competitors. Despite the size of the Brazilian market, foreign multinationals do give up on entering Brazil because of the complicated procedures. This was stated by Respondent 041, a consultant in Brazilian health care regulation who helps international clients. Bekerman and Sirlin (2001) report that Argentinian producers expressed their concern that the stringent bioequivalence tests would expel them from the Brazilian market. Additionally, domestic producers praise Anvisa for fending off the compe-

tition in generic drugs from Chinese and Indian manufactures, which can usually charge much lower prices.

Firms not only appreciate the protection, but some of them also express a preference for it and actually act against making regulation more flexible. As Shadlen and Fonseca (2013) report, in the early 2000s there was a big mismatch between Anvisa's regulatory rigor and local capability to comply. Anvisa's initial reaction was to create a fast track for drugs already registered in Canada, US and the European Union. The domestic industry fought back and worked with Anvisa to eliminate this discrimination in favor of imported products. In the late 1990s MNCs also supported stringent bioequivalence requirements. A reason for this was because it would be a way to reduce the number of firms qualified to produce generic drugs, their core future competition (Fonseca, 2014).

Moreover, Anvisa's *Diretoria Colegiada*, the board of directors mentioned above that deals with thornier decisions, recently passed a regulation to make surveillance more flexible, which was met by strong opposition from Brazilian companies. The measure would enable manufacturers to outsource their quality control to other qualified firms. According to an Anvisa official I interviewed, the measure would make post-market regulation less stringent. Firms would not need to make fixed capital investments in an internal structure but to pay for quality control as a service.

Some firms, especially domestic ones, opposed this measure. Indeed, in July 2018 the executive president of Sindusfarma, the Brazilian national

pharmaceutical industry union, published an op-ed in *Correio Braziliense* criticizing the decision. He claimed that Brazilians these days were very disappointed with politics and now "even Anvisa, perhaps the best regulatory agency in the country, which built a reputation of excellence and contributed to the development of the pharmaceutical sector, is being contaminated by 'low politics'." He claimed that Anvisa had made a big concession in terms of quality and safety, that the measure would benefit imported goods, now subject to fewer controls, and he resents that this has happened at the expense of the national industry, which spent billions in setting up their own quality control systems. He recalls that when similar measures were taken in the 1980s, it resulted in 95% of medication being imported from India and China and this could happen again. He concludes, claiming that to build a strong health care sector in Brazil it is necessary to be cautious about product quality and the country will not get there with measures that weaken the surveillance standards and harm "companies that believe and invest in the country."[13]

Another piece of smoking-gun evidence that business welcomes Anvisa regulation comes from an insight offered by a government official during an interview. He stated that during the transition from the Dilma to the Temer government, there was a deluge of business pressure to decrease regulation in several industries and areas, such as labor law. However, he did not feel any

[13]Mussolini, Nelson. Correio Braziliense. 12/07/2018, available at `http://sindusfarma.org.br/cadastro/index.php/site/ap-noticias/noticia/2101`, accessed 01/11/2018.

pressure to deregulate in the pharmaceutical industry. According to him, "they [business] could have acted to dismantle regulation but they didn't. So if there was really a serious problem with regulation, my agency would hardly have survived this period."

Finally, this quote summarizes how some local producers, especially those competing for cheaper prices in the domestic market, appreciate Anvisa's regulation:

> So if the Anvisa were less bureaucratic, they [foreign competitors] would have already come in here and finished with the market and we could not position ourselves in the market. So I think Anvisa is good, the harder the better. Because there are fewer people there, the market gets better, the market gets regulated, there's no junk. [Respondent 017, CEO and co-founder of a generic drug firm]

Fragmented business association

A final reason why the industry fails to come together to push back against regulation is the absence of an encompassing business association. Indeed, the associational landscape is arguably fragmented. Our theory suggests that when the preferences of agents are more similar to each other, there are two possible Nash equilibria, a high-level equilibrium where business come together to push for reforms and another one where the status quo prevails. We argued that the presence of business associations is important for putting

business on the same page and helping them coordinate a movement towards a high-level equilibrium. Even if businesses had similar preferences over Anvisa regulation, pharmaceutical business associations would find it hard to play the role of a coordination device because they are fragmented.

Respondents consistently pointed out three clusters within the industry, and that the firms are organized into three associations. There is Interfarma, which mostly addresses the interests of multinational companies. In the past, the core interest of these companies was to relax price controls and protect intellectual property. Now that the battle against generics is lost, their preference is to make the regulatory framework of their home country also valid in Brazil; i.e., that drugs that have been approved by, say, the FDA or EMEA should automatically be approved in Brazil. This would save them the hurdle of having to make another drug approval submission to Anvisa and would also decrease their time to market in Brazil. Respondents also pointed out that it is difficult to count on multinational companies to work together in business associations. The work of a business association depends on building long-lasting personal relationships but the Brazil managers of MNCs are ephemeral and usually only stay in the country for a few years.

The second main association is Farmabrasil. Recently created, it seeks to address the concerns of pharmaceutical firms that invest in innovation and aspire to reach out for international markets. One of the core items in their agenda is to simplify Anvisa's regulation of innovative products. Third, there is Alanac, which encompasses the needs of more 'traditional' firms; i.e.,

those which do not invest in innovation, focus on the domestic market and see Anvisa regulation as a good source of protection.

This fragmentation reflects structural differences in technology and long-term strategy of businesses. As such, they do reflect the heterogeneous effects of regulation across the industry. So, there is a feedback loop through which business has different preferences over regulation, diverse preferences contribute to fragmented associations, and fragmented associations are less capable of changing regulation, ultimately resulting in the status quo prevailing.

Chapter 6

Agriculture

This chapter seeks to answer the question of when change is possible by looking at the case of the agro-export sector in Brazil. In past decades, the agro-export sector was arguably the most successful in seeking a reformist agenda that removed many of the regulatory obstacles it faced. The sector did so by forming nationally encompassing associations, setting concrete strategic political goals and using a powerful, multi-party caucus in Congress to push its agenda.

Why was this the case? I argue that the agro-export sector is capable of pushing reforms because three conditions applied to their case: 1) their export-oriented business model blurs the cleavages that exacerbate collective action problems. Since all in the sector are seeking to sell to global markets, any distinction between "insiders" and "outsiders" is less relevant. 2) Most of the regulation in this sector is not performing any desirable function

and there is no heterogeneous effect of regulation. Changing regulation is Pareto optimal for agriculture, unlike the case of the pharmaceutical industry. 3) The sectors' past experience with the government, and the threat of agrarian reforms during the 1988 Constitution, prompted the industry to organize encompassing associations. These conditions conveniently map into our theory of change. The blurred lines between insiders and outsiders make the two Nash equilibria available while the encompassing associations help the industry to settle for the high-level equilibrium, in which reforms are possible.

To better explain this argument, I use qualitative evidence gathered from fieldwork and interviews in the states of Goias and Mato Grosso, two of the Brazilian agricultural powerhouses. The chapter describes the historical evolution of the industry and its relations with the state. Notably, the benefits it received from government policies were rather indirect, mostly through R&D conducted by the Brazilian Agricultural Research Corporation, Embrapa. The industry also receives subsidies, especially in the form of credit, but the government did not build the sector from the ground up as was the case with the generics policy and Anvisa. Instead of being the direct competitors of domestic agriculture businesses, MNCs executed functions that are usually performed by the government in some nascent industries, such as giving producers access to capital and technology, which enhanced their sense of independence from the government. Agriculture and the pharmaceutical

industry are both successful sectors but they represent the opposite poles of a continuum in terms of business–government relations.

In terms of scope conditions, the agriculture I refer to here is grain-exporting agriculture, especially corn and soybeans. Although Goias and Mato Grosso are the powerhouses of this sector, it goes beyond their border. Currently, grain exporting activity extends all the way south to the interior of Paraná and as far north as the region known as 'MAPITOBA' which is a combination of the interiors of the Brazilian states of Maranhão, Piauí, Tocantins and Bahia.

The chapter is organized as follows. The first section reviews the theoretical premises of when actors can break with the Nash equilibrium of state capitalism. Section 2 describes the agro-export boom in Brazil's center-west and shows how actors' interactions with the government shaped their political behavior. Section 3 depicts the challenges for agro-exporters, describing how their main needs imply policies that are Pareto optimal for the sector. This contrasts with the case of the pharmaceutical industry, for which reforms are a zero-sum game. Section 4 digs deeper into evidence collected during fieldwork. It shows how reactions to previous policies resulted in stronger business associations. It also depicts the current attitudes of agro-exporters towards the government: while they have demands for public goods such as infrastructure, they find politicians helpless and their main concern towards the government is how to fend it off. Section 5 describes their most recent success in pushing for regulatory reforms: the promulgation of a new For-

est Preservation Code in 2012 and their fight to use their clout in Brazil's Congress to bypass Anvisa and roll back regulations on the use of pesticides.

A caveat is in order before describing the cases in which the agricultural sector was successful in changing regulation in its favor. Revising Brazil's Forest Code or pushing back against pesticide regulation were beneficial for the sector in the short term but one could argue they created negative externalities for the rest of society or even for agriculture in the long run. This is an important reminder that not all cost-cutting reforms are desirable. While I do recognize this fact and the importance of debating whether decreasing transaction costs should be more important than other social values, I am abstaining from making the judgement of which reforms are desirable or not. Rather, my focus is on on uncovering the political dynamics that made them possible, but cognizant that some of them are not desirable.

6.1 Blurred lines

This section recapitulates my main theoretical arguments and explain how export orientation, business associations and preferences for regulation change the equilibrium I proposed and make mobilization towards reforms possible. The core proposition of our theory is that a spectrum of different firm-level capabilities result in differential access to the market of strategic political factors. Firms that are more capable can make investments to place themselves in a position that leads to favorable interactions with the government. They are the insiders, the group benefitted by state-embedded capitalism. Out-

siders are the firms that cannot afford to place themselves in this strategic position. Insiders face lower state-imposed transaction costs than outsiders. This gives the former a competitive edge over the latter, but only if they are competing in the same market. The resulting equilibrium in this situation is that insiders will keep interacting with state agents through their privileged channels and outsiders will conform; make do with the system as it is. The theory chapter demonstrated that this situation was a Nash equilibrium through a simple simultaneous game played by the two actors, insiders and outsiders.

The equilibrium sustaining the absence of reforms relied on three assumptions: that a necessary condition for change is that the whole business community mobilize towards reforms; that a failed mobilization results in sanctions from state agents against the mutineers; and that insiders and outsiders compete in the same market and that the benefits of state-embedded capitalism are rival goods, such as subsidized loans or procurements. As a consequence, the insiders' privileges are also a competitive edge or barrier to entry against outsiders.

