The Politics of Education Reform in Brazilian Municipalities

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Tables and Figures

1   Introduction

In the Brazilian municipalities of Foz do Iguaçu and Sobral, public education is the *menina dos olhos*, or apple of the eye, of the municipal governments. Indeed, the two municipalities have some of the best educational systems in Brazil. Yet, they are different in many ways – Sobral is located in Brazil's Northeast, the poorest of the country's regions, while Foz do Iguaçu is in the relatively rich South and, in 2013, had a GDP per capita 2.2 times greater than that of Sobral. While the case of Foz do Iguaçu is perhaps not so surprising, Sobral's successful public education is certainly puzzling. How did a municipality four hours away from its state capital in Brazil's poorest region come to have one of the best educational systems – if not the best – in the country?

Figure 1.1: Evolution of Sobral's 5th grade IDEB scores compared to those of Brazilian municipal, state and private schools
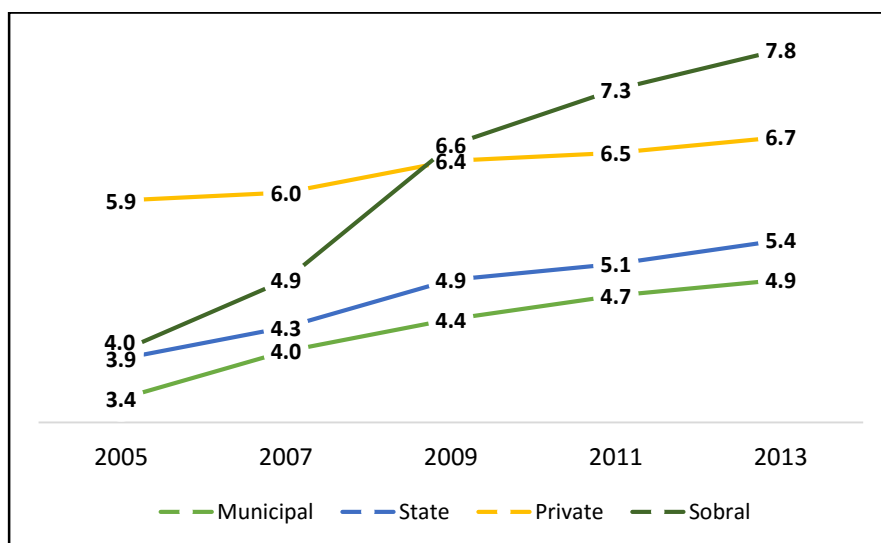
Source: MEC, INEP, IDEB 2015.

Figure 1.1 shows that Sobral's Brazilian Basic Education Quality Index (IDEB) for 5th grade students increased dramatically from 2005 to 2013, surpassing even those of private schools. Foz do Iguaçu has been showing a similar trajectory. The high quality of their educational systems is not the only thing these two otherwise very diverse municipalities share in common. The educational reforms undertaken by their municipal governments were also very similar. In both places, the municipal government implemented reforms that de-politicized public education, making it more professional and less susceptible to the power struggle of political parties. One of these reforms was a change in the selection process of municipal school principals, positions that used to be filled with so-called "trust" nominations made by the mayor. While Sobral implemented an independent meritocratic process, in Foz do Iguaçu, schools' communities are now responsible for electing their principals. The cases of Foz do Iguaçu and Sobral suggest that, in order to understand how municipal schools perform, we have to look beyond GDP per capita and level of development. In order to understand municipalities' educational outcomes, we have to bring political variables into the equation and ask what leads municipal governments to implement educational reforms and subsequently improve the quality of public education.

In this thesis, I argue that contrary to what has been contended in the literature, growing populations and more intense political competition do not necessarily set education reforms in motion. Reforming education imposes different constraints on different types of parties, while promoting electoral reform does not readily translate into electoral benefits. Thus, I expect programmatic

parties, especially those that prioritize education in their electoral platforms and can more easily claim the credit for policy improvements, will be more likely to implement hard educational reforms. I also argue that political continuity can positively affect education when it avoids disruption in education policies caused by party turnover, and affords the necessary time for educational reforms to show results, gain popular support, and become institutionalized. I join the scholars that argue that political competition has negative effects on educational outcomes, but I propose a different mechanism for why this is so. Even though political competition per se does not impact the implementation of hard educational reforms, it does polarize school staff in small municipalities, harming the quality of education.

This study is especially relevant given the fact that Foz do Iguaçu and Sobral are the exception rather than the rule in a country with one of the worst performing educational systems in the world. Brazil's low-performing public educational system is a major cause underlying the country's continued high levels of socioeconomic inequality. Thus, understanding why some municipalities are able to offer a quality public education to their populations while many others fail to do so is critical for the country's future development. The problem of education in Brazil is especially relevant and puzzling for another reason. Even though the country has substantially increased *access* to education, largely through educational reforms undertaken at the federal level, it has not been as successful in its attempts to improve the *quality* of its educational system, especially its basic education. Moreover, although some of these federal reforms, including, prominently, the

creation of the Fund for the Maintenance and Development of Basic Education (FUNDEB) – a progressive transfer program – have contributed to the homogenization of education *spending* in the country, the quality of education remains highly unequal across municipalities. Thus, we know that spending alone cannot account for variation in educational outcomes. Rather, the partial success of federal reforms and the inequality we observe are consequences of the extreme decentralization of the Brazilian educational system, with the majority of primary schools under the administration of 5,570 municipal governments.

Many political scientists have studied the problem of education in Brazil from a national perspective. They explain overall deficiencies in Brazil's public education system well, but not its variation across municipal boundaries. Even though recent works have paid more attention to municipal education, their focus tends to be on why municipalities perform so poorly rather than on the variation in educational outcomes across the country. For example, Sônia M. Draibe, who argues the ongoing decentralization of primary education in Brazil is problematic given the poor outcomes of municipal schools, which, in turn, she attributes to the multiple players and levels of Brazilian federalism as well as the fact that most municipalities are small and poor (Draibe 2004, 384). Even though these are compelling explanations for why Brazilian municipalities offer, *on average*, a very low quality public education, they fail to explain why municipalities facing similar structural conditions often have different educational outcomes. In other words, the current literature on Brazilian public education cannot explain why Sobral, of all

Brazilian municipalities, has one of the most successful educational systems in the country.

In my thesis, I propose a comparative approach in order to understand what leads some mayors and political parties to reform their educational system while others perpetuate the misuse of educational employments and funds. Analyzing the paradox of education reform in Brazil at the municipal level, I hope to contribute to our understanding of the causes underlying the low quality of primary education in Brazil. I also hope to better comprehend the factors that lead some politicians and political parties across the country to reform their educational systems, improving the quality of education in their municipalities.

To explain the implementation of successful municipal-level educational reforms, I will first argue that educational reforms are an example par excellence of "hard reforms," meaning they have high costs and diffuse benefits and hence are unlikely to be implemented. Of various educational reforms, those aiming to depoliticize public education are especially emblematic of what I call hard educational reforms. Here, I focus on the implementation of two of those reforms. The first is the professionalization of municipal secretariats of education. This means distancing the secretariat staff from party politics by selecting its members based on technical skills – instead of political alliances – as well as establishing a working culture of setting clear goals for educational outcomes. The second reform consists of changing the selection process of schools' principals, from political nomination to recruitment by meritocratic criteria or elections. These two reforms have diffuse benefits that are enjoyed by the entire population, and that are likely

to affect education substantially only in the long term. In addition, these two reforms have costs that can be very high for politicians in the short term. Because public education in most Brazilian municipalities is a major employer as well as source of revenue due to the infusion of federal funds such as FUNDEB, politicians have strong incentives to misuse public education jobs and resources, often to reward political supporters. Thus, by professionalizing the secretariat of education or reforming principals' selection process, political leaders would surrender access to a number of prestigious jobs in the secretariat of education and schools and decrease their control over education funds. Due to the practical difficulties of measuring the degree of professionalization of 5,570 municipal secretariats of education, in this study I focus on the process by which principals are selected. The literature has shown that reforming the selection process of school principals has a positive effect on the performance of public schools (Hoxby 1996; Pazelo e Gagete 2014). My point is not that reforming how school principals are selected is necessarily the most effective policy in terms of improving the quality of education in municipal schools. Instead, it is one of the hardest to implement because it imposes very high costs on the municipal government's leaders, who no longer have the control to offer prestigious jobs to their unqualified supporters. Thus, the passage of this reform can be used as an indication that a municipal administration is committed to reforming its educational system as a whole.

With these hard educational reforms in mind, I then examine the literature on hard reforms, focusing on what makes their implementation possible. Scholars have extensively studied the implementation of two types of hard reforms in Latin

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America, namely the economic reforms of the 1990s and the social reforms of the 1990s and 2000s. Here, three approaches stand out as especially relevant for my analysis: (1) the role played by interest groups; (2) partisanship; and (3) individual politicians as self-interested actors. I argue that interest groups and civil society more generally have played a minor role in the promotion of education reforms in Brazil, especially at the municipal level. As a result, I build my theory focusing on partisanship and the incentives available for individual politicians. With respect to partisanship, rather than the more typical dimension of left-right ideology, I focus on the distinction between programmatic and clientelist parties. Clientelist parties are parties that establish unequal patron-client relationships with voters, in which supporters are rewarded with selective benefits, such as public jobs, and opponents punished. Programmatic parties, on the other hand, compete on the basis of programs, or public goods, that do not distinguish between supporters and opponents. Regarding the literature on individual politicians as self-interested actors, I focus on the cost-benefit analysis according to which politicians will implement hard educational reforms if they believe they will be able to claim credit for improving the quality of education in their localities. When this is the case, politicians will be more likely to implement hard educational reforms, for there will be concentrated benefits (to politicians) associated with the implementation of reform.

Basing my argument on these two approaches, I develop the first major theoretical expectation of this thesis concerning the political variables that lead to the implementation of hard educational outcomes. I argue that hard educational

outcomes are more likely to be implemented in Brazilian municipalities following the election of a programmatic party. This is the case because reforms' associated costs of giving up public education's jobs and resources are considerably lower for parties that compete based on the provision of programs, or public goods. While I claim this to be true for all programmatic parties, I expect stronger effects for the Workers' Party (PT). Since the PT is known for prioritizing education in its platform, I expect it to be better equipped to claim credit for improvements in the quality of public education, as will be discussed in Chapters 3 and 4. Thus, politicians belonging to this party are more likely to enjoy concentrated benefits associated with the implementation of reforms. Likewise, I argue that hard educational outcomes are less likely to be implemented under the administration of a clientelist party. I expect this to be the case because these parties' competitiveness depends on the provision of private goods, of which public education positions and resources are an important source. Ultimately, I expect the election of programmatic parties to have positive effects on educational outcomes, with stronger effects for the PT, and the opposite to be true for clientelist parties.

While I argue that partisanship is an important predictor of whether hard educational reforms are implemented, I expect the institutionalization of these reforms to be highly dependent on political continuity. I define political continuity as having the same politician, party or political group in power for more than one term. For the sake of simplicity in the analysis, in this thesis I focus on partisan continuity. I expect political (dis)continuity to be associated with the institutionalization (or reversal) of reforms for two major reasons. First, the fact

that positions in schools and in the secretariat of education and schools are still very much used as payments for political favors in Brazil (Akhtari et al 2015, 4) would lead to higher rates of replacement in these jobs with party turnover (Akhtari et al 2015, 2). Staff turnover, in turn, can be disruptive to educational programs and policies. Moreover, there is a tendency among politicians to belittle and many times undo what was done by their predecessors. By whichever mechanism, I expect political turnover to be associated with reform reversal unless the reforms have already been institutionalized. I argue that hard educational reforms institutionalize when they have had enough time to produce results and gain the public's support. Once this happens, new administrations that even attempt to reverse reforms will face popular opposition, and hence will be more likely to maintain them. These expectations are summarized in Figure 1.2, which lays out the argument for the implementation (phase 1) and institutionalization (phase 2) of hard educational reforms. Phase 1 presents the flow of events when programmatic and clientelist parties are elected, and phase 2, the expected consequences for both the reelection and turnover of these parties. Although other scholars have looked into the effects of partisanship (Phillips 2014) on educational outcomes as well as how the selection of school principals impacts education (Akhtari et al 2015; Lucchesi and Pereda 2015), this is the first study I am aware of to study the factors leading to the implementation of hard educational reforms, especially those that establish the meritocratic or democratic selection of school principals.

Figure 1.2: *Theoretical frame of the implementation and institutionalization (or reversal) of hard educational reforms in Brazilian municipalities*
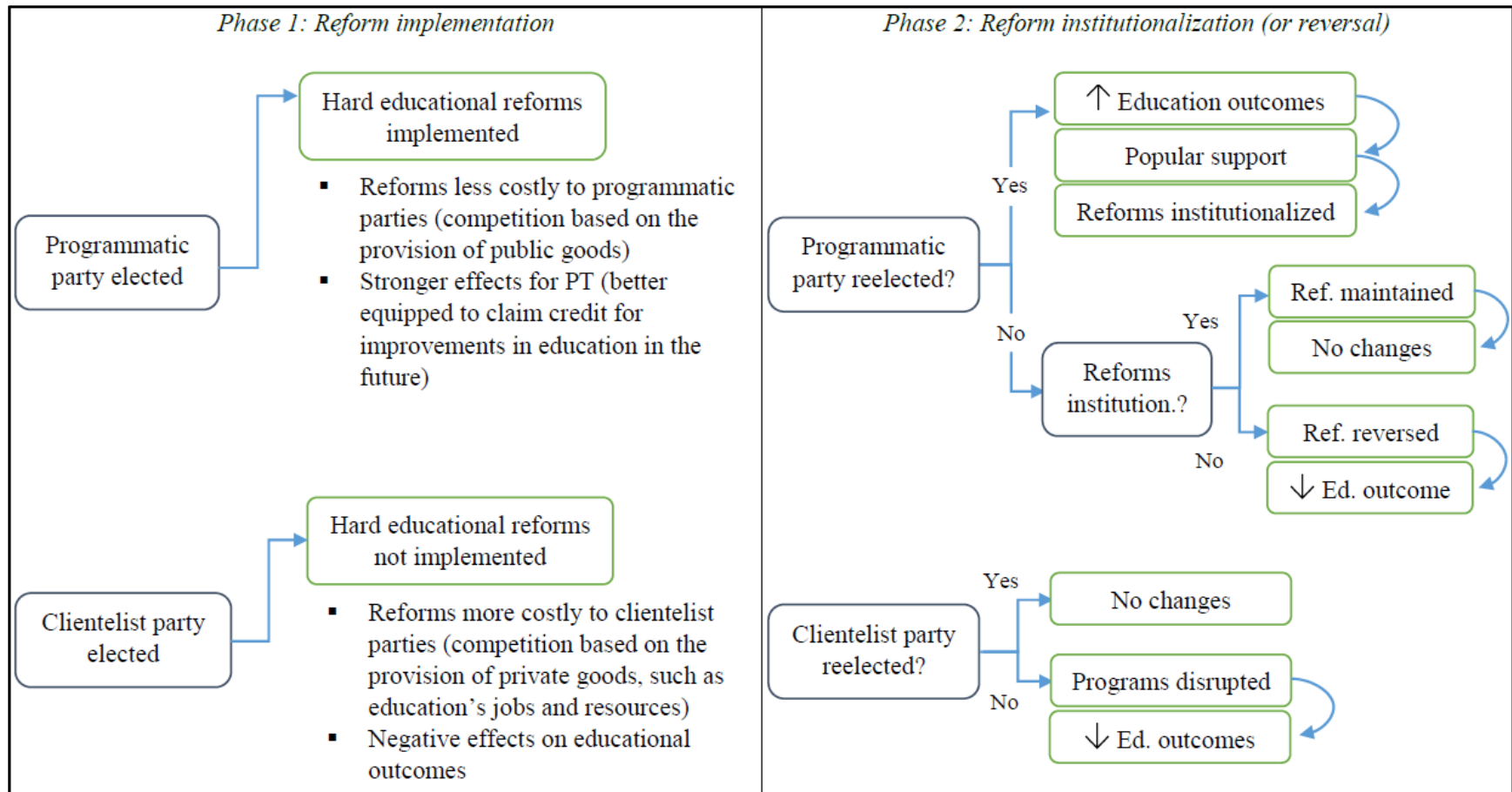
While partisanship and political continuity seem to be decisive factors for the implementation and institutionalization of hard educational reforms, I also analyze the effects of a third political variable on educational outcomes: political competition. Many authors contend that political competition is conducive to reform because it increases political accountability (Jones 2013) and youth voter turnout (Pacheco 2008), while decreasing levels of clientelism (Weitz-Shapiro 2007). In short, they argue that political competition is a mechanism of political accountability and responsiveness. According to these authors, high levels of competition increase the incentives for politicians to provide better public goods and services. Yet, the debate on the effects of political competition on the provision of social goods is not closed. Some scholars have pointed out that political competition can have negative effects on the incentives politicians face in implementing hard reforms if the electorate does not have access to reliable information about the candidates (Besley and Burgess 2002; Besley and Burgess 2001) or if clientelism predominates (Kitschelt and Wilkinson 2007). Another common argument among those who argue political competition has pernicious effects is that close elections make politicians more shortsighted and thus less likely to implement hard reforms. In my thesis, I join the latter view, arguing that high levels of political competition have negative effects on the quality of municipal education. But I do not claim that political competition affects whether reforms are implemented. Rather, I argue that high levels of political competition harm municipal schools in small municipalities. Even if high levels of political

competition do not result in incumbent party turnover, this mechanism is particularly damaging in small municipalities.

The second major argument of this thesis is that increased levels of political competition in small municipalities will harm educational outcomes by negatively affecting the school environment as well as the performance of instructional staff who support the opposition. Higher competition levels polarize school staff, creating conflicts among supporters of different parties and harming the schools' working environment. This is the case because political alliances are publicly known in small municipalities and municipal education employees have very high stakes in the outcomes of elections. After elections, increased political competition might lead the school staff supporting the opposition to willingly sabotage the current administration, by deliberately obstructing administrative goals and purposively underperforming. In Figure 1.3, I lay out this second part of my argument, separating the two mechanisms discussed above.

Figure 1.3: *My theory of the effects of political competition on public municipal schools in small Brazilian municipalities*
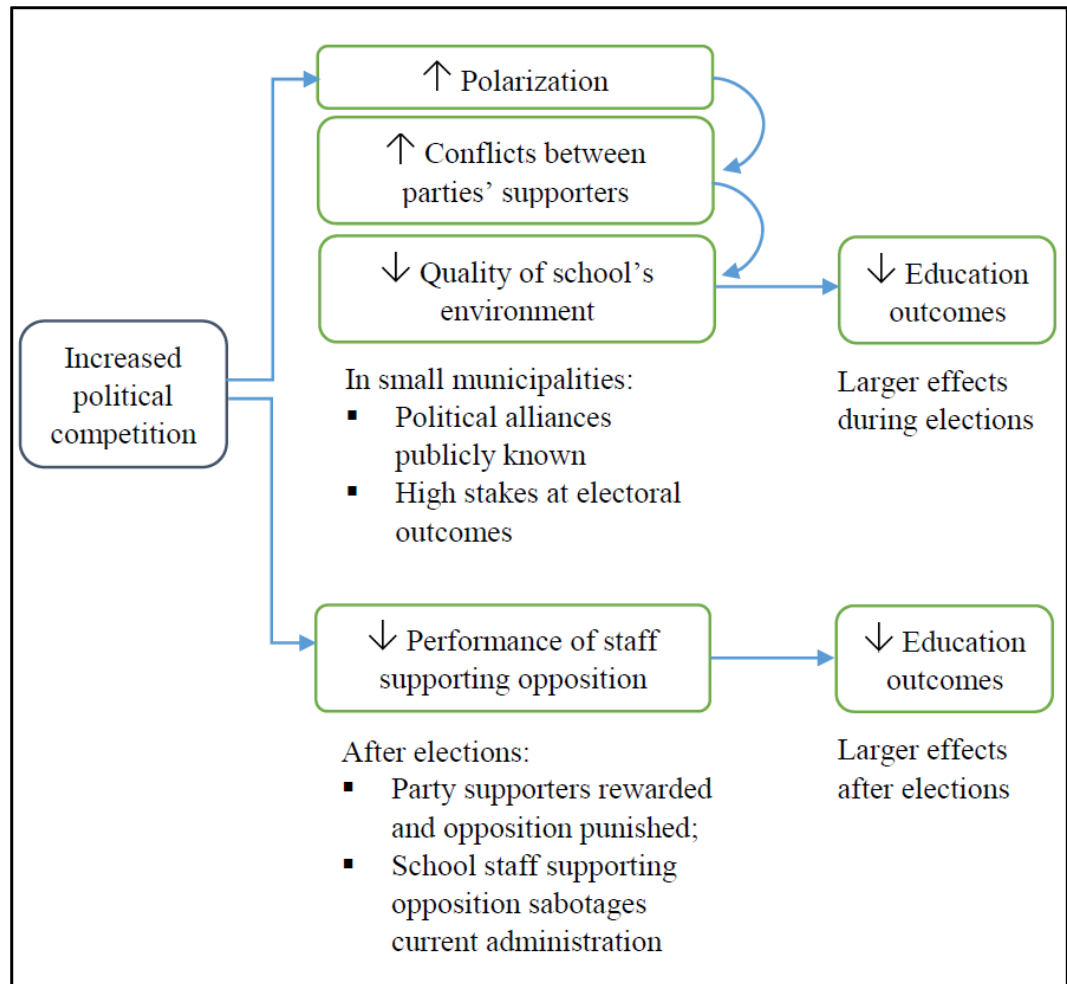
In order to test the hypotheses introduced by my thesis, I use a mixed methods analysis. The first half of this approach includes a large-N statistical analysis of an original dataset containing educational, electoral and demographic data for Brazilian municipalities from 2005 to 2013. In my statistical analysis, I conduct panel regressions using municipality and year fixed effects as well as regression discontinuities comparing municipalities in which my parties of interest won and lost in very close elections. The second part of my mixed methods approach consists of in-depth studies of seven Brazilian municipalities. My case

studies are based on personal interviews with the major actors involved in municipal public education in Brazil: mayors, municipal secretaries of education, the staffs of the secretariats of education, as well as school principals and instructional staff. I draw from forty-three interviews with the goal of uncovering the causal mechanisms behind the associations I find in my large-N analysis.

My empirical analysis provides evidence that political variables affect the implementation of hard educational reforms as well educational outcomes in Brazilian municipalities. Programmatic parties are positively associated with good educational outcomes while all clientelist parties analyzed had negative effects on student test scores and repetition rates. My case studies provided evidence that these associations indeed result from the fact that mayors belonging to clientelist parties are more likely to misuse educational funds and employment due to patronage practices and less likely to implement hard educational reforms. Although I expected all programmatic parties to undertake hard educational reforms, in fact only the programmatic PT was positively associated with the implementation of such reforms. This suggests that politicians and parties will implement hard educational reforms only if they face higher and concentrated benefits associated with the improvements that result from these reforms. My case studies also revealed that mayors' personal commitment to education is at least as relevant as party affiliation, but this is something I could not measure in my large-N analysis.

My analysis demonstrated that political continuity has a positive effect on education outcomes, but not on the implementation of hard educational reforms. The case studies suggest that the positive effects of political continuity are a

consequence of the mechanisms proposed by my theory – that they avoid the disruption in education policies caused by party turnover, and afford the necessary time for educational reforms to show results, gain popular support, and become institutionalized. Moreover, political competition also did not affect the implementation of hard educational reforms, but as expected, higher levels of competition did have negative effects on educational outcomes in small municipalities. Here, my case studies seemed to confirm the mechanisms I propose, namely, that the struggle for power among different political parties spills over into the school system, and affects the behavior of school staff.

Before proceeding to the next chapters, it will prove useful to provide a roadmap to the organization of this thesis. I divide the remainder of my thesis into six chapters. In the next chapter, I present the paradox of education reform in Brazil. There, I explore Brazilian education through historical and international perspectives, discussing its characteristics, major reforms, current challenges, and how scholars have explained the poor performance of Brazilian schools. In Chapter 3, I argue that educational reforms, especially the ones aimed at depoliticizing public education, are hard reforms. Following this argument, I explore the literature on what leads governments to implement hard reforms, despite their concentrated costs and diffuse benefits. I also analyze what various scholars have said about the effects of political competition on the provision of public goods. Using the analytical frameworks established in Chapter 3, I build my theory in Chapter 4, developing the hypotheses explored in my thesis. With the goal of testing these hypotheses, I conduct and discuss a set of testable predictions that follow from my

theory's hypotheses and my methodological approach in Chapters 5 and 6. Following a mixed methods analysis, I introduce and discuss the results of my large-N analyses in Chapter 5, and my small-N analysis based on my case studies in Chapter 6. Finally, in Chapter 7 I summarize the findings of my thesis and discuss some of the major implications for future research and, most importantly, for the future of public education in Brazil.

2   The Paradox of Education Reform in Brazil

Major federal reforms as well as large increases in investment have led to higher access to education in Brazil, but have had little impact on quality. This is so for two major reasons. Firstly, the universalization of education in the country brought to the public educational system students from very disadvantaged backgrounds, which increased the pressure on providing quality education. Secondly, and most importantly, the educational reforms implemented in the 1990s, while having very positive effects on equalizing spending per pupil across the country and greatly increasing national spending on education, were coupled with the decentralization of education in Brazil. This decentralization made improving the quality of primary education – which is provided by 5,570 different municipalities – very hard. In addition, higher investments in education were did not necessarily translate into improvements because the way in which reforms were implemented created opportunities for the corrupt use of educational resources. Because the provision of basic education is mostly in the hands of municipal governments, I argue that the paradox of education in Brazil can only be understood if the provision of public education is analyzed at the municipal level. Here, it is important to bring a comparative perspective to the study of municipal education, understanding the different political scenarios that lead some politicians and political parties to reform their educational system and others to waste a large part of public education's employment and funds to finance patronage practices, if not corruption altogether.

Access to education has increased dramatically in Brazil over the last two decades. Some of the largest gains have occurred in secondary education, with the schooling rate increasing from 59.7% in 1992 to 84.3% in 2014 for students 15 to 17year olds. Improvements have been even higher for primary education, with 98.5% of 6- to 14-year olds enrolled in school in 2014 (IBGE, PNAD 2008; 2015). Enrollment in pre-schools has also increased significantly, as shown in Figure 2.1.

Figure 2.1: Schooling rate per age group in Brazil (1992-2014)
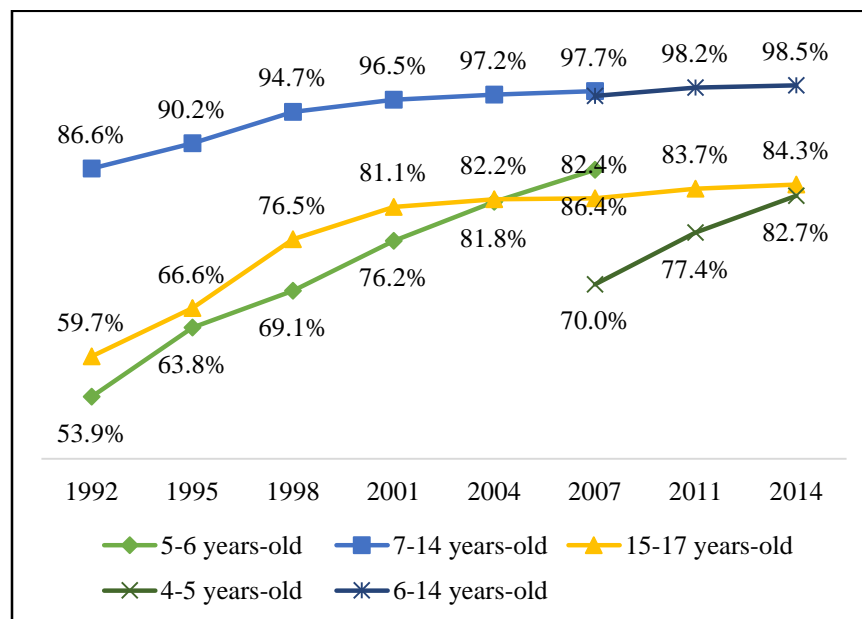
Note: The enrollment age for pre-school and primary education changed in 2007, thus I present the schooling rates for 5 to 6-year-olds and 7 to 14-year-olds until 2007 and for 4 to 5-year-olds and 6 to 14-year-olds from then on.
Sources: IBGE, PNAD 2008 and 2015.

Another important change occurred with regard to the dropout rates in primary and secondary education. In primary education, the dropout rate decreased from 12.0% in 2000 to 3.1% in 2010, and in secondary education, from 16.6% to 10.3%. On the other hand, the grade repetition rates are still very high in Brazil. In

2000, 10.7% of primary school and 7.5% of secondary school students repeated grades. After one decade, the scenario did not change much for primary education and worsened for secondary education, with repetition rates of 10.3% and 12.5% in 2010, respectively (IBGE, PNAD 2006; 2011).

