VIOLENCE, VOTE CHOICE, AND THE PROVISION OF PUBLIC SECURITY IN BRAZILIAN STATES

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This dissertation examines the relationship between politics and violence in Brazilian states. I challenge the assumption that ideology alone leads political parties from the left and right to implement different public security policies. Using a mixed method approach, I argue that politicians' responses to violence depend on how security issues affect their electoral success. This process occurs in a four-stage cycle that involves elections, the provision of resources for law enforcement, the distribution of these resources and violence. Chapter 1 uses the lens of retrospective voting to examine how violence influences elections. I show that contrary to Western democracies, where conservative parties gain when security issues arise, security is a double-edged sword for Brazilian political parties. Voters punish/reward right parties more harshly than they punish/reward leftist parties for security failures/successes. In Chapter 2, I then analyze the policies that governors implement to address crime rates. Using state budgetary data, I show that while left and right parties advocate different security policies during the campaign, in office, they both turn to law enforcement to address crime. However, their spending priorities depend on political competition. Right parties spend more on law enforcement when they face leftist competitors that they can paint as being soft on security, while leftist parties spend more on security when they face centrist or other leftist competitors. Chapter 3 turns to the issue of how governors distribute law enforcement resources. I show that governors send more police officers to large municipalities that are important for their electoral

success. Chapter 4 then integrates the findings from previous chapters to examine how resources and ideology influence municipal homicide rates. I show that homicide rates decline in states where the governor is from a right party and when states spend more on education. However, the effects that law enforcement has on crime depends on state wealth and the cities voting behavior. In the concluding chapter, I summarize the main findings and discuss the project's overall importance.

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PREFACE

The dissertation is an arduous journey with many people that help you along the way. Naming everyone would be a project by itself and I am bound to forget someone, who played an important role in this journey. I would like, however, to send a special thanks to the following people.

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1. CHAPTER 1: INTRODUCTION

In the 1980s, democracy began to return to Latin America as military dictatorships fell throughout the region. In the three decades that have followed, the region's formal democratic institutions have remained remarkably strong, and many countries have made considerable progress in reducing poverty and inequality. Despite these political and social advances, the region continues to struggle with epidemic levels of violence, which are now the most important political issue in many countries (Imbusch, Misse and Marrion 2011). Between 2007 and 2015, Latin America had almost 1.1 million homicides, making it the world's most violent region (United Nations Office on Drugs and Crime 2017).

Policy makers and scholars have traditionally viewed violence as a criminal justice problem. However, violence and insecurity have major implications for the region's economic development. An Inter-American Development Bank study estimates that crime and violence annually cost Latin America $145 billion, or more than 14 percent of the region's gross domestic product (Londoño and Guerrero 1998).[1] In Brazil, homicide alone cost the economy an estimated US$7.53 billion and 2.15 million years of life in 2012 (Sachsida and Mendonça 2013). This economic burden falls most strongly on poor neighborhoods that are the epicenters of this violence.

[1] Direct costs include medical attention, years of life lost, and public and private security expenditures. Meanwhile, the indirect costs include deterioration of investment and production and reduction in consumption and work.

In addition to its economic costs, security problems have important implications for democracy in the region. The Latin American public views violence as one of the region's most pressing issues and is more willing to support a military coup under high levels of crime (Pérez 2003). Other research finds that support for and satisfaction with democracy decline as crime rates rise (Fernandez and Kuenzi 2010; Bateson 2012; Carreras 2013). In high crime environments, the public is also more willing to support non-democratic measures, including extrajudicial killings, to stamp out crime.

Brazil has not been immune to this trend. Figure 1.1 shows Brazil's annual homicide rate between 1991 and 2015. Although there was a slight decline in violence between 2003 and 2007, overall violence increased more than 35 percent. With a population of around 200 million people, the raw number of lives lost is overwhelming. Official government data document 1,147,602 homicides during this period.