Unity within business towards reforms is possible as we make the three assumptions more flexible. If the third assumption, that the insider can gain a competitive edge over outsiders, is dropped, it is possible that the sector may organize to push for reforms because the preferences of insiders and outsiders become less conflicting. More precisely, the preference over action profiles for the outsider is the same but it changes for the insider. The latter

is now indifferent between mobilizing and conforming (previously the insider preferred conforming to mobilizing), as long as the outsider also mobilizes with the insider. The only situation to be avoided for the insider is one where the insider makes a move towards pushing for reforms but the outsider stands idle.

As we have already seen in the theory chapter, there are now two Nash equilibria in the game, shown in the matrix in Table 6.1. Still holding to the second assumption, that mobilization by the whole business community is necessary for reform, reforms will only happen if the Nash equilibrium where both actors mobilize takes place (top left-hand corner). I call this the high-level equilibrium. The second equilibrium, where both actors conform and no reform takes place (bottom-right corner), is a low-level equilibrium. Therefore, there are two possible Nash equilibria. Importantly, for the high-level equilibrium to happen, it is necessary to have some coordination device between the players allowing them each the knowledge that the other will choose the mobilization option.

		Outsider	
		Mobilize	Conform
Insider	Mobilize	$(2,3)^*$	$(1,2)$
	Conform	$(2,1)$	$(2,2)^*$

Table 6.1: **Mobilization of the business community is possible if Assumption 3 is dropped.** The game now has two Nash equilbria and with some coordination device such as an encompassing business association, insiders and outsiders can mobilize.

Let us now connect the formal logic of this model to the concrete situation of the agricultural sector in Brazil. The key point to apprehend from the model is that *there are that two necessary conditions for business-driven reform*:

Condition 1: That the cleavages dividing insiders and outsiders must be blurred so that the two Nash equilibria are possible.

Condition 2: That some form of coordination device among players must exist so that the resulting equilibrium is the high-level one, in which business-driven reform is possible.

A strong form of the theory posits that these two conditions are individually necessary and collectively sufficient. A weak form understands that the existence of both conditions is necessary for business-driven reform but only increases its likelihood, rather than being a sufficient condition.

Now I will show that the conditions 1) and 2) above have occurred in the agricultural sector in Brazil. Condition 1), that the lines between insiders and outsiders are blurred, happened because agriculture in Brazil is an export-oriented sector and the regulation they pushed back against was not performing any desirable function for actors within the sector. Condition 2), the need for coordination device, was fulfilled by the existence of coherent and encompassing business associations in this sector.

Export orientation

The agriculture sector's orientation towards exports blurs the cleavages that deepen collective action problems. We have seen that the pharmaceutical industry could be broken down into three distinct groups, multinationals, innovative domestic firms and non-innovative domestic firms. This structural division is much less salient in agribusiness. The whole industry uses similar technology and has a similar business strategy: they all seek to maximize crop yield and export their production, sometimes through selling to multinational traders, such as Cargill. There is no issue of IP or other regulatory catches, unlike the pharmaceutical industry.

Even when they do not export, their domestic sales price is set internationally. Since all are seeking to sell to global markets, the distinction between insiders and outsiders makes little sense. When firms are competing for the domestic market, 'insiders' could obtain a competitive edge over 'outsiders' by individually solving their predicament with the government, and getting to market first or cutting costs by accessing subsidies. But when all producers are selling commodities in the global marketplace, where they have no control over pricing or differentiation, there is little competitive edge to gain over someone else in the same industry. Small fishes and big whales share the large ocean of global agricultural markets, not the limited pond of domestic buyers, so they can still work together around common issues.

There may be doubts about whether it is the export orientation of producers that is really driving this process or whether it is that they are producers of commodities. Commodities would have a similar effect because producers do not compete against each other either. An empirical way to assess this confounding factor would be compare two sectors that are commodity producers and very similar in all other relevant variables but one sector being export-oriented while the other produces for the domestic market only. Then the model would compare the capacities of the two sectors to overcome problems of collective action and to push for reforms that decrease transaction costs. Finding such sectors is not trivial especially in Brazil because most commodities are in the agricultural sector. Those that are not, such as minerals, are also export-oriented and have very different political dynamics in the sense that there are vastly fewer producers and therefore problems of collective action are not as crucial. For example, the iron ore industry in Brazil is also export-oriented and is virtually dominated by a single producer.

Therefore, empirically solving the export-orientation vs. commodity production conundrum is out of reach at this stage of research. Indeed, in Chapter 4 I found a negative correlation between export/GDP and the complexity of the tax system, which could give credence to export orientation being the factor. However, outliers in the regression were driving this correlation (Brazil and UAE) and the relationship became positive, though not statistically significant, after I omitted them from the regression, making the nexus between export orientation and mobilization to reduce transaction

costs still inconclusive.[1] Although more research is necessary to untangle the effects of commodity production and exports, I will maintain the bet on export orientation because there is a trend in the literature pointing to this direction. As reviewed in Chapter 2, other authors have pointed out that integration with the global economy can push business into collaboration (Katzenstein, 1985) and that the more a country is integrated into the global economy the fewer the domestic barriers to setting up a business (Norbäck et al., 2014).[2]

Another crucial point to this argument is that agro-exporters are not competing. One could argue, however, that the global market is not a big ocean they can swim in without colliding with each other and they are actually also competitors in the foreign marketplace. If this is the case, the theoretical prediction that export orientation changes business preferences would make less sense. A way to address this question is to investigate the existence of price differentiation for exporters. If some producers are capable of selling at higher prices, it suggests that there is potential differentiation across buyers (some buyers are more prime than others) and then it would make sense to compete for these buyers.[3]. So, if Brazilian exporters are price takers; i.e., their export price is set at the international level and transmitted

[1]See Tables 4.2 and 4.3.

[2]However, some other authors point out that trade opening can lead to higher entry costs if it shifts political power towards a small elite (Do and Levchenko, 2009). As mentioned in Chapter 2, this is an important qualification to the connection between export orientation and lower transaction costs. It requires that the population of exporters not follow Zipf's law, which is the case for agro-exporting in Brazil.

[3]Notice that the existence of price differentiation is a necessary but insufficient condition to claim that agro-exporters compete. One would also have to show that there is restricted

to them, this means that there are no prime buyers with differentiated prices that they are selling to.

Virtually all the empirical literature in the field finds that producers in Brazil are price takers (Aguiar and Barros, 1991; Pino and Rocha, 1994; Margarido et al., 1999; Mafioletti, 2000; Machado and Margarido, 2001), the only exception being Sousa and Margarido (1998). The findings of Margarido et al. (1999) are of special interest. They compare the transmission of prices from the Chicago Board of Trade (CBT) and from the Port of Rotterdam to the prices in Brazil. Rotterdam's prices are spot prices for imports destined for Europe, so they reflect demand more than CBT prices, which reflect supply conditions. Margarido et al. found that Rotterdam's prices are transmitted more intensely to Brazil and conclude that demand prices have a more significant role in price formation in Brazil. This conclusion highlights the price-taking nature of the Brazilian agro-exporters, implying that they are mostly selling their goods in global markets without much differentiation.

Regulation and Pareto optimal reforms

Beyond export orientation, it is important to note that regulation in this sector is not fixing a market failure in a way that benefits the sector as was the case in the pharmaceutical sector. In the latter, stringent regulation and rigorous enforcement were necessary to overcome market failures that

access to these prime buyers and that other Brazilian exporters could potentially serve these buyers but are pushing them out of this market

jeopardized the credibility of the whole drug industry. Anvisa's rigor is a 'necessary evil' for the industry and it was worth it to invest in compliance.

This is not the case for agriculture. The examples of regulations they tried to roll back were environmental rules and restrictions on the use of pesticides. This regulation actually forces them to internalize negative externalities of their activities, so there is no point in their welcoming such restrictions.

Just as important, there is no heterogeneous effect of regulation in agriculture. Stringent pesticide rules do not protect some producers from competition and delays in environmental licensing do not grant an implicit advantage to incumbents over potential entrants, as was the case in the pharmaceutical industry.

Effective associations

Effective associations are necessary as a coordination device, signaling or even leading members of an industry to move towards the high-level equilibrium. In this case, the role of association is to 'put businesses on the same page' as to which course of action each member is taking in their strategic interactions. Even better, associations can function as a 'delegative' device: individual businesses delegate the decision and the implementation of political actions to the association altogether. In this case, the dilemma of collective action is dissipated because the new entity can make the decision to move all its members together to the high-level equilibrium.

The political economy literature has identified the role played by business associations in helping businesses overcoming challenges of collective action. Business associations can limit the pursuit of particularistic benefits from their members by closely monitoring their actions. Haggard et al. (1997) and Doner and Schneider (2000) point out that business associations remove problems of collective action by using an effective internal intermediation system, with adequate member representation, deliberation and transparency. These authors also emphasize the usefulness of associating to decrease the cost of acquiring information. By collecting and disseminating information about policy challenges and opportunities, one could add to their argument, associations also help to 'put businesses on the same page' in terms of their political agenda; i.e., agreeing beforehand which policies they favor or oppose, ranking their importance, and deciding what course of action should be taken about them. Having its members on the same page at $t = 0$ decreases the cost of political mobilization towards a given agenda at $t = 1$. Relevant to an understanding of the rise of agri-business associations in Brazil, Doner and Schneider also emphasize that one of the most common roles of business associations is to press for stronger property rights when there is a threat of expropriation.

Indeed, associations of agro-exporters have grown in power, scope and range of action in Brazil in the last decades. The sector's past experience with the government is permeated with animosity, lack of trust and the need to fight back against some policies. Decades ago, during the discussions of

Brazil's 1988 Constitution, the sector had to become organized to fend off the existential threat of agrarian reforms. This type of threat is a formidable trigger for the formation and strengthening of an association (Fernandez, Working Paper). The sector has unions highly coordinated across several levels of the federation, the powerful Confederação Nacional da Agricultura sitting at the top and the Bancada Ruralista its spearhead in Congress. Meanwhile, its counterpart in the manufacturing sector has a hard time in setting a policy agenda.[4] The CNA has a very cohesive agenda and is relentless in pushing it in Congress, as I will describe in the final section. In sum, while the sector's experience with the government and past threats circumstantially prompted it to form strong associations, the structural factors associated with being export-oriented has meant less diverse interests, therefore more cohesion within the association. Strong and cohesive associations in agriculture in Brazil have provided the coordination device among players necessary to fulfill Condition 2 above.