Even though Brazil took an important step forward by increasing access to all levels of education, the country still ranks amongst the worst in the Programme for International Student Assessment (PISA). Brazil performed below average in mathematics, reading and science, ranking between 54th and 60th places among the 65 countries and economies that participated in the 2012 PISA assessment of 15-year-olds (OECD, PISA 2013). Brazil's performance in mathematics was comparable to the performance of Albania, Argentina, Jordan and Tunisia, and the country ranked lower than Chile, Mexico, Uruguay and Costa Rica in the assessment. Besides showing a poor performance in education to begin with, when compared to both developed and developing countries, Brazil has also showed only slight improvements over the last decade. While Brazilian student performance in mathematics has been steadily improving since the year 2000, the increments are small, and reading and science scores have not changed much in the last 12 years. The evolution of Brazil's performance in reading, mathematics and science from 2000 to 2012 is shown in Figure 2.2.

Figure 2.2: *Evolution of Brazil's PISA scores from 2000 to 2012*
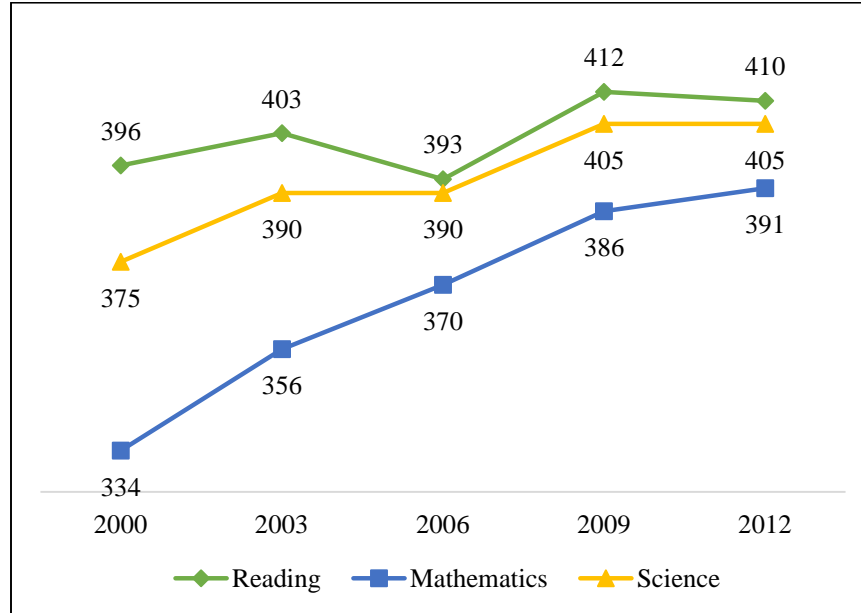
Sources: MEC 2014 and OECD, PISA 2013.

Brazil's ability to substantially increase access to education but continued inability to improve the quality of its educational system constitute what I call the paradox of education reform in Brazil. I argue that this paradox has two major causes. The first is the fact that the increase in access harmed the quality of education in Brazil, which was already relatively low when compared to other countries. The second cause is the increasing decentralization of Brazilian primary education , that resulted from education policies implemented in the 1990s and 2000s.

Writing in the 1990s, Birdsall, Bruns and Sabot (1996) argued that Brazil was playing "a bad hand badly" with regard to education, meaning that the political and economic conditions had not been favorable to large investments in education in the country, and that the decisions of successive Brazilian governments had

further complicated the problem. Birdsall et al pointed to Brazil's high levels of income inequality, inward-looking development strategy of the second half of the 20th century, as well as the country's almost stagnant investment in basic education per eligible child in the 1980s and 1990s as the major factors in the low quality of Brazilian education in the 1990s (Birdsall et al 1996, 8). Their reasoning was that the high levels of income inequality led the country's elite to oppose tax increases to finance education spending, given its reliance on the private sector (Birdsall et al 1996, 10). In addition, Brazil's focus on the less competitive domestic market did not create a demand for skilled labor from the business sector (Birdsall et al 1996, 11), which had motivated higher investments in education in other countries. Finally, Brazil's decision to increase access to education without considerably increasing the investment per child led to the decline of quality (Birdsall et al 1996, 15). Due to Brazil's high economic inequality, the students who were entering the system came from poor and uneducated families. Because the average student enrolled in Brazilian public schools was coming from a more disadvantaged backgrounds, more spending per student was necessary, but in fact government spending on education per child increased too little, thus decreasing the quality of education in Brazil even further. One reason why the investment in basic education was so low is the fact that Brazilian governments had been investing disproportionally in higher education. For instance, Brazil spent 25% of its education budget on higher education and had one of the largest subsidies per student in the world in public higher education (Birdsall et al 1996, 23). This pattern is especially problematic given that public university' entrance exams make it hard

for students graduating from low-performing public schools to compete with students graduating from private schools.

The 1980s is known as the "lost decade" for Latin America, in reference to the debt crisis and recession that predominated in the region during the late 20th century. During the 1960s and the 1970s, a propitious time of relative openness in global trade (Foxley 1983), Latin America experienced an economic boom due to the promotion of industrialization via import substitution industrialization (ISI) as well as the export of commodities. The oil shocks of 1973 and 1979 brought an end to this period of strong growth through the upward pressure they exerted on the prices of the imports needed to sustain the ISI model and by decreasing world demand for commodities. As the economies of the region began to deteriorate in the 1970s (Abreu 2008), countries borrowed heavily in international private capital markets. When recession and high inflation made servicing the external debts of Latin American countries almost impossible, a major debt crisis and recession followed, which dominated the 1980s (Abreu 2008; Corrales 2012). During the 1990s, the region undertook a series of economic reforms, which allowed Latin American countries to enter the 21st century with positive growth rates.

The economic reforms of the 1990s also represented an important watershed in the social policies of Latin American countries. The economic crisis of the 1980s greatly reduced the resources available to social insurance (Arretche 2004). Yet, it also represented an opportunity for governments to rethink their social policies. During the period from 1920 to 1980, Latin American social policies consisted mainly of contributory social insurance against the risks of old age, disability,

illness, and unemployment (McGuire 2011, 2). In this period, the provision of social insurance was restricted to white and blue-collar formal-sector workers and excluded the majority of the population who worked as farmers in the rural areas or as informal workers in the urban areas (McGuire 2011, 2).

Due to the economic crisis, the coverage of contributory social insurance fell in the 1980s. Yet, from 1990 to 2010, "social assistance and the public provision of basic social services to the poor improved significantly in many countries" (McGuire 2011, 2). In Brazil, the public provision of health care, nutrition, education, family planning, water, and sanitation improved and microfinancing and conditional cash transfers – in which resources are transferred to the poor at very low or no costs – were introduced (McGuire 2011, 10-11). Brazil underwent two major education reforms starting in the 1990s, which attempted to further increase access and improve quality (Firpo et al 2012, 7). These reforms were the decentralization of management and the introduction of a federal school accountability system (Firpo et al 2012, 7).

Between 1995 and 1998, Brazil implemented an "extensive decentralization of federal resources and programs," transferring funds to state and municipal governments to be invested in primary schools (Draibe 2004, 391). The Calmon Amendment established that 18% of federal tax revenues and 25% of all state and municipal revenues should be allocated to the development and maintenance of basic education (Draibe 2004, 378). To make this possible, some major programs were created: the Program for the Maintenance and Development of Teaching (PMDE), the School Meals Program (PNAE), the National Education Guidelines

and Framework Law (LDB), and the National Fund for Primary Education Development (FUNDEF). Here, the latter two stand out. The LDB established "national standards regarding common curricula, number of hours and days of instruction, performance evaluations, and inclusion of indigenous ethnic groups," with the goal of making the provision of public education more equal across the country (Pierce 2013). FUNDEF, on the other hand, established a 15% contribution of specific taxes and transfers from states and municipalities, to be redistributed based on enrollments.

FUNDEF, created in 1996, was renamed the Fund for the Maintenance and Development of Basic Education (FUNDEB) in 2006 (Draibe 2004, 377). To meet the minimum expenditure per pupil established by FUNDEB, the federal government supplements the funds redistributed by each state among its municipalities (Ferraz et al 2012, 5). Mayors have some freedoms regarding how to spend the resources received through FUNDEB, but at least 60% of the fund has to be used on teacher salaries (Ferraz et al 2012, 5). FUNDEB involves the three levels of government, but the law does not specify which of the three spheres is responsible for monitoring how FUNDEB funds are spent. Indeed, misuse of the fund only started to be detected with the introduction of an audit program in 2003 (Ferraz et al 2012, 6).

By leveling the spending on education in both municipalities and states, FUNDEB spending rose sharply in the poorest locations (Firpo et al 2012, 7). In fact, Brazil now has one of the highest investments in education in the world, corresponding to 5.7% of its GDP (Pierce 2013). FUNDEB has also made a major

contribution to the continued expansion in access to education in Brazil since its creation (Firpo et al 2012, 7). Because the funding received by each municipality depends on the number of students enrolled, FUNDEB created incentives for municipalities and schools to recruit and retain students (Carnoy 2007). Yet, FUNDEB has shown to impact quality only modestly. As will be discussed, the increasing decentralization of Brazilian primary education is a major underlying cause behind the low quality of Brazilian education despite its high investment levels.

Another major education reform was ushered in with the creation of a federal school accountability system. The National Assessment of Basic Education (SAEB) was introduced in 1995 by Brazil's Ministry of Education. SAEB evaluates a sample of 5th, 9th and 12th grade students every two years in both Portuguese and mathematics. The National Examination of Secondary Education (ENEM) and the Brazil Exam, or *Prova Brasil*, were created in 1995 and 2007, respectively. *Prova Brasil* evaluates a large proportion of students who are in 5th and 9th grades every two years in both mathematics and reading (Firpo et al 2012, 8-9). In 2007, Brazil's Ministry of Education created the Brazilian Basic Education Quality Index (IDEB), which is computed for every public school as well as all municipalities and states. IDEB normalizes *Prova Brasil* results[1] and multiplies it by retention rates, generating scores that range from 0 to 10. *IDEB's* goal is to create an "information channel" that can be used to hold teachers, principals, managers and mayors

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[1] It should be noted that *Prova Brasil* requires twenty or more students to be present in the classroom in order for that classroom to be evaluated.

accountable, and it has been published in various media outlets and websites (Firpo et al 2012, 9).

The publication of IDEB results has indeed been used as an accountability tool for voters. For instance, a study showed that in the 2008 municipal elections, mayors were more likely to be reelected when compared to the 2004 municipal elections if their municipality's education had showed a substantial quality improvement on the IDEB (Firpo et al 2012, 3). A distinctive characteristic of IDEB is that it provides information on the quality of schools and school systems, information that could not be easily obtained before. As pointed out by Firpo, Pieri and Souza, in the absence of such information, voters could only rely on "visible expenditures," such as the building and reforming of schools, which are not necessarily correlated with improvements in the quality of education (Firpo et al 2012, 6).

Another major reform that has had positive effects on the educational system is Brazil's conditional cash transfer *Bolsa Família*, created in 2003 from the combination and expansion of previous social programs. *Bolsa Família* provides monetary transfers to the poor on the condition that the children of the beneficiary family attend school. Evaluations of the impact of this program showed that it "had beneficial effects on income poverty, school attendance and enrollment, nutrition, height for age, child labor, and the utilization of basic health services" (McGuire 2011, 12). Here, the condition that beneficiaries' children have to attend school for a minimum specified number of days per year have contributed to both higher enrollment and lower dropout rates.

The Brazilian educational system underwent important reforms that greatly expanded access to education in the country. Yet, not only did the problem of quality remain unsolved, but it was also exacerbated by the reforms implemented in the 1990s and 2000s. These reforms and the rapid expansion of access brought students from more disadvantaged backgrounds into the system, and added to the challenges to its quality by further decentralizing education in the country and providing incentives for the corrupt use of educational funds. Even though the decentralization that followed the 1988 constitution was not particular to education – health policy was also highly decentralized – in education the decentralization focused on financing rather than improving provision or quality (Pierce 2013), perhaps because education reforms did not result from pressure of civil society groups, as was the case with health in Brazil. In short, while reforms such as FUNDEB guaranteed more equal spending on education across the country, they also contributed to the great disparity in quality given the high decentralization and levels of corruption they funded.

The decentralization of the Brazilian educational system and the complex division of educational levels among the three tiers of government constitutes a major challenge to the improvement of the quality of education in the country. The Brazilian educational system is divided into five major levels, as shown in Table 2.1. Each of these levels is administered by one of the three levels of government – municipal, state and federal – or by the private sector. Figure 2.3 shows the enrollment distribution per educational level and administrative body as a percentage of the total between 2013 and 2014.

Table 2.1: *Duration and age groups of Brazilian educational levels*

Educational level	Duration	Age Group
Child Care	3 years	0-3 years-old
Pre-School	2 years	4-5 years-old
Primary Education	9 years	6-14 years-old
Secondary Education	3 years	15-17 years-old
Tertiary Education	Variable	18+ years-old

Source: MEC 2014.

Figure 2.3: *Percentage of enrolled students per educational level and administrative body (2013-2014)*
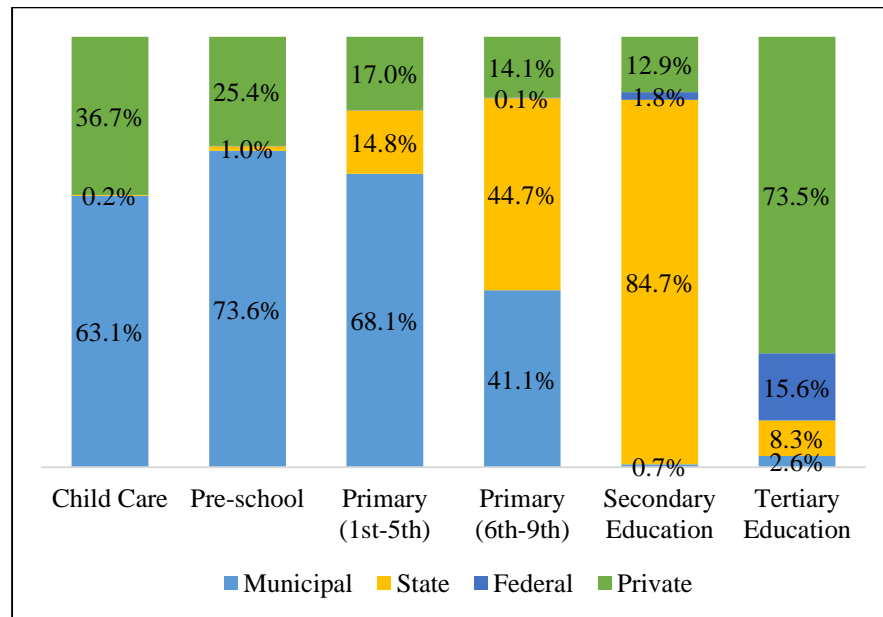
Note: All the values correspond to 2014, with the exception of the tertiary education level, for which 2013 values are presented.
Source: MEC, INEP 2013 and MEC 2015.

Brazilian federalism brings two major obstacles to the improvement of the quality of public education in the country: it creates too many players and levels, and it leaves the administration of primary education in the hands of many municipalities that are for the most part small and poor. There are 26 states, 1

federal district and 5,570 municipalities in Brazil. Each of these localities has a high degree of autonomy to design and administer its own educational systems at the primary and secondary levels (Draibe 2004, 379). The federal government is responsible for providing funds, establishing general regulations, such as minimum spending per pupil, and conducting performance evaluations (Pierce 2013). Federal and state governments may also provide technical assistance to municipalities, but municipal governments are responsible for establishing their own curriculums, determining the selection of school staff, and managing teacher salaries and promotions (Draibe 2004, 379).

The reforms of the 1990s led Brazilian education to be highly decentralized and the administration of primary education to be concentrated in the hands of municipal governments. For instance, in 2014 municipal governments were responsible for 68.1% of the enrollments in the early years of primary education (1st to 5th grades), corresponding to 82.1% of total enrollment in the public sector, or over 10 million students (MEC, INEP 2013 and MEC 2015). Because the average Brazilian municipality is small and poor, municipal schools are generally of lower quality and located in poorer areas (Draibe 2004, 384). According to Sônia M. Draibe, the poor outcomes of municipal schools represent a challenge to the ongoing municipalization of primary education in Brazil (Draibe 2004, 384).

Here, it could be contended that the federal government has become the major driver of education improvements "through incentives, monitoring and direct intervention" (Phillips 2015, 3). Yet, even though there has been a convergence on states and municipalities' education results since 1997 (Phillips 2015, 19), the

Brazilian educational system has showed slow improvements overall in the last decades. My argument is that, while federal reforms have been able to homogenize the quality of education throughout the country, they have been failing to improve the quality of education in Brazil substantially. I argue this is the case because while national policies can set basic minimum standards they cannot create accountability and quality at the local level since municipal governments are the ones responsible for administering their public schools.

Another major obstacle to the improvement of the quality of Brazilian education is the high level of corruption in the country's municipalities. This corruption takes place through two major channels: the misuse of public education's positions, as well as that of its funds, such as the funds brought by FUNDEB. In most Brazilian municipalities, principals are nominated by politicians (Akhtari et al 2015, 6). Because many nominations are motivated by political and not technical criteria, this leads to the politicization of public education as well as to the continuous disruption of educational programs at the school level, as will be explored in Chapter 5. In addition, because FUNDEB funds constitute an important part of a municipality's resources in small and poor localities, and because the use of this fund has been very loosely monitored, FUNDEB creates incentives for and is very vulnerable to corruption at the municipal level. For instance, audits carried out by the Federal Government Controller's Office (CGU) found that between 2001 and 2003, 13% to 55% of FUNDEB's total budget was lost to corruption (Transparência Brasil 2005).

In summary, educational reforms at the federal level have achieved important gains in the *access* to basic education in Brazil, but have had little impact on its *quality.* Even though the creation of programs such as the educational fund FUNDEB have also contributed to the homogenization of education spending in the country, the quality of education remains highly unequal across municipalities. Both the partial success of federal reforms and the inequality we observe are consequences of the high decentralization of the Brazilian educational system, with the administration of primary education, especially of first through fifth grades, in the hands municipalities of varying wealth, size, and governance.

The staffing and operation of municipal schools are the responsibility of the municipal secretariat of education, whose head holds the rank of secretary in the mayor's cabinet and reports to the mayor. The mayor and his party choose the secretary and her team. Similarly, the mayor and his team determine how much of the city's funds will be spent on education above the floor determined by the federal government. All municipalities must meet the federally mandated minimum, but some may choose to spend more. Due to the administrative and financial power of the executive, the implementation of education reforms and the subsequent impact of those on the quality of the education provided by municipal schools are largely in the hands of the mayor and his party.

Scholars' inability to fully explain the paradox of education reform in Brazil stems from the fact that they have either focused solely on federal reforms or on the factors that lead municipalities to perform very poorly on average. Yet, as was discussed in this chapter and the previous one, the performance of Brazilian primary

education is not at all constant across municipalities and its quality depends significantly on decisions made at the municipal level. As was shown in Chapter 1, much can be learned from analyzing what leads municipalities to have such different performances in the arena of education. In the next chapter, I will argue that educational reforms are rather rare because they constitute what the literature calls hard reforms, meaning they have high costs and diffuse benefits. In order to understand the motivations and incentives behind politicians' decisions to reform – or not – their municipal public education, I will draw from the literature on the implementation of hard reforms.

3 Perspectives on the Implementation of (Hard) Educational Reforms

The analysis of the paradox of education reform in Brazil raises two differing yet complementary puzzles: (1) why is education so difficult to reform? And (2) how are some municipalities able to overcome those difficulties? As we shall see, educational reforms are difficult to implement, especially when they de-politicize public education, because they have concentrated costs and diffuse benefits. The problem begins with weak demand: interest groups backing reforms in Brazil are politically weak, and the demand for a quality education from both the population and the business sector is low. Thus, the implementation of education reforms in Brazilian municipalities depends on politicians and their parties to take the initiative. Yet, for most politicians and parties, reforming public education often carries significant costs, especially giving up access to major resources, such as public positions and funds. Their incentives, therefore, lie in the opposite direction – to maintain the status quo – making the implementation of education reforms difficult. To understand how quality-enhancing educational reform is launched at all, given these obstacles, we need to understand the factors that make the implementation of hard reforms possible.

In this chapter, I examine the literature on hard reforms, and discuss some of the major arguments in this literature regarding their implementation. After briefly examining economic explanations for reform, I focus on three approaches that best help us understand the political factors that make education reforms possible: the roles played by interest groups, partisanship, and individual

politicians. First, I examine more closely why education reform is especially difficult.

3.1. The Special Case of Education as a Hard Reform

Education reforms have been at best incomplete in Latin America; although reforms have increased *access* to the point that schooling is now almost universal, the *quality* of education has not improved (McGuire 2011, 18). This gap between education access and quality is as true in Brazil as in the rest of Latin America. The incomplete nature of education reform becomes even more surprising when education is compared to other social reforms. Latin American countries have been able to make important progress in the provision of social insurance, social assistance, and certain social services such as health care, nutrition, family planning, water, and sanitation. For instance, health care reforms improved *both* the accessibility *and* quality of public health care beginning in the 1990s. Yet, education remains of very low quality throughout the region. Why have Latin American countries faced greater challenges in reforming and improving the quality of their educational systems than in other areas of social policy?

One of the most striking reasons for the relative failure of education reforms is that, compared to other social services or even to social insurance and social assistance, demand for education is low. This is the case because education is treated mostly as an investment, while most social services are generally perceived as immediate consumption goods. The benefits of having access to quality health

care, clean water, sanitation and unemployment insurance are enjoyed as soon as one has access to these services. Besides, not having access to them poses immediate harm to individuals. On the other hand, the benefits from education will likely only accrue after many years of investment and the harm of not being educated will be more fully felt later on, in adulthood. This makes the benefits of investing in education in the present relatively small in the cost-benefit analysis individuals make on a daily basis. In addition, there are high costs associated with investing in education. These include the opportunity costs incurred by studying instead of working and the costs associated with school materials and commuting, for example.

Thus, investing in education is costly in the short run, which creates a problem that is very particular to education. Conditional cash transfer programs such as *Bolsa Família* provide a partial solution to this problem by offering monetary transfers on the condition that children attend school. Evaluations of the impact of conditional cash transfers in Latin America have shown that Mexico's *Oportunidades* and Brazil's *Bolsa Família* have "had beneficial effects on income, poverty, school attendance and enrollment, nutrition, height for age, child labor, and the utilization of basic health services" (McGuire 2011, 12). Yet, such programs have had no effect on the quality of education in Latin America. While they incentivize families to enroll their children at school, they do not provide incentives for those families to demand a quality education.

A possible solution to the problem of low demand for a quality education would be for the market to demand it. If employers required higher skill levels from

their employees, the labor market would increase the benefits associated with investing in education or, conversely, the opportunity costs of not being well-educated (cf. Schneider 2013, 113). However, this solution is unlikely in Latin America where, in Schneider's term, a "common low-skill equilibrium" prevails. In a low-still equilibrium, individuals do not invest in skills and jobs do not require those skills (Schneider 2013, 114). In the same way that the population has few incentives to invest in education, employers do not demand a better quality educational system because labor regulations in Latin America make the region's severance costs among the highest in the world (Schneider 2013, 122). Since it is so hard to lay off workers, most companies prefer to train their own employees.

It is well understood that the poor quality of education in Latin America is a great challenge that the region must overcome in order to prosper. In the absence of individuals and households reaching the decision in their own cost-benefit analyses to invest in education and demand it of government, it would be expected that governments would recognize the positive externalities of having a well-educated population and take the lead in providing this public good. Yet, the quality of education in Latin America has not changed much in recent years and governments that espouse concern do not seem to be pursuing the necessary reforms. In a context of low demand for quality education in Latin America from both the general population and the business sector, the implementation of education reform is also constrained on the supply side by political challenges.

As discussed in Chapter 2, with the creation of programs such as FUNDEB, public education's positions and funds constitute an important source of resources

for municipal governments, resources that are often used to finance patronage practices and political corruption in Brazil. Thus, reforming public education can be very costly to politicians and their parties, since doing so often means giving up the patronage or corrupt use of education's resources. This is especially true for reforms that aim to depoliticize education by insulating educational staff from party politics by making their appointments as members of municipal secretariats of education as well as school administrators conditional on technical qualifications rather than political alliances. Such reforms that introduce meritocratic hiring and promotion procedures to the public sector are costly for politicians and party leaders in that they decrease their ability to reward supporters with jobs (Geddes 1991). Thus, at the same time that education reforms that aim to de-politicize public education have diffuse benefits, they also have concentrated costs – they are hard reforms.

To understand why some reforms are harder to accomplish than others, we begin with James Q. Wilson's (1980) classic framework for classifying legislation according to the distribution of its costs and benefits. According to Wilson, when both costs and benefits are diffuse – when they affect a broad proportion of the population – they easily pass and are sustained in a majoritarian system. Similarly, reforms with concentrated costs and benefits, those that affect a small proportion of the population, may also pass and be sustained if they are not opposed by powerful interest groups. Legislation that has diffuse costs and concentrated benefits, a third type, may pass in a context of "client politics" in which small groups receiving the benefits have large incentives to organize, while the opposite

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is true for large groups paying the costs (Wilson 1980, 369). What makes the fourth type of law, which has concentrated costs and diffuse benefits, the hardest to pass is that its beneficiaries have little incentive to organize behind the reform effort for only diffuse benefits, whereas members of the small group paying the costs have the greater incentive to mobilize to oppose the law and are in a better position to overcome their "collective action problem" because they enjoy smaller cost-benefit ratios (Olson 1965). I call these reforms, which have concentrated costs and diffuse benefits, and thus are the hardest to pass and sustain, "hard reforms."

Scholars extensively studied the implementation of two types of hard reforms in Latin America, namely the economic reforms of the 1990s and the social reforms of the 1990s and 2000s. Dani Rodrick (1994) attributes the difficulty in mounting trade reform in Latin America to the concentration of its costs onto small, well-organized producer groups as well as the diffusion of its benefits to consumers who have great difficulty in overcoming their collective action problem. Similarly, the challenge of passing social reforms in Latin America starting in the 1990s can be understood in terms of the concentrated costs borne by individual politicians and private providers and the diffuse benefits distributed among the beneficiaries of social services. Even though these two types of reforms differ in many aspects, their respective literatures are complementary and will prove to be valuable in understanding the political factors that make education reform possible.

There are four main perspectives in the literature on passing and sustaining hard reforms. They focus, respectively, on the role played by economic factors, interest groups, partisanship, and individual politicians. Next, I discuss these four

approaches, arguing that the latter three are more applicable to the case of education in Brazil.

3.2   Economic Perspective

The economic perspective focuses on the influence of the international and national economies on the domestic political scenario. According to this view, the state of the economy not only greatly influences the relative positions of actors inside a country, but also adds urgency to the hard reforms, facilitating their passage. Referring to the economic reforms of the 1990s, this view argues that the "dire economic circumstances" that resulted from the macroeconomic crisis of the 1980s were a major cause behind the passage of very hard economic reforms in the following decade (Rodrik 1994, 79). The fact that the economic crisis of the 1980s was followed by fiscal adjustments that could not have been dreamed of pior led scholars to argue that the urgency of the crisis was key to the passage of fiscal reforms (Rodrik 1996).

Even though the severity of the economic crisis played an important role in catalyzing the passage of the economic reforms of the 1990s, the crisis alone cannot account for the differences in the timing and depth of the economic reforms passed and especially whether or not they were sustained by different Latin American countries. For instance, while Brazil implemented and institutionalized many of the policies it promised, Venezuela preserved many fewer of the economic policies proposed during its economic reform (Corrales 2012). Moreover, health and

education reforms can rarely "capitalize on a sense of urgency" in the same way that the threat of hyperinflation accelerated the implementation of economic reforms in the 1990s (Kaufman and Nelson 2004, 12-13). In this context, explanations focusing on the role played by interest groups opposing hard reforms and how their opposition can be minimized offer an alternative explanation.

3.3   Interest-Groups Perspective

According to the perspective that focuses on interest groups, small and well-organized groups are crucial to understanding the passage and sustaining of hard reforms, given their ability to, by definition, solve the collective action problem. For hard reforms to pass, either the opposition of interest groups harmed by the reforms must be undermined, or there must be strong interest groups supporting the reform. To overcome the opposition of interest groups, the literature suggests combining reforms in such a way to distribute their costs more equally and thus diffuse them (Rodrik 1996, 67). For Rodrik, the efforts of governments to "package fiscal reforms," combining more and less desirable policies, was crucial to the implementation of the economic reforms of the 1990s (1996, 67). Another solution would be to include ways of compensating those who bear the highest costs, since doing so has been shown to have a positive impact on securing support for the reform (Haggard and Webb 1993, 79).