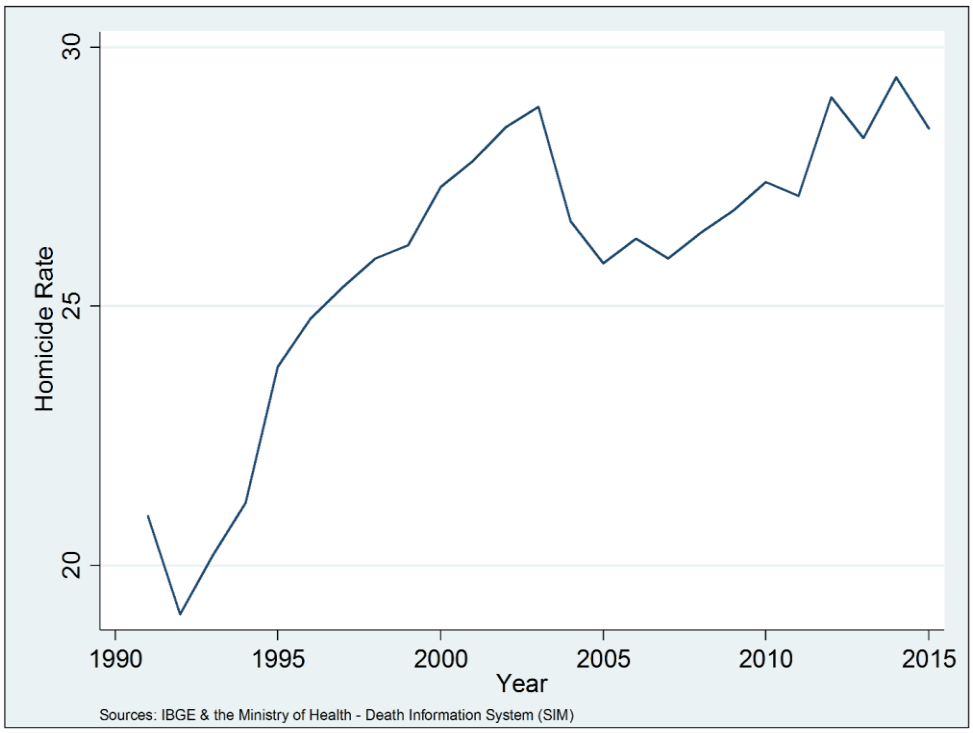

Figure 1.1: Brazil's Homicide Rate per 100,000 Residents, 1991-2015

While a burgeoning literature has emerged on the relationship between national politics, government policies and violence, scholars have largely ignored the role of subnational political actors. However, a closer examination of the data reveals that while Brazil has seen an overall rise in violence in recent years, levels of violence vary widely across states. Table 1.1 shows average homicide rates per 100 thousand residents in Brazil's 26 states and the federal district during two periods: 1991-2002 and 2003-2015. During this time, homicide rates declined more than 25 percent in the states of Roraima and Rio de Janeiro and 50 percent in São Paulo. However, they increased more than 200 percent in nine states, including Maranhão where it went up by 305 percent. These differences suggest that subnational factors are playing an important role in violence across Brazil. What are these factors and why do they vary over time and across states?

Table 1.1: State Homicide Rates per 100 Thousand Residents, 1991-2015

Region	State	Homicide Rate		Homicide Rate Change (%)
		1991-2002	2003-2015	
North				
	Acre	21.5	23.4	8.8
	Amapá	33.7	33.4	-1.0
	Amazonas	18.4	27.2	48.0
	Pará	13.9	36.0	259.0
	Rondônia	34.7	33.6	-3.0
	Roraima	39.4	29.0	-26.3
	Tocantins	11.5	21.5	86.8
Northeast				
	Alagoas	25.7	55.9	217.5
	Bahia	11.1	31.2	281.1
	Ceará	13.4	31.9	238.1
	Maranhão	7.4	22.6	305.4
	Paraíba	13.8	31.0	224.6
	Pernambuco	46.7	45.1	-3.5
	Piauí	5.6	14.5	258.9
	Rio Grande do Norte	9.3	26.9	289.2
	Sergipe	20.6	34.6	65.0
Center-West				
	Distrito Federal	32.3	30.8	-4.6
	Goiás	19.3	34.3	77.7
	Mato Grosso	28.6	33.7	17.8
	Mato Grosso do Sul	30.0	28.1	-6.3
Southeast				
	Espírito Santo	45.0	48.5	7.8
	Minas Gerais	9.3	21.3	229
	Rio de Janeiro	51.0	36.8	-27.8
	São Paulo	35.8	17.8	-50.3
South				
	Paraná	16.9	29.7	75.7
	Rio Grande do Sul	16.1	20.6	28.0
	Santa Catarina	8.2	12.2	48.8

1.1 CONCEPTUAL FRAMEWORK

In this dissertation, I examine the relationship between local politics, state policies and violence in Brazilian states. There is a variety of theoretical lenses that I could use to analyze this relationship. One of the most common would be a traditional institutionalist approach that looks at variation in formal rules across states. However, this approach would shed minimal light on patterns of subnational violence in Brazil. Law enforcement is a state issue, with each state having a military and civil police force controlled by the governor. The military police conduct street patrols to prevent and repress criminal activity, while the civil police investigate crimes after they occur and arrest individuals based on gathered evidence. There are no municipal law enforcement agencies, and federal law enforcement agencies can only engage in defined tasks that include patrolling national highways, investigating interstate crimes and policing the country's borders. Meanwhile, governors have minimal power over criminal law. Only the national Congress can make or modify criminal laws, which then apply uniformly to all states.

Political rules also do not help explain differences in violence across states since the federal government makes and enforces rules for state elections. Gubernatorial elections occur throughout the country on the same day every four years and require the winning candidate to obtain a majority of votes. If no candidates obtains a majority of votes, there is a runoff election between the top two candidates. Prior to 1998, governors could only serve one term in office. However, political reforms passed in 1997 now allow governors to serve two consecutive terms.

This dissertation uses the lens of rational-choice theory to address the link among local politics, state policies and everyday crime in Brazil. Rational choice theory assumes that given a list of choices, people will be able to order their preferences from most to least preferred. Based on this ordering, they will choose the option that they *believe* is the most beneficial. My core

argument is simple. Politicians respond to security problems and implement security policies based on how security problems affect their electoral success. These responses, in turn, alter people's incentives to engage in crime and explain changes in violence over time.

The argument that electoral politics will influence state security policies has begun to emerge in a small but burgeoning literature. This research suggests that the government may not implement policies that can help reduce violence in situations where violence can be politically beneficial. Acemoglu, Robinson and Santos (2013) argue that the Colombian government selectively target paramilitary groups and does not eliminate these groups in areas where they help coerce voters into supporting the president and his political allies. Hoelscher (2015) and Trejo and Ley (2016), meanwhile, show that state and national governments in Brazil and Mexico do not coordinate security policy with local governments when there is an opposition party is in power in an effort to increase violence that will discredit these competitors.

Any theory should make explicit its foundational assumptions to allow the reader to evaluate its plausibility. The extant research on crime and politics rests upon two assumptions that are difficult to defend. First, it assumes that