In short, the theory predicts that business-driven reforms are more likely to take place when the cleavages dividing insiders and outsiders are blurred and there is a device that leads players towards the high-level equilibrium. The case of agriculture illustrates this prediction. There, the distinction between outsiders and insiders is less clear because players do not compete

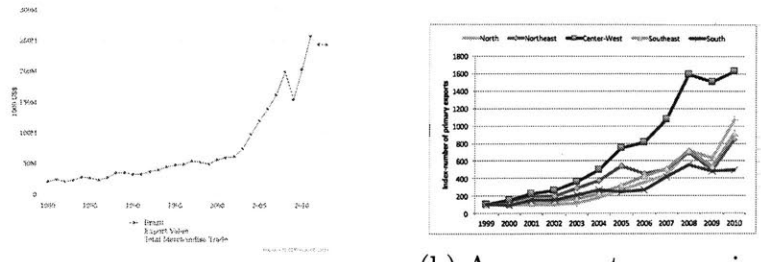
[4]Respondent 050, a manager of the unit responsible for government relations at Confederação Nacional da Industria, confided that more than half of this time is spent managing the conflicting positions of their members, especially in terms of tariff policy, rather than actually lobbying in Congress.

with each other. For this reason, the incentive to bypass other players and pursue privileged connections with the state is weaker. Add to this the fact that there is no heterogeneous effect of regulation, so reforms are Pareto optimal, and the coordination device is provided by the strong associations in the sector, together with its congressional caucus.

6.2 The agricultural boom in Brazil

Agriculture in Brazil went through an impressive boom in recent decades. The growth of exports was nearly flat during the 1980s and 1990s but increased five-fold in the 2000s. While exports grew throughout the country, in the center-west region, primary exports increased 16-fold during the 2000s, as shown in Figure 6.1 below. Southwestern Goias, the site where most of the interviews for this case were collected, is among the regions that extensively contributed to this trend.

Two main technological changes enabled the agricultural revolution in Brazil's center-west. The first is the use of fertilizers, particularly lime, but also phosphate, in the late 1970s/early 1980s, in order to turn excessively acidic soil into fertile land. Second, soybean seeds had to be adapted to low-latitude environments, in which the sunlight hours during daytime are shorter than in high latitudes, where these seeds were originally cultivated. More recently, another crucial change was the introduction of the double-cropping system. In temperate climates, the growing season allows for only one crop a year. In the Brazilian savannah, also known as the *cerrado*,



(a) Agro-exports whole country (b) Agro-exports per region

Figure 6.1: **Brazil's center-west stands out as the region with the fastest growth of primary exports.** The y-axis indicates the indexed number (1999=100) of total commodities exports by region measured in US$. While commodity exports increased in all regions, growth was much steeper in the center-west. **Source:** FAO, Brazil's Ministry of Development, Industry and Foreign Trade. Primary exports refer to Chapters 01 to 15 and 27-28 of the Nomenclatura Comum do Mercosul - NCM.

several months of stable temperatures and rain allow producers to squeeze in a second crop of corn, known locally as *safrinha*, immediately after the soy harvest. This requires improved biotechnological inputs – soybeans with shorter life cycles – and more intense mechanization of farming – harvesters and seeders that can cover large plots of land quickly. The second crop is more expensive and riskier but allows farmers to profit from land that would be idle otherwise, considerably impacting yearly yield per hectare.

Figure 6.2, taken from Monteiro et al. (2015), compares land yield in Mato Grosso, another state in Brazil's center-west, with Illinois. Note that crop yields are similar for each product in the two areas. However, while Illinois farmers have to choose to plant either one crop of corn or one of soybeans per year, the Brazilian producer can choose to do both in a single

year: soybeans followed by corn, resulting in annual yields up to four times higher than those of their American counterpart.

Location and Crop	Yield ($Mt\ ha^{-1}$)	Energy ($Mt\ ha^{-1}$)	Protein ($Mt\ ha^{-1}$)	Oil ($Mt\ ha^{-1}$)
Illinois, USA				
Corn	9.70	7.46	0.79	0.35
Soybeans	3.23	0.97	1.18	0.64
Mato Grosso, Brazil				
Corn	6.22	4.78	0.51	0.22
Soybeans	3.02	0.91	1.10	0.60
Safrinha	9.24	5.69	1.61	0.83
Safrinha vs. Illinois corn		-24%	104%	137%
Safrinha vs. Illinois soybeans		485%	36%	28%

Energy, protein, and oil production per hectare.

Figure 6.2: Double cropping can make yields four times higher in Brazil. Table copied from Monteiro et al. (2015). Note that although yields in Illinois can be higher for each crop, the Brazilian farmer can squeeze in a second crop that may increase yield four-fold.

The roots of the agro-exporting boom

The way business–government relations evolved during the development of agriculture in Brazil was fundamentally different than in other sectors, such as the pharmaceutical sector. In the latter, Anvisa had to coordinate very closely with local manufacturers, BNDES provided generous loans, government used its purchasing power and the National Health System to generate demand, and private and state laboratories partnered in development projects. There was always the threat of imports, which was averted by stringent regulation. MNCs were the rivals of the Brazilian firms and had very different policy preferences.

In the case of the agricultural sector, the state was indeed central in providing subsidized capital and introducing new technology, despite the small credit it was given by producers. Government agencies played a supportive role in subsidized credit and introduction of technology. However, the relationship with agencies such as the state-owned Embrapa was more arms-length than the relationship between drug manufacturers and Anvisa. Subsidized credit would came too late in a very time-sensitive sector or was insufficient in scale. MNCs, rather than being a rival, supplemented state policies by supplying informal credit to illiquid producers and introducing new technology. The arms-length distance and insufficiency of some policies created a hostile perception and attitude towards the state and its agencies, as I will show below.

In remainder of this section I will discuss these policies, the role of MNCs and, more importantly, how the challenges of the agricultural economy create a demand for policies that are either win-win or Pareto optimal for the sector.

Embrapa and technology

Embrapa, the state-owned agricultural research company, is an outlier among Brazil's state agencies. It managed to fly under the radar of appointive politics: its president was always a scientist recruited in-house who enjoyed much longer tenure time in his position (average of 3 years compared to approximately 1 year in other SOEs such as BNDES or Petrobras). The agency's being insulated from party politics means that political credit-claiming for its

achievements is less salient and the organization is more low-profile. Embrapa is responsible for genetic adaptation of soybeans to low-latitude areas and the development and introduction of fertilizers. These actions were part of a plan crafted by the military regime in the 1970s, aimed at developing farming in Brazil's central region. A branch of this broader plan was the Programa de Desenvolvimento Região Centro-Oeste (Polocentro), which subsidized the introduction of fertilizers by agricultural producers through generous loans, allowing up to 12 years for repayment. Currently Embrapa is considered one of the clearest cases of successful promotion of innovation and upgrading in agricultural products (de Azevedo et al., 2016; OECD, 2015), with 9,600 employees in local research centers that focus on agriculture research relevant for the local climate and soils (Limoeiro and Schneider, 2017).

Finance

Agro-export activities are highly dependent on functioning capital markets. Since the time window for seeding and harvesting is the same for all producers and they cover very large plots of land in a short time, they cannot share their machinery. Each producer needs to buy their own tractors, seeders, pulverizers, and harvesters. For a medium-small producer, a low-end harvester can cost around US$150,000 (a high-end harvester can easily cost US$500,000). Therefore, the upfront investment in machinery required for agriculture can easily exceed US$500,000. These machines will last for a decade, but will be idle for most of the year. Add to this upfront investment

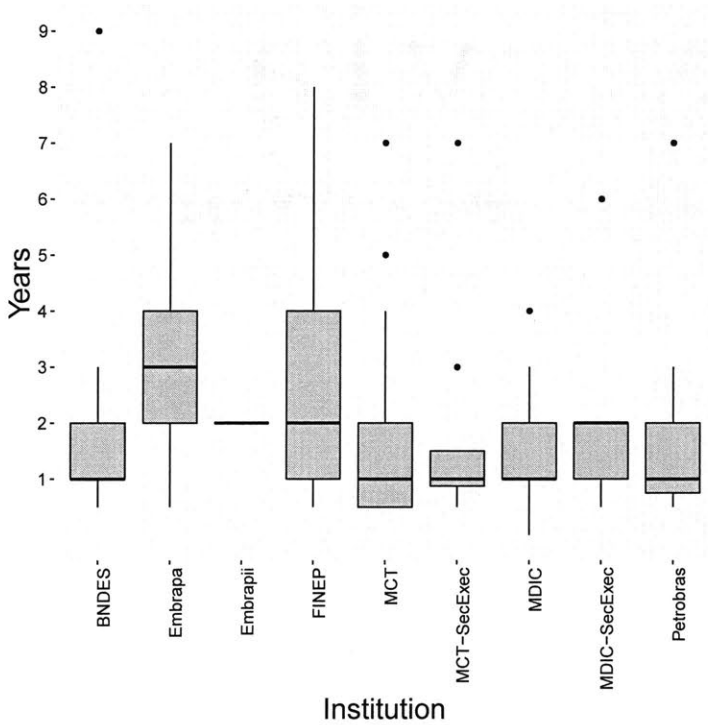


Figure 6.3: Embrapa has one of the longest presidential tenure times among Brazil's agencies. The agency managed to fly under the radar of party politics. As a consequence, it is a more low-profile agency and there is little political credit-claiming for its achievements.

for each season the spending on seed, fertilizer, herbicides and pesticides. In addition to the substantial upfront investment, there are also high weather risks, high price volatility and the cash flow mismatch (crop revenue comes in several months after the initial investment). Therefore, in a country where financial markets are shallow, government-dominated and very expensive, financing for agriculture is very politicized.

Government-subsidized loans are made available for agriculture in vast amounts, but the rates are still less advantageous when compared, for example, with subsidized loans for manufacturing. Respondents commented that a 9% annual rate for subsidized credit is the most common practice, going down to 7% in good times. This is below Brazil's base rate (usually over 12%) but higher than, for example, BNDES loans for manufacturers (4%) and high by any international standards. Some loans carry lower rates, but these are usually reserved for beneficiaries of the family agriculture program (Pronaf), who are involved in family agriculture, as opposed to export-oriented agriculture.

There is a debate about how sufficient the scale of government loans is. According to Respondent 003, an agricultural consultant, public banks finance only 30% of agricultural production in Brazil. Confederacão Nacional da Agricultura makes exactly same claim, but provides no readily available source to back it up.[5] The graph in Figure 6.4, taken from Belik, shows that

[5]See https://canalrural.uol.com.br/noticias/apenas-safra-brasileira-financiada-com-politicas-publicas-71958/.

farm credit as a share of total agricultural output used to be much larger in the past than it is today. It shrunk considerably during the 1980s and 1990s and it was not until the 2010s that it recovered to a level similar to the support received in the 1970s.