To offset the problem that the beneficiaries of hard reforms are, by definition, too large a group to organize, the literature also suggests that small

interest groups with particular interests might be key to the passage of reforms. An important example is the *Movimento Sanitarista*, which was very influential in the passage of major health care reforms in Brazil in the 1990s. The *Movimento Sanitarista* was a movement of medical professionals, local health authorities and health experts that came in the late 1970s together to demand a unified and comprehensive health care reform. According to Marta Arretche, the movement had become very influential by the 1980s and was tremendously successful "in pushing through a significant part of its comprehensive health care reform proposals" during the 1987-88 Constitutional Assembly (2004, 167-168). One of the reasons behind the *sanitaristas*' success was that they were able to unite a relatively small group of influential professionals and authorities.

The *sanitaristas'* example might lead us to expect teachers and teachers' unions could constitute a strong interest group pushing for education reform. Although teachers' unions are often seen as opponents of reform, in Brazil they play the opposite role; they are "pro-active social movements" that defend education spending (Gindin and Finger 2013, 5-6). In fact, during the process of drafting the 1988 Brazilian Constitution, teachers' unions successfully advocated for a minimum funding level to be set for education (Gohn 1992), as well as for a more democratic management of public education (Silva 2008). However, teachers' unions are politically very weak at the municipal level, reflecting "the extreme fragmentation and the great heterogeneity of the educational system" (Draibe 2004, 384). Thus, whereas the *sanitaristas* were able to influence health policy across Brazil due to the centralization of public health, teachers' unions have

had an impact only in the arena of federal policies, and have been unable to consistently influence primary education at the municipal level.

Although the political weakness of interest groups proposing education reforms makes this approach unhelpful in understanding the *implementation* of reform in Brazilian municipalities, it does provide us with insights about the *institutionalization* of reforms. As Rodrik points out, reforms "become sustainable when they generate 'winners' with a stake in their continuation" (1996, 67). In fact, scholars suggest that reforms should be implemented at the beginning of a new administration, since this is when opposition is known to be weaker and doing so allows time for the reform to show results. As Haggard and Webb put it, this would give the reform "time to put down strong roots during [an administration's] honeymoon period, when support is high and opposition muted" (Haggard and Webb 1993, 79), making it harder to reverse and hence facilitating its institutionalization. I return to these arguments concerning the timing of implementation as well as the institutionalization of education reforms in Chapter 4, where I argue that political continuity allows for the institutionalization of hard educational reforms.

Given the political weakness of the interest groups proposing education reforms in Brazilian municipalities as well as the low demand for quality education from both the population and the business sector, the implementation of education reforms will depend on the incentives available to politicians. In analyzing the education reforms undertaken in Brazil beginning in the 1990s, Sônia M. Draibe rightly asserted that "the decisive actors came from within the government and

political system" (2004, 384). Thus, I rely on the third and fourth perspectives, which concern the role of partisanship and individual politicians, to understand politicians' motivations to reform the educational systems of their municipalities.

3.4   Partisanship Perspective

The partisanship perspective is based on the argument that some parties will prioritize and defend certain policies more than others. According to this view, a major reason why social reforms in Latin America took shape from the 1990s on was the rise to power of left-of-center parties across the region (McGuire 2011, 25), which are expected to pursue redistributive reform more aggressively than both non-left and left-populist parties (Birdsall et al 2012; Huber and Stephens 2012). Parties can influence the implementation of education reforms through two different routes – the interests and platforms they defend, and the basis on which they compete.

Regarding the interests and platforms defended by different parties, the argument is that political parties have the ability to transform the interests of their constituency into public policies. As Merike Blofield and Juan Pablo Luna put it, political parties and party systems transform social inequality into policy preferences (2011, 148). Therefore, it could be the case that, despite the low demand for a quality education, parties defending social reforms would see the implementation of reforms that improve the quality of public education as necessary and, thus, desirable. Another possibility would be for political parties to

associate themselves with particular platforms, increasing their ability to claim credit for the benefits resulting from the implementation of hard reforms. This is possible because, as argued by Geddes (1991) in her analysis of merit-based hiring for civil servants, the possibility of claiming responsibility for the good outcomes of having a well-prepared staff, for example, can lead politicians to implement this hard reform. Translating this benefit to education reforms would mean that politicians would push for reforms if they trusted their ability to claim the credits for improving the quality of education in their localities, thus gaining electoral benefits. This seems to be the case with the *Partido dos Trabalhadores* (PT), or the Workers' Party, and the defense of education in its electoral platform. By associating itself with education, the PT is in a better position to claim the credit and be electorally rewarded for demonstrating improvements in the quality of education. This creates concentrated benefits associated with implementing hard educational reforms, making their implementation more likely. These arguments inform my theoretical expectations, developed in Chapter 4, about the fundamental role of the PT in pushing for education reform in Brazil.

A second route through which partisanship can affect the implementation of hard reforms is in how parties choose (or are forced) to compete. If the ways certain parties compete lead some to have smaller costs associated with implementing hard educational reforms, reforms will be more likely to be implemented under the administration of those parties. Here, the distinction between programmatic and clientelist parties is central to my thesis.

Programmatic parties compete on the basis of programs, distribute public services on the basis of objective needs and rights (Hunter 2014; Kitschelt, 2012) and do not distinguish between supporters and opponents. Clientelist parties, on the other hand, establish unequal client relationships with voters, distributing public services as well as private goods as rewards for political favors. In clientelist politics, voters choose their candidates based on the access political elites will give them to goods as a reward for political support (Hagopian, 1996). By competing on the basis of the provision of public services instead of patronage, programmatic parties have smaller costs associated with implementing hard educational reforms, since their competitiveness does not depend on having access to public jobs and funds. In fact, PT's rise in power in Brazil is associated with the implementation or deepening of many major social reforms starting in 2002. According to Frances Hagopian (2014), because the PT was relatively newer and had less access to resources and patronage networks than more traditional Brazilian parties, such as the Party of the Brazilian Democratic Movement (PMDB), it could not compete with patronage and thus has been able to compete based on the provision of social services and public goods.

3.5   Individual Politicians as Self-Interested Actors

The fourth and last perspective treats politicians and political leaders as self-interested actors who will or will not be committed to implementing hard reforms according to their individual cost-benefit analyses. As Barbara Geddes contends, if

a reform conflicts with their personal interests, politicians will choose not to pursue it (1991, 261). According to this view, reforms only occur when their outcomes are consistent with the particular interests of politicians (Geddes 1991, 261). As a consequence, the literature proposes that hard reforms will be implemented if (1) politicians are personally committed to the issue addressed by the reform, (2) there is a significant increase in the population size, or (3) they face high political competition.

The health reforms implemented in Brazil during the 1990s provide evidence for the argument about the role of politicians' personal commitment. Marta Arretche (2004) argues that these reforms were possible because there was a strong Ministry of Health pushing them forward. As she puts it, "Minister José Serra was much better able to defend his budget, probably due to his close relation to President Cardoso" (Arretche 2004, 178). Similarly, the education reforms undertaken by the Ministry of Education in the second half of the 1990s, which included the decentralization of federal resources and programs as well as the creation of PMDE, PNAE, and FUNDEF, were made possible, according to Arretche, because Minister of Education Paulo Renato de Souza "was part of [President] Cardoso's inner circle" and "exercised significant influence in political decision making" (2004, 390). The Cardoso government included education reform as "one of the major commitments of its political program" (Arretche 2004, 389), and Minister Renato's role can be understood in this context by former President Cardoso's affirmation that every government has to decide which ministries and positions are critical to the government's project and appoint its own people to those

posts instead of nominating coalitional partners (Cardoso 2010). Even though individual politicians who are personally committed to education likely play a major role in pushing for the implementation of (hard) educational reforms, I am unable to assess mayors' personal commitment in all 5,570 municipalities. As such, I will return to this argument when I present my study of seven Brazilian municipalities in Chapter 6.

The implementation of hard reforms may also become more likely if politicians' calculations about reform change, something that may happen, according to Geddes (1991), when there are substantial increases in the size of the population. According to her perspective, as the electorate grows, the relative costs of distributing public goods to the electorate falls as the price of offering private goods in exchange for electoral support becomes very costly. if her argument (1991, 262) has merit, politicians should reform education if offering a better public education was cheaper on a per capita basis than offering private goods through patronage. Yet, for political leaders to find it worthwhile to transition from providing patronage goods to providing a quality public service, they must be able to claim the credits from improving the quality of the educational system, as I argued in the previous section regarding the ability of certain politicians and parties to claim the credits for improvements resulting from the reforms implemented. As a consequence, I expect partisanship to have a larger influence on educational outcomes than population size. My expectation is supported by the evidence presented in Chapter 5, which shows that population size has no effects on the implementation of reforms in the selection process of school principals.

Finally, scholars point to political competition as playing an important role in individual politicians' decisions to implement hard reforms. On one side, Geddes (1991) argues that hard reforms will be introduced when parties are sufficiently comparable in strength that there is uncertainty about the outcome of elections. In such a context of uncertainty and high political competition, each side is willing to forfeit the possibility of patronage, for example, in order to prevent the other side from having access to it (Geddes 1991, 261). Other authors offer different reasons for why political competition is conducive to the implementation of hard reforms – because it increases political accountability (Jones 2013) and youth voter turnout (Pacheco 2008), while simultaneously decreasing clientelism levels (Weitz-Shapiro 2007). The proponents of this thesis argue that political competition is a mechanism of political accountability and responsiveness. According to these authors, high competition levels would not only make it more likely that underperforming politicians are replaced in office, but would also increase the incentives for politicians to provide better public goods and services. A number of studies show that higher levels of political competition are associated with higher spending on social goods (Brown and Hunter 1999), higher provision of public goods (Lake and Baum 2001) and higher spending on education (Brown and Hunter 2004). A more recent study on the effects of political competition in Brazilian municipalities has also shown that political competition leads to a reduction in payroll expenditures and increased school construction projects (Chamon et al 2009, 5).

Yet, the debate over the effects of political competition on the provision of social goods is not closed. Some scholars have pointed out that political competition

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can have negative effects on the incentives available for politicians to implement hard reforms if the electorate does not have access to reliable information about the candidates (Besley and Burgess 2002; Besley and Burgess 2001) or if clientelism predominates (Kitschelt and Wilkinson 2007). According to Carew Boulding and David S. Brown, political competition can have a negative effect on the provision of public goods if a locality is constrained in its access to economic resources; they found municipalities with more competitive elections spent less on social goods and services (Boulding and Brown 2012, 2). The authors trace the negative correlation between political competition and social spending to the fact that municipalities with access to few resources are less able to invest in social goods and services as well as in political campaigns (Boulding and Brown 2012, 3).

In the next chapter, I argue that political competition – contrary to what both sides argue – has no effects on the implementation of education reforms. It does however have negative effects on educational outcomes, but these result from the negative impact that the struggle among different parties within schools has on small municipalities.

4 Education Reforms in Brazilian Municipalities: A Theory of the Effects of Partisanship, Political Continuity and Competition

In Chapter 3, I argued that education reforms, especially those that aim to depoliticize public education, are hard reforms because they have diffuse benefits that take a long time to accrue, and they often impose high costs on politicians who use education positions and funds to reward supporters or corrupt practices. I focus on the municipal level because the success of the Brazilian educational system as a whole depends in large part on municipal administrations. It is now received wisdom that the quality of a student's childcare, pre-school and early years of primary education are strong predictors of whether he will succeed in his subsequent educational trajectory. The management of these early stages of a child's education lies almost entirely with municipal governments in Brazil. Thus, I aim to understand what leads mayors – who, through municipal secretariats of education, exercise substantial control over education spending and policies as well as staff selection – to implement (hard) educational reforms and improve the quality of their educational systems.

Using the literature on the implementation of hard reforms as my framework, this chapter develops my theory about the political factors leading to the implementation and institutionalization of hard educational reforms as well as the impacts of political competition on public education in small municipalities. After introducing my theory and its empirical implications, I will also discuss the empirical strategies I pursued to test it.

The discussion conducted in the previous chapter offers two major approaches to understanding what leads governments to implement hard educational reforms in Brazilian municipalities. The first focuses on the incentives available to individual politicians, and the second on partisanship. According to the first approach, politicians – regardless of their party affiliation – will pursue hard reforms, especially those that imply a loss of access to patronage resources, if they are personally committed to the reform, if there is an increase in the population size, or if they face high levels of political competition. However important the role that politicians' personal commitment to education likely plays, it is not possible to directly measure such a commitment. Moreover, even if we could, it is very unlikely that personal commitment alone can explain the actions of 5,570 mayors. Thus, I temporarily bracket the argument about personal commitment, and return to it when I discuss my case studies. In the rest of this chapter, I develop my theory focusing on more tangible, arguing that they have a larger impact on explaining the implementation of education reforms on a national scale.

The second pillar of the argument about politicians' incentives – population size -- expects that substantial increases in population make it more expensive for politicians to reward supporters with private goods, thus making the provision of public goods more cost-effective (Geddes 1991). While this argument might be true for other areas, it is unlikely to explain education reform since, as we saw in Chapter 3, popular demand for quality education is low and education reforms often bring substantial improvements to public education only in the long term. Thus, we should not expect politicians who previously reward supporters with private goods

to easily begin to reap votes by promising to improve education once the population grows. Consequently, I do not expect changes in population size, all else being equal, to affect the implementation of education reforms.

Similarly, I argue that contrary to expectations that higher levels of political competition will impact the launch of reforms, political competition has no effects – neither positive nor negative – on the implementation of education reforms. The assumptions made by proponents of the view that political competition facilitates hard reforms because politicians are more likely to forfeit the possibility of patronage in order to prevent the opposition from having access to it (Geddes 1991, 261), or because political competition is a mechanism of political accountability and responsiveness (Jones 2013; Pacheco 2008; Weitz-Shapiro 2007), make two major assumptions that are not true for education. First, it is so easy for politicians to give up access to patronage resources when they depend on those resources to compete, and second, if the population does not demand reform it is not clear why even responsive politicians would take the necessary steps to deliver better public education. . That said, even though I expect political competition to have no effects on the implementation of education reform, I do expect it to have negative effects on educational outcomes, a point to which I will return below.

The second major approach analyzed in the previous chapter focuses on the role played by partisanship. According to this approach, partisanship can impact the implementation of hard reforms through the interests and platforms defended by different parties. In this line of thinking, political parties can mobilize voters around certain issues as well as associate themselves with particular platforms, thus

increasing their ability to claim credit for the benefits resulting from the implementation of hard reforms. A second route through which partisanship can affect the implementation of hard reforms deals with how parties compete. As argued in Chapter 3, by competing on the basis of the provision of public services instead of patronage, programmatic parties have smaller costs associated with implementing hard educational reforms, since their competitiveness does not depend on having access to public jobs and funds. I maintain that these arguments focused on political parties are more applicable to the case of education for two major reasons. Firstly, they bring to light the varied costs different parties incur when implementing hard reforms. In contrast to the arguments based on population size or political competition that assume that all politicians would be able to give up their access to patronage resources once conditions changed, the partisanship approach differentiates the constraints faced by different types of parties, some of which can more readily absorb reforms that are too costly for others. Moreover, the arguments based on partisanship are also still valid in cases when the promotion of certain issues, such as education, does not readily translate into electoral benefits. In fact, this approach provides a solution to the difficulty individual politicians face in capitalizing on educational improvements by pointing out that because parties that prioritize a specific issue such as education in their electoral platforms can more easily claim the credit for policy improvements, so, too, can their members.

Drawing from these arguments and insights, I develop a theory to explain how hard educational reforms are implemented in Brazilian municipalities. Focusing on their associated costs, I contend hard educational reforms are more

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likely to be implemented under the administration of programmatic parties, and less likely to be implemented when clientelist parties come to power. In addition, focusing on the benefits associated with these reforms, parties who defend education in their electoral platforms are more capable of benefiting from improvements in the educational system, thus increasing the incentive to implement hard educational reforms. I argue that this is the case for the Workers' Party (PT), given its prioritization of the cause of education. The PT was founded in 1979 from a union of the new unionism movement, left-wing organizations, and grass-roots social movements (Keck 1992; Avritzer 2009). Due to its socialist origins as well as the influence of the educationalist Paulo Freire, who joined the party in 1980, PT has been a major defender of public education (Leher and Vittoria 2015, 151). With the ideological moderation of the party in the last two decades, its educational goals have changed since 1970s, with a larger focus on standardized quality indicators and the establishment of performance goals (Leher and Vittoria 2015, 151). Yet, the party is still notably recognized as a defender of public education.

As we saw in Chapter 3, the literature on hard reforms provides useful insights not only on the implementation but also the institutionalization of education reforms. According to Rodrik, reforms become institutionalized when they create winners that benefit from the reforms and demand their continuation. Yet, before this happens, reforms require "time to put down strong roots" (Haggard and Webb 1993, 79) and begin demonstrating results. Given that educational reforms often take a long time to do so, I argue that once reforms have been implemented, political continuity is a major factor leading to the sustainability, or

institutionalization, of these reforms. I define political continuity as increasing concomitantly with the number of consecutive terms a politician, political party or political coalition is in power. While I expect popular support to be an important predictor of the sustainability of education reforms in the long term, I argue that political continuity determines whether reforms survive before they are able to gain popular support. This is the case because, as discussed in Chapter 2, even though voters do not prioritize education when making their electoral decisions, there is evidence that they do reward parties for improvements when the results come (Firpo et al, 2012).

Here, I not only expect political continuity to be a precondition for the institutionalization of hard educational reforms, but I also argue that political discontinuity, all else equal, will have negative effects on educational outcomes regardless of whether reforms were implemented or not. Alternation in power is so harmful because it makes it more likely that educational programs and policies will be undone every four years. This is the case because positions in the secretariat of education and schools are still very much used as quid pro quo for political favors in Brazil (Akhtari et al 2015, 4), as evidenced by the higher rate of replacement observed in these jobs with party turnover (Akhtari et al 2015, 2). Mitra Akhtari, Diana Moreira and Laura Trucco have found that when a new party takes office, there is a 10% increase in teachers' as well as a 24% increase in principals' replacements (Akhtari et al 2015, 2). This is possible because teachers can be hired with short-term contracts and, in many municipalities, principals are nominated by politicians (Akhtari et al 2015, 2).

I contend that the phenomenon identified by Akhtari et al – namely the higher replacement that results from party turnover – has a negative effect on educational outcomes through two different yet related channels. First, as rightly identified by Akhtari et al, the turnover of teachers and principals hurts the relationships between them, ultimately harming their performance and effectiveness (Akhtari et al 2015, 17). But this is not the only way in which a lack of political stability affects education outcomes. Due to the high rates of replacement also seen in the secretariats of education, party turnover leads to constant disruption in education policies and programs, not allowing them enough time to institutionalize and demonstrate results. Indeed, in my field research, it was not uncommon to see secretariats of education that changed their entire pedagogical system over and over with each change in power at the municipal level. Thus, I expect political continuity to have positive effects on educational outcomes by allowing reforms enough time to institutionalize, and that party turnover to harm educational outcomes when both programmatic and clientelist parties are substituted for a (different) clientelist party.

Until now, I have not discussed what leads certain municipalities to elect, or reelect, programmatic parties in the first place. Indeed, one might argue that the PT is elected in municipalities that happen to value education and that the implementation of hard educational reforms and the subsequent improvements in education are actually caused by this confounding. Yet, if there is something special about the places where programmatic parties, especially the PT, are elected, I argue that it is not the prioritization of education. It has been shown that Brazilian voters

support different parties based on their performance and not on their platforms (Roman 2013). More specifically, voters choose the PT both because it is known for being the party of the poor (Zucco 2010; Osterkatz 2012), and as a reward for the implementation and expansion of programs such as *Bolsa Família*, the enormously popular conditional cash transfer program (Zucco 2010)[2].

Many scholars have looked into the question of what leads voters to choose programmatic over clientelist parties. Even though Brazilian local politics have become less clientelist, this transformation is incomplete and heterogeneous (Nichter 2010; Phillips 2015, 4), and clientelist strategies are still common at the local level (Sugiyama and Hunter, 2013). This is the case because voters find it very hard to get rid of clientelism due to a collective action problem. Even though voters might benefit from a transition away from clientelism, they cannot unilaterally defeat clientelist politicians (Medina 2007, 188). Because no voter will be excluded from the benefits if the programmatic party wins, but only the supporters will have access to important policy benefits if the clientelist party returns to power, the costs associated with voting against the clientelist party are quite often too high (Medina 2007, 188). Thus, voters end up choosing to support the clientelist politician, maximizing their payoffs of public and private goods (Lyne 2007; Medina 2007; Stokes 2007). Here, it has been argued that the creation of a large working-middle class in the last two decades has harmed the ability of clientelist parties to compete, for this class as "too expensive to have their votes purchased" and more averse to corruption (Osterkatz 2012, 6). This would explain

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[2] Nonetheless, to test for this possibility, I perform a regression discontinuity analysis in Chapter 5.

why many poor voters are switching from local clientelist parties such as the PMDB and the PFL to programmatic parties such as the PT (Osterkatz 2012, 9). In order to account for the influence of the conditional cash transfer *Bolsa Família* as well as GDP per capita on the election of different parties, I control for *Bolsa Família*, and the size of GDP per capita in the analyses I discuss in Chapter 5.

In the discussion presented above about the implementation of hard educational reforms, I argued – contrary to scholars from both sides – that political competition has no effect on the implementation of education reforms. Instead, I contend that it harms educational outcomes in small municipalities through a different route. Here, I define political competition as increasing with regard to the relevance and size of the opposition during elections. In small municipalities, it harms education because this competition polarizes and endangers professionalism in schools, which I found to be the case in my field research. In these municipalities, in an example of what Stokes (2005, 316) called "perverse accountability," parties know, or are able to infer, who voters support during elections. Because in small cities everyone knows who is voting for whom (Kitschelt and Wilkinson 2007; Stokes 2007) and social networks are highly prevalent, political competition has a polarizing and pervasive effect in general, and especially in public schools. In small municipalities, the stakes and the likelihood of punishment are very high for municipal civil servants, including the staff of the secretariat of education school administrators, and teachers. As will be detailed through my case studies, political competition also has a perverse effect on the incentives of teachers and administrators who support the opposition and do not want the incumbent

administration to be able to claim credit for improvements in the educational system. Given that programmatic parties' implementation of education reforms that aim to depoliticize education should decrease the negative effects of political competition, as per the mechanisms I propose, I expect political competition to be especially harmful in clientelist contexts. Thus, when analyzing the effects of this variable, I control for the party of the incumbent mayor.

Building on the discussion presented above, I now present the hypotheses generated by my theory as well as the empirical strategies I pursue to test these hypotheses.

4.1   Empirical Implications and Strategies

In the previous section, I developed my theoretical expectations on the implementation of hard educational reforms and the effects of political competition on educational outcomes in Brazilian municipalities. To summarize, I argued that hard educational reforms are more likely to be implemented under the administration of programmatic parties and to become institutionalized in contexts of political continuity. Since public education is a major source of resources and public jobs, clientelist parties have a strong incentive to misuse educational resources and reward supporters with employment in the sector. Programmatic parties, on the other hand, compete on the basis of the provision of public goods, which makes implementing hard educational reforms less costly for these parties. I expect stronger effects for the PT due to its ability to claim the credit for

improvements in educational outcomes, given the defense and prioritization of education in its electoral platform. In order to show substantial impacts on educational outcomes, education reforms require a long period of time. Thus, hard educational reforms depend on political continuity to survive until they are able to gain popular support and institutionalize.

I also argued that increased levels of political competition harm educational outcomes in small municipalities because political alliances are publicly known and municipal education employees have much at stake in the outcomes of elections in less populated municipalities. Thus, higher competition levels polarize school staff, creating conflicts among supporters of different parties. Such competition harms the school working environment, and even predisposes the staff of municipal schools who support the opposition to sabotage the incumbent administration by being less collaborative and underperforming. Here, I expect higher levels of political competition to have opposite effects in very large municipalities, where the literature's prediction that higher political competition leads to a larger provision of public services might hold. The empirical implications of my theory can be summarized in the following hypotheses.

(H1) Electing a programmatic party, especially the PT, leads to an increase in the probability of implementing hard educational reforms, while clientelist parties decrease this probability;

(H2) Electing a programmatic party, especially the PT, leads to larger improvements in educational outcomes, while clientelist parties demonstrate smaller improvements;

(H3) Political competition, population size and number of terms not affect the implementation of hard educational reforms;

(H4) Higher levels of political continuity lead to larger improvements in educational outcomes, with strong effects for programmatic parties and weak effects for clientelist parties;

(H5) Higher levels of political competition lead to smaller improvements in educational outcomes, with stronger effects for small municipalities and nonexistent or opposite effects for large ones.

These five hypotheses focus on the empirical implications of my theory regarding the direction and strength of association among the variables I study. Yet, besides determining associations and testing for evidence of causal relationships when possible, I also aim to look for empirical evidence for the causal mechanisms underlying the observed associations that translate political variables into successful educational outcomes. Here, the ideal approach would be to conduct randomized control trials, dividing Brazilian municipalities into treatment and control groups to determine the impact of political parties in power in municipal governments as well as the level of political competition. Yet, not only would such an experiment be unethical, it would also be completely unfeasible. Given such constraints, I conduct a nested analysis, which is a mixed-methods approach that combines large-N statistical analysis with the study of a small number of cases.

A nested analysis presents a number of advantages over both small-N and large-N analyses. Compared with case studies alone, it allows claims derived from specific cases to be tested statistically in a large-N analysis, improving their external validity. In addition, a nested analysis allows relationships observed in statistical analyses to be further studied in the small cases. The close study of cases also enables the observation of variables that are not available or extremely hard to gather for all cases, such as "working culture" and "personal commitment," the

inference of causal mechanisms, and the examination of within-case processes (Lieberman 2005). In sum, nested analyses allow one to go from establishing relationships between variables to providing explanations of how these variables are related (Lieberman 2005).

My mixed-methods analysis is composed of two parts. The first uses an original dataset to establish the effects of the political variables I study on educational outcomes. The second uses a small-N analysis to identify the causal mechanisms through which my political variables affect educational outcomes. I select seven cases for in-depth research based primarily on forty-three semi-structured and intensive interviews. In Chapters 5 and 6, I present the methodological design as well as discuss the results of both my large-N and small-N analyses.

5 Quantitative Research Design and Data Analysis

In Chapter 4, I discussed the empirical implications of my theory as well as the strategies I pursued to test both the relationships and the causal mechanisms that follow from my hypotheses. In this chapter, I present the first part of my mixed-methods analysis – the large N-analysis – aiming to test the relationships predicted by my theory. I start by presenting how my hypotheses are statistically tested as well as the evidence each analysis will provide, and conclude by discussing the results of my data analysis.

5.1 Research Design

In order to test my theory regarding the implementation of hard educational reforms in small municipalities in Brazil, we must first specify an empirical strategy to measure reform implementation. Here, I focus on the process by which municipal schools' principals are selected as my indicator of the implementation of hard educational. As discussed in Chapter 4, I expect programmatic and clientelist parties to have different effects on educational outcomes due, ultimately, to how they make use of educational resources as well as positions in schools and secretariats of education. Sinceclientelist parties compete on the basis of the provision of private goods and programmatic parties on the basis of the provision of public goods, how educational reforms impact the use of education's resources and jobs is central to how politically hard they are to accomplish.

Consequently, changing how school principals are selected – from political appointment to either a meritocratic process with tests and interviews or elections involving parents, students and school staff – can be very costly politically.In implementing this reform, mayors give up control of the educational resources available to schools as well as prestigious jobs that could be used to reward supporters or as exchanges for political favors. Therefore, changing how school principals are selected is a classic example of a hard education reform, as per the definitions established in Chapter 3. Here, I do not claim that reforming how school principals are selected is necessarily the most effective policy in terms of improving the quality of education in municipal schools. Instead, my argument is that it is one of the hardest educational reforms – with high costs to municipal governments – which is what makes it a good indicator that the administration implementing this reform is committed to reforming the educational system as a whole. In addition, while there is no current measure of the degree of professionalization of secretariats of education, surveys have been conducted to determine how principals are selected in Brazilian municipalities. Thus, in my research, I use the implementation of meritocratic processes or elections to select municipal schools' principals as a proxy for the implementation of hard educational reforms.

The implementation of hard educational reforms can be treated as both an instrumental and a dependent variable, with important consequences for how we analyze it. One way of empirically testing my argument is to treat political party and continuity as my independent variables, the implementation of hard educational reforms as my instrumental variable, and repetition rates and test scores, for

example, as my dependent variables. Yet, a number of factors render such an approach infeasible. Firstly, I do not have data for how principals are selected for all municipalities and years of analysis, which greatly affects the significance of my results. Secondly, and most importantly, I expect the results coming from one specific educational reform – in this case, ending the political appointment of municipal schools' principals – to take more than four years to show significant results in educational outcomes. This again restricts my analysis, for there are very few instances in which the selection of school principals is reformed and parties reelected; in the municipal elections held between 2000 and 2012, parties were reelected in approximately only 10% of the cases (TSE 2016), and between 2004 and 2014, the selection of school principals was reformed in only about 5% of the instances (IBGE 2016; MEC, INEP 2015; MEC, INEP 2016).