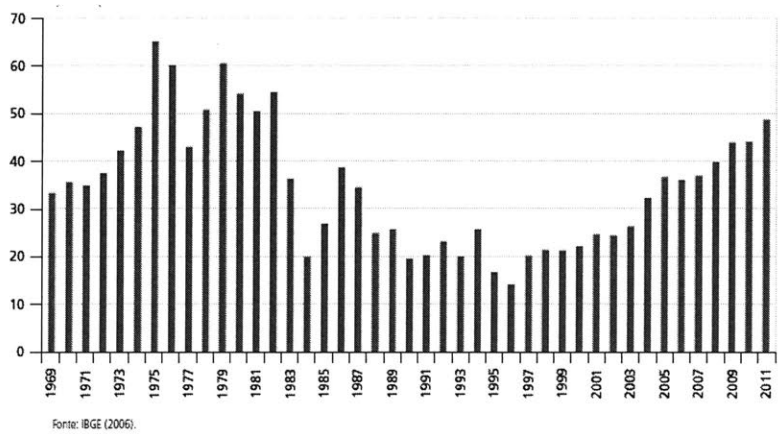


Figure 6.4: Only by the late 2000s did agriculture again receive the same level of public financing that it had in the 1970s. **Source:** Copied from Belik (2015).

On one hand, agriculture receives relatively more subsidies than manufacturing and services. The total amount of subsidies in absolute terms is smaller. But when subsidies are compared to share of GDP, agricultural producers receive twice as much as service producers and six times more than manufacturers, as Table 6.2 shows.

But on the other hand, Brazil is among the countries that subsidizes its agriculture the least (for which data are available). The OECD collects data on agricultural support for its members and associates. It measures total policy transfers to agricultural producers as a share of gross farm receipts

		Agriculture	Manufacturing	Service
Finance and Credit	BR$ (billions)	22.7	22.2	39.6
	Share of total	0.26	0.26	0.46
Tax	BR$ (billions)	26.3	35.5	208.7
	Share of total	0.09	0.13	0.77
Total	BR$ (billions)	49	57.7	248.3
	Share of total	0.13	0.16	0.69
Sector's share of GDP		0.04	0.39	0.56
subsidies/GDP		**3**	**0.41**	**1.24**

Table 6.2: **Agriculture is less subsidized in absolute terms but more subsidized as a proportion of GDP.** Source: Author, with data from 'Segundo Orçamento de Subsídios da União", Ministerio da Fazenda, 2018, pp. 13 and 16. Amounts show subsidies for 2017. For GDP share, IBGE, Sistema de Contas Nacionais Tabela 17, 2015. Percentages may not add to 100 because of rounding. The participation of agriculture through the production of primary goods in rural entities is low ($\tilde{5}$% as shown above), but according to the Ministry of Agriculture, the broader participation of the sector in the GDP, through transformation and distribution, sums to approximately 24%. See `http://www.agricultura.gov.br/noticias/agropecuaria-puxa-o-pib-de-2017`, accessed 21/04/2019.

(PSE as share of GFR). In a group of 25 countries, Brazil ranks fifth lowest in support for the agricultural sector. Its PSE/GFR is 2.39, while this figure is 9.8 for the US and 18.3 for the European Union. Among the top five agricultural exporters (USA, Netherlands, Germany, France and Brazil), Brazil is the country that subsidizes its agricultural activities the least (assuming the subsidy level in European countries in this list is similar to the aggregate level for the European Union).

Country	Subsidies for agriculture
Australia	1.7
South Africa	1.9
Brazil	2
Mexico	7.5
USA	9.8
European Union	18.3
Japan	49.1

Table 6.3: **Brazil is among the countries that least subsidize agriculture.** The table shows agricultural subsidies as total policy transfers to agricultural producers as a share of the gross farm receipt. **Source:** OECD Producer and Consumer Support Estimates database.

Therefore, while there are indeed subsidies for agriculture in Brazil, they are low by international standards. Even compared to other Latin American countries for which data are available, Brazilian agriculture receives less support. The PSE as share of GFR is 2.4 for Chile, 5.9 for Costa Rica, 7.2 for Mexico and 9.4 for Colombia.

Multinationals

MNCs complemented the state in financing and R&D development. Indeed, the interests of MNCs, government and local producers were very much aligned. The government wanted to increase land occupation and production in the Brazilian *cerrado*. MNCs needed to guarantee a stable and affordable supply of grain for its global production networks, local producers wanted to increase the yield of their land, previously dedicated to low-yield crops such as rice. None of them competed with each other in the value chain. This alignment of interest between government, MNCs and local business was not present in the pharmaceutical industry. The important policy agenda for pharmaceutical MNCs was making price controls more flexible and protecting IP. For the government, price controls were important for keeping drugs affordable, and breaking IP to carry out a generics policy should be kept as a possibility. Local producers could only have a chance in the market if they competed against MNC-produced drugs by decreasing prices, as opposed to innovation. For this, local producers needed access to MNCs' IP. In contrast, no such misalignment existed in agriculture.

As discussed in the previous section, in the 1980s and 1990s state-sponsored credit was scanty. MNCs would work with producers facing liquidity problems by selling seed and deferring payment until producers cashed in their crop months later. They would also sell inputs in exchange for a future share of their crop or the right to buy part of it at a pre-fixed price. According

to Respondent 002, a local middle-sized grain producer who moved to the region in the early 1980s, MNCs financed his production by selling him fertilizer and machinery in exchange for buying a prefixed share of his coming output at a previously fixed price. The so-called ABCD firms (ADM, Bunge, Cargill, and Louis Dreyfus) had been present in the region since decades earlier, when their main activity was buying local product and selling it in international commodities markets. More recently, these firms started adding value to local production by crushing soy to make animal feed, among other productive processes. According to several respondents, MNCs still finance local production by selling agricultural inputs in exchange for buying a share of their output at a prefixed price.

MNCs also supplemented the government by introducing new technological inputs that increase crop yields. Companies such as John Deere, Massey Ferguson and New Holland operate locally by supplying machinery, and others such as Monsanto and Pioneer sell seed, fertilizer and pesticides. MNCs would even partner with Embrapa in its R&D effort. They also introduced technologies that increased crop yield to local producers, such as more resistant seed, fertilizers and pesticides. The enactment of the Plant Cultivars Protection Act (LPC; Law 9,456/1997) removed some obstacles in the path of MNCs' subsidiaries to undertake private research programs in Brazil. Indeed, part of Embrapa's current strategy to develop improved soybean productivity is to partner with subsidiaries of the MNCs Monsanto, Syngenta, Pioneer, Milenia and BASF (Figueiredo, 2014).

6.3 Demand for Pareto optimal reforms

Despite the recent boom and occasional institutional improvements, agriculture in Brazil faces a number of challenges. Some of these come from the inherently risky nature of the activity. However, many of the challenges could be fixed by policy, thus creating an opportunity for a demand for policy in the sector, which in turn could trigger the formation of associations. Virtually any industry in Brazil has demand for some type of policy, so agriculture is no different in this respect. What makes it different, though, is that these policy demands are less contentious within the sector. In the pharmaceutical sector, core issues such as IP or more flexible post-market regulation would drive a wedge between multinationals, innovative domestic producers and non-innovative domestic producers, as we saw. In manufacturing, the issue of high import tariffs can divide the sector between, for example, domestic producers of machinery and producers of consumer goods that have to import machinery. The manufacturing sector is exposed to the global economy in a such a way that higher and lower tariffs affect firms differently.

The challenges described below show that this is not the case with agriculture. Policies that could address these challenges have little or no intra-sector redistributive effect. Their up-side affects producers equally or, in the worst case when rival goods such as subsidized credit are the solution, they are at least Pareto optimal. Common challenges force business to overcome problems of collective action and form associations. The fact that policies fixing

these problems have little intra-sector distributive effects helps keep business cohesive around a policy agenda. The challenges I describe below are mostly based on salient issues that were brought up by interviewees.

Access and timing to credit

First and foremost, respondents frequently pointed out that access to subsidized credit was a key policy for them. But in addition to access to credit, the peculiarity of agricultural activity made it necessary that access to credit was given in a timely way. Unlike manufacturing, agricultural producers have a small climate window during the year in which they have to buy inputs (seed, fertilizer, pesticides and machinery), and plant seeds. The climate in Brazil allows them to plant two crops in a year, which is prodigious for land yield. But growing two crops requires perfect timing in seeding and harvesting. So, the importance of the timing of financing cannot be underestimated.

Farm credit in Brazil is seasonal; every year the government issues the *Plano Safra*, in which it specifies the amount of capital that will be made available to producers. After this, banks – the most important being Banco do Brasil – are responsible for processing the credit applications and disbursing loans. Disbursement therefore has to match the climate window with precision. If the government delays issuing the *Plano Safra* or the Banco do Brasil delays application processing, producers are forced to turn to informal credit, such as paying suppliers in installments, promising crop shares to multinationals or even going to loan sharks. All these options are

considerably more expensive than subsidized government credit, but if the seeding time comes and government credit is not yet available, it is either pay substantially more for capital or risk severely damaging crop yield due to incorrect timing. So, in the case of subsidized credit, the issue of timing is crucial for agriculture and respondents consistently reported this to be a battleground with the federal government.

Crop insurance

Most crop farming areas in Brazil's center-west are not irrigated and therefore subject to variation in rain patterns. When asked about the last crisis they faced, four out of the eight respondents in this sector mentioned the 2016 crop shortfall due to insufficient rain for the second crop (*safrinha*). Many producers lost up to 80% of their crop. Some producers had already signed contracts for future sales and faced hefty fines for non-compliance. At the time, they resorted to the local producers' union, which prompted the mayor's office to issue an emergency decree, signaling official recognition of the drought. The decree had, however, little legal effectiveness.

Problems related to weather and price volatility could be fixed by well-functioning capital markets that would spread the risks. Instruments such as crop insurance and hedging could help buffer crop shortfalls or swings in the exchange rate. In 2003, the total of farmers' contracts in Brazil was a feeble BR$200 million, out of which more than BR$100 million was *Seguro Penhor Rural*, which basically means that producers can use their crop out-

put as a guarantee in case of default. Only the remaining BR$100 million corresponded to insurance covering crop failure due to weather or losses due to animal diseases. This figure grew to BR$1 billion total farm insurance in 2011. This is solid growth, but small when compared to the total BR$100 billion of farm credit made available that season. The coverage therefore is still very small partially because private insurance companies have little interest in working with farm insurance (Belik, 2015, pp. 26-28).