Since these constraints prevent me from conducting a multi-level analysis, I pursue an alternative approach and treat the implementation of reform in the selection of school principals as a dependent variable that I analyze separately from educational outcomes. The literature finds that reforming the selection process of school principals has a positive effect on the performance of public schools (Hoxby 1996; Miranda and Pazello 2014) because politically appointed principals have higher turnover rates (Lucchesi e Pereda 2015), which, in turn, are associated with negative effects on student performance (Miranda and Pazello 2014). Thus, in my statistical analysis, I separately analyze the effects of my political variables on both the implementation of hard educational reforms and changes in educational outcomes.

I test my hypotheses with two types of cross-sectional analyses, or panel regressions, since they provide me with different and equally valuable information. Firstly, I use year fixed effects, comparing all municipalities to each other across time. Secondly, I use both municipality and year fixed effects, comparing a municipality to itself at different points in time. By using year fixed effects, I take into account the effects of shocks that affected all municipalities equally in a given year, such as the introduction of a federal program. By using municipality fixed effects, I remove the impact of municipalities' time-invariant characteristics, taking into account the effects of individual heterogeneity that I cannot observe. I expect the panel regressions with both year and municipality fixed effects to be more conservative and the regressions with only year fixed effects to be less conservative. I believe the true correlations among my variables of interest lie between those calculated in these two models.

I also look for statistical evidence for the causal inferences I make in my theory using regression discontinuity designs (RDD). RDD allow investigators to estimate causal treatment effects in non-experimental settings when receiving the treatment depends on the value of an observed covariate being larger or smaller than a known cutoff. For a RDD to be used, the probability of receiving treatment has to jump discontinuously at the cutoff and the variation in treatment near the cutoff has to be unrelated with potential confounders (Calonico et al 2014). When these assumptions are met, a RDD has great deal of internal validity and some external validity. Since electoral results in very close elections can be treated as random events, this design has been widely used in the context of elections (Lee

2007; Ferreira and Gyourko 2007), and in the analysis of Brazilian mayoral elections in particular (Titiunik 2011; De Magalhães 2012; Phillips 2014). It is possible to do so given the large number of elections, the transparency of electoral procedures and results (Phillips 2014), and the low level of sorting among parties (which suggests relevant actors have no control over election results in Brazilian municipalities; Eggers et al 2013). Because the large majority of Brazilian mayoral elections are decided by a plurality of votes, in my analysis of these municipalities I define the running variable – which determines whether treatment is applied or not – as the vote margin between the first and second finishers. The cutoff of my running variable is zero, signifying the first two candidates received the same percentage of votes. Thus, for a given political party, if the running variable is larger than zero, treatment is applied and the party is elected. If, on the other hand, the running variable is smaller than zero, treatment is not applied and the party is not elected. Ideally, I would compare municipalities in which elections were decided by a handful of votes. Yet, such a condition would greatly restrict the number of observations. Thus, I follow the literature's recommendation and use a 3% bandwidth, conducting robustness checks with 1% and 5% bandwidths (Phillips 2014).

To operationalize my dependent variables – the implementation of hard educational reforms and educational outcomes – I use the implementation of a reform in the selection process of school principals in municipal schools as a proxy for the first, and the Brazilian Basic Education Quality Index (IDEB) as an indicator of the second. Regarding the former, I analyze both whether municipal schools'

principals are selected though meritocratic processes or elections as well as whether a reform in the selection of school principals was introduced during a mayor's term. My measure of change in educational outcomes compares IDEB scores over time. As discussed in Chapter 2, IDEB normalizes *Prova Brasil* test results and multiplies them by retention rates, generating scores that range from 0 to 10.

With respect to the relevant independent variables – political party, continuity and competition – I observe the effects of electing each of the five major Brazilian parties,[3] namely the PMDB, PSDB, PFL, PP and PT. These parties were chosen according to the number of times each was elected in the four municipal elections that took place from 2000 to 2012. The five parties can be divided into two major groups. The PT and PSDB, in that order, are the parties that best fit the definition of a programmatic party in Brazil, whereas the PP, the PFL (and its successor party, the DEM), and the PMDB fit the definition of non-programmatic or clientelist parties (Osterkatz 2012; Hagopian, Gervasoni and Moraes 2007; Lucas and Samuels 2010). Here, I only analyze the effects of the PFL before the founding of the DEM. Because my analysis looks at a relatively short span of time, from 2005 to 2013, I do not expect the degree to which parties are programmatic or clientelist or their ideologies to change much in my period of analysis. Yet, since "programmatic" and "clientelist" are rather blunt categories, I do expect that different parties in the same category might have different effects on my dependent variables, and hence analyze these parties separately. I limit my study to the largest parties in order to preserve the validity of my results.

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[3] Please refer to Appendix A1 for a complete list of Brazilian parties' acronyms and names.

I assume that party affiliation matters. If I am right, politicians belonging to the same party will pursue similar policies. The literature has pointed out that this is indeed the case for the PT, arguing it is "ideologically and programmatically cohesive across the national territory" (Osterkatz 2012, 7). I test this assumption when I measure the effects of partisanship on the implementation of reforms as well as educational outcomes. If mayors from the same part act inconsistently, my political party variables would show no effect of party on educational outcomes.

In order to assess the level of political continuity in a given municipality, I measure how many terms a given party has been in power. Two complications must be taken into account. First, parties in Brazil commonly come to power in large and diverse coalitions. However, for most of the years I analyze, the data made available by the Brazilian Superior Court of Electoral Justice provides the candidate's name and party but not his or her coalition. Since I cannot analyze the effect of the political continuity of a political group or coalition, my measure of the effect of political continuity on education will very likely be an underestimate. Second, it is common for Brazilian politicians to switch parties throughout their political careers (Melo 2004; Osterkatz 2012), which would similarly lead me to underestimate the effect of political continuity on educational outcomes if the mayor is reelected but on a different party label. Because politicians belonging to the programmatic parties analyzed in this study switch party affiliation less often (Osterkatz 2012), I do not expect this effect to underestimate my coefficients to the point they are no longer statistically significant.

Finally, to assess a municipality's level of political competition, I compute two different measures, based on the vote margin of the winning candidate and the Herfindahl index, respectively. The former is a measure of the difference in percentages of the votes received by the first and second place finishers in an election; the latter is the sum of the squares of the vote shares of each candidate running in an election, and equals the inverse of the effective number of candidates. Both measures go from zero to one and increase as political competition decreases. For ease of interpretation, I subtract the vote margin and the Herfindahl index from one (Boulding and Brown 2012, 12), making the value of these variables increase with political competition. I use these two measures because they capture different phenomena, allowing me to differentiate among the mechanisms proposed by my theory and alternative hypotheses. Whereas the vote margin gives more weight to the percentage of votes received by the first candidate, the Herfindahl index also takes into account the number of candidates. Consequently, if the mechanisms I propose are right and the negative effects of political competition result from close elections between two major candidates polarizing school staff, the vote margin should explain most of the negative effects of political competition in small municipalities. If, on the other hand, political fragmentation is what harms education, the measure based on the Herfindahl index should have a much larger predictive power than the one based solely on the vote margin. Since these two measures of political competition have a correlation of 0.802, I run separate models to test the impact of each. For simplicity, I only include my political competition variable that is based on the Herfindahl index in most of my panel regressions.

My analysis controls for several possible confounding variables. I include the number of families covered by the conditional cash transfer *Bolsa Família* per population in each municipality as well as municipalities' GDP per capita and population size. As discussed in Chapters 2 and 4, *Bolsa Família* has contributed to increasing the access to public education in Brazil, and there is evidence it impacts the number of votes received by the PT in municipal elections. Because *Bolsa Família* is highly correlated with poverty, it is hard to predict the direction in which this variable will influence municipalities' IDEB score, the selection of school principals and the implementation of reform.

To increase the validity of the statistical analyses that use only year fixed effects, and to account for some of the differences observed among municipalities that remain constant during the period of analysis, I control for: distance to the capital of the state; percentage of the population that was extremely poor in 2000 and 2010; Gini coefficient in 2000 and 2010; HDI in 2000 and 2010; percentage of the population fifteen years and older which was illiterate in 2000 and 2010; and percentage of population that lived in urban areas in 2000 and 2010. The variables for which I only had data available for the years 2000 and 2010 were treated as constants for each municipality on the logic that ten years is too long a timespan for these two data points to be calculated for all years of the analysis through interpolation.

The data I use to calculate my independent, dependent and control variables were gathered from the Brazilian Institute of Geography and Statistics (IBGE), the Superior Electoral Court (TSE), the National Institute of Educational Study and

Research Anísio Teixeira (INEP), the Institute for Applied Economic Research (IPEA) as well as the Atlas of Human Development in Brazil. In Appendix A2, I discuss how these data were collected, combined into a single dataset and treated, generating the variables I use in my statistical analyses.

In Table 5.1, I present a description of the independent and dependent variables that are central to the model.[4] For the independent variables, I also display my predictions of the expected direction of association with IDEB scores as well as the meritocratic or democratic selection of municipal schools' principals, respectively. Summary statistics for my variables are reported in Appendix A4.

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[4] Please refer to Appendix A3 for a complete table with descriptions and predicted associations for all variables used in my statistical analyses, including the running variables used in the regression discontinuity analyses as well as the control variables.

Table 5.1: *Variables' Description and Predicted Association with Dependent Variables*

VARIABLES	Description	Pred. assn.
IDEB_5th	Education index of the early years of primary education (5th grade) based on the performance of municipal schools. Available for 2005, 2007, 2009, 2011 and 2013.	.
pri_sel	Dummy variable for whether principals of municipal schools are selected through a meritocratic process or election (1) or not (0). Available for 2004, 2007, 2009, 2011 and 2013.	.
reform	Dummy variable for whether the selection of school principals was reformed towards meritocratic or democratic selection (1) or not (0). Available for 2005, 2007, 2011 and 2013.	.
comp_hi	One minus the Herfindahl index, lagged by one year. Available for 2005, 2009 and 2013, with averages calculated for other years.	(-)/( )
comp_vm	One minus the vote margin, lagged by one year. Available for 2005, 2009 and 2013, with averages calculated for other years.	(-)/( )
party_PFL	Dummy variable for whether the mayor is from the party PFL (1) or not (0). Available for all years.	(-)/(-)
party_PMDB	Dummy variable for whether the mayor is from the party PMDB (1) or not (0). Available for all years.	(-)/(-)
party_PP	Dummy variable for whether the mayor is from the party PP (1) or not (0). Available for all years.	(-)/(-)
party_PSDB	Dummy variable for whether the mayor is from the party PSDB (1) or not (0). Available for all years.	(+)/(+)
party_PT	Dummy variable for whether the mayor is from the party PT (1) or not (0). Available for all years.	(+)/(+)
term	Number of terms any party has been in power at the end of a given year. Available for all years.	(+)/( )

Note: (+) means I expect the variable to be positively associated with my dependent variables, (-) means I expect a negative association, ( ) means I do not expect any association and (?) means I am unable to predict the direction of association.

My two measures of political competition must be adjusted to take into account the Brazilian electoral calendar. Municipal elections are held in Brazil's 5,570 municipalities concurrently in October every four years. Mayors are eligible to run for immediate re-election once, but must wait four years before running again in future elections. In municipalities with more than 200,000 inhabitants, second-round elections are triggered when no candidate wins more than 50% of the vote.

Elected mayors take office in January the year following the elections. Thus, I lagged the percentage of votes received by candidates in the first round of mayoral elections by one year,[5] and took the average of my dependent variables between electoral years. My first dependent variable, IDEB scores, are based on the test *Prova Brasil,* which evaluates 5th and 9th grade Brazilian students every two years (the first was conducted in 2005), and is administered in October or November. This means IDEB scores are gathered at the end of the first and third years of a mayor's term. Finally, the selection of school principals data for 2004 were gathered during the fourth year of a mayor's term, the data for 2007 and 2011 during the third year, the data for 2014 during the second year and the data for 2009 during the first year. Thus, to calculate the reform variable, I compare the years 2004 and 2007, 2007 and 2011, and 2011 and 2014.

To clarify these steps, Table 5.2 places the years for which I calculate my independent and dependent variables in the context of mayoral terms. In the fictitious example shown in Table 3, the imaginary party C came to power in 2008 and was reelected in 2012. In addition, the percentage of votes received by each candidate in 2004 corresponded to a 0.4 score on the political competition variable; in 2008 to 0.5, and in 2012, to 0.6. Finally, principals were only selected through meritocratic processes or elections in 2004, 2011 and 2014. This means that reform was reversed between 2004 and 2007, but implemented between 2007 and 2011.

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[5] This decision is defensible since 99.08% of mayoral elections were decided in the first round in 2012, for example.

Table 5.2: *Computation of variables with respect to mayoral terms, 2004-2014*

Year	Election	Party	No. of terms	Political competition	IDEB	The selection of school principals	Reform
2004	×	A	1			1	
2005		B	0.25	0.4	4.0		
2006		B	0.50				
2007		B	0.75	(0.4+0.5)/2	4.2	0	0
2008	×	B	1				
2009		C	0.25	0.5	4.3	0	
2010		C	0.50				
2011		C	0.75	(0.5+0.6)/2	4.6	1	1
2012	×	C	1				
2013		C	1.25	0.6	4.8		
2014		C	1.50			1	0

Note: The table shows fictitious values assumed by the independent and dependent variables with respect to the beginning and ending of mayoral terms, which are indicated by the different colors in the graph.

In order to test my predictions about the implementation of hard educational reforms, I conduct regressions comparing Brazilian municipalities across time that test the effects of political party on the likelihood of reforming the selection process of school principals. With the goal of providing evidence for the causal relationship predicted by my theory, I use a regression discontinuity design, comparing the likelihood of implementing the reform in municipalities in which each of the parties I study won or lost in very close elections. I conduct similar analyses to test the hypotheses regarding the association among different political parties and educational outcomes. My regressions compare Brazilian municipalities across time on the effects of political party on the IDEB score. I again use a regression discontinuity design, this time comparing the IDEB scores of municipalities in which each of the parties I study won or lost in very close elections. To test the hypotheses with respect to the association between political continuity and

educational outcomes, I conduct panel regressions comparing Brazilian municipalities across time on the effects of a change in the number of consecutive terms a party has been in power on the IDEB score. Once again, I look for evidence for the causal relationship predicted by my theory and use a regression discontinuity design, comparing the IDEB scores of municipalities in which a party was reelected or finished in second place when running for reelection in very close elections. Finally, to test the hypotheses on the association between political competition and educational outcomes, I conduct panel regressions comparing Brazilian municipalities across time on the effects of political competition, measured based on the Herfindahl index and the vote margin, on the IDEB score. With the goal of testing whether the direction and strength of this association depends on population size, I also conduct a panel regression analyzing the effects of political competition for different groups of municipalities divided according to their size.

5.2   Data Analysis

The sections that follow present and discuss the results of my large-N analyses grouped according to my three sets of hypotheses, which make predictions about the effects of my political variables on the implementation of reforms establishing the meritocratic or democratic selection of municipal schools' principals and 5th grade IDEB scores, as well as of different measures of political competition on 5th grade IDEB scores in small municipalities. My results display the coefficients of the variables of interest, the number of observations and adjusted

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R-squared, along with whether the model used municipality and year fixed effects. Thus, we should bear in mind that I included my control variables in all panel regressions. The only exception is the panel regressions assessing the effects of my political variables on the selection of school principals, which do not include the proportion of families covered by *Bolsa Família* since this information is not available for all years I analyze in this regression. Finally, to increase the robustness of my models, I cluster my errors by municipality in all analyses, allowing for some correlation across all observations but not across clusters.

5.2.1 The Selection of Municipal Schools' Principals: Meritocracy, Democracy, or Patronage?

In this section, I test the effects of my political variables on two separate dependent variables: (1) whether municipal schools' principals are selected though meritocratic processes or elections; and (2) whether a reform in the selection of school principals was introduced during a mayor's term. This second variable allows us to make inferences about when and by which parties reforms were implemented. Because I have a smaller number of observations for my reform variable and reforms are relatively rare, I expect these results to be less significant. Following the predictions made in earlier chapters, I expect programmatic parties to be positively associated with the meritocratic selection or election of school principals, with opposite effects for clientelist parties. I do not expect the number of terms or the level of political competition to have any effects on the

implementation of reforms. Although logit models are usually indicated when the dependent variable is binary, I present my results using OLS instead because logit models provide standard errors that are less reliable (the results of logit regressions are reported in the Appendix)[6]. The results of my panel regressions are reported in Table 5.3.

Table 5.3: Effects of political variables on the selection of school principals

	COEFFICIENTS	
VARIABLES	Model 1	Model 2
party_PFL	-0.0261***	-0.00324
	(0.00868)	(0.00801)
party_PMDB	-0.00407	0.00420
	(0.00766)	(0.00612)
party_PP	-0.0106	-0.00518
	(0.0103)	(0.00763)
party_PSDB	-0.0167**	-0.00460
	(0.00836)	(0.00677)
party_PT	0.0506***	0.0167*
	(0.0126)	(0.00968)
term	0.000581	0.000537
	(0.00409)	(0.00317)
comp_hi	0.0187	-0.0438*
	(0.0280)	(0.0229)
Municipality FE	NO	YES
Year FE	YES	YES
N	24871	25223
Adj. R²	0.122	0.0138

Note: Robust standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1 (two-tailed tests)

As shown in the first model presented in Table 5.3, when only year fixed effects are used, the impact of three of the five parties – the PFL, PSDB and PT –

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[6] I also ran logit regressions to test the validity of my model; all variables in the logit regressions were in the same direction as those in the OLS panel regressions. The full results of both my OLS and logit regressions, including the control variables, are reported in Appendix A5.

is significant at the 95% confidence level. The impact of the PFL and PT were in the predicted directions, while the effects of the PSDB in power ran in the opposite direction from what was expected. When the PFL came to power, the likelihood of selecting principals through a meritocratic process or elections decreased by an average of 2.61%, and when the PSDB came to power, 1.67%. The effect of a PT administration was particularly strong, increasing by 5.06% the probability of non-political appointments of principals. This result is especially relevant given that principals were selected meritocratically or democratically in 16.31% of the municipalities in 2014. Contrary to expectations, the clientelist parties PMDB and PP had no effects on how principals were selected. One possibility for this lack of results is that unless there is a reform (which does not happen often), political appointments are the status quo, which these parties do not attempt to change. In addition, as predicted, the number of terms and political competition showed no effects either. When municipality and year fixed effects are used, as shown in Model 2, only having the PT in power remains significant. The effects of political competition start to be significant at the 90% confidence level. Electing the PT was associated with a 1.67% increase in the probability of selecting principals through meritocratic processes or elections. Increasing the levels of political competition (measured as one minus the Herfindahl index) by one standard deviation was associated with a probable decrease of 0.58%.

To deepen my analysis, I conduct a panel regression evaluating the effects of my political variables on whether a reform in the selection of school principals was introduced during a mayor's term. Although this variable has a smaller number

of observations than the variable corresponding to how principals are selected, it is valuable for allowing us to establish when reform took place and which parties implemented the reform. I present the results in Table 5.4.[7]

Table 5.4: *Effects of political variables on reforming the selection of school principals*

| | COEFFICIENTS | |
VARIABLES	Model 1	Model 2
party_PFL	-0.0129	-0.0124
	(0.0104)	(0.0125)
party_PMDB	-0.00120	0.001000
	(0.00584)	(0.00822)
party_PP	-0.00845	-0.00968
	(0.00742)	(0.0109)
party_PSDB	0.000352	-0.00913
	(0.00648)	(0.00935)
party_PT	0.0143*	0.0153
	(0.00774)	(0.0109)
term	-0.00477*	-0.000660
	(0.00282)	(0.00416)
comp_hi	0.0137	0.000546
	(0.0191)	(0.0322)
Municipality FE	NO	YES
Year FE	YES	YES
N	14070	14249
Adj. R^2	0.0184	0.00422

Note: Robust standard errors are in parentheses.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$ (two-tailed tests)

As shown by the results of Model 1, only two variables are statistically significant at the 90% confidence level: the PT in power and the number of terms a party has been in power. As the dummy variable PT varies across time by one unit, meaning PT came to power, the likelihood of reforming the selection of school principals increased by 1.43%. For reference, for the three years for which data on reform is available, reforms happened in 6.34% of the municipalities, on average.

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[7] I report the complete table for both OLS and logit regressions in Appendix A6.

Since the selection process of municipal schools' principals is rarely reformed, the impact of mayors belonging to the programmatic party PT is very large. Having the same party for an additional term is associated with a decrease of 0.48% in the likelihood of reforming the selection of school principals. This small and negative association provides further evidence for my argument that reforms are more likely to be implemented in the initial years of a mayor's administration, leading to a negative association between number of terms and the implementation of reform. It should be noted that, even though Model 2, which uses municipality and year fixed effects, showed no significant results up to the 90% confidence level, the magnitude of the effect of electing the PT was very similar to that found in Model 1 – an increase of 1.53% compared to 1.43% in the first model. Here, I also ran a panel regression analyzing the effects of my political variables on the reversal of reform, but this analysis showed no significant results.[8]

The two panel regressions discussed above allow us to make inferences only about associations. In order to test for evidence of causal relations, I ran regression discontinuity analyses. These analyses are relevant because their effects will not be a result of endogenous characteristics that led to both the election of specific parties and the implementation (or reversal) of reform. Figure 5.1 shows the likelihood of having principals selected through a meritocratic process or elections in municipalities in which PFL, PMDB, PP, PSDB or PT lost (left) and won (right) in the 2000, 20004, 2008 and 2012 elections.

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[8] Please refer to Appendix A7 for a table displaying the results of this analysis.

Figure 5.1: *Likelihood of selecting principals through meritocratic processes or elections in municipalities in which PFL, PMDB, PP, PSDB or PT lost and won in the 2000, 20004, 2008 and 2012 elections*
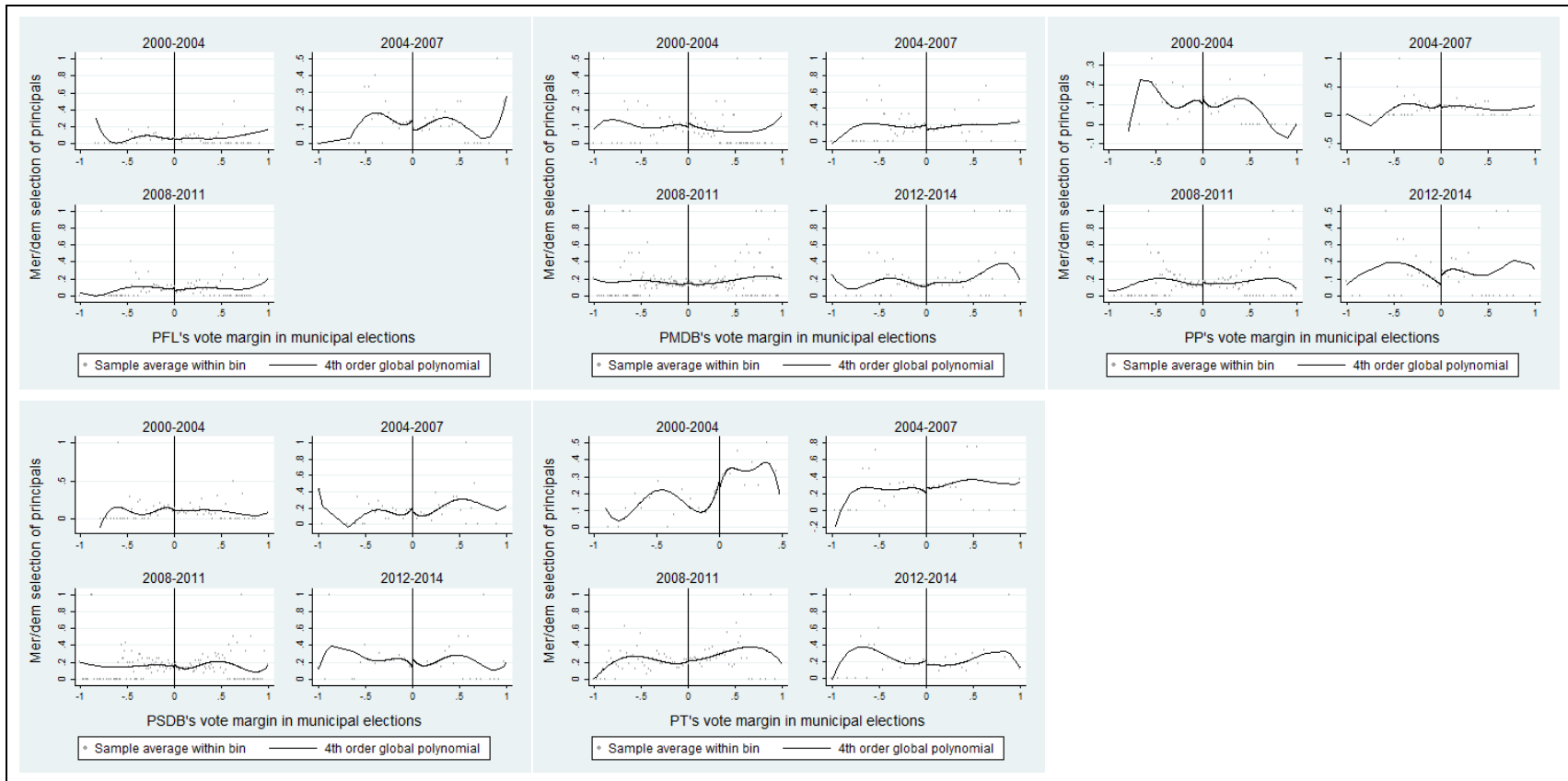
The figures shown in Figure 5.1 suggest negative effects for the PFL and

PMDB and positive effects for the PP and PT. Yet, statistical algorithms – such as

the ones used to create these figures – generate optimal bandwidths that are too

large to generate credible results (Phillips 2014). Thus, I run analyses[9] using a

bandwidth of 3% and a triangular Kernel. In order to check for the validity of using

RDD in this case, I ran density tests for the five major parties and found no evidence

of density discontinuity at the cutoff for any of them. In other words, I did not find

statistical evidence that my running variables were systematically manipulated,

since their densities were not discontinuous at the cutoff (Cattaneo et al 2015). I

present the results in Table 5.5.

Table 5.5: *Regression discontinuity on the effects of political party on the*
selection of school principals with 3% bandwidth

	RD COEFFICIENTS			
VARIABLES	2000-2004	2004-2007	2008-2011	2012-2014
rd_PFL	0.0517	0.0126	.	.
	(0.0654)	(0.0827)		
N	263	234	.	.
rd_PMDB	-0.0130	-0.193**	-0.124	0.211**
	(0.0565)	(0.0790)	(0.108)	(0.0840)
N	343	270	277	348
rd_PP	0.0333	-0.0399	0.365***	0.0841
	(0.0732)	(0.107)	(0.135)	(0.0632)
N	183	149	128	144
rd_PSDB	0.0435	0.210**	0.00475	-0.115
	(0.0808)	(0.101)	(0.105)	(0.147)
N	223	215	196	182
rd_PT	-0.249	-0.0308	-0.0523	-0.130
	(0.331)	(0.160)	(0.150)	(0.136)
N	56	131	129	185

Note: Standard errors are in parentheses.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$ (two-tailed tests)

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[9] It was only possible to conduct analyses for the party PFL for the 2000 and 2004 elections
due to a reduced number of observations for this party after the creation of the party DEM.