Indeed, some respondents reported having to sell off their land and other personal property to pay their debts. The reason is sometimes beyond their control; crop failures due to variations in rainfall. Therefore, due to weak capital markets, exemplified by the lack of crop insurance, the risk in the sector is usually borne by the producer, and not spread among financial institutions and external investors.

Macro-economic and exchange rate stability

The late 1980s and early 1990s were unfortunate times in Brazil in terms of economic policy. At the time, hyper-inflation was rampant. In the early 1990s, then President Fernando Collor deemed it a good idea to freeze 80% of saving accounts for 18 months. The measure took the population by surprise in March of that year. The government allowed restitution of the seized money, most of it eroded by inflation, in August, 1991, in 13 installments. The measure was obviously traumatizing not only for agriculture but for the general population However, one piece of chicanery relating to agricultural

loans made by the government-owned Banco do Brasil motivated agricultural producers to collective action.

At the time, government-sponsored agricultural loans were indexed to the official savings account rate, which was 40% per month in March 1990, but Banco do Brasil used a rate of 80% per month to index their rates. This dispute eventually became an unsettled class action lawsuit against Banco do Brasil, spearheaded by the Federal Public Prosecutor with the support of the *Sociedade Rural Agricola.* Respondents recalled that was a moment they were fired up to come together to fight against the state-owned bank. Respondent 008, a farm producer in Goias, recalls that they would use tractors to block the entrances of Banco do Brasil branches.

Other political shocks also affected agriculture, particularly swings in the exchange rate and price volatility. The price of soybeans and corn is highly volatile and depends on the production in the US crop for that year. If the US crop, which hits markets a few months later, is bountiful, the global price drops. Price variation across years is considerable. On top of that, Brazilian producers are affected by their country's exchange rate. Many of their inputs are imported, and are priced in US dollars (USD), but paid for with Brazilian Reais (BRL). Their sales are strictly benchmarked in USD (the global market price is set by the Chicago Stock Exchange). So, a mismatch in the exchange rate between the period in which they are buying inputs (e.g., undervalued BRL would make their imports more expensive) and when they are selling

their crop (overvalued BRL will make their selling price cheaper) can have a big impact on their final revenue and profit.

For example, during the 2003 elections when there was general concern about the future of macroeconomic policy under the Workers' Party, capital fled the country. Given its deep connection to global markets (inputs are imported, output is exported), agro-exporting is highly sensitive to changes in trade terms. As reported by a respondent who produces soy seed:

> Agribusiness over this period suffered a lot with government programs [...] So there is a change in administration and a new administration comes in and the currency changes and changes the status of your debt to the bank. But our business suffered a big impact in 2002/2003. Defaults were rampant in 2002/2003. Producers had no output because of the mismatch in the exchange rate, in addition to the failed crop. So it was a really big impact, many firms went bankrupt and we almost went down that road too. Because when producers have no output, they don't have the money to pay me either. [Respondent 006]

Pareto optimal solutions

Fixing the policy issues described above implies very little, if any, intra-sector redistributive policies. Improving the timing of credit disbursement or using Federal Bank reserves to smooth the exchange rate is an across-the-board win. Making crop insurance more accessible to producers requires

either helping private insurers overcome problems of adverse selection and moral hazard or dispensing more public subsidies. The former is also an across-the-board win, the latter is Pareto optimal.

Therefore, agricultural producers are playing a positive-sum game when facing their challenges. This derives from the overall homogeneity of their productive process and business strategy and also from the fact that they are not competing against each other in the same market. If this was the case, then a solution such as increasing subsidized credit would cease to be Pareto optimal. Those who have access to cheaper credit gain a competitive edge, as the argument around the pan curve in the previous chapter made clear. When firms are not export-oriented and are competing in the same market, the space of policy solutions that are Pareto optimal shrinks and this affects their cohesion.

6.4 The bootstrap sector?

The previous section argued that Pareto optimal solutions to the challenges of agriculture make it easier for the sector to rally behind a policy agenda. This contrasts with the pharmaceutical sector, in which a common policy agenda is muddied by structural divisions with the sector. This section adds another factor explaining why it was easy for agriculture to rally behind a unified agenda against state regulation: the limited role of the state in its development.

The agricultural sector in Brazil did benefit from state intervention but in ways that differed from other sectors. State support came in the form of R&D through Embrapa, a low-profile technical agency with little space for political credit-claiming. Financing was limited until the sector gained prominence in the early 2000s. In the absence of the state, private actors such as MNCs stepped in to play a role in financing and technology.

Currently, the sector suffers from the extremely poor job the government does of providing infrastructure. Just as important, agricultural activity is based on Brazil's natural comparative advantage. The country has a large territory, with an extensive amount of fertile land and it hosts the largest reservoirs of fresh water in the world. The tropical weather enables two crops to be grown in the same season, boosting land productivity.

The point here is not to dismiss the role played by the state but to show how limited it was, even for natural reasons. Now contrast that to how central the state was in the case of the pharmaceutical sector. In the latter, regulation by Anvisa enabled industrial upgrading by removing problems of collective action in the early 2000s and still raises barriers against foreign competitors; BNDES provided generous loans; MNCs were rivals, not partners; the federal government broke patents to open space for generic drugs and used its purchasing power to create demand. As we argued in the pharmaceutical chapter, stringent regulation was performing functions that a good part of the business community wanted.

In contrast, the relatively arms-length relationship between business and government in agriculture prompted a set of negative beliefs and attitudes on the part of farm producers towards the state. The responses collected below show that they tend to see themselves as a bootstrap, self-made sector. A common maxim repeated by local farm producers is that "Brazilian agriculture does well inside the farm gate, but does poorly beyond it." That is to say, producers do their homework in increasing productivity, but the state, responsible for providing public and club goods 'beyond the farm gate' does a second-rate job. The state is not perceived as performing a crucial function and also is deemed to be failing in its obligation of basic public goods provision. The two quotes below reflect the dissimilar attitudes and expectations between the two sectors:

> Anvisa was another watershed within the Brazilian pharmaceutical market. Anvisa was an achievement. Serra [former Health Minister who created Anvisa] said that his legacy was generic [drugs]. No. His legacy was Anvisa. [Respondent 049, head of a pharmaceutical association, praising the role of a state agency in the development of his sector]

> I say thank God the state abandoned us. Because if the state had protected us, we would be like the manufacturing sector, losing, losing and losing [...] and I hope it stays this way because if

> the government starts helping agribusiness, I will want to leave it. [Respondent 003, a farm producer in Brazil's center-west]

This last quote comes from a grain producer with a relatively humble background who worked as a researcher and broker in a MNC, started planting his own crops, and now runs an agricultural consulting company. He went on to chastise the manufacturing sector for how they deal with the government.

> I think that [relying on the government] was the mistake of the auto industry and many other manufacturers. They always wanted to come to this region, but they always said 'I want a subsidy, I want this, I want that.' Their focus is on the benefits, not on the business. [Respondent 003].

Of course, there is a lot of social desirability in his response and in the responses of all the interviewees cited below. Shrugging off state support signals competence and projects the image of global competitiveness on its own merits. It is very unlikely he would leave the sector if the government ramped up subsidies to it. Few capitalists, if any, would say no to the chance to pocket generous subsidies. However, that this type of response is seen as socially desirable by respondents is telling about how their sector perceives its relationship to the government: it is not a co-dependent relationship, but one in which the state can be fended off, because there is not much to lose or gain from it. If they are competitive on their own merits and the government

does not do its own homework in, for example, infrastructure, it makes sense to mobilize and remove the obstacles that an unhelpful government imposes in the form of regulation.

I captured more evidence of this recalcitrant attitude towards the state. I interviewed eight grain producers in the city of Rio Verde, a leading soybean and corn exporting region in the interior of Goias. Most of them also had a side enterprise: One of them runs a business that sells innovative fertilizers developed by a European company; others have investments in real estate. Two respondents were from other Brazilian states and had come to the region in the 1980s. Some were from farming families; others had earned a B.Sc. in agronomy in São Paulo or Minas Gerais.

When they moved to the region, the transition from low-yield crops such as rice to soybeans and corn was still taking place. They could take advantage of the cheaper price of land compared to São Paulo or Minas Gerais. There was also a large inflow of migrants from Brazil's southern states with a similar motivation: accessing cheaper but fertile land in the early days of the soybean and corn boom. Two of the respondents ran relatively large businesses (around 300 to 400 employees) related to seed and soybean processing in addition to their crop production.

In the interviews, I administered a semi-structured questionnaire in which I tried to capture their attitude towards the state. The interviews lasted for an average of one hour and started with questions about respondents' background, their economic activities, how they started in the business, their

roles, and their product lines and their main challenges. Then the questionnaire asked when they had last faced a negative economic shock and how they had reacted to the shock. The goal was to understand whether a negative shock would lead them to seek government support. Next, the questionnaire would ask about how they would try to access the government if they needed to, and whether they felt compelled to nurture relationships with government officials and how they would do so.

Respondents showed very little expectation about what they could gain from their relationship with the government. They reported that their primary regulatory challenge is environmental regulation and labor law. However, when asked what could be done about it, they said not much since these regulations are imposed at the federal level, beyond their reach or influence. When I asked one respondent, a mid-sized soy producer, how he would react against some new regulatory rule that strongly affect his business, he replied:

> I would shut up. There is no use in messing with the federal government. You win nothing because it comes from the top down. I've never seen anyone winning anything against the federal or the state government. [...] A farmer who fights the federal government, the state government or a multinational never wins, never wins. [Respondent 002]

This attitude of powerlessness is an apparent contradiction to my argument that the sector is highly effective in pushing for reforms. However, it

can be the case that their sense of powerlessness at the individual level is an extra incentive for them to join and invest in associations that take their claims to powerful decision-makers. If one does not have privileged access to state agents, an association is the best means to have one's voice heard. And associations will be especially helpful if the members have the same preferences and policy agenda. Some of the respondents are highly involved in regional business associations, which they see as important to protect "the small guys from the big actors out there," in their own words.

Most respondents named the 2016 drought that decimated the corn *safrinha* as their most recent negative economic shock. A producer reported losing a good share of his crop and not being able to fulfill a future-delivery contract with a MNC, for which he had to pay hefty fines. The respondent whose side business is to sell a new type of fertilizer reported a drop of 45% in sales. Other respondents mentioned the damage incurred by Asian soybean rust, a fungus that destroys soy plants. Still others reported almost going bankrupt in 2003 because of the double effect of an exchange rate crisis and bad weather leading to crop failures. Those who had been in the business for longer reported the Collor government's freezing of saving accounts in 1991 (see details above) as their most traumatic moment.