As shown in Table 5.7, these analyses provide no evidence for causal effects of electing the parties PFL and PT on the selection of school principals. One possibility for the absence of results when 3% bandwidths are used is the fact that these two parties have a small number of observations. Yet, there is evidence of negative effects of electing the party PMDB in the 2004 elections on the meritocratic or democratic selection of municipal schools' principals, as well as for positive effects of electing the party PP in the 2008 elections. Here, I excluded the significant effects shown in Table 5.7 for the PMDB in the 2012 elections and for the PSDB in the 2004 election because they did not pass the robustness checks conducted using 1% and 5% bandwidths.[10]

On the other hand, the robustness checks do provide more evidence for negative effects of electing the PMDB in the 2004 elections on the meritocratic or democratic selection of municipal schools' principals as well as for positive effects of electing the PP in the 2008 elections. For instance, the election of the PMDB in 2004, with a bandwidth of 1%, decreased by 10.61% the probability of selecting principals through meritocratic processes or elections. Expanding the bandwidth to 3% magnified the decrease to 19.30% (significant at the 95% confidence level). For

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[10] For the party PMDB in the 2012 elections, a bandwidth of 1% gave an increase of 36.16% in the probability of selecting principals through meritocratic processes or elections. For a bandwidth of 3%, the increase was of 21.10%. Both results were significant at the 95% confidence level. Yet, for a bandwidth of 1%, the increase was of 11.78% and only significant at the 90% level. The decrease in significance as well as the great variance in the magnitudes of the coefficients led me to discard this result. Similarly, for the party PSDB in the 2004 elections, a bandwidth of 1% gave an increase of 15.29%. For a bandwidth of 3%, the increase was of 21.00%. For a bandwidth of 1%, the increase was of 11.61%. Out of these results, only the 3% bandwidth provided a result significant up to the 90% level. The absence of significance as well as the great reduction in the magnitude of the effect for the 5% bandwidth led me to discard this result as well.

a bandwidth of 5%, the decrease was 13.36% and significant at the 90% level. The relatively similar magnitudes of the coefficients as well as the fact that the results were significant at the 3% and 5% confidence levels led me to accept the evidence provided by these results. Finally, when the PP was elected in 2004, at a bandwidth of 1% the probability increased by 19.18% (not significant), at 3%, by 36.50%, and at 5%, by 38.59% (significant at the 99% level). The similarity and high significance of the coefficients gave me confidence in their results.

These results allow us to conclude that municipalities in which the clientelist PMDB barely won in close elections in the year 2004 were between 10% and 20% less likely to have their principals selected through meritocratic processes or elections in the year 2007. In addition, municipalities in which the clientelist party PP barely won in close elections in the year 2008 were between 20% and 35% more likely to have their principals selected through meritocratic processes or elections in the year 2011. While the result found for the party PMDB is consistent with my hypotheses, the result found for the party PP is opposite from what was predicted by my theory. As will be discussed in Chapter 6 when I present my case studies, the anomalous outcome for the PP results from this party not being disciplined, enabling mayors of conviction to act independently of their parties.

5.2.2   The Quality of Education in Municipal Schools: a Political Problem?

The second set of analyses aims to assess the effects of political party, the number of terms a party has been in power and political competition (based on the

Herfindahl index) on 5th grade IDEB scores. I argued in Chapter 4 that hard educational reforms were more likely to be implemented under the administration of programmatic parties and less likely under the administration of a clientelist party. Thus, I expect the rise to power of programmatic parties to be positively associated with 5th grade IDEB scores, with opposite effects for clientelist parties. I also argued that political continuity allows for the institutionalization of reforms while party turnover leads to the disruption of educational programs and policies. Consequently, I expect the number of terms a party stays in power to be positively associated with IDEB scores. My hypotheses regarding the effects of political competition on educational outcomes are discussed in the next section.

Table 5.6[11] shows the results of running a panel regression evaluating the effects of my political variables on 5th grade IDEB scores. In order to test the predictive power of my model, I compared the adjusted R-squared of two different panel regressions using municipality and year fixed effects. The first represents my baseline model with only my independent (political) variables, while the second incorporates my control variables. The first model had an adjusted R-squared of 64.8%, and the second, 64.9%. This indicates the variables that are central to my theory are good predictors of the evolution of municipal IDEB scores.

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[11] In appendix 9, I display the complete regression table, including the control variables. Out of the latter, some showed results in opposite directions from what was expected. They were distance to capital, log of GDP per capita, percentage of the population who lived in urban areas in the years 2000 and 2010 and log of the population, the first one showing a positive association with the education index and the latter four showing negative associations. This seems to indicate that municipal schools in wealthier, larger and more urban municipalities do not have better educational outcomes, on average. In addition, the number of families covered by *Bolsa Família* by population turned out to be negatively associated with the IDEB score.

Table 5.6: Effects of political variables on 5th grade IDEB

	COEFFICIENTS	
VARIABLES	Model 1	Model 2
party_PFL	-0.0232	0.0120
	(0.0205)	(0.0203)
party_PMDB	-0.0401***	0.0143
	(0.0142)	(0.0115)
party_PP	-0.0909***	-0.0115
	(0.0199)	(0.0170)
party_PSDB	0.0944***	0.00867
	(0.0160)	(0.0142)
party_PT	-0.00583	0.0286*
	(0.0196)	(0.0157)
term	0.0184**	0.0145**
	(0.00799)	(0.00674)
comp_hi	-0.281***	-0.125***
	(0.0468)	(0.0388)
Municipality FE	NO	YES
Year FE	YES	YES
N	24050	24346
Adj. R²	0.708	0.649

Note: Robust standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1 (two-tailed tests)

As shown by the first model in Table 5.6, when only year fixed effects are used, the parties PMDB, PP and PSDB, as well as the number of terms a party stays in power and the level of political competition, impact the IDEB score in the directions predicted by my theory. The parties PFL and PT, on the other hand, showed no results on the IDEB score. According to this model, electing the PMDB is associated, on average, with a decrease of 0.040 in the IDEB score. For the PP, the effect is a decrease of 0.091. Electing the party PSDB, on the other hand, is associated with an increase of 0.094. In addition, having a party in power for an additional term corresponds to an increase of 0.018. Increasing the levels of

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political competition by one standard deviation is associated with a decrease of 0.281 x 0.1321 = 0.037 in the IDEB score.

In the second model shown in Table 5.8, I use municipality and year fixed effects. In this model, the only political party that has a significant impact on the education index is the PT, as predicted (the PFL, PMDB, PP and PSDB are not significant at the 90% confidence level). For a given municipality, electing the party PT is associated with an increase of 0.029 in the IDEB score, or 2.59% of a standard deviation. Having the same party in power for an additional term is associated with an increase of 1.34% of a standard deviation in the IDEB. Finally, increasing the levels of political competition by one standard deviation is associated with a decrease of 0.016 in the IDEB score, or 1.43% of a standard deviation. Here, two facts stand out. Firstly, the results found in the second model are relatively small, a consequence of the fact that individual municipalities are only compared to themselves in this model, making the results more conservative. Secondly, while the PT did not have any effects on the IDEB score in the first model, it demonstrated a positive and significant impact on educational outcomes in the second. As was discussed in Chapter 4, the PT steadily gained support among poor voters in the years analyzed (Osterkatz 2012, 9). Therefore, when all municipalities are compared in a given year – which is the case of the analysis displayed in Model 1 – if the PT is elected in municipalities that have a worse educational system to start with, its effects are disguised. This is not the case in Model 2 however, in which a municipality is compared to itself across time and the changes in educational outcomes are not due to municipalities' initial conditions.

In order to test whether electing the parties I analyze have causal impacts on educational outcomes, I ran regression discontinuity analyses comparing the IDEB of municipalities in which each of these parties just barely won and lost in close elections. I analyzed the effects of electing a PFL, PMDB, PP PSDB or PT administration in 2004 on the IDEB of 2011 as well the effects of electing them in 2008 on the IDEB of 2011. Yet, I found no significant results.[12] I also analyzed the effects of reelecting the five largest parties as well as any party on IDEB scores. Once again, I found no significant results.[13] Because I could not find evidence for causality, the positive association between political continuity and educational outcomes can be the result of both continuity allowing for the institutionalization of reforms and discontinuity leading to the disruption of educational policies, and the fact that mayors who perform well are reelected. To distinguish between these two different causal relationships, I rely on the qualitative analysis developed in Chapter 6.

5.2.3 The Impact of Political Competition in Small Municipalities: A Not So Healthy Competition?

In Chapter 4, I argued that political competition correlates negatively with educational outcomes in small municipalities. I contend that higher levels of political competition in mayoral elections polarize municipal schools' staff and provide incentives for municipal education employees to sabotage the current

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[12] Please refer to Appendix A9 for the regression discontinuities analyzing the effects of political party on 5th grade IDEB.
[13] Please refer to Appendix A10 for the regression discontinuities analyzing the effects of reelection on 5th grade IDEB.

administration, greatly harming student performance in small municipalities. I argued that these effects would have strong results only in small municipalities for two reasons -- because political alliances in small towns are publicly known and municipal education staff have very high stakes in the outcomes of mayoral elections.

I use two measures of political competition, one based on the Herfindahl index and the other based on the vote margin of mayoral elections. I compare the effects of both measures in order to assess whether a higher fragmentation of the political system or a more polarized dispute between two candidates is harming educational outcomes. I run different models for each of them, presenting the results in Table 5.7. I have included all my other political and control variables in all the analyses that follow. Since I have already discussed the coefficients, I omit them here for ease of interpretation.

Table 5.7: *Effects of political competition on 5th grade IDEB*

| VARIABLES | COEFFICIENTS | | | |
	Herfindahl index		Vote margin	
comp_hi	-0.281***	-0.125***		
	(0.0468)	(0.0388)		
comp_vm			-0.134***	-0.0552**
				(0.0233)
			(0.0285)	
Municipality FE	NO	YES	NO	YES
Year FE	YES	YES	YES	YES
N	24050	24346	24050	24346
Adj. R²	0.708	0.649	0.707	0.649

Note: Standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1 (two-tailed tests)

As shown in Table 5.7, both political competition variables have strong and statistically significant effects on the IDEB score, in the predicted direction, and this is true whether I use only year fixed effects or if I use municipality and year fixed effects. When political competition is calculated as one minus the Herfindahl index, an increase of one standard deviation in this variable corresponds to a decrease of between 0.037 and 0.017 in the IDEB score. When it is calculated as one minus vote margin, an increase of one standard deviation corresponds to a decrease of between 0.029 and 0.007 of a point in the IDEB score. While the Herfindahl index also captures the effects of political fragmentation, vote margin only captures the effects of polarization between two major candidates. Thus, the differences in the ranges of coefficients given by the two measures used above indicate that, while most of the negative effect of political competition is coming from polarization between two candidates, political fragmentation also contributes to the negative effects of political competition on educational outcomes.

We have seen that political competition has highly significant and negative effects on educational outcomes. Here, the major alternative hypothesis is that higher levels of political competition make politicians more shortsighted, leading to a decrease in the likelihood that hard educational reforms will be implemented or that politicians will make long-term investments in public education. In order to differentiate among these competing hypotheses, I conduct three tests. I test whether (1) political competition impacts the implementation of reform (2) the effects of political competition depend on population size; and (3) polarization becomes more predominant when compared to political fragmentation when the

effects of political competition are analyzed in relation to the size of the population. If my theory is correct, political competition should not impact the implementation of reform, and the relationship between political competition and educational outcomes should depend on municipalities' population size, with polarization playing a stronger role in comparison to fragmentation. On the other hand, if the hypothesis that political competition makes politicians shortsighted is right, higher levels of political competition should have a strong negative effect on the implementation of reform, and its effect on educational outcomes should not depend on population size. Here, the balance between the effects of polarization and fragmentation should also not depend on population size.

In Table 5.10, I present the results of political competition, measured both as one minus the Herfindahl index and one minus vote margin, on IDEB scores per population group.

Table 5.8: *Effects of political competition on 5ᵗʰ grade IDEB per population group*

VARIABLES	COEFFICIENTS	
	Herfindahl index	Vote margin
comp	0.147	0.112
	(0.123)	(0.0728)
comp_g1	-0.326**	-0.176**
	(0.139)	(0.0813)
comp_g2	-0.271**	-0.193**
	(0.137)	(0.0824)
comp_g3	-0.286*	-0.173*
	(0.155)	(0.0965)
comp_g4	-0.0927	-0.0711
	(0.161)	(0.0976)
pop_g1	0.364***	0.329***
	(0.104)	(0.0960)
pop_g2	0.266***	0.274***
	(0.0984)	(0.0904)
pop_g3	0.250**	0.234**
	(0.103)	(0.0948)
pop_g4	0.124	0.129
	(0.0944)	(0.0840)
Municipality FE	YES	YES
Year FE	YES	YES
N	24346	24346
Adj. R^2	0.649	0.649

Note: Standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1 (two-tailed tests)

The results shown in Table 5.8 support the argument that political competition is especially harmful to education in small municipalities, providing evidence for my theory and against the alternative hypothesis that political competition makes politicians shortsighted. Using the more robust analysis with both municipality and year fixed effects, for a given municipality that has fewer than 10,000 inhabitants, an increase of one standard deviation in the political competition variable based on the Herfindahl index corresponds to a decrease of 0.043 of a point in the IDEB score, or 3.8% of a standard deviation. The effect for municipalities with between 10,000 and 25,000 inhabitants is a decrease of 0.036

of a point in the IDEB score. Both results are significant at the 95% confidence level. For municipalities with between 25,000 and 50,000 inhabitants, the effect is similar in magnitude but less significant. For municipalities with more than 50,000 inhabitants, there is no effect up to the 90% confidence level. When political competition is based on vote margin, something very interesting happens. Unlike in the previous analysis, where the Herfindahl index showed much stronger coefficients than the vote margin, now for a given municipality that has fewer than 10,000 inhabitants, an increase of one standard deviation in the political competition variable based on vote margin corresponds to a decrease of 0.038 in the IDEB score, or 3.4% of a standard deviation. The effects for municipalities with between 10,000 and 50,000 inhabitants are of similar magnitudes.

These results indicate that polarization does explain most of the negative effects of political competition in small municipalities. The negative influence of political competition, when measured by the vote margin, is captured almost equally by one minus the Herfindahl index and one minus the vote margin, suggesting that polarization plays a much more important role than political fragmentation in small municipalities, as was predicted. Although political fragmentation explains an important part of the negative effect of political competition on the education index when all Brazilian municipalities are analyzed, regardless of their population sizes, more disputed elections, the only phenomenon captured by the measure based on vote margin, explain most of the negative effects observed in municipalities with fewer than 50,000 inhabitants. This result supports my theory that more disputed elections will lead to a higher polarization of schools'

staff in small municipalities. It should be noted that municipalities with fewer than 10,000 inhabitants rank last in political competition. Thus, the results discussed above do not result from higher levels of political competition in smaller municipalities.

5.3 Discussion

The three sets of analyses conducted in the previous sections allowed me to test the associations predicted by my theory. Starting with the effects of these variables on educational outcomes, all variables showed associations in the predicted directions, with the clientelist parties PMDB and PP showing negative associations with IDEB and the programmatic parties PSDB and PT showing positive effects on IDEB. The PFL showed negative effects in the predicted direction, but they were not significant. As was predicted, the number of terms – my proxy for political continuity –was positively associated with IDEB scores. I was unable to provide direct evidence for causal effects.

In Chapter 4, I argued that programmatic parties would be associated with better educational outcomes because they were more likely to implement hard educational reforms. I argued for stronger effects for the PT and negative effects for clientelist parties. I also argued that the number of terms a party stayed in power would not affect reform implementation since reforms would be implemented in the beginning of a mayor's administration. This was evidenced by the negative correlation found between number of terms and the implementation of reform. In

addition, I also found that the PFL is indeed negatively associated with the meritocratic or democratic selection of school principals, and the PT, with positive effects. Looking into the implementation of reform instead of solely analyzing the system by which principals are selected allowed me to determine the party that implemented the reform with some confidence. Here, as the party PT was elected, the likelihood of reforming the selection of school principals increased by 1.43% on average, which constitutes a very significant effect given that reforms happened in only 6.34% of the cases. I also found evidence for negative causal effects of electing the PMDB in 2004 on selecting principals through meritocratic or democratic processes.

The analysis of the effects of political party on the meritocratic or democratic selection of school principals also led to other two findings, which challenge my theory. First, I found the programmatic party PSDB to be negatively associated with the meritocratic or democratic selection of school principals. I also found evidence for positive causal effects of electing the clientelist party PP in 2008. In order to make sense of these results, I present a summary of the effects of the political variables I analyze on implementing reforms that establish the meritocratic or democratic selection of school principals as well as on IDEB scores on Figure 5.2.

Figure 5.2*: Effects of political variables on reforming the selection process of municipal schools' principals and 5th grade IDEB*
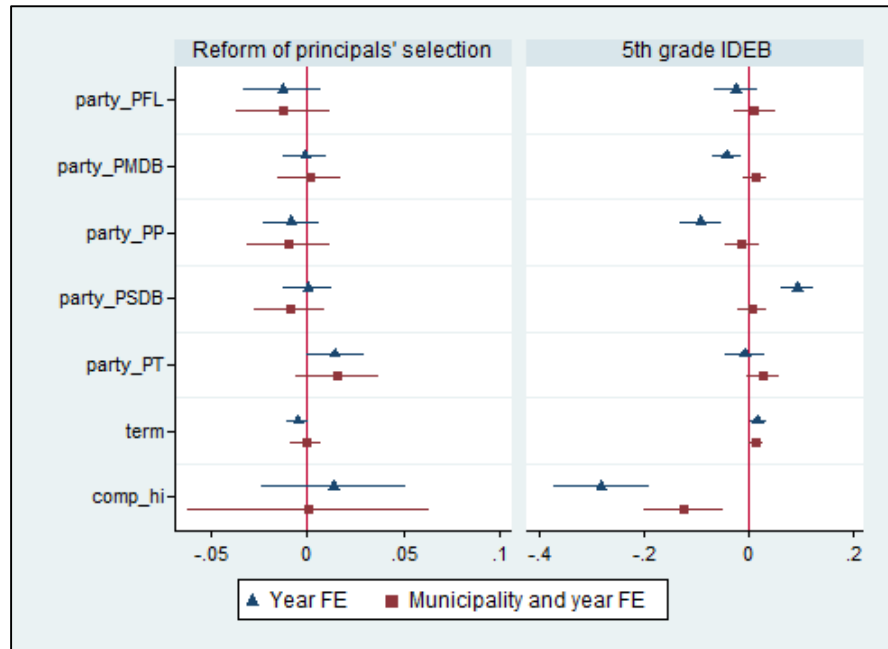
As shown in Figure 5.2, even though the programmatic party PSDB is negatively associated with reforming the selection of school principals – behaving similarly to clientelist parties in that respect – it is positively associated with the IDEB score. Thus, the mechanisms I propose do not explain the positive association between the programmatic party PSDB and IDEB scores. In addition, as also shown in Figure 5.2, the negative effects on the implementation of reform and the IDEB score found for the party PP contradict the positive causal effect found for this party on the meritocratic and democratic selection of school principals following the 2008 elections. My qualitative analysis, which is discussed in Chapter 6, indicates that the positive effects on reforming principals' selecting found for the PP result from individual politicians who implemented reform despite the wishes of their parties.

Regarding the effects of political competition on educational outcomes, I found that political competition has negative effects on the IDEB score, especially in small municipalities, as predicted by my theory. My analyses showed political competition has no effect on the implementation of reforms establishing the meritocratic or democratic selection of school principals. This finding contradicts claims that political competition is conducive to reform as well as the competing theory that political competition has a negative effect on reform because it shortens politicians' time horizons. The finding that political fragmentation played a smaller role in explaining the negative association between political competition and educational outcomes in small municipalities provided further evidence for my theory that political competition polarizes the staff of municipal schools.

The findings of my quantitative analyses raise some important questions. What are the underlying mechanisms explaining the relationships shown in my large-N analysis? Why do political parties seem to have a large effect on the selection of school principals but a small one in the IDEB score, even though studies have shown the selection of school principals has a large impact on students' outcomes? Similarly, why was I unable to find evidence for causal effects of political party on educational outcomes? Finally, do the variables I could not measure in my large-N analysis – mayors' personal commitment to education, civil society's support for education, and the professionalization of secretariats of education – play the role predicted by my theory? These are the questions I hope to answer in the next chapter, where I present my qualitative analysis.

6   Qualitative Research Design and Case Studies

In this chapter, I present my qualitative research design and its results. I focus on the causal mechanisms I propose in my theory and the questions my statistical analyses could not answer. I first discuss the research design of my qualitative analysis and introduce each of my cases. I then bring the lessons from my cases to bear on the questions raised by my large-N analysis, and explore alternative hypotheses in light of my cases.

6.1   Research Design

In this section, I present the methodological design of my small-N analysis, which aims to uncover the causal mechanisms underlying the relationships that are found in the statistical analysis. I start by presenting an in-depth discussion of nested analysis, which allows me to explain the rationale behind my case selection and research instruments. I then discuss how I selected each municipality and how I conducted the study of each case. I conclude by presenting the seven municipalities that constitute my case studies.

Due to resources and time constraints, my field research was restricted to the study of a handful of cases. In order to make the most out of this component of my research, I followed the literature's recommendations and chose my cases deliberately instead of randomly. Because the number of cases studied in a mixed-methods analysis is rather small and cannot constitute a representative sample of

the population, minimizing selection bias in my small-N analysis would generate a benefit too small to compensate for the advantages gained by selecting cases to maximize diversity in both the values assumed by the variables that are central to the model as well as how well each of the cases' observations match the model's predictions (Lieberman 2005, 447). To generate predicted IDEB scores for each municipality, I employed the general model developed in my large-N analysis, using municipality and year fixed effects. Because population size and GDP per capita are important predictors in my model, I also balance my cases with respect to these variables. I eliminated municipalities that were either extremely rich or poor, or that had very small or very large populations.

The smallest possible number of cases that would have allowed me to combine variations of my three political variables – (programmatic and clientelist) parties, (small and large) number of mandates, and (low and high) competition – was eight. These variations could then have been superimposed on variations in how well my model predicts the IDEB scores. Yet, due to resource and time constraints, I was only able to conduct field research in seven municipalities. Since I am mostly interested in how programmatic parties affect public education at the municipal level, I chose four municipalities that are governed by mayors affiliated with programmatic parties and three that are governed by mayors affiliated with clientelist parties.

As I discussed in Chapter 1, the case of Sobral[14] provided the inspiration for the theory and models presented in my thesis. Together with Sobral, Foz do Iguaçu

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[14] In Table 6.1, I place Sobral under the no political continuity category, as per the number of consecutive terms PT has been in power in the municipality. Yet, a deeper analysis of

is well-known in Brazil for its successful municipal educational system. Yet, Foz do Iguaçu has never had a PT or PSDB administration, and presents moderate levels of political continuity and high levels of political competition. Thus, because its success constitutes a great puzzle for the argument made in this thesis, I use Sobral and Foz do Iguaçu's similar observed outcomes but differing predicted outcomes to explore rival hypotheses that could not be tested in my large-N analysis (Lieberman 2005, 445-446). To obtain the diversity discussed above, I then chose five other municipalities using a stratified sample, dividing my population according to a number of distinct categories. My selection criteria involved making sure I could schedule all the interviews as well as that the selected municipalities were equally distributed in terms of the categories I summarize in Table 6.2.

The municipalities I study are Andrelândia (MG), Careaçu (MG), Foz do Iguaçu (PR), Pirenópolis (GO), Porangaba (SP), Sobral (CE) and Vera Cruz do Oeste (PR). Comparing their observed and fitted IDEB scores, Porangaba underperforms my model, Careaçu and Pirenópolis have outcomes similar to those predicted by my model, and Andrelândia and Vera Cruz do Oeste have observed IDEB scores higher than their respective fitted scores. All five municipalities have GDP per capita and population sizes that place them between the 25th and 75th percentiles, with three being below the 50th percentile and four being above it for both variables. Table 6.1 summarizes the categories in which each of my case studies falls with respect to the political variables that are central to my model:

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this case showed there are indeed high levels of political continuity in the municipality, for the same political group has been in power for over one decade even though the party label has changed.

whether the party elected in 2012 was programmatic or clientelist;, if the number

of mandates indicated political continuity or not; and if the 2012 elections had low,

average, or high levels of competition. In Figure 6.2, I show a map of Brazil

indicating where my case studies are located.

Table 6.1: *Sample of municipalities, their respective categories and how their*
observed IDEB scores compare to the values fitted by my model

	Continuity/ Low comp.	*Continuity/ High comp.*	*No continuity/ Low comp.*	*No continuity/ High comp.*
Programmatic party	Vera Cruz do Oeste, PR (+)	Andrelândia, MG (+)	Careaçu, MG (≈)	Sobral, CE (+)
Clientelist party	.	Pirenópolis, GO (≈)	Porangaba, SP (-)	Foz do Iguaçu, PR (+)

Note: (-) means the municipality underperforms the fitted model, (+) means the municipality outperforms the fitted model, and (≈) means the municipality's observed and fitted IDEB scores are similar.

6.2 The Politics of Public Education in Seven Municipalities

In my field research, I was looking for three major types of information. First, I wanted to know which policies and programs had been implemented over the last decade, with the advent of each new municipal administration. Second, I wanted to learn about the relationships among the city hall, the secretariat of education and the schools, and whether the state and federal governments played any role in the day-to-day affairs of public municipal education. Finally, it was paramount that I obtain critical information from decision makers, since the reasons

why mayors decide to implement hard educational reforms constitutes the core of my thesis. Since none of these types of information was publicly available, especially for the smaller municipalities, I could only learn the answers though fieldwork. In my research in the seven municipalities, I uncovered the specific policies and reforms undertaken in the preceding decade, and I interviewed the major actors in public municipal education: the mayor, the municipal secretary of education, school principals and teachers, and the administrative staff of the secretariat of education and schools.[15] All the interviews were conducted from May to September of 2015[16] in person, with the exception of one instance, in which the interview had to be conducted by telephone. My interviews focused on educational and political developments up to 2013, coinciding with the most recent IDEB scores that were available. In the next sections, I introduce my case studies, highlighting how political and educational events unfolded over the last decade in each of them. I follow the literature's recommendations and first present the sequence of events as they were told to me in the interviews,[17] exploring the causal ideas that can be extracted from the narrative (Collier 2011, 828-9). In order to facilitate comparisons among my cases, the answers that were given to specific questions regarding

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[15] It should be noted that, in other to protect secretariats of education and schools' staff, who might worry about being punished for giving certain answers, I carried their interviews confidentially and do not identify their answers.

[16] Please refer to Appendix A11 for a complete list of my interviews, with the dates in which they were conducted.

[17] Please refer to Appendix A12 for the exact wording of my questions as well as the interview forms that were used for mayors, secretaries of education, secretariats of education staff and school staff. I present the interview forms in English and the versions in Portuguese are available upon request.

political competition will be presented in the next section. First, I focus on political party and continuity and how they impacted education in each of my cases.

6.2.1 Andrelândia (MG): The PSDB and Personal Commitment to Education

The municipality of Andrelândia is located in the state of Minas Gerais in the Brazilian southeast. In 2013, it had a GDP per capita of R$ 12,312.95 – below the median of R$12,621.81 for Brazilian municipalities – and 12,507 inhabitants. The PSDB has been in power in the municipality since the 2000 elections, and will finish its fourth term in 2016. Even though the municipality presents high levels of political continuity, elections have been always very competitive, with a winning vote margin of only 6.2% in the 2012 elections. Figure 6.2 shows the evolution of the IDEB scores in Andrelândia in comparison to the scores fitted by the model.

Figure 6.2: Evolution of observed and fitted IDEB scores for the municipality of Andrelândia, Minas Gerais
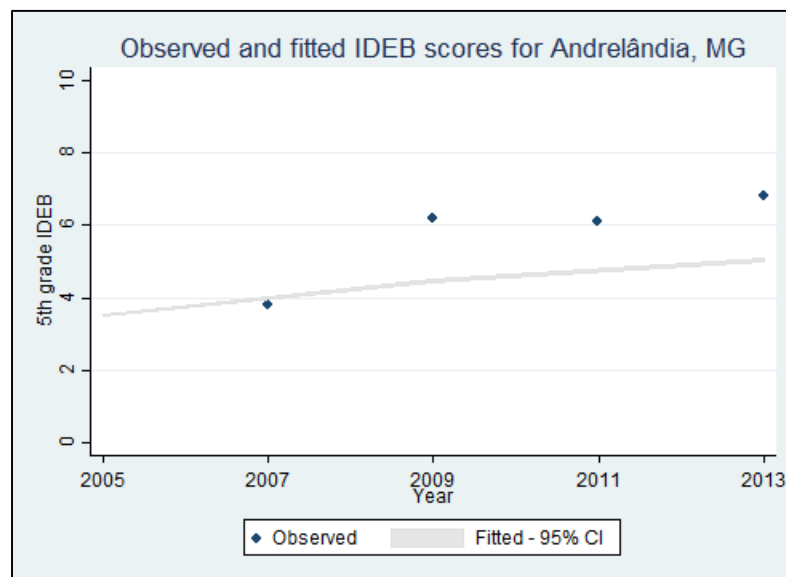
As shown in Figure 6.2, Andrelândia has been performing relatively well regarding the education index since 2009, the year its current mayor took office. Upon coming to power, the mayor selected a teacher and co-partisan to be his secretary of education. He then took steps to improve what had been a conflictual relationship between the schools and the secretariat of education. After negotiations with teachers and principals, one of the first changes implemented by the mayor and his team was a substantive increase in teachers' salaries. Then, they implemented a new pedagogical system, which has been in use ever since, as well as a number of infrastructural reforms. According to my interviewees, the mayor has a deep personal commitment to education and plans to end his political career due to his age. Thus, he prioritized education during his administration, something that his predecessor had not done, even though they belong to the same party, the PSDB. When I asked why he was prioritizing education, he answered that he had promised it during his campaign, adding people "are no longer fools" and now vote for "projects."