The dominant reaction reported by producers to these negative shocks was not to seek government support. Instead, they made some sort of organizational change in their business. The fertilizer seller laid off part of his staff, adopted a system to track gas usage by his sales team, and improved

his analysis of the creditworthiness of the company's clients.[6] The owner of a large seed supplier renegotiated his liabilities and credits with customers and creditors. A producer who also has a high political profile in the region (he is a former president of the farmers union and from a traditional political family), reported having to sell his private property to pay back his debt to the bank after being hit by the Asian soybean rust:

> Many producers were pushed out of business, [and they] lease out their land to pay debts. I myself stopped planting for 7 years to pay my bills to the bank [...] I had to sell real estate to pay half the debt. The other debt I renegotiated to pay in six years. I only resumed planting two years ago because I had [no access to] capital.

As reported above, many respondents reported cases in which other producers were hit by some shock, became unsustainably indebted, and were pushed out of business. The nature of the Banco do Brasil, which is partially owned by the government but is also publicly traded and has private investors, contributes to it being uncompromising in collecting delinquent debt – or at least this is the case at the individual level.

In order to have some relief from debt, it is required that the federal government cover the debt with resources from the public budget. This in turn

[6] Many of the local sales contracts are placed through a payment plan in which the buyer pays the bulk of the sale after harvest, so if the crop fails, they default on the contract. This informal credit system results in some of the risk being shared by local suppliers of agricultural inputs, meaning that they are also heavily affected when producers are hit by a crop failure.

requires congressional approval. If the Bancada Ruralista steps in, there is some hope for relief – but not through individual lobbying of bank employees or local politicians. This results in little room to reach out for political help and restricts producers' reactions to negative shocks to such organizational and business-related strategies as cutting costs or restructuring debts.

To the question of whether there was any policy the government could have pursued to help them survive the negative shock, three of the respondents mentioned farm insurance as a potential solution, while three others dismissed this possibility, saying that the government is never helpful (given the semi-structured nature of the interview, as opposed to a survey, two of the interviews did not get to this specific question). When asked if they had tried to reach out to the government when faced with the shock, three replied that they did not because the government and politicians are not helpful or there is too much bureaucracy. One of them described his failed past attempts of making requests of politicians to improve the safety conditions of a local highway, where deadly car accidents with trucks transporting soybeans were recurrent, to no avail.

Another respondent, the owner of a large local supplier of agricultural goods, answered that he does try to access loans from BNDES or Banco do Brasil, but does not think of government support for critical situations. Indeed, he explains, he avoids any interaction with government agencies, and does not attempt to access tax breaks or subsidized land because it takes too long, there is a lot of red tape, and he can 'go faster using his own resources;'

i.e., investment can be deployed without having to wait a long time for the necessary bureaucratic procedures:

> We did not look into this [tax break programs], to tell you the truth. We had access to it, but we believed that with our own resources, we could go much faster. There are some companies that came to the city and got a tax incentive, but we did not pursue it [...] for many reasons; one of them is the bureaucracy, we didn't have time to wait, we didn't depend on it to grow. And in Brazil, unfortunately, the government and its structure are not efficient.

Finally, when asked how they would hypothetically reach out to the government if needed, one respondent insisted he would not reach out to the government because it is not helpful; four mentioned the local association; and two said that either the association or politicians were an option. Their main motivation for working through the association is that it grants them anonymity while pressing the government, thus preventing retaliation from government officials. This point was mentioned also by businesspeople in other industries.

Labor law and environmental regulation

The most prominent regulatory challenge mentioned by respondents was labor law and environmental regulation. Brazil has very stringent labor regu-

lation,[7] which is closely monitored by the *Ministério Público do Trabalho*, a branch of the Public Prosecutor's Office dedicated exclusively to labor relations.

Respondents reported that auditors would give conflicting advice about how to deal with working conditions or micromanage what the producers believe to be the "traditional way of dealing with agricultural labor." One respondent in particular reported that he was asked to install chemical toilets in the middle of the planting field by a labor auditor. He did so, but the workers never used them, according to the respondent. Also, labor laws are structured in a way that results in considerable liability for employers, according to respondents. There are special courts to process labor lawsuits and they are premised on a concept that is common in Brazilian law, which is the idea that workers are *hiposuficiente*: an idea in the Brazilian legal doctrine stating that workers are inherently less powerful than employers, so they must be given some procedural advantages in a lawsuit. This quote clarifies this point:

> I caught an employee stealing from me. I caught him and I had five witnesses on my side. I fired him from the farm. I hired a lawyer and said I had caught him stealing. The lawyer said 'No, no, pay him all the severance due and give him a letter of recommendation.' I said, 'Are you crazy? This guy is robbing me.'

[7]In 2017, after these interviews, a labor reform was passed in Brazilian Congress. It had massive support from Bancada Ruralista.

> He said, 'Yes, but if he goes to court, it will be his word against yours and more than five people, but he is the weak pole of the lawsuit [the premise that workers are less powerful than employees]. He will win and you will have to pay a settlement.' I had to ask him [the worker] to please leave and made the severance payment. [Respondent 003]

The other regulatory challenge was environmental regulation. Respondents complained that the environmental licensing process is very slow and on-site monitoring by street-level bureaucrats, mostly environmental auditors, is unpredictable. The following respondent, who is himself a grain producer and owns a soy crushing business that employs 450 people, summarizes the general complaint about environmental rules:

> But what I see as the great difficulty is the [...] environmental part, because you need to have licenses from the environmental agencies, the fire department [construction regulations require that the local fire department office approve safety of your building for fire accidents] [...] and getting them is a very slow process; you have to deal with a very big bureaucracy. The processes in the environmental agencies are also unclear. One time you have to submit the process according to one model, another time you have to follow a different model. [Respondent 009]

Another respondent offered a similar reaction:

> If you interpret the law by the book, nobody is doing it right. Nobody, even those who had been fined. There is no way you can follow the rule. That law is just impossible. [Respondent 002]

In the theory chapter of this project, I alluded to the issue of environmental licensing in Brazil. There I showed how slow and cumbersome it is and that the slow pace opened an opportunity for extracting bribes from business people who wanted a fast track. Respondents in the agricultural sector corroborated the perspective that environmental regulation is a big pain.

Labor laws and environmental regulation are applicable to agriculture the same way they are in other industries. Therefore why it was a more salient issue in agriculture than in the pharmaceutical industry? I hypothesize here that the pharmaceutical sector has more regulatory issues to deal with than agriculture. So, while agriculture can focus their frustration on labor law and environmental regulation, in the pharmaceutical sector the frustration is divided between labor and Anvisa's responses.

Although these regulations are an obstacle in both sectors, they made it to the top of producers' concerns in agriculture because there are fewer competing nuisances compared to a heavily regulated sector like the pharmaceutical sector. In the case of environmental law, there is the additional issue that farm producers work with land and the surveillance of environmental agencies is more constant.

6.5 The Political Clout of Agribusiness

Forest Code reform

The reports from respondents demonstrate that environmental rules are one of the key sore points for agricultural producers. They pushed back strongly in 2012. That year the agricultural caucus, a multiparty agglomeration of legislators representing agricultural interests in Brazil's Congress, won a sweeping victory when Congress approved a new Forest Code, successfully challenging the Executive branch and majority public opinion.

I argue that the Forest Code reform in 2012 is an example of how businesses can break with the Nash equilibrium that prevents them from mobilizing against state-imposed regulation.[8] We recall from the theory section that the conditions for breaking with the Nash equilibrium and mobilizing against costly regulation were: first, that they do not compete in the domestic market, so insiders gain no competitive edge from excessive regulation that they can bypass through their special connections. They obtain no extra payoff from keeping the status quo, therefore two potential equilibria are possible; a low-level equilibrium when both insiders and outsiders conform to the status quo, and a high-level equilibrium when they both mobilize and can trigger reforms.

[8] I am not discussing, though, whether this specific regulation is desirable or not. The fact is that it imposes higher transaction costs for a class of producers, which is a characteristic of state-embedded capitalism.

Second, to achieve the high-level equilibrium that triggers reforms, it is necessary to have encompassing business associations or some other type of entity that organizes, articulates, and coordinates the sector's political strategy. This is exactly the case of the agricultural sector. National level associations coordinating and defending agricultural interests mushroomed during the transition to democracy in Brazil. The first association was the União Democrática Ruralista (UDR), created in 1985 with the explicit goal of deflecting threats to agricultural producers' property rights during the transition to democracy in the late 1980s. The 1988 Constitution in Brazil represented a special threat because for the first time the rural poor would be enfranchised. Politicians, now in need of competing for votes, could find it especially tempting to tap into the claim for land reform from the rural poor (Lapp, 2004; Fernandez, Working Paper). Agricultural producers also articulated their interests through the National Confederation for Agriculture and the Brazilian Rural Society.

Granted, many other sectors also have business associations. However, it is important to note that there are fewer conflicting economic interests within agricultural associations than in manufacturing associations such as the National Confederation of Manufacturers (CNI). Some manufacturers, such as the automobile industry, compete against imports and favor a closed economy, while others depend on international inputs and would prefer fewer restrictions on imports.

This schism is unlikely for agricultural producers. Their needs are more similar to each other, as I discussed above: they are all positioned in the same space of the value chain, need similar inputs, and are equally affected by fluctuations in commodity prices. The members of these associations have a policy preference profile that is more homogeneous. Additionally, their desired reforms that would decrease the cost of doing business are either win-win or Pareto optimal within the sector. In the pharmaceutical industry, the effect of regulatory distortions on business are not homogeneous within the sector, as we discussed in the previous chapter. These four structural factors creates more cohesion among businesses within an association, helping the association's task of uniting the sector behind a common policy agenda. This is one of the core differences between business association in the agricultural and the pharmaceutical sector.

The coordination of agro-business interests was so successful in Brazil that it moved beyond sectoral associations, entering into the national Congress. Agricultural producers came together in Congress beginning in the late 1980s with the goal of resisting any initiative towards agrarian reform during the Sarney government. In the 1994 elections, the agricultural bloc managed to elect 117 deputies, 89 in 1998, 73 in 2002, and 117 in 2006 and 2010. Although comprising only about 1/5 of the national congress, their best election performance actually represents almost twice as many deputies as the delegations of large parties like the PT and the PMDB after their best elections (around 70).