Among my interviewees, there was a great fear that the next mayor will not prioritize education and will undo the changes mentioned above. The mayor said he believed that, if the next mayor comes from a different party, "they will not want to continue what has been done so as not to give 'credit' to their predecessors." The mayor's exact word, "IBOPE," is used in Brazil to connote "recognition" or "fame." At the time my interviews were conducted, many people who worked in municipal education were urging the secretary of education to run for mayor in 2016 in order to guarantee continuity in the education policies and programs.

The case of Andrelândia suggests that the improvements observed in the education index are a consequence of the mayor's personal commitment to education. In fact, it seems his commitment to education had little to do with his party affiliation. Even though previous PSDB administrations had not misused educational resources, they had not prioritized education. In addition, it seems that party turnover risks a great disruption in municipal education.

6.2.2 Careaçu (MG): The PT and Partisan Commitment to Education

The municipality of Careaçu is also located in the state of Minas Gerais, in Brazil's southeast. In 2013, its GDP per capita was R$ 13,274.31 – slightly above the median – and its population stood at 6,604 inhabitants. The PSDB had been in power until 2004 in the municipality, but was replaced by the PFL from 2005 to 2008 and the PFL's successor party, the DEM, from 2009 to 2012. The PT came to power in the 2012 elections, and will finish its first term in 2016. Along with low levels of political continuity, elections have been moderately competitive, with a vote margin of 9.3% in the 2012 elections.

Figure 6.3: *Evolution of observed and fitted IDEB scores for the municipality of Careaçu, Minas Gerais*
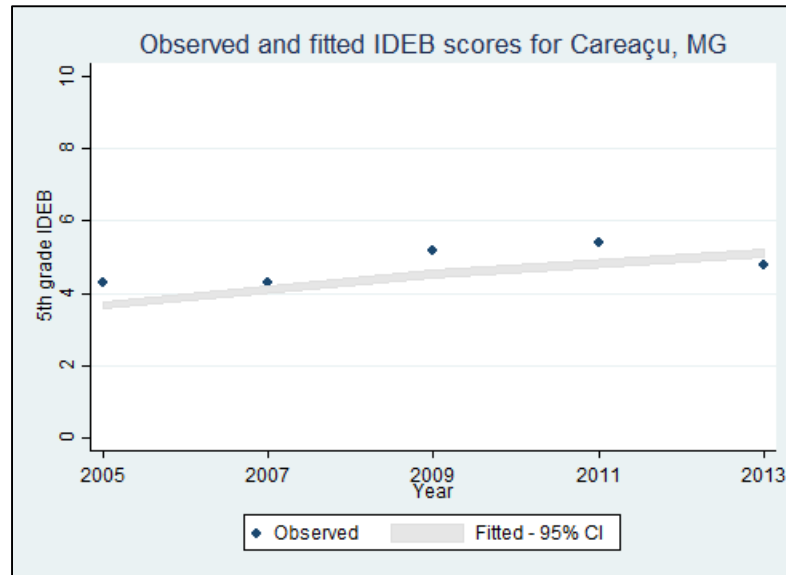
As we see in Figure 6.3, Careaçu's observed education index outperformed its fitted IDEB scores from 2005 to 2013, when the municipality's score of 4.8 on the education index fell below expectations. According to interviewees who had been working with Careaçu's municipal public education since before the current administration, the IDEB scores of 2009 and 2011 were inaccurate, having been manipulated. As they explained to me, the administration elected in 2008 – DEM – had reported municipal schools' enrollments per grade that did not correspond to reality. IDEB normalizes *Prova Brasil* results and multiplies it by retention rates. Thus, the education index is sensitive to the number of students that are officially registered per grade. One interviewee affirmed this was common practice in the entire state during the PSDB government. Upon coming to power in 2013, the current mayor invited his wife, who is a teacher in the municipal system, to be the secretary of education. One of their first measures included updating official

enrollment numbers, to bring them into line with reality. Thus, the mayor and his team attributed the lower 2013 IDEB score to more accurate records.

Besides updating enrollment numbers, the mayor and his team brought rural and urban schools into a single district. Recognizing the subpar conditions of rural schools, and reasoning that rural schools did not have enough students to justify an increase in investments, they opted instead to bring students who live in rural areas to study in urban schools. This reform was very unpopular among parents. In addition, they also established that students in the 4th and 5th grades would go back to having only one teacher, and that the division of teachers according to subjects would only start in the 6th grade. Studies conducted in the U.S. have shown that this reform has positive effects on students' performance (Rockoff and Lockwood, 2010). Another reform included creating more heterogeneous classrooms. Before, students were put in different classrooms according to their socioeconomic background and behavior. While the mayor's supporters would be able to teach the "elite" classroom, teachers who voted for the opposition would be assigned the "peripheral" classrooms and receive fewer school materials. These last two reforms were again very unpopular, this time among teachers. Even teachers who supported the current administration were opposed to heterogeneous classes because they believed it was their "turn" to receive privileges and that teachers who voted for the opposition should be punished. When asked why he pursued these reforms, the mayor answered: "The population sees buildings, but I chose to make structural changes to improve the quality of education and health. But people will only realize it later." The mayor added he is trying to be a mayor for the whole city, not just his

supporters, and that never before had someone who voted for the opposition stepped into the city hall." He professed sharing the commitment of his party, the PT, to education.

The interviews I conducted in Careaçu seem to indicate that both the political party and the mayor were committed to improving the quality of education, even if educational reforms were unpopular. They seemed to believe these reforms would bring improvements in the quality of education, and that the population would recognize this in time when the results became apparent. Another major point raised by this case is the expected unequal treatment of teachers who voted for and against the municipal government. I shall return to this point when I discuss the role of political competition.

6.2.3 Foz do Iguaçu (PR): Popular Support and the Institutionalization of Education Reforms

The municipality of Foz do Iguaçu is located in the state of Paraná, in the South of Brazil. In 2013, its GDP per capita was R$ 37,482.77 – well above the median – and it had a population of 263,508 inhabitants. The PMDB held power until 2004, was replaced by the PDT from 2005 to 2012, and the PSB, which won the 2012 elections, will finish its first term in 2016. Between 2005 and 2012, the municipality presented political continuity and low competition. The situation was reversed in 2012, when the PSB won with a vote margin of 8.8.

Figure 6.4: *Evolution of observed and fitted IDEB scores for the municipality of Foz do Iguaçu, Paraná*
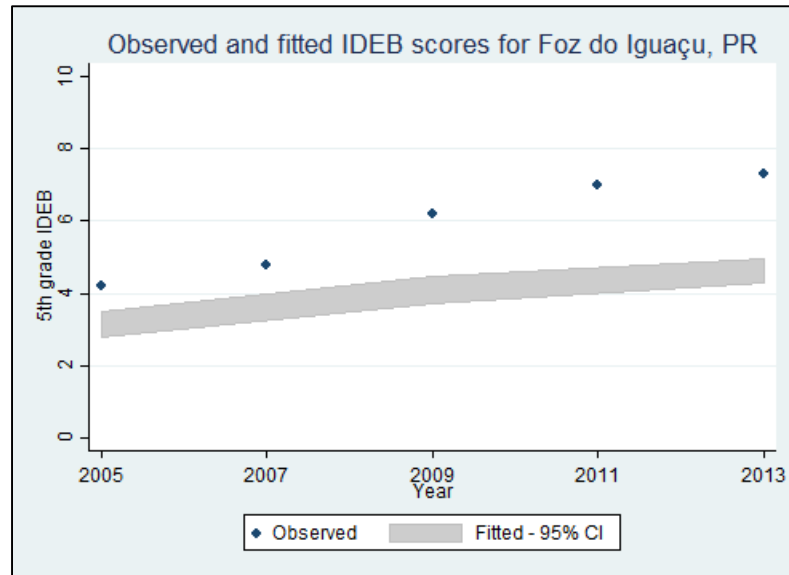
As we see in Figure 6.4, Foz do Iguaçu's performance on the education index has been rising since 2005, going from 4.2 to 7.3 in 2013. Its observed IDEB scores are in fact much higher than the ones fitted by my model. Most of the reforms leading to Foz do Iguaçu's current performance were implemented during the PDT's two terms in office (2005 to 2012). The PDT administration reformed the selection process of the municipal schools' administrative staffs, moving from a process in which the principal was nominated by the mayor to one in which principals are chosen by parents and municipal educations' employers. In addition, it also implemented a new school curriculum and a professional development program for teachers, among other reforms. According to my interviewees, the greatest achievements of the PDT administration were creating a culture in the secretariat of education of establishing and achieving goals, and making education a public priority. My informants said that, by making the secretariat of education's

administration more technical and stoking the population's interest in the education index of the municipality, the previous mayor and his team guaranteed the survival of the educational programs and policies that had been implemented. They explained to me that the population cherished their municipal public education so much that any attempt on the part of the current administration to reverse the reforms would be very unpopular.

In fact, when the current mayor and secretary of education came to power in 2013, they retained the staff of the secretariat and the existing educational programs. As the mayor confirmed, even though there is a "tendency [among politicians] to belittle what was done in the past," he did not undo things that "worked in the past." Yet, the mayor and his team feared that future administrations might not continue the new educational policies and programs. The current mayor has implemented reforms guaranteeing the provision of school uniforms to all students, and promoted infrastructure reforms, such as the repair of schools. He claims to receive no party support to promote education in his municipality, and that all parties care about education only when they can use it for their propaganda purposes. He believes real changes are only possible when politicians are personally committed to education.

The case of Foz do Iguaçu seems to echo what was found to be true in Andrelândia. It suggests a municipality's educational performance reflects its mayor's personal commitment to education. In addition, the case of Foz do Iguaçu highlights the mechanisms for the institutionalization of educational reforms. First, the municipal government professionalized and de-politicized the secretariat of

education's staff by creating a culture of establishing and achieving goals. Second, when results started to appear – the same administration was in power for two terms – it drew the public's attention to public education, shielding it, even just a bit, from party politics.

6.2.4 Pirenópolis (GO): The PP and the Time Required for Education Reforms to Show Results

The municipality of Pirenópolis is located in the state of Goiás, central-west region. In 2013, its GDP per capita was R$ 14,374.48 – around the median – and its population was 24,111. The PFL held power until 2004, the PSDB from 2005 to 2008, and the PP has been in power since 2009; it will finish its second term in 2016. Even though the municipality has high levels of political continuity, it has also high levels of competition, with a vote margin of 7.1% in the last elections.

Pirenópolis' very slow improvement in the education index have been close to that predicted by my model (Figure 6.5). In fact, its IDEB score in 2013 was only 0.6 point higher than the 4.1 it obtained in 2005. The current administration has been taking a number of steps to improve on this trajectory and believes the results will become apparent in the education index of 2015. The current mayor, a well-known and respected owner of a local business before entering politics, handily won the 2008 mayoral elections with a vote margin of 31.2%. He professes a deep personal commitment to education, which, he says, his party does not echo. For instance, he chose his secretary of education based on her good performance in a nearby municipality. When he decided to de-politicize education and make it more technical, he "picked a fight with [his] party," which disliked his decision to "nominate people who had not helped in the campaign." His solution to the problem was to ask the secretary of education to temporarily join the party, so "they would

not complain as much." He believes Brazilian parties have failed, and that coalition building and its accompanying obligation to distribute the municipal cabinet posts should end. The mayor instructed the secretary to keep the same people working in the secretariat of education.

One of the first reforms the mayor and his team implemented was to establish elections for school principals, to take place two years after mayoral elections. By doing this, they hoped to insulate schools from party politics and to make their administration more technical and less political. Besides providing greater autonomy to the secretariat of education and school principals, the mayor and his team equalized the treatment of central and peripheral schools with regards to the resources and material available to them, and they implemented infrastructure reforms like school repairs. The mayor believes the reforms he implemented helped in his reelection. Since the mayor has bumped up against his term limit and is ineligible to run for reelection, the secretary is anxious about how the next election will impact the continuity of educational programs and existing policies.

The case of Pirenópolis provides further evidence that mayors' personal commitment to education is an alternative to party to kick start reforms. It also shows that mayors seeking to de-politicize education will reform the process of selecting principals and make the secretariats' team more technical and less political, which, in turn, may incur the opposition of their party. In the case of Pirenópolis, this opposition was overcome only by the high prestige of the mayor. This case suggests that the result found in the large-N analysis for the positive causal effects of electing the PP on reforming principals' selection does not

contradict my theory, for there is room for individual politicians to act. Once again, my interviewees expressed deep concern about political continuity. Finally, even though the current administration has been in power since 2009, the reforms implemented were not reflected in the IDEB scores of 2011 or 2013, suggesting that education reforms might take more than one mayoral term to produce results.

6.2.5   Porangaba (SP): The Path to Decline

The municipality of Porangaba is located in the state of São Paulo, also in Brazil's southeastern region. In 2013, its GDP per capita was R$ 14,906.41 – around the median – and its population was 9,021. The PSDB held power until it lost to the DEM, which governed the municipality from 2009 to 2012. The PMDB has been in power since the 2012 elections, and will finish its first term in 2016. Since 2004, the municipality has presented low political continuity and average levels of political competition, with the last elections being decided with a 7.6% vote margin.

Figure 6.6: *Evolution of observed and fitted IDEB scores for the municipality of Porangaba, São Paulo*
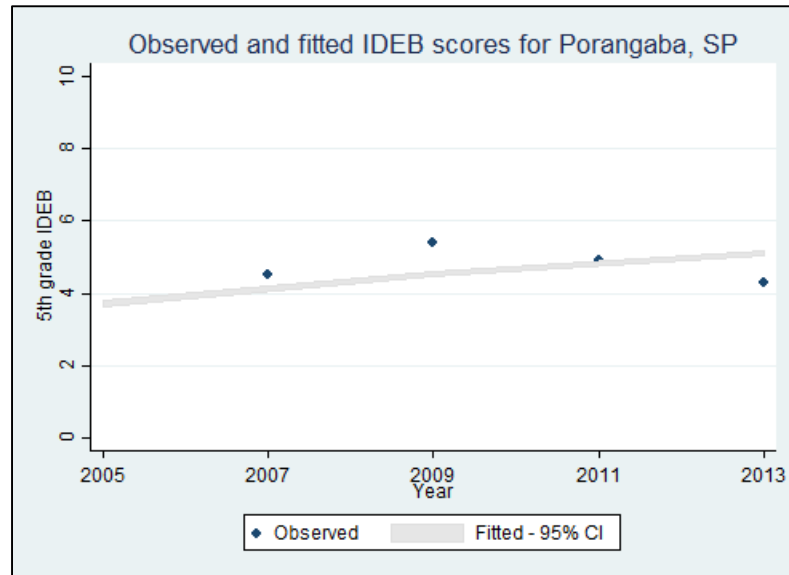
Porangaba improved its performance in the education index from 2007 to 2009, but it has declined since then. According to interviewees who have been in the municipal system for a long time, this is due to both a lack of commitment from the municipal administrations that followed the PSDB after 2009 as well as constant changes in the pedagogical system used by the municipality's schools. For instance, a certain pedagogical system had been used for two years when the DEM administration came to power and replaced it with a cheaper system. During its term, the pedagogical system changed many times, in response to teachers' complaints. When the current mayor came to power, different teachers were using different books and the system was once again changed. The current mayor affirmed he is very disappointed with Brazilian parties because their platforms are "lies," and said he "is done with politics." He did not demonstrate any special commitment to education and, besides making infrastructure investments, did not

do much to halt or reverse the pattern of decline that began with the DEM administration. My interviewees believed things would change once again after the 2016 elections.

The case of Porangaba seems to indicate that when the neither the mayor nor the party is committed to education, educational resources are likely to be used for goals other than the provision of a quality education. It also provides further evidence that the great disruptions in educational programs and policies that accompany each new administration can have pernicious effects on educational outcomes.

6.2.6 Sobral (CE): The Path to Success

The municipality of Sobral is located in the state of Ceará, in Brazil's northeast. In 2013, its GDP per capita was R$ 17,138.29 – slightly above the median – and its population was 197,663. The PPS held power until 2008, the PSB from 2009 to 2012, and the PT, which gained power in the municipality in the 2012 elections, will finish its first term in 2016. Even though Sobral falls into the category of municipalities with low political continuity, my study showed that the same political group has actually been in power since 1997, even though mayors have been elected on different party labels. In addition, political competition has been very low in the municipality, with a historically high vote margin of 7.6% in the 2012 elections.

Figure 6.7: *Evolution of observed and fitted IDEB scores for the municipality of Sobral, Ceará*
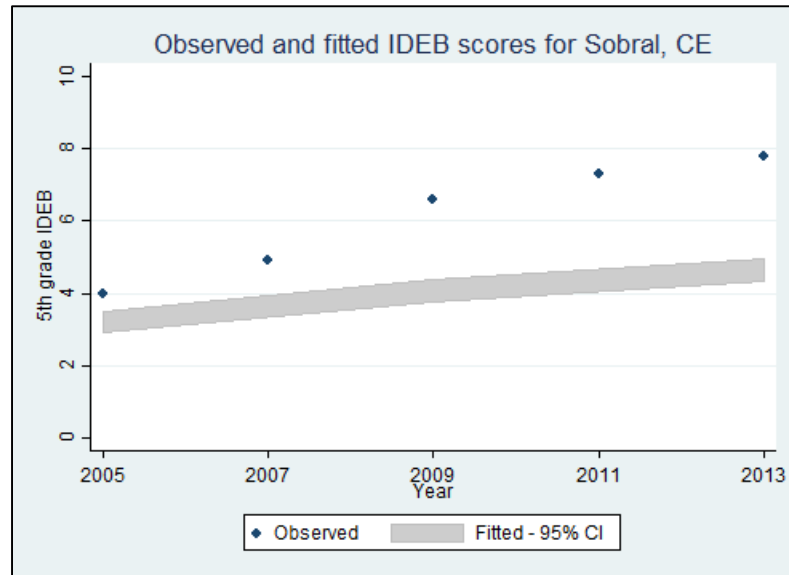
Sobral's IDEB scores have been rising since 2005, at a level far above what my model would predict (Figure 6.7). In the 2013 ranking for 5th grade students, Sobral occupied the fifth position, with 29 of its 31 municipal schools having an IDEB score above 7.4, while the worst performing school had an IDEB of 6.9, still above the target set by the Brazilian Ministry of Education for 2021 (Alexandre 2015). Sobral's educational success results from a number of reforms that began to be implemented in the early 2000s. A major reform was the creation of a culture of establishing and achieving goals in the secretariat by hiring a technical team to work together with the then current team in the secretariat. Another was the installation of a meritocratic selection process to choose the principals of municipal schools. Since 2001, candidates for the positions of principals and coordinators have had to pass a written exam, a training course, and an interview before being selected for the positions. In order to insulate education policy from party politics, the

secretariat of education gave financial, pedagogical and administrative autonomy to schools. For instance, many of the hiring and financial decisions that used to be made in the city hall or secretariat of education became the responsibility of school managers chosen in a meritocratic system (Alexandre 2015). Other reforms, especially the closing of some schools and the implementation of a system of merit pay for teachers, incurred a great deal of opposition.

According to my interviewees, the political group that has been in power since 1997 decided it was important to reform education after conducting a diagnosis of municipal schools in the early 2000s. Because of its commitment to education, this group implemented reforms that were unpopular and endured the costs of depoliticizing public education. Because they faced low political opposition, the reforms had enough time to demonstrate their results and gain the support of voters. My interviewees were certain that the reforms had deeply changed the culture of the secretariat and its schools, and not the opposite. For instance, the secretary of education said proudly that the staff working in the secretariat and in the schools had not changed throughout the years, and that "[he had] never fired a teacher in Sobral." Thus, Sobral's educational improvements do not result from it being a special place that happens to have an overqualified staff. Instead, my interviews indicate that the political scenario was key to the implementation of reforms. The mayor not only praised the involvement of his party in education, but also of the entire coalition that elected him, something that I did not see in any of the other municipalities. He also believed that the population was better educated and would no longer accept clientelist practices in the future.

Here, while the current mayor and other interviewees expressed the view that the population now values education to such an extent that any politician would have a hard time trying to undo what had been done, others expressed concern that there could be changes after the 2016 elections. This conflict of opinions suggests that, while political continuity and popular support contribute to the consolation of reforms, making reversals less likely, those who work with municipal public education are very fearful of party turnover given their prior experiences.

The case of Sobral makes a strong statement about the importance of continuity for the reform of municipal education. It also seems to indicate that both personal commitment and political parties matter for the implementation of hard educational reforms. Here, the reforms that were implemented resonate with those implemented in Foz do Iguaçu and Pirenópolis, which aimed at changing the culture of the secretariat of education and schools as well as isolating them from party politics by reforming the selection process of principals. The fact that the reforms implemented in Sobral in the early 2000s only started to show results in 2007 resonates with the case of Pirenópolis, indicating that education reforms do indeed take a long time to show significant results. The case of Sobral also points to the fact that political continuity might exist even when the label of the party in power changes, a factor that could not be measured in my large-N analysis. Even though the party label changed in Sobral a couple of times since 1997, the fact that the elected mayors belonged to the same coalition guaranteed the continuity of educational reforms.

To conclude, the case of Sobral raises an important question. Due to the scope of my study, I have treated political competition as an exogenous factor, without asking what leads some municipalities to face higher levels of political competition than others. Yet, it is possible to answer this question in the case of Sobral. Sobral's prodigious educational performance is partly a consequence of the high political continuity enjoyed by the political group in power, even after it implemented unpopular reforms. The hegemony enjoyed by the political group that has been in power in Sobral since 1997 has its roots in what the literature calls a "regional political machine" (Hagopian 1996; Borges 2010, 2), meaning a political group that controls and restricts the political arena (Borges 2010, 16). Yet, regional political machines have been losing their hegemony (Borges 2010, 3) and, in fact, the levels of political competition have been rising in Sobral.

6.2.7 Vera Cruz do Oeste (PR): The Role of Political Continuity

The municipality of Vera Cruz do Oeste is located in the state of Paraná, in Brazil's South. In 2013, its GDP per capita was R$ 21,702.8 – above the median – and its population, 9,081 inhabitants. The PT has been in power in the municipality since 2001 and will finish its fourth term in 2016. Competition has been on the decline, with a vote margin of 24.8% in the 2012 elections.

Figure 6.8: *Evolution of observed and fitted IDEB scores for the municipality of Vera Cruz do Oeste, Paraná*
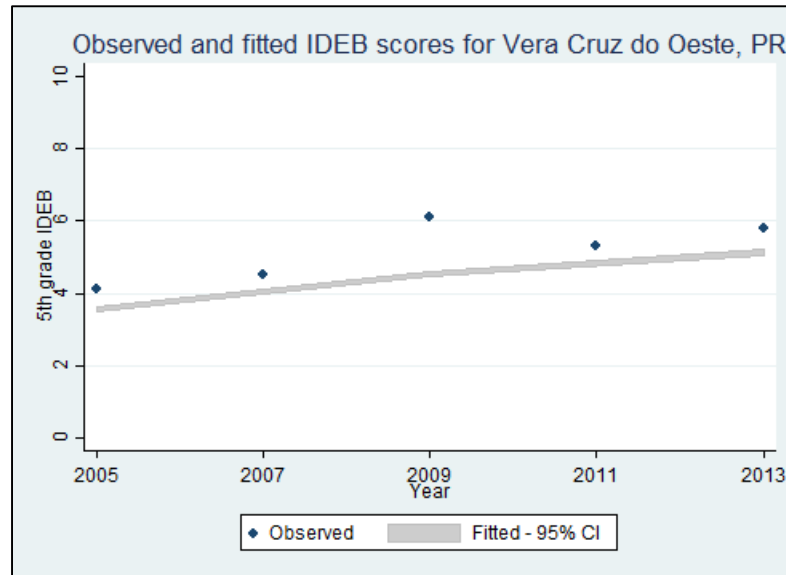
As shown in Figure 7.8, the education index in the municipality of Vera Cruz do Oeste has consistently performed slightly above the level fitted by my model. The only exception was 2009, when it did much better. According to the secretariat of education's staff, this score is attributable to the work of the previous secretary of education, who was very focused on the IDEB and encouraged schools to arrange for their students to take mock tests of *Prova Brasil*. The current mayor was first elected in 2008 and affirmed education and health were the priorities of his administration. According to him, he is greatly supported by his party in these goals. His major reform was increasing teachers' salary. It is interesting to note that his current secretary of education was chosen from the secretariat of education's staff.

Two major points stand out from this case. First, with the exception of 2009, the progress in the IDEB scores has been very smooth, showing no great disruptions

in educational outcomes, which can be expected in a context of high political continuity. Second, this case seems to indicate, together with the other cases, that political party impacts education in a consistent and positive way only when the mayor comes from the PT, which resonates with the findings of my quantitative analysis.

6.3   Lessons from the Case Studies: A Comparative Discussion

My small-N analysis points to a number of relevant variables that could not been taken into account in my large-N analysis. Among them, the mayors' personal commitment to education and the level of professionalization of the secretariat of education stand out. My case studies also point to the fact that political continuity should take into account more than just the incumbent political party if its effects are to be fully measured; as we saw in Sobral, party turnover masked the underlying continuity of the group in power. In addition, the cases suggest that it takes time for the results of educational reforms to translate into improvements in the education index. Even though I cannot measure all the variables that seemed relevant for my case studies, the latter do shed light on the validity of the assumptions I make, the mechanisms behind the associations that were strong enough to be detected in my large-N analysis, and the plausibility of alternative hypotheses.

Throughout my thesis, I have assumed that a mayor or party greatly committed to reforming public education and improving its quality would pursue two major reforms. The first would be the professionalization of the secretariat of

education, making it less susceptible to party politics and more focused on the achievement of technical goals. I argued that this professionalization involved a change in the culture of the secretariat. The second of these reforms referred to the de-politicization of municipal schools, which involved reforming the selection process of principals. Even though both reforms seem to be equally important and share the goal of insulating public education from party politics, I was only able to measure the implementation of the second reform. In the three cases where there was a major commitment of the political group in power towards education – Foz do Iguaçu, Pirenópolis and Sobral – these two reforms were implemented. Thus, I conclude the implementation of reforms in how principals are selected is indeed a good proxy not only because this reform is associated with improvements in education, but also, and most importantly, it seems to indicate a real willingness to reform public education.

Another major assumption was that a municipality's state or region was not relevant for understanding the diverging trajectories of municipalities' scores on the education index. My cases seem to provide evidence that this is indeed the case. When asked about the involvement of the state government with the quality of municipal education, most mayors and secretaries of education evinced great disenchantment with the state governments. Most said the state government provided little or no help. According to the mayor of Pirenópolis, "municipalities suffer much due to partisan disputes and the state is very distant." He added "the state gets in the way more than it helps." Here, the only major exception was Sobral, which praised the state government's involvement. Sobral inspired a number of

programs and policies at the state level, positively influencing the performance of other municipalities in the state of Ceará. In fact, Maurício Holanda, previous secretary of education of Sobral, later became state secretary of education. The answers given to questions about the role of the state government did not seem to be conditional on whether the municipal and state governments were governed by the same party. It is also interesting to note that the mayors' disenchantment with higher government levels was limited to state governments. When asked about the federal government, mayors and secretaries from all political parties praised its role, citing the number of programs and resources made available by the Ministry of Education.

My cases also shed light on the motivations behind a mayor's decision to prioritize and reform education. According to my informants, a mayor's personal commitment to education plays a major role in determining how a certain municipality will perform. Yet, this does not mean that political parties do not play any role whatsoever. For instance, all three of the municipalities I study that are governed by the PT seem to confirm the finding of the previous chapter that the election of a PT government is positively associated with the education index. Not only did all municipalities that are governed by the PT provide evidence of the party's support for reforming education, but also the mayors in two of them – Careaçu and Sobral – seemed to believe that their administrations would or already had gained popular recognition for good educational performance. Moreover, mayors in municipalities governed by parties other than the PT evinced great discontent with their parties, alleging that the parties did not support their efforts

towards education. In addition, my case studies provided evidence that while mayors affiliated with the PSDB do not misuse educational employments and resources for patronage, they do not have strong party support for the implementation of hard educational reforms, which might explain the negative association with principals' selection and the positive association found for IDEB scores.

I hypothesized that clientelist parties would have a negative effect on education because they would have incentives to misuse educational resources and jobs. This seems to be confirmed by both the cases of Porangaba and Pirenópolis. In Porangaba, the pedagogical system was constantly changed in order to reduce expenses, regardless of the impact such an action was having on the quality of municipal education. In Pirenópolis, the mayor's attempt to professionalize the secretariat of education's staff was met with great resistance from his party, which wanted to use the associated jobs as rewards for political supporters. My case studies also provided evidence that the positive causal effects found for the PP on principals' selection following the 2008 elections results from individual mayors personally promoting this reform despite their party's disposition.

The cases analyzed also shed light on why political continuity is positively associated with educational outcomes. My case studies seem to suggest that political continuity is indeed important for the consolidation of education reforms. In addition, there was very strong evidence for the disruption caused by political discontinuity. The secretariat and school staff I interviewed showed great concern

with the coming of each new election cycle because they feared a mayor from a different party would undo the reforms that had been implemented.

My cases also provided further evidence against the alternative hypothesis that political continuity leads to the implementation of reforms by increasing political capital. In my cases, more terms allowed reforms to prove their results and become consolidated, but they did not influence whether reforms were implemented in the first place. It should be noted that, as the cases of Sobral and Foz do Iguaçu suggest, public support can be an alternative to political continuity for sustaining reforms. It appears that while some political continuity is important to consolidate the reforms, reforms can be sustained if the population embraces them, making it hard for future politicians to get rid of them. This is exemplified by the case of Foz do Iguaçu, in which there was party turnover and yet the reforms survived.

Finally, my cases also provided strong evidence for the mechanisms underlying the considerable negative effect of political competition in small municipalities that was found in Chapter 6. In all seven municipalities, my interviewees argued that political competition had negative effects on education. The strongest statements came from the interviewees located in the smallest five municipalities. When asked why political competition had such negative effects on education, my respondents focused on the difference between the words *política* and *politicagem*. While the first word means "politics" in Portuguese, the second has a negative connotation and is associated with disputes among different political parties. Besides the suggestion made in all seven municipalities that higher political

competition would lead to more party turnover and bring more disruptions to public education, my interviewees focused in their answers on the effects of political competition within the schools. As one member of the school staff in Andrelândia put it, "in small cities, competition is bad" because it divides the city to a point that "people from different parties do not speak to each other." According to the mayor of Careaçu, "in the reality of small towns, there is a difficulty because you find many teachers who put their parties above everything and cannot have a professional [perspective]." He confirmed that the opposition routinely wants the administration in power to fail, and so teachers who support other parties do all they can to ensure that "everything goes wrong in the current administration." A staff member in Porangaba, who saw electoral competition as extremely harmful to education, echoed this feeling. She affirmed that teachers put parties above their profession and that the opposition only used educational indexes to criticize the current administration. According to many of my interviewees, things become even worse during elections. The secretary of education of Careaçu believed political competition is bad for education because "it makes people waste working time." She sees people's inability to separate their profession from their political orientation to be the greatest barrier for improving the quality of municipal education. The secretary of Porangaba claimed it was "unbearable" to work during election time because competition had a major influence in the school environment.

It seems that political competition has a negative effect on education in small municipalities via two major routes. It can either interfere with the school environment during elections by creating animosities and disputes, or it can

adversely impact the degree to which school staffs will collaborate with the secretariat of education and how well they will perform depending on how they feel about the current administration. This is the case because there is much at stake for people working in municipal education during mayoral elections in small municipalities. As previously discussed, the secretariat of education's staff, as well as school principals, are often chosen from among party supporters. Thus, for some people, different electoral outcomes translate into having access, or not, to a job that pays better, has better working conditions and is more prestigious. Elections also punish the opposition. The case of Careaçu suggests that careers and working conditions can be determined by whether or not one supports the current administration. According to the mayor of Careaçu, teachers with similar experience had salaries ranging from R$1,500 to R$5,000, according to how favorably previous administrations had looked upon their careers and whether or not they had promoted them to higher positons. Similarly, teachers' assignments to positions with very different working conditions also depended on their relationship to the administration. Some of my interviewees even reported that they and their children had been mistreated in municipal schools as a consequence of their political alliances. My cases support the theory that the employees of municipal education have much at stake in the results of mayoral elections, with supporters being rewarded and opponents being punished. Thus, it is no wonder that this effect is much stronger in small cities – where people know each other and their political alliances – and in contexts of high political competition – where the unpredictability of the election is associated with higher levels of polarization in the municipality.

A major alternative explanation for the negative correlation observed between political competition and educational outcomes is that political competition makes politicians more short-sighted and less prone to implement hard educational reforms. My cases have provided evidence against this hypothesis. When asked whether the vote margin in the previous election had helped them to implement certain reforms, five out of the seven mayors I interviewed answered no. In addition, when they were asked if they believed they could have done more with a higher vote margin, all of them said no again. They reported they could only enact reforms within the limits of the resources they had available. Thus, my cases suggest that political competition has little or no effect on a mayor's decision to reform education. On the other hand, high levels of political competition interfere with school environments, proving very harmful for education.

What of the argument that educational reform follows, rather than leads, popular pressure for reform? In none of my cases did there seem to be any popular pressure towards reforming and improving the quality of education before reform was launched. As my case studies suggest, we should expect the implementation of hard educational reforms to be a top-down process, dependent on the mayor and his party's commitment to education. Yet, this does not mean that the involvement of the population with the educational cause does not matter. Even though the implementation of these reforms is a top-down process, the institutionalization of reforms seems to greatly depend on the population embracing the educational improvements and rewarding the parties who implemented these reforms. The

cases of Foz do Iguaçu and Sobral suggest that only popular support for educational

reforms can protect them from being reversed in the absence of political continuity.

7   Conclusion

This thesis has attempted to tackle one of the most salient issues on the agenda of politics in Brazil – how to improve the quality of public education. In Brazil and other middle-income countries that have similarly poor outcomes on international assessment tests, the poor quality of education is a critical constraint on development, on mitigating inequality, and on democratic citizenship. The problem of improving educational quality is seemingly intractable, despite major, concerted efforts at the national level to improve the public education system. These efforts have included significant new federal funds targeted for educational infrastructure, as well as enhanced teacher training and compensation. Yet, the impact of federal policies has essentially been limited to expanding educational access. Thus, I turned my attention and focus to municipal governments, in whose hands the quality of Brazilian basic public education rests. What I discovered was that municipalities generally perform poorly in education, on average, but that there is also a high disparity in their performances, a disparity that is not fully explained by differences in development levels. The puzzle of why some municipalities have made palpable strides in reforming local education while others have not was the point of departure for my inquiry.

I began my research by asking what leads some municipal governments to implement educational reforms that substantially improve the quality of public education. I hypothesized that political variables – such as political party, continuity, and competition – mattered for educational performance at the

municipal level. This is so, I reasoned, because given the importance of public education funds and employment in the many small and poor Brazilian municipalities, they become valuable political assets for those who hold local power. I argued, therefore, that we should see educational reforms as "hard" reforms in that they impose high costs on politicians while reaping only diffuse benefits for the local population. Following this logic, I focused especially on educational reforms that depoliticize public education, making it more professional and less susceptible to the power struggles of political parties. In the course of my field research, I identified two consequential local reforms. The first is the professionalization of municipal secretariats of education. In other words, the staff of the municipal secretariats of educations are recruited based on their technical skills – not on having friends in high places or being allied with the "right" political party – and such a reform results in establishing a new departmental "working culture," one that sets clear goals for educational outcomes. The second, and more easily observable reform, was changing the process by which school principals are selected from political appointment to recruitment by meritocratic criteria or democratic elections with community participation. These two reforms are hard not only because they have diffuse benefits across the entire population, but also because their influence on educational outcomes will most likely become apparent only in the long term. Against these diffuse, long-term gains, these two reforms impose high costs on politicians because they decrease politicians' control over municipal public education's funds and jobs, both of which are valuable electoral assets.

Due to the low demand for a quality education from both the population and the business sector, as well as the fact that – contrary to the current view that the problem with educational reform is intractable teachers' unions – teachers' unions, while *proponents* of reforms in Brazil, are politically very weak on the municipal level, I focused on the incentives of local politicians to launch reform. Building from the literature on the implementation of hard reforms, I argued that hard educational reforms are more likely to be implemented if politicians and their political parties are less dependent on public resources, of which educational funds are a major component, to compete. They are also more likely to be implemented if politicians are able to claim the credit for and benefit from improvements in educational performance. Thus, I expect the rise to power of programmatic parties, which compete on the basis of the provision of public goods, to lead to the implementation of hard educational reforms. Not only will programmatic parties face fewer costs in ceding control of educational resources, but they may also benefit from the provision of a quality public education. Thus, I argued that we should expect the implementation of hard educational reforms as well as better educational outcomes in municipalities governed by the PT, a programmatic party known for prioritizing public education in its platform and thus better positioned to claim the credit for improvements in education. On the other hand, I argued that if clientelist parties – which compete based on the provision of selective benefits – are in power, the likelihood that hard educational reforms will be implemented will be lower, and educational outcomes are likely worsen.

If political parties strongly affect educational outcomes, they do not tell the whole story. I also argued that for them to be effective, they must have enough time in office to implement reforms and for those reforms to "take effect." In other words, the reforms need time to demonstrate results that make them politically difficult to reverse, or what I refer to simply as becoming institutionalized. Moreover, party turnover in itself is associated with the disruption of educational policies in Brazil. Thus, I expected that political continuity would have positive effects on student performance. I also argued that political competition would negatively impact educational outcomes in small municipalities. Here, I provided an alternative hypothesis to two prevailing and opposing arguments in the literature. While some scholars have argued that higher levels of political competition lead to the implementation of hard reforms and a higher provision of social goods because politicians must be more responsive to voters' concerns in order to be elected, others contend that higher levels of political competition make politicians shortsighted and thus decrease the likelihood of implementing hard reforms. I join the second group in arguing that political competition has negative effects on educational outcomes, but I proposed a different mechanism for why this is so. I contend that higher levels of political competition have a negative impact on educational outcomes not because they affect mayors' decisions to implement reforms but because they polarize school staff. They create disputes and such disputes often encourage staff that supports the opposition to sabotage the current administration's efforts. That said, I expect political competition to exercise this negative effect only in small municipalities because the mechanisms I propose only

exist where political alliances are publicly known and municipal education's employees have very high stakes in electoral outcomes.

With the goal of testing my claims, I pursued a mixed-methods approach, conducting a nested analysis based on large and small-N studies. Drawing from the statistical analysis of an original dataset as well as from fieldwork in seven Brazilian municipalities, involving forty-three interviews, I concluded that both programmatic parties – the PT and the PSDB – are positively associated with good educational outcomes while all clientelist parties – the PFL, the PP and the PMDB – showed negative effects on the IDEB score. My case studies provided evidence that these associations result from the fact that mayors belonging to clientelist parties are more likely to misuse educational funds and employment due to patronage practices and less likely to implement hard educational reforms. My statistical analyses showed evidence of the causal negative causal effects of electing the PMDB on the meritocratic or democratic selection of school principals. On the other hand, while the PT was positively associated not only with the meritocratic or democratic selection of school principals but also with implementing the reforms that depoliticized these appointments, PSDB administrations showed negative effects on principals' selection. This means that the mechanisms I propose in my theory only apply to the PT. Since the PT is indeed in a better position to claim the credit for improving the quality of education, PT mayors are more likely to benefit from implementing hard educational reforms. On the other hand, while mayors belonging to the PSDB did not misuse educational funds and showed positive effects on educational outcomes, they did not behave very differently from

clientelist parties when it came to the implementation of hard educational reforms. My case studies also illustrated that mayors' personal commitment to education is as relevant as party affiliation, but this is something I could not measure in my large-N analysis.

Additionally, my analysis showed that political continuity has a positive effect on education outcomes, but not on the implementation of hard educational reforms; in fact, the number of terms a party has been in power had negative effects for the launch of reform. My case studies suggest that the positive effects of political continuity are a consequence of the mechanisms proposed by my theory – that they avoid the disruption in education policies caused by party turnover, and afford the necessary time for educational reforms to show results, gain popular support, and become institutionalized. Moreover, political competition also did not affect the implementation of hard educational reforms, but, as expected, higher levels did have negative effects on educational outcomes in small municipalities. Here, my case studies seemed to confirm the mechanisms I propose, namely, that the struggle for power among different political parties spilled over into the school system, affecting the behavior of school staff.

Even though my research focused on the implementation of educational reforms in Brazilian municipalities, its findings hint at issues that go beyond the problem of education in Brazil. The implementation of any reform that restricts politicians' access to funds and employment while providing benefits that are spread too thinly to create loud demands from civil society will likely face the barriers I discuss. In addition, politicians' tendency to belittle what was done in the

past and disrupt previous policies very likely affects not only the quality of public education but also other public services that, like education, require continuity in order to be successful. Some examples of such social services might include the provision of environmental protection and quality sanitation services, since the success of both are highly dependent on continuity and are often not prioritized by the population. To conclude, my research findings suggest that the struggle between political parties is very harmful to those living in small municipalities, and it requires more attention from scholars as well as from state and federal governments.

In fact, the difficulty of distancing policies from the parties that implemented them plague not only municipalities but also federal governments. For instance, most of the criticism received by the federal conditional cash transfer *Bolsa Família* originates from the fact that this is a program implemented by and highly associated with the PT. A similar argument can also be made about the Patient Protection and Affordable Care Act (PPACA), or the Affordable Care Act (ACA) signed by U.S. President Barack Obama in 2010. The fact that the PPACA is mostly known by the colloquial name Obamacare only shows how much this policy is associated with the politician and party that implemented it. Yet, both programs seem to have gained popular support, making it very unlikely that they will be reversed by future incumbents. The literature calls this dynamic "policy feedback," and argues that the recipients of social policies – such as senior citizens enrolled in social security – become the constituents for them, making it hard to

reverse reforms (Campbell 2003). Indeed, this behavior helps to explain part of the educational success of the municipalities of Sobral and Foz do Iguaçu.

As I have taken pains to point out throughout my thesis, my research had limitations, and my analyses were constrained in a number of aspects. Firstly, I treat political continuity and political competition as exogenous variables because the scope of my study did not allow me to explore the underlying causes of variations in them. Secondly, my small-N analysis suggests a mayor's personal commitment to education matters for educational outcomes while popular support decreases the likelihood of reform reversal. Yet, the impracticability of ascertaining the personal commitment of 5,570 mayors over the course of several administrative terms would have been impossible, precluding me from testing for its impact in my statistical analysis. The same is true of popular support for local educational reforms. Despite my best efforts, I was also unable to measure the level of professionalization of municipal secretariats of education,[18] and thus I had to rely for my measure of change in local educational policy exclusively on how principals are selected, which is assessed in a less than optimal way in Brazil. Finally, my sole reliance on party continuity likely led to an underestimation of the effects of political continuity, since party turnover can mask underlying continuity of political factions who may switch parties.

Due to these constraints, I hope that future research will be able to explore some of these topics, especially those concerning the determinants of political

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[18] I tried, for instance, to get information on hours logged in the secretariats of education, but the Ministry of Education does not have access to this type of information at the municipal level.

competition and continuity as well as the role played by politicians' personal commitment. In addition, from what I witnessed in my fieldwork, I believe we have much to learn from studying what leads the population to support and embrace certain reforms, insulating them from the damaging effects of political discontinuity. Such a study could be conducted by comparing municipal and state schools located in the same municipality, for example. Here, it could prove fruitful to explore how the variables I analyze affect not only school principals' selection, but also the selection of secretariats of education's staff as well as decisions regarding educational expenditures. Furthermore, it would be interesting to explore whether having a nearby municipality that is a star performer in education influences municipalities' educational policies and achievements. Finally, it is paramount to understand not only how political struggles among politicians affect the provision of public services, but also how these services can be protected from the pernicious effects of political competition. In my thesis, I have argued that the coming to power of mayors affiliated with programmatic parties or personally committed to education would lead to the implementation of reforms that depoliticize public education, making it less vulnerable to the negative effects of political competition. If these reforms are allowed time to take root and enjoy popular support, they are likely to become institutionalized and translate into improvements in educational outcomes. The days of political bossism and local electoral monopolies are, moreover, coming to an end, and since political competition – which we should not wish to avoid – is very much a given, we need to learn how to protect public services and policies from its downsides. Put more

bluntly, the solution to the problem of education in Brazil cannot depend on all 5,570 Brazilian municipalities electing mayors who are either affiliated with programmatic parties or personally committed to education and happen to have the necessary time and support required for reforms to institutionalize.

Indeed, I believe that the major contribution of my research lies in the fact that it draws attention to an issue very much known by those who work with municipal public education every day. Most of my interviewees made the distinction between *política* ("politics") and *politicagem* ("politicking"), alleging that, while the former can be good for education, the latter surely has very pernicious effects. Indeed, educational reforms that depoliticize public education very likely will have a much larger impact than reforms that merely introduce new pedagogical methods or technology in the classroom. Thus, we need to insulate municipal public education and its resources from the negative effects of the political struggle between parties, or *politicagem*. As one of my interviewees put it, educational policies need to be *state* policies, or, policies that are continued by different governments, not policies that serve the political goals of the government of the day.

For Brazil to take the next step and substantially improve the quality of its educational system, since it is unrealistic to wait for over five thousand municipalities to decide to do so, one of two things has to happen. Either the population must hold the provision of a quality education as its topmost priority, or the federal government must push for the de-politicization of public education in Brazilian municipalities. Civil society groups might play an important role in

turning the first route into reality and placing education on the agenda of not only some politicians, but also of entire municipalities. Yet, the second alternative might be more viable if the federal government turns its attention to the need to de-politicize the provision of public education in Brazilian municipalities. By imposing conditions for municipalities to receive federal funds and programs, policies at the federal level have established more equal levels of spending on education as well as minimum salaries for school teachers across the country. Similarly, the Ministry of Education could create conditions regarding how municipalities select their school principals and secretariats of education's staff, promoting the establishment of meritocratic or democratic processes that would highly contribute to the de-politicization of public education in Brazil. Even though such a condition would certainly be very unpopular among mayors, it would be less radical than policies that aim to centralize the provision of basic education in Brazil, which is the goal of recent bills introduced by the Senator Cristovam Buarque and approved by the Committee on Education, Culture and Sport in 2015 (Franco 2015).

Since 2014, Brazil has been experiencing major political and economic crises. Deep budget cuts to education will certainly negatively impact the quality of public education (Folha Política 2015). This is a dire scenario, especially since the provision of a quality public education is acknowledged by many to be the only solution to mitigating the country's socioeconomic inequality and long-term structural problems. Reforms that de-politicize public education and allow for the best use of the reduced educational resources are especially urgent today. As the

hard economic reforms implemented in the 1990s have shown, much good can come out of crises of such large proportions, and this may be a unique opportunity for Brazil to improve its education system.

Appendix

A1   Brazilian Political Parties[19]

1	**PMDB**	Partido Do Movimento Democrático Brasileiro
2	**PTB**	Partido Trabalhista Brasileiro
3	**PDT**	Partido Democrático Trabalhista
4	**PT**	Partido Dos Trabalhadores
5	**DEM**	Democratas
6	**PCdoB**	Partido Comunista Do Brasil
7	**PSB**	Partido Socialista Brasileiro
8	**PSDB**	Partido Da Social Democracia Brasileira
9	**PTC**	Partido Trabalhista Cristão
10	**PSC**	Partido Social Cristão
11	**PMN**	Partido Da Mobilização Nacional
12	**PRP**	Partido Republicano Progressista
13	**PPS**	Partido Popular Socialista
14	**PV**	Partido Verde
15	**PTdoB**	Partido Trabalhista Do Brasil
16	**PP**	Partido Progressista
17	**PSTU**	Partido Socialista Dos Trabalhadores Unificado
18	**PCB**	Partido Comunista Brasileiro
19	**PRTB**	Partido Renovador Trabalhista Brasileiro
20	**PHS**	Partido Humanista Da Solidariedade
21	**PSDC**	Partido Social Democrata Cristão
22	**PCO**	Partido Da Causa Operária
23	**PTN**	Partido Trabalhista Nacional
24	**PSL**	Partido Social Liberal
25	**PRB**	Partido Republicano Brasileiro
26	**PSOL**	Partido Socialismo E Liberdade
27	**PR**	Partido Da República
28	**PSD**	Partido Social Democrático
29	**PPL**	Partido Pátria Livre
30	**PEN**	Partido Ecológico Nacional
31	**PROS**	Partido Republicano Da Ordem Social
32	**SD**	Solidariedade
33	**NOVO**	Partido Novo
34	**REDE**	Rede Sustentabilidade
35	**PMB**	Partido Da Mulher Brasileira

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[19] TSE 2015

A2   Data Collection and Treatment

In this section, I discuss both my data collection and treatment processes, explaining how I built the original dataset I use in my statistical analyses. Please note that I used the Data Analysis and Statistical Software STATA to treat the variables as well as to build and analyze my dataset. My STATA files and dataset are available upon request.

The data I use in my analyses were gathered from the following sources: the Brazilian Institute of Geography and Statistics (IBGE), the Superior Electoral Court (TSE), the National Institute of Educational Study and Research Anísio Teixeira (INEP), the Institute for Applied Economic Research (IPEA), and the Atlas of Human Development in Brazil. Starting with the data that allowed me to compute my independent variables, I gathered the TSE's data on mayoral elections, which contain candidates' names, political party, number and percentage of votes received as well as whether elections were decided in the first or second round, from 1996 to 2012. I also collected IBGE information that uniquely identifies codes, names, states and geographical regions for all Brazilian municipalities, in addition to their population size, GDP and GDP per capita from 1999 to 2013. From IPEA, I obtained data on the number of families covered per municipality by the conditional cash transfer program *Bolsa Família* from 2004 to 2012, as well as municipalities' distances to the capital of their states. Finally, I downloaded data on the percentage of the population fifteen years old and above that classified as illiterate, the municipal human development index, the Gini coefficient, the percentage of the

population that was extremely poor, and the rural and urban populations of each municipality for the years 2000 and 2010 from the Atlas of Human Development in Brazil.

Regarding the data that allowed me to compute my dependent variables, I obtained the 5th grade IDEB scores of municipal schools, aggregated per municipality, for all the years in which IDEB was calculated – 2005, 2007, 2009, 2011 and 2013 – from INEP. To assess how school principals of municipal schools were selected, I combined three different sources of data. INEP has made available the data it collects in school censuses every year since 1995. Yet, only the 2004 census asked principals how they were selected. INEP also makes available the data it collects from questionnaires filled out by students, teachers and principals during *Prova Brasil*, the test used to calculate IDEB scores. In the years 2007, 2009 and 2011, principals were asked how they were selected and their answers were made available on INEP's website. Finally, IBGE has on its website a compilation of municipalities' profiles, from 2004 to 2014. Only the 2014 profile contained a variable for how principals were selected in each municipality which could be used to complement my dataset. Combining all three data sources, I was thus able to gather information on how municipal schools' principals were selected in 2004, 2007, 2009, 2011 and 2014.

In order to combine the data described above, I used IBGE's codes, which helped uniquely identify municipalities in all datasets, with the exception of the electoral data I obtained from TSE. To work around this problem, I used the most updated IBGE computation of municipalities' names, states and codes to attribute

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codes to the municipalities listed in the electoral dataset. Yet, after accounting for differences in accentuations and capitalizations, I was left with 165 municipalities that had their names misspelled in the electoral dataset (relative to the names used by the IBGE, which I considered to be official) and five that had been created between 2012 and 2013 and thus were not present in all datasets. I individually matched each of the 165 municipalities in the electoral and IBGE datasets by identifying the misspellings and searching for municipalities' previous names when they had changed.

With all the data combined into a single dataset, I proceeded to compute the variables used in my analyses. Starting with my independent variables, to compute my party variable – the party of the incumbent mayor in a given municipality and year – I identified which parties had been elected in each election and thus would be in power for the next four years. From my party variable, I was then able to create dummies indicating whether the parties I analyzed – PFL, PMDB, PP, PSDB and PT – were in power in a given municipality and year. In order to calculate the number of terms the party of the incumbent mayor had been in power, I started with the elections of 1996, the first year for which I have electoral data. Terms start the year following elections and are concluded the year in which elections are held. Thus, in 1997 all parties concluded 0.25 of their terms, in 1998 0.50, and so on. Starting in the year 2001, if a party had been reelected, the term variable assumes the value 1.25. If another party had come to power, the term variable reverts to 0.25.

To calculate the running variables used in the regression discontinuity designs, I computed the vote margin of the first finisher compared to the second

finisher for each of the five major parties analyzed. For each, I looked into elections in which they finished in first or second place. Because I wanted to compare the outcomes of having a given party just barely winning and just barely losing, I only considered elections that were decided in the first round. I also computed a second vote margin for the regression discontinuity looking into reelections. This time I only considered parties that were in power in a given election year and finished in first or second place in that election, meaning they were reelected or finished second when running for reelection. I computed this variable for any party that tried to be reelected as well for the five major parties I analyze.

I used two measures to compute my political competition variables: the Herfindahl index and the vote margin. It should be noted that I only consider the level of political competition in the first round of municipal elections, regardless of whether elections were decided in the first or second round. This decision is defensible since 99.08% of mayoral elections were decided in the first round in 2012, for example. To calculate my political competition variable based on the Herfindahl index, I calculated the squares of the percentage of votes received by each candidate, summed them for each municipality and electoral year, and subtracted the result from one. For my political competition variable based on vote margin, I subtracted the percentage of votes received by the second-place finisher from the percentage received by the winner and, once again, subtracted the result from one. I use averages to approximate the levels of political competition not only during but also between elections.

In order to explore the effect of political competition in different sized municipalities, I created five categories for population size. In the first group, I placed the municipalities with fewer than 10,000 inhabitants; in the second, municipalities with between 10,000 and 25,000 inhabitants; in the third, municipalities with between 25,000 and 50,000 inhabitants; in the fourth, municipalities with between 50,000 and 100,000 inhabitants, and finally, in the fifth group, I placed municipalities with more than 100,000 inhabitants. This allowed me to create interaction variables between the political competition variables and the population size categories.

Regarding my control variables, for the CCT *Bolsa Família*¸ I calculated the number of families covered by the program per population. Because I only had information for my other controls for a few years, I treated the Gini coefficient in 2000 and the Gini coefficient in 2010, for example, as constants for each municipality. Finally, I calculated the percentage of the population living in rural areas using the data on the number of people living in rural and urban areas in each municipality. Because distance to capital, GDP per capita and population size presented a very skewed distribution, I used their logs in all of my analyses.

While I did not need any further treatment of the IDEB score, I had to take many steps to calculate my variables concerning the selection of school principals and the implementation of reform. In order to combine the different sources of data on how municipal schools' principals were selected, I first had to account for the fact that, even though the three sources asked very similar questions in their respective questionnaires, the range and wording of possible answers varied. For

instance, the 2004 and 2014 questionnaires offered four options for how principals

of municipal schools were selected: test, appointment, election or other. The 2007,

2009 and 2011 questionnaires, on the other hand, provided principals with more

options to choose to describe the process by which they received their

appointments: selection, election only, selection and election, technical

appointment, political appointment, other appointments, and other. Because I am

interested in whether principals were selected through meritocratic processes or

elections, I created a dummy variable that assumed the value one if the options

"test" or "election" had been chosen in the 2004 and 2014 questionnaires, or if

"selection," "election only" or "selection and election" had been chosen in the

2007, 2009 and 2011 questionnaires.

With the exception of 2014, all the data on principals' selection were

aggregated at the school level, with principals in the same municipality giving

different answers, most likely due to confusion with the options in the

questionnaire. To have data at the municipal and not the school level, I chose the

most common answer within a municipality to be the true answer. Here, if the

average of my principals' selection dummy variable was exactly 0.5, meaning

principals had given very diverging answers in that municipality, I coded my

variable to represent missing data.

From the principals' selection variable, I was able to create a reform variable

that compares two years for which I have data on principals' selection. If principals

were chosen through a different mechanism in the first year of comparison but were

chosen meritocratically or democratically in the second year, the reform variable

assumes the value one, indicating a reform was implemented. If the selection process of school principals did not change between these two years, the reform variable assumes the value zero. It should be noted that, if there was a reversal in the reform, the reform variable was still coded to assume the value zero so my reform variable only signals reform implementation. Ideally, I would have compared measures taken in the fourth year of mayors' terms so as to guarantee that any changes observed would be due to the party in power in the second year of measurement. In order to approximate this ideal scenario, I calculated my reform variables for three combinations of years: 2004 and 2007; 2007 and 2011; and 2011 and 2014. I decided not to use 2009 because it corresponds to the first year of a mayor's term and it is not clear if changes observed between 2007 and 2009 were due to the party elected in 2004 or to the party elected in 2008[20]. On the other hand, changes between 2007 and 2004 are very likely due to the party elected in 2004 and thus in power in 2007. Since mayors are more likely to implement hard reforms in the first half of their terms [Rodrik 1996], similar arguments can be made about 2007 and 2011, and 2011 and 2014. After conducting the computations for these three pairs of years, I combined them into a single reform variable. If principals' selection had been reformed between 2004 and 2007, for example, my reform variable assumed the value one in the year 2007. This way, the reform variable can be related to the party in power in the year the second measurement was taken and reform identified.