A well-articulated and cohesive multiparty caucus, the Bancada Ruralista is larger than any stand-alone party in Brazil's highly fragmented congress, and as such, can muster enough bargaining power to aggressively push forward its interests. There is no comparable caucus representing any other industry.

One of the most visible expressions of power by the agricultural caucus was the approval of the new forest code. The old Brazilian Forest Code implied several regulatory demands and forfeited opportunities to use land for economic profit. Dating back to 1965, it required that proprietors of land reserve part of their property for environmental conservation. The protected area varied from 20% to 80% of the property, and owners needed official authorization to initiate any economic activity in the conservation area. The need for authorization and subsequent monitoring from government agents increased producers' transaction costs and also subjected them to potential sanctions such as heavy fines.

In the late 1990s, representatives of the agricultural caucus submitted a bill that, among other provisions, removed some regulatory demands, reduced total protected area, and granted amnesty for environmental violations committed by small land owners prior to 2008. Even though it faced resistance from the Executive branch, the caucus managed to bring the proposal to the very top of the legislative agenda in 2011. Paying no attention to some requests from the Dilma government to soften the proposal, the agricultural

bloc got its version passed in the Chamber of Deputies in 2012, including 164 amendments that were opposed by the Executive branch.

The proposal was made even more beneficial to the agricultural caucus in the Brazilian Senate: the amnesty for prior violations was extended to large landowners. After going through the Senate, the proposal was sent back to the Chamber of Deputies, where the emboldened agricultural caucus pushed its interests even further. More environmental restrictions were cut back, as well as some points they perceived as regulatory nuisances, such as the need to register environmental protection areas in a public registry. Despite the several vetoes it received when it landed at the Presidential desk, the new environmental code approved in the Brazilian Congress in 2012 became law the same year and was one of the worst defeats suffered by the Executive branch in a legislative battle in recent decades.

Pesticides

The case of pesticides, also known in Brazil as 'agrotoxins,' is another interesting case of de-regulating reforms pushed by the agricultural sector. It intersects with an agenda dear to the pharmaceutical industry; waiting time for Anvisa decisions. In 2002 then Congress representative Blairo Maggi – who used to be Brazil's largest soybean producer and a former Minister of Agriculture – introduced a bill to make the approval of pesticides easier in Brazil. The motivation of the sector, perhaps not surprising to the reader,

was that Anvisa and the federal environmental agency IBAMA take too long to analyze and approve new pesticides that farmers need as an input.

The proposed bill would change the decision-making process in order to expedite approval time. First, there would be a provisional approval of pesticides in cases where they were already approved in at least three OECD countries. In these cases, the product could be used in Brazil even before any analysis by Brazilian authorities. Second and more important, the evaluation would be removed from Anvisa's and IBAMA's purview and assigned to the Ministry of Agriculture. Anvisa and IBAMA would send their opinion to Ministry of Agriculture, but the latter would make the decision.

The pesticide proposal shows what an industry can aspire to do with regulatory nuisances when it is powerful and cohesive. Using approval by such foreign authorities as EMEA and FDA as a sufficient condition to market a medicine in Brazil is unacceptable by Anvisa and also by many Brazilian manufacturers, because it implies protection from foreign competition. The proposal for pesticides accepts approval in any three OECD countries as sufficient for Brazil, regardless of how reputable the foreign regulatory authority is.

Also, when one has the most powerful caucus in Congress, regulatory nuisances can be removed by switching the decision-making process to a more friendly regulator. if Anvisa is slow, why bother waiting for it? It is easier to switch regulatory decisions to the Ministry of Agriculture, where the bureaucratic insulation is arguably weaker than in Anvisa and the Minister is

usually appointed by the agricultural caucus. As of this writing, the proposal has been approved by the final committee in the Chamber of Deputies and can be put to a vote on the floor, before moving to the Senate, if approved.[9]

This is an illustrative contrast between the two sectors. In the case of the pharmaceutical sector, they failed to address the waiting time in Anvisa. As I argued before, the reason was because the sector is not affected equally by waiting times and some businesses actually prefer the stringent regulation. Solutions that could decrease waiting time, such as accepting FDA and EMEA approval, were not Pareto optimal because domestic firms that had already registered their drugs with Anvisa would lose their competitive edge. In the case of pesticides, regulation homogeneously affects the whole sector, no business benefits from it, so the solution is either Pareto optimal or a win-win situation within the sector.

[9] https://veja.abril.com.br/blog/desvendados/bancada-ruralista-comanda-votacao-de-projeto-pro-agrotoxicos/, https://exame.abril.com.br/brasil/comissao-aprova-pl-dos-agrotoxicos-defendido-pela-bancada-ruralista/, http://www2.camara.leg.br/camaranoticias/noticias/AGROPECUARIA/557911-IBAMA,-FIOCRUZ,-IDEC-E-OUTRAS-ENTIDADES-SE-MANIFESTAM-CONTRA-MUDANCA-NA-LEI-DE-AGROTOXICOS.html, accessed 11/11/2018.

Chapter 7

Conclusion

The argument that secure property rights determine long-term development became a panacea in recent decades in social science research. As property rights became conflated with other variables, institutions securing these rights became the catch-all explanation for why some countries are poor and other rich. At the same time, the case for government policy interventions as a driver for growth is still marred by ambivalent empirical evidence and does not have a good response for the question of when does the government get policy right.

This is not to claim that these approaches are wrong, but that they seem insufficient to provide an understanding of the causes of long-term prosperity. Another element that should be included in these explanations is state-imposed transaction costs. These costs affect long-term growth by making capital less productive and limiting the pool of entrepreneurs that can engage

in value-creating activities. These channels affect the outcome of investment and level of investment itself. Research that measures the effect of transaction costs on growth has staggering results. This being so, social scientists choose to overlook this variable and to ignore explanations for its variation at their own peril.

This thesis contributed to filling this gap in the literature by looking at the case of Brazil to understand the politics sustaining a high-cost business environment. It started with the following question: *If high transaction costs harm businesses and businesses are usually a politically influential class, why do they fail to push for reforms that decrease the cost of doing business?* The thesis casts new light on the origins of a high-cost business environment, describes the political equilibrium sustaining it and explains how this unhealthy business environment is intertwined with crony capitalism. To understand this equilibrium one must approach a low-cost business environment as a public good and understand the problems of collective action blocking its provision.

What blocks the provision of this public good are the strategic interactions among subsets of political agents and business. Setting the transaction costs of a firm or an industry is a power resource for political agents. If they have discretion over policies that set costs, they can decrease or increase the costs and use this discretion as a leverage over business. Well-connected business, the insiders, profit from this leverage by accessing restricted low transaction cost routes. The low transaction cost routes then become a com-

petitive edge that a subset of businesses, the insiders, have over the less connected ones, the outsiders.

In short, the first contribution of this thesis was to offer an approach to how transaction costs affect economic prosperity that differs from the New Institutional Economic synthesis which is fixated on property rights. The second contribution was to uncover the political equilibrium sustaining high transaction costs. The third was to provide a theory of change in transaction costs, focusing on business-driven reforms. The fourth contribution was empirical: I looked at the Brazilian case to substantiate the theory and to potentially cast light on similar cases in developing countries, especially in Latin America. The fifth contribution was to cast light on how transaction costs and and crony capitalism reinforce each other.

Empirically, the thesis corroborated the argument with the following evidence: i) by exploring an exogenous variation in the exchange rate, Chapter 3 showed that industry leaders are more politically engaged and try to buy access to power, rather than a reformist agenda; this makes industry leaders equivalent to business insiders; ii) by focusing on Brazil's byzantine tax system, Chapter 4 clarified how politicians value policy discretion and cling to it, at the same time that discretionary policy creates its own constituents in the business sector that support them afterwards. Also, industry leaders, the equivalent to business insiders, are indeed the those who pursue and benefit the most from discretionary policies; iii) while looking at the pharmaceutical sector, Chapter 5 illustrated that high transaction costs have heterogeneous

effects on businesses, affecting the old incumbents less and new entrants more. The heterogeneous effects of high transaction costs, combined with narrow associations, result in business not being able to mobilize to push it back; and iv) after analyzing the case of agro-exporters, Chapter 6 filled in a final piece of the theory and illustrated when business-driven reforms that cut transaction costs become more likely.

Future research

Export orientation?

The argument of export orientation deserves further scrutiny from future research. The current literature gives credence to the idea that integration into the global economy tends to make domestic firms more collaborative and correlates with lower entry barriers. However, producing commodities could have a similar effect. As with export orientation, the production of commodities implies that producers are price-takers and, therefore not each others' direct competitors. Empirically, though, it is challenging the to disentangle the effects of producing undifferentiated goods and exporting any goods. Future research should find cases where the same commodified good is sold domestically by one set of producers and exported by another set and observe how likely the producers in each case are to collaborate for the provision of public goods. If the subset of exporters cooperates more than the other subset, there is a good indication that export orientation is the main driver.

Other types of change?

This thesis focused on business-driven change and mentioned politician and bureaucratic-driven change only briefly. Recent examples in Brazil suggest that change driven by politicians may be frequent and therefore deserves closer examination. In 2016, Senator Jose Serra, who was a key player in the creation of Anvisa and the generic drugs policy, managed to approve a bill that enforced deadlines for Anvisa to issue decisions on drug application. The new law has the potential to substantially decrease the waiting times that harmed the industry. In 2017, the Temer administration started to phase out subsidized loans from BNDES, an important source of cheap capital for the insiders and a factor making the Brazilian capital market less inclusive. In 2018, Bolsonaro was elected in Brazil, partially advocating a policy agenda to improve the business environment, although any results in this direction are yet to be seen at the time of this writing.

In the theory chapter, I built on Geddes's politician's dilemma to propose three conditions for politicians to challenge crony capitalism and high transaction costs. The political entrepreneur i) should be a long-shot challenger whose only chance of political success is to place a high-risk bet on challenging crony capitalism; ii) should reach out for and activate the latent support of constituents who would benefit from these reforms but are too disorganized to press for it on their own; iii) has only short-term ambitions for a political career.

It seems that conditions i) and ii) explain the case of Bolsonaro's unexpected adoption of a pro-business agenda. Condition iii) may explain the case of Temer, as his presidency seemed to be the final step in his political career. This could also be the case of Serra, but the only organized interest he was challenging was Anvisa bureaucrats, who would have to expedite their assessment process after his policy proposal was implemented. Serra became involved in a more uphill battle when he instituted Anvisa and pushed the generic drug policy while he was planning to be a contender in the 2002 presidential election. In this case, his behavior seems to align with condition ii). Serra put up a fight against multinationals but he also activated the latent support of constituents with a very large electoral potential: the population that buys drugs in pharmacies and is hurt by high prices and/or low quality.