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[20] Between 2009 and 2011, the average change in principals' selection was 1.7%, compared to 1.5% between 2007 and 2011. This means most of the reforms that happened between 2007 and 2011 happened after the 2009 questionnaire was applied.

A3   Description of Variables and Predicted Direction of Association with IDEB and the selection of school principals

VARIABLES	Description	Pred.
IDEB_5th	Education index of the early years of primary education (5th grade) based on the performance of municipal schools. Available for 2005, 2007, 2009, 2011 and 2013.	.
pri_sel	Dummy variable for whether principals of municipal schools are selected through a meritocratic process or election (1) or not (0). Available for 2004, 2007, 2009, 2011 and 2013.	.
reform	Dummy variable for whether principals' selection was reformed towards meritocratic or democratic selection (1) or not (0). Available for 2005, 2007, 2011 and 2013.	.
comp_hi	One minus the Herfindahl index, lagged by one year. Available for 2005, 2009 and 2013, with averages calculated for other years.	(-)/( )
comp_vm	One minus the vote margin, lagged by one year. Available for 2005, 2009 and 2013, with averages calculated for other years.	(-)/( )
party_PFL	Dummy variable for whether the mayor is from the party PFL (1) or not (0). Available for all years.	(-)/(-)
party_PMDB	Dummy variable for whether the mayor is from the party PMDB (1) or not (0). Available for all years.	(-)/(-)
party_PP	Dummy variable for whether the mayor is from the party PP (1) or not (0). Available for all years.	(-)/(-)
party_PSDB	Dummy variable for whether the mayor is from the party PSDB (1) or not (0). Available for all years.	(+)/(+)
party_PT	Dummy variable for whether the mayor is from the party PT (1) or not (0). Available for all years.	(+)/(+)
term	Number of terms any party has been in power at the end of a given year. Available for all years.	(+)/( )
rd_PFL	Vote margin between first and second finishers of mayoral elections if the party PFL was one of the first two. Available for 2004, 2008 and 2012.	(-)/(-)
rd_PMDB	Vote margin between first and second finishers of mayoral elections if the party PMDB was one of the first two. Available for 2004, 2008 and 2012.	(-)/(-)
rd_PP	Vote margin between first and second finishers of mayoral elections if the party PP was one of the first two. Available for 2004, 2008 and 2012.	(-)/(-)
rd_PSDB	Vote margin between first and second finishers of mayoral elections if the party PSDB was one of the first two. Available for 2004, 2008 and 2012.	(+)/(+)
rd_PT	Vote margin between first and second finishers of mayoral elections if the party PT was one of the first two. Available for 2004, 2008 and 2012.	(+)/(+)
rd_reel	Vote margin between first and second finishers of mayoral elections if a party was running for reelection and was one of the first two. Available for 2004, 2008 and 2012.	(+)/( )
rd_reel_PFL	Vote margin between first and second finishers of mayoral elections if the party PFL was running for reelection and was one of the first two. Available for 2004, 2008 and 2012.	(?)/( )
rd_reel_PMDB	Vote margin between first and second finishers of mayoral elections if the party PMDB was running for reelection and was one	(?)/( )

	of the first two. Available for 2004, 2008 and 2012.	
rd_reel_PP	Vote margin between first and second finishers of mayoral elections if the party PP was running for reelection and was one of the first two. Available for 2004, 2008 and 2012.	(?)/( )
rd_reel_PSDB	Vote margin between first and second finishers of mayoral elections if the party PSDB was running for reelection and was one of the first two. Available for 2004, 2008 and 2012.	(+)/( )
rd_reel_PT	Vote margin between first and second finishers of mayoral elections if the party PT was running for reelection and was one of the first two. Available for 2004, 2008 and 2012.	(+)/( )
bf_pp_l	Number of families covered by the conditional cash transfer *Bolsa Família* per population, lagged by one year. Available from 2005 to 2013.	(?)/(?)
distcap_log	Log of the distance of the municipality to the capital of the state.	(-)/(-)
extpov2000	Percentage of the population that was extremely poor in the year 2000.	(-)/(-)
extpov2010	Percentage of the population that was extremely poor in the year 2010.	(-)(-)
GDP_pcap_log	Log of the GDP per capita, in R$1.00. Available for 1999 through 2012 in 2012 values and for 2013 in 2013 values.	(+)(+)
gini2000	Gini coefficient in the year 2000.	(-)(-)
gini2010	Gini coefficient in the year 2010.	(-)(-)
hdi2000	Human development index in the year 2000.	(+)(+)
hdi2010	Human development index in the year 2010.	(+)(+)
illit2000	Percentage of the population fifteen-years or older that was illiterate in the year 2000.	(-)(-)
illit2010	Percentage of the population fifteen-years or older that was illiterate in the year 2010.	(-)(-)
pop_log	Log of the population size. Available from 1999 to 2013.	(+)(+)
pop_g1	Dummy variable for whether the municipality has fewer than 10,000 inhabitants (1) or not (0). Available from 1999 to 2013.	(-)(-)
pop_g2	Dummy variable for whether the municipality has between 10,000 and 25,000 inhabitants (1) or not (0). Available from 1999 to 2013.	(-)(-)
pop_g3	Dummy variable for whether the municipality has between 25,000 and 50,000 inhabitants (1) or not (0). Available from 1999 to 2013.	(-)(-)
pop_g4	Dummy variable for whether the municipality has between 50,000 and 100,000 inhabitants (1) or not (0). Available from 1999 to 2013.	(-)(-)
pop_g5	Dummy variable for whether the municipality has more than 100,000 inhabitants (1) or not (0). Available from 1999 to 2013.	(+)(+)
urban2000	Percentage of the population that lived in urban areas in the year 2000.	(+)(+)
urban2010	Percentage of the population that lived in urban areas in the year 2010.	(+)(+)

Note: (+) means I expect the variable to be positively associated with my dependent variables, (-) means I expect a negative association, ( ) means I do not expect any association and (?) means I am unable to predict the direction of association.

A4   Summary Statistics of Variables

VARIABLES	N	mean	sd	min	max
		SUMMARY STATISTICS			
IDEB_5th	24,393	4.336	1.120	0.700	8.600
pri_sel	36,047	0.152	0.359	0	1
reform	19,245	0.060	0.237	0	1
comp_hi	27,606	0.510	0.129	0	0.837
comp_vm	27,606	0.821	0.208	0	1
party_PFL	99,432	0.111	0.314	0	1
party_PMDB	99,432	0.215	0.411	0	1
party_PP	99,432	0.079	0.270	0	1
party_PSDB	99,432	0.158	0.365	0	1
party_PT	99,432	0.064	0.244	0	1
term	99,432	0.891	0.649	0.250	4.500
rd_PFL	5,383	0.0197	0.236	-1	1
rd_PMDB	11,280	0.0237	0.244	-1	1
rd_PP	4,102	0.0289	0.244	-1	1
rd_PSDB	7,776	0.0331	0.250	-1	1
rd_PT	3,900	-0.0220	0.267	-1	1
rd_reel	11,549	0.0569	0.293	-1	1
rd_reel_PFL	1,215	0.0703	0.263	-1	1
rd_reel_PMDB	3,219	0.0643	0.262	-1	1
rd_reel_PP	971	0.0730	0.257	-1	1
rd_reel_PSDB	2,130	0.0777	0.269	-1	1
rd_reel_PT	906	0.0715	0.242	-1	1
bf_pp_l	50,041	0.0855	0.0491	0.000177	0.634
distcap_log	104,118	5.284	0.798	1.287	7.297
extpov2000	105,731	0.207	0.172	0	0.772
extpov2010	105,731	0.113	0.118	0	0.697
GDP_pcap_log	83,340	8.731	0.862	6.001	13.48
gini2000	105,731	0.547	0.0687	0.300	0.870
gini2010	105,731	0.494	0.0661	0.280	0.800
hdi2000	105,731	0.523	0.104	0.208	0.820
hdi2010	105,731	0.659	0.0720	0.418	0.862
illit2000	105,731	0.217	0.125	0.00910	0.600
illit2010	105,731	0.162	0.0984	0.00950	0.444
pop_log	83,340	9.392	1.141	6.676	16.29
pop_g1	106,065	0.369	0.483	0	1
pop_g2	106,065	0.241	0.427	0	1
pop_g3	106,065	0.0957	0.294	0	1
pop_g4	106,065	0.0446	0.206	0	1
pop_g5	106,065	0.250	0.433	0	1
urban2010	105,731	0.638	0.220	0.0418	1

A5 Effects on the Selection of School Principals

VARIABLES	COEFFICIENTS			
	OLS Reg.	Logit Reg.	OLS Reg.	Logit Reg.
party_PFL	-0.0261***	-0.377***	-0.00324	-0.126
	(0.00868)	(0.109)	(0.00801)	(0.161)
party_PMDB	-0.00407	-0.0454	0.00420	0.0363
	(0.00766)	(0.0662)	(0.00612)	(0.105)
party_PP	-0.0106	-0.0964	-0.00518	-0.125
	(0.0103)	(0.0877)	(0.00763)	(0.133)
party_PSDB	-0.0167**	-0.158**	-0.00460	-0.102
	(0.00836)	(0.0723)	(0.00677)	(0.115)
party_PT	0.0506***	0.338***	0.0167*	0.150
	(0.0126)	(0.0850)	(0.00968)	(0.144)
term	0.000581	-0.0198	0.000537	0.0118
	(0.00409)	(0.0353)	(0.00317)	(0.0598)
comp_hi	0.0187	0.154	-0.0438*	-0.717**
	(0.0280)	(0.238)	(0.0229)	(0.354)
GDP_pcap_log	0.0414***	0.222***	-0.0201*	-0.115
	(0.00866)	(0.0630)	(0.0114)	(0.181)
pop_log	0.0510***	0.330***	0.0244	0.420
	(0.00447)	(0.0363)	(0.0288)	(0.487)
distcap_log	0.0198***	0.196***		
	(0.00515)	(0.0437)		
extpov2000	-0.202***	-3.088***		
	(0.0637)	(0.759)		
extpov2010	0.0669	-1.102		
	(0.0770)	(1.060)		
gini2000	0.133*	2.016***		
	(0.0692)	(0.632)		
gini2010	0.188**	2.044***		
	(0.0872)	(0.699)		
hdi2000	0.0562	-0.696		
	(0.147)	(1.367)		
hdi2010	0.658***	2.942		
	(0.188)	(1.899)		
illit2000	0.0546	2.175		
	(0.142)	(2.068)		
illit2010	-0.0571	-4.470*		
	(0.164)	(2.502)		
urban2000	0.0659	0.546		
	(0.0548)	(0.543)		
urban2010	-0.0487	-0.561		
	(0.0566)	(0.589)		
2007.year	0.0461***	0.506***	0.0625***	1.084***
	(0.00536)	(0.0490)	(0.00581)	(0.0979)
2009.year	0.0338***	0.417***	0.0623***	1.044***
	(0.00717)	(0.0617)	(0.00821)	(0.133)
2011.year	0.0321***	0.440***	0.0819***	1.319***
	(0.00837)	(0.0672)	(0.0104)	(0.166)
2013.year	0.00503	0.231***	0.0683***	1.033***
	(0.00995)	(0.0794)	(0.0127)	(0.205)
Constant	-1.439***	-11.20***	0.0745	
	(0.120)	(1.040)	(0.302)	
Municipality FE	NO	NO	YES	YES
Year FE	YES	YES	YES	YES
N	24871	24871	25223	5975
Adj./ Pseudo R-squared	0.122	0.149	0.0138	0.0644

A6   Effects on Reforming the Selection of School Principals

VARIABLES	COEFFICIENTS			
	OLS Reg.	Logit Reg.	OLS Reg.	Logit Reg.
party_PFL	-0.0129	-0.170	-0.0124	-0.185
	(0.0104)	(0.183)	(0.0125)	(0.243)
party_PMDB	-0.00120	-0.0162	0.001000	0.0320
	(0.00584)	(0.101)	(0.00822)	(0.130)
party_PP	-0.00845	-0.138	-0.00968	-0.140
	(0.00742)	(0.133)	(0.0109)	(0.184)
party_PSDB	0.000352	0.0119	-0.00913	-0.163
	(0.00648)	(0.106)	(0.00935)	(0.150)
party_PT	0.0143*	0.227**	0.0153	0.195
	(0.00774)	(0.114)	(0.0109)	(0.166)
term	-0.00477*	-0.0912*	-0.000660	0.00153
	(0.00282)	(0.0554)	(0.00416)	(0.0769)
comp_hi	0.0137	0.229	0.000546	-0.0794
	(0.0191)	(0.349)	(0.0322)	(0.518)
bf_pp_l	-0.0483	-1.065	0.407***	5.305*
	(0.0837)	(1.789)	(0.156)	(2.848)
GDP_pcap_log	0.00878*	0.104	-0.0218	-0.330
	(0.00499)	(0.0744)	(0.0151)	(0.240)
pop_log	0.000549	0.00659	0.0168	0.545
	(0.00232)	(0.0386)	(0.0549)	(0.709)
distcap_log	0.00676**	0.127***		
	(0.00267)	(0.0469)		
extpov2000	-0.192***	-3.670***		
	(0.0404)	(0.832)		
extpov2010	-0.00487	-0.626		
	(0.0457)	(1.033)		
gini2000	0.133***	2.312***		
	(0.0400)	(0.668)		
gini2010	0.0902*	1.566**		
	(0.0483)	(0.734)		
hdi2000	-0.365***	-6.403***		
	(0.0818)	(1.344)		
hdi2010	0.397***	6.044***		
	(0.106)	(1.944)		
illit2000	0.120	3.088*		
	(0.0738)	(1.689)		
illit2010	-0.162*	-4.678**		
	(0.0892)	(2.120)		
urban2000	0.0543	0.992		
	(0.0352)	(0.670)		
urban2010	-0.0556	-1.047		
	(0.0373)	(0.726)		
2011.year	-0.0244***	-0.354***	-0.0143	-0.212
	(0.00638)	(0.0963)	(0.00956)	(0.147)
2013.year	-0.0401***	-0.647***	-0.0256**	-0.396**
	(0.00689)	(0.109)	(0.0128)	(0.202)
Constant	-0.177***	-5.793***	0.0783	
	(0.0672)	(1.147)	(0.550)	
Municipality FE	NO	NO	YES	YES
Year FE	YES	YES	YES	YES
N	14070	14070	14249	2485
Adj./ Pseudo R-squared	0.0184	0.0455	0.00422	0.0227

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

A7   Effects on Reversing Reforms on the Selection of Principals

VARIABLES	COEFFICIENTS			
	OLS Reg.	Logit Reg.	OLS Reg.	Logit Reg.
party_PFL	-0.00211	-0.343	0.00805	-0.0474
	(0.00580)	(0.341)	(0.00871)	(0.378)
party_PMDB	-0.00341	-0.0833	-0.00408	-0.136
	(0.00477)	(0.116)	(0.00696)	(0.162)
party_PP	-0.000346	-0.0133	0.00473	0.126
	(0.00664)	(0.151)	(0.00973)	(0.229)
party_PSDB	-0.00147	-0.0431	0.00158	-0.0586
	(0.00548)	(0.127)	(0.00788)	(0.185)
party_PT	0.0111	0.212*	0.000964	0.0801
	(0.00695)	(0.128)	(0.0107)	(0.193)
term	0.00208	0.0391	0.00535	0.0653
	(0.00274)	(0.0577)	(0.00395)	(0.0926)
comp_hi	0.0189	0.427	0.0376	0.986
	(0.0174)	(0.388)	(0.0297)	(0.661)
bf_pp_l	-0.168***	-2.068	-0.233**	0.915
	(0.0639)	(2.168)	(0.116)	(4.181)
GDP_pcap_log	0.00558	0.0988	0.00899	0.236
	(0.00416)	(0.0841)	(0.0119)	(0.282)
pop_log	0.00544***	0.107**	-0.0111	-1.128
	(0.00208)	(0.0459)	(0.0382)	(1.076)
distcap_log	0.00631***	0.160***		
	(0.00227)	(0.0543)		
extpov2000	-0.0322	-1.376		
	(0.0344)	(1.059)		
extpov2010	-0.0193	-1.418		
	(0.0402)	(1.364)		
gini2000	0.0175	0.742		
	(0.0327)	(0.800)		
gini2010	0.0407	1.060		
	(0.0421)	(0.907)		
hdi2000	-0.0761	-2.545		
	(0.0686)	(1.658)		
hdi2010	0.228**	4.753*		
	(0.0904)	(2.430)		
illit2000	0.0428	1.980		
	(0.0592)	(2.040)		
illit2010	-0.0108	-2.645		
	(0.0733)	(2.661)		
urban2000	-0.0182	-0.484		
	(0.0323)	(0.797)		
urban2010	0.0169	0.399		
	(0.0342)	(0.876)		
2011.year	0.0208***	0.642***	0.0220***	0.670***
	(0.00448)	(0.134)	(0.00699)	(0.179)
2013.year	0.0409***	1.022***	0.0442***	1.044***
	(0.00557)	(0.139)	(0.00991)	(0.241)
Constant	-0.246***	-8.915***	0.0450	
	(0.0587)	(1.404)	(0.398)	
Municipality FE	NO	NO	YES	YES
Year FE	YES	YES	YES	YES
N	14070	14070	14249	2485
Adj./ Pseudo R-squared	0.0195	0.0599	0.00991	0.0770

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

A8   Effects on 5th Grade IDEB Scores

	COEFFICIENTS	
VARIABLES	Model 1	Model 2
party_PFL	-0.0232	0.0120
	(0.0205)	(0.0203)
party_PMDB	-0.0401***	0.0143
	(0.0142)	(0.0115)
party_PP	-0.0909***	-0.0115
	(0.0199)	(0.0170)
party_PSDB	0.0944***	0.00867
	(0.0160)	(0.0142)
party_PT	-0.00583	0.0286*
	(0.0196)	(0.0157)
term	0.0184**	0.0145**
	(0.00799)	(0.00674)
comp_hi	-0.281***	-0.125***
	(0.0468)	(0.0388)
bf_pp_l	-2.042***	-1.553***
	(0.230)	(0.188)
GDP_pcap_log	-0.0870***	-0.0156
	(0.0148)	(0.0188)
pop_log	-0.0664***	-0.100**
	(0.00750)	(0.0508)
distcap_log	0.120***	
	(0.00853)	
extpov2000	-0.452***	
	(0.133)	
extpov2010	0.421**	
	(0.179)	
gini2000	-0.0417	
	(0.130)	
gini2010	-2.024***	
	(0.161)	
hdi2000	2.810***	
	(0.276)	
hdi2010	5.420***	
	(0.406)	
illit2000	0.837***	
	(0.281)	
illit2010	-1.613***	
	(0.345)	
urban2000	-0.414***	
	(0.116)	
urban2010	-0.242**	
	(0.122)	
2007.year	0.467***	0.448***
	(0.0128)	(0.0113)
2009.year	0.974***	0.945***
	(0.0134)	(0.0132)
2011.year	1.357***	1.304***
	(0.0183)	(0.0183)
2013.year	1.586***	1.510***
	(0.0210)	(0.0219)
Constant	1.066***	4.747***
	(0.234)	(0.533)
Municipality FE	NO	YES
Year FE	YES	YES
N	24050	24346
Adj. R²	0.708	0.649

A9 Regression Discontinuity: Effects of Political Party on 5th Grade IDEB

	RD Coefficients	
Variables	2004-2007	2008-2011
Rd_PFL	-0.0696	.
	(0.264)	
N	235	.
rd_PMDB	-0.188	-0.0340
	(0.248)	(0.287)
N	276	283
rd_PP	0.195	-0.530
	(0.288)	(0.535)
N	149	138
rd_PSDB	0.383	-0.0338
	(0.299)	(0.283)
N	206	207
rd_PT	-0.366	0.333
	(0.368)	(0.445)
N	134	137

Standard errors are in parentheses.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$ (two-tailed tests)

A10 Regression Discontinuity: Effects of Reelection on 5th Grade IDEB

	RD Coefficients	
VARIABLES	2004-2007	2008-2011
rd_reel_PFL	0.0591	.
	(0.488)	
N	85	.
rd_reel_PMDB	0.163	-0.373
	(0.470)	(0.457)
N	92	83
rd_reel_PP	-0.769	-0.398
	(0.468)	(0.619)
N	42	45
rd_reel_PSDB	0.193	0.0143
	(0.544)	(0.441)
N	69	78
rd_reel_PT	-0.509	0.00103
	(0.540)	(0.838)
N	30	42
rd_reel	-0.0179	-0.351
	(0.202)	(0.259)
N	370	319

Standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1 (two-tailed tests)

A11 Case Studies' Interviewees

May 22, 2015	Mayor (Foz do Iguaçu, PR)	Reni Clóvis de Souza Pereira
May 25, 2015	School's staff 1	-
May 25, 2015	School's staff 2	-
May 25, 2015	School's staff 3	-
May 25, 2015	School's staff 4	-
May 25, 2015	School's staff 5	-
May 25, 2015	Sec. of Ed. (Foz do Iguaçu, PR)	Lisiane Veeck Sosa
May 25, 2015	Secretariat of Education's staff 1	-
May 25, 2015	Secretariat of Education's staff 2	-
May 25, 2015	Secretariat of Education's staff 3	-
May 25, 2015	Secretariat of Education's staff 4	-
May 25, 2015	Secretariat of Education's staff 5	-
May 26, 2015	School's staff 6	-
May 26, 2015	School's staff 7	-
May 26, 2015	School's staff 8	-
May 27, 2015	Sec. of Ed. (Vera Cruz do Oeste, PR)	Suenia Borges Grazilo
May 27, 2015	Secretariat of Education's staff 6	-
May 27, 2015	Secretariat of Education's staff 7	-
June 03, 2015	Mayor (Vera Cruz do Oeste, PR)	Eldon Anschau
Aug 05, 2015	Secretariat of Education's staff 8	-
Aug 05, 2015	Secretariat of Education's staff 9	-
Aug 05, 2015	Secretariat of Education's staff 10	-
Aug 06, 2015	Mayor (Sobral, CE)	José Clodoveu de A. C. Neto
Aug 06, 2015	School's staff 9	-
Aug 06, 2015	School's staff 10	-
Aug 06, 2015	School's staff 11	-
Aug 06, 2015	Sec. of Ed. (Sobral, CE)	Júlio Alexandre
Aug 17, 2015	Mayor (Andrelândia, MG)	Samuel Isac Fonseca
Aug 17, 2015	Sec. of Ed. (Andrelândia, MG)	Ronildo F. Agapito de Souza
Aug 17, 2015	School's staff 12	-
Aug 17, 2015	School's staff 13	-
Aug 17, 2015	School's staff 14	-
Aug 19, 2015	Mayor (Careaçu, MG)	Djalma Pelegrini
Aug 19, 2015	Sec. of Ed. (Careaçu, MG)	Sandra A. de P. V. Pelegrini
Aug 19, 2015	School's staff 15	-
Aug 19, 2015	School's staff 16	-
Aug 24, 2015	School's staff 17	-
Aug 24, 2015	School's staff 18	-
Aug 24, 2015	Sec. of Ed. (Porangaba, SP)	Mariza de J. Antunes Bastos
Aug 26, 2015	Mayor (Pirenópolis, GO)	Nivaldo Antônio de Melo
Aug 26, 2015	School's staff 19	-
Aug 26, 2015	Sec. of Ed. (Pirenópolis, GO)	Márcia Áurea Oliveira
Sept 22, 2015	Mayor (Porangaba, SP)	João Francisco São Pedro

A12 Case Studies' Interview Questions

12.1 Mayor

1. In your opinion, how are the municipal schools in your municipality performing?
2. Has their performance improved or worsened during your administration?
3. What were some of the reforms you or your party implemented in the past few years to improve education in your municipality?
4. How hard was it to implement those reforms? Why?
5. In your opinion, what needs to be done for your municipality to perform better in education?
6. Have you tried to implement those reforms? Why?
7. If not, do you plan to do so in the future?
8. How hard do you think it will/would be to implement those reforms? Why?
9. Do you think your winning margin helped you introduce these reforms?
10. With a bigger winning margin, would you have tried to make more reforms?
11. In what ways is your party involved in improving the quality of education in your municipality?
12. Would voters have punished you if you did not improve education? Do you think voters know that the IDEB has actually improved/worsened by x% in this municipality? How do they know this? Do you actively share this data, or is performance a technical thing that confuses and puts off voters?
13. In what ways is the state government supporting you in improving the quality of education in your municipality? Can you give me an example?
14. In what ways is the federal government supporting you in improving the quality of education in your municipality? Can you give me an example?
15. Is improving the quality of education in your municipality a personal commitment or your party's commitment?
16. If you want to implement a reform in education you believe will have an important and positive impact, but that reform won't be popular among voters, what do you do?
17. If you want to implement a reform in education you believe will have an important and positive impact, but that reform won't be popular among teachers, what do you do?
18. Are you eligible to run for reelection? Do you plan to do so? Do you plan to run for higher office in the future?
19. How much do you think about the next election when you propose a reform that you know will be unpopular with the voters or the teachers?
20. You have made efforts to improve education in this municipality. Would you expect the mayor that follows you to pay more or less attention to education? Why?
21. In your opinion, what is the biggest challenge to improving education in your municipality? Are the biggest constraints political, technical or financial?

12.2 Municipal Secretary of Education

1. In your opinion, how are the municipal schools in your municipality performing?
2. Has their performance improved or worsened during this administration?
3. What were some of the reforms this administration implemented to improve education in your municipality?
4. How hard was it to implement those reforms? Why?
5. In your opinion, what needs to be done for your municipality to perform better in education?

6. Have you tried to implement those reforms? Why?
7. If not, do you plan to do so in the future?
8. How hard do you think it will/would be to implement those reforms? Why?
9. Would voters have punished this administration if you did not improve education? Do you think voters know that the IDEB has actually improved/worsened by x in this municipality? How do they know this? Do you actively share this data, or is performance a technical thing that confuses and puts off voters?
10. In what ways is the city hall supporting you in your efforts to improve the quality of education in your municipality? Can you give me an example of a time when you asked for the mayor's support? Did you receive it?
11. In what ways is the state government helping your municipality to improve the quality of education? Can you give me an example of a time when you asked for the support of the state administration? Did you receive it?
12. In what ways is the federal government helping your municipality to improve the quality of education? Can you give me an example of support you have received?
13. Do you think principals and teachers have the same goals with respect to education?
14. Do you think the members of your department share the same goal?
15. Do you think the working culture in the secretariat have changed in the last few years? How so?
16. If you want to implement an educational reform that you believe will have an important and positive impact, but that reform won't be popular among voters, what do you do?
17. If you want to implement an educational reform that you believe will have an important and positive impact, but that reform won't be popular among teachers, what do you do?
18. In general, do you believe that politics is good or bad for the educational performance of your municipality?
19. Do you think electoral competition has a positive or negative impact on education?
20. In your opinion, what is the biggest challenge to improving education in your municipality?
21. How do you explain the IDEB trend in your municipality?

12.3   Secretariat of Education Staff

1. In your opinion, how are the municipal schools in your municipality performing?
2. Has their performance improved or worsened during this administration?
3. What were some of the reforms this administration implemented to improve education in your municipality?
4. How hard was it to implement those reforms? Why?
5. In your opinion, what needs to be done for your municipality to perform better in education?
6. Has your team tried to implement those reforms? How?
7. If not, does your team plan to do so in the future?
8. How hard do you think it will/would be to implement those reforms? Why?
9. Do you think the working culture in the secretariat has changed in the past few years? How? Why?
10. In your opinion, what should change in the working culture of the secretariat in order for your municipality to perform better in education?
11. In your opinion, what should change in the working culture of schools in order for your municipality to perform better in education?

12. In general, do you believe that politics is good or bad for the educational performance of your municipality?
13. Do you think electoral competition has a positive or negative impact on education?
14. In your opinion, what is the biggest challenge to improving education in your municipality?
15. How do you explain the IDEB trend in your municipality?

12.4   School Staff

1. In your opinion, how are the municipal schools in your municipality performing?
2. Has their performance improved or worsened during this administration?
3. What about your school?
4. What were some of the reforms your team implemented in the past few years to improve education in your school?
5. How hard was it to implement those reforms? Why?
6. In your opinion, what needs to be done for your municipality to perform better in education?
7. What about your school?
8. How hard do you think it will/would be to implement those reforms? Why?
9. How much do you think about the IDEB score of your school? Why?
10. Do you think the working culture in your school has changed in the last years? How? Why?
11. In your opinion, what should change in the working culture of schools in order for your municipality to perform better in education?
12. In general, do you believe that politics is good or bad for the educational performance of your municipality?
13. Do you think electoral competition has a positive or negative impact on education?
14. In your opinion, what is the biggest challenge to improving education in your municipality?

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