A point to highlight in politician-driven change is that as democracy deepens, political participation increases, and clientelist incumbents become dislodged, it should become easier for politicians to bet on strategies that activate latent support of underserved constituents that are harmed by high transaction costs, and they can be expected to do so more often. On the other hand, there are limits to this strategy. Policies to reduce the cost of doing business are likely to have immediate impact only on businesses. The impact on labor develops in the long term, making it harder for them to attribute their well-being to policy. Even though these policies can scale up to have immediate benefits on small business, it is unclear how broad the electorate is that can directly benefit from them. It is more likely that the beneficiaries

of cuts in transaction costs are a niche electorate. This decreases the odds of majoritarian candidates campaigning on reducing transaction costs. In the case of Brazil, it is more likely that candidates for the legislative branch would embrace this agenda, since the proportional representation system allows them to cater to niche electorates.

As for bureaucratic-driven reform, Chapter 2 presented a somewhat bleak prospect about the likelihood of its existence. This may not be an accurate view. There are other cases in Brazil where bureaucrats took the lead in designing and implementing reforms that benefitted underserved constituents. *Bolsa Família*, the conditional cash transfer program created and expanded during the Workers' Party administration, is a case in point. It can easily be the case that bureaucrats behave beyond the risk-averse maximizer described previously. They may empathize with the predicament of underserved population and act.

Interestingly, in the case of *Bolsa Família*, the policy aligned with with the Workers' Party distributive program. The underserved population turned out to be numerous and did not have diverging interests with the party's core constituencies (urban workers). If the bureaucracy was seeking to reduce transaction costs for business through, say, decreasing severance costs for labor, the effort was unlikely to have been successful. Therefore, future research should investigate to what extent reforms proposed by bureaucrats should be aligned with incumbents' party programs and their main constituents.

High transaction costs and crony capitalism

One of the key points I made was that crony capitalism and high state-imposed transaction costs reinforce each other. The combination of pervasive state penetration in the economic realm, high transaction costs, and discretionary power over these costs helps cronyism. The costly business environment becomes a power resource to political agents and to well-connected business. The relationship between cronyism and high transaction costs has a good potential to explain the cost of doing business in developing countries or in post-communist economies. However, there are more questions to explore regarding this relationship. Future research should think about whether crony capitalism necessarily requires high transaction costs and, conversely, whether high state-imposed transaction costs will only be present when there is also cronyism. It could be the case that Brazil's having this vicious cycle combining transaction costs and cronyism is an exception.

Recommendations

Financial development and new technologies

In Chapter 2 I claimed that government control over financial markets is a key feature of Brazilian crony capitalism. In Chapter 5 I contended that the shallowness of Brazil's capital market reinforced the protective effect of Anvisa's long waiting times (new entrants could not handle the cash burn necessary to weather these long waits). A recent change in the country's

financial market may shake up these advantages of the insiders. The private equity and venture capital fund (PEVC) industry went through an impressive period of growth in Brazil recently and this growth is partially attributable to foreign investors (see KPMG and ABVCAP (2014) for details). This implies that capital injection is not totally dependent only on governmental decisions. Also, the PEVC industry allows for pre-IPO capital injections, which is particularly relevant for early stage entrants challenging old incumbents.

At the same time, VC funds tend to invest in tech startups that challenge incumbents, focus on acute pain points and/or create new markets for underserved populations. This makes the costly business environment and the comfortable business insiders especially attractive for this industry. Tech startups in Brazil are already providing direct solutions to state-imposed high transaction costs. Some startups are making a direct impact on the some of the metrics the World Bank looks at to build the Doing Business Index, such as the time to set up a business (it is already possible to hire online services in Brazil that take on the tasks necessary to formalize a business at a low cost). Others are addressing other nuisances that are painful but fly under the World Bank's index radar, such as dealing with notaries. It may not take long until the 2,000 hours necessary to become tax compliant are radically reduced by applications of artificial intelligence.

The deepening of capital markets and the new possibilities unlocked by technology and innovation may soon result in a significant external shock to crony capitalism and the high transaction costs it entails and sustains. This

external shock will not be captured by the typology of business, politicians or bureaucrat-driven change proposed above. The role played by these actors may be merely reactive. The questions of interest then become: i) how can this external shock advance without being checked by the core actors of crony capitalism? ii) how will incumbent politicians and business insiders respond to these shocks and how they will change the balance of power between incumbents and challengers both in politics and in the marketplace?

The first recommendation is that policy-makers not try to stop these agents of change. Comfortable incumbents will certainly lobby for government interventions that will protect them from disruption. They will probably use arguments that some of these disruptive technologies destroy. In the coming age of massive automation, changes in labor certainly deserve concerns. However, these important discussions should not be confused with the need to create a less costly business environment even if the price of doing so is to take away the jobs of those who profit from it, such as, say, notaries, probably the most iconic example of a bloated bureaucratic system.

The mistake of the Left

Left-wing parties are likely to understand the cost of doing business as a *petit bourgeois* problem and, as such, not deserving of being part of their policy agenda. After all, Ricardo, the main character of the opening anecdote, was already wealthy. "Why pity him because he lost a few hundred thousand dollars due to government incompetence or his lack of good connections?"

one could think. The Left's traditional base is workers and peasants, not employers, so they may think they should not open room in their policy agenda for cost-reducing reforms.

This would be a mistake. The Left should embrace a policy agenda that promotes a healthy market economy for many practical reasons. First, if the Left wants to focus solely on their traditional constituents, they should be in favor of cutting transaction costs because of the efficiency gains it promotes. More efficiency means more potential to tax the rich and transfer to the poor. It makes no sense for potential wealth creation to go down the drain due to transaction costs when it could increase the taxation base necessary for social policy.

Second, a healthy business environment goes well with a social democracy regime. Denmark is ranked the third best country to do business, Sweden is the twelfth, and Finland the seventeenth (2019 ranking). That these countries rank so high implies that there is no contradiction between good business environment and redistributive politics.

Third, and related to the previous point, the alternative to a healthy business environment may be crony capitalism, not social-democrat redistributivism. In crony capitalism, inequalities are exacerbated because the opportunities to create wealth are concentrated in the hands of the very few. Decreasing the cost of doing business may not immediately result in redistribution to the very bottom of the income ladder. But it will at least result in redistribution from the top to the median of the distribution. For an re-

distributivist agenda, there is no reason to neglect the equalizing effect of redistribution from the top to the middle.

Finally, the Left should aim at getting those *petit bourgeois* into their political base. The middle class in numerous and more traditional jobs will be replaced by individual entrepreneurship due to technological changes that are eroding traditional labor and the formal jobs we know. When the cost of doing business is decreased, it addresses the needs of the low income entrepreneurs without harming the traditional worker.

Alas, these lessons have been slow to sink in. The Worker's Party in Brazil, for example, enacted policies that deepened crony capitalism and did not put the need to create a healthier business environment front and center in its agenda. The case of the Left in Argentina has been similar. In 2018 an extreme right-wing candidate won the presidential election in Brazil running against a left-wing candidate. Along with his radical cultural and public security policy agenda, the extreme right-wing candidate campaigned on his purported concern about excessive bureaucracy, the cost of doing business and the incestuous connections between a subset of business and the government.

Left-wing parties may take a while to absorb these lessons. The most successful left-wing parties in the coming decades will be those who ditch the idea that healthy business environment is a *petit bourgeois* concern and, rather, adopt it as part of its redistributivist agenda. This will be especially true in developing countries, where the demand for state-imposed transaction

costs is more salient and broader. Embracing this agenda can be key in the Left's elusive quest to reach out for middle-class voters without losing their traditional constituents and values.

The role of the state

Another recommendation is about the role of government intervention. Contrary to what the reader would expect, the thesis should not be taken as a manifesto in favor of the state radically cutting back its economic activities and being restricted to protecting property rights. Chapter 6 presents the case of how the Brazilian state-owned research agency Embrapa developed and deployed technologies that allowed for a real economic revolution with the introduction of soybeans to Brazil's center-west. Chapter 5 shows that the role of the state can go even beyond R&D. Anvisa enabled the development of the pharmaceutical sector in Brazil by fixing severe market failures.

But the success of Anvisa comes with another policy lesson. Its overarching regulation, the incentive structure of its personnel (and also lack of personnel) and its low embeddedness with the private sector resulted in excessively long waiting times for drug approval and other regulatory procedures. These regulatory shortcomings resulted in extra transaction costs that created unnecessary costs and erected entry barriers in the sector. Ultimately, the rigorous regulation is mixed blessing.

The takeaway is that industrial policy can indeed be essential for economic development as long as its implementation is well-aligned with the market

failures it is fixing and its side-effects in terms of extra transaction costs are kept to a minimum. This last part, alas, is often overlooked by the proponents of industrial policy. After decades of industrial policy in Brazil, much of which was successful but other parts less so, the costly business environment in the country is a remarkable reminder of the dire accumulated consequences of this neglect. The theory this thesis proposes implies that preventing the creation of extra transaction costs is much easier than reversing them: after they are installed, some social actors have a strong interest in maintaining them in spite of the social costs. The proponents of industrial policy should take this advice seriously.

The right to a healthy market economy

In December 2010, 26-year-old Mohamed Bouazizi set himself on fire to protest oppression from his government. It is curious to look at the type of oppression he was protesting against. Bouazizi was a street vendor and was working towards making money to buy a pickup truck to boost his small business. He had contracted the equivalent of US$200 to buy supplies for his street sales. The day after he made this small investment, the police confiscated his cart and his goods because he allegedly did not have the correct permit to be a street vendor. After failing to recover his confiscated goods, he made his final desperate protest. In doing so, he launched the spark that started the Arab Spring.

It is telling that the first large-scale revolution in the twenty-first century was ignited by a protest against the consequences of not having a vending permit. Certainly, the roots of Bouazizi's desperation are related to authoritarianism, economic stagnation and rampant corruption in Tunisia. But what actually drove his final act of desperation was that he was denied access to a chance to prosper within the market economy. The gatekeepers to prosperity had locked the doors to him.

The demand for the provision of a healthy business environment and an inclusive market economy will grow in developing countries. As new technologies and financial development decrease the cost to start up a business, what will stand in the way of latent entrepreneurial energy is state-imposed transaction costs. The market economy has several serious negative consequences, the most important ones being worsening inequality and the environmental degradation it promotes. These consequences should be seriously addressed, with assertive state intervention if need be. However, the potential to achieve personal prosperity through accessing a healthy market economy has proved to be remarkable. More and more people will demand a low-cost business environment, without gatekeepers, as a right.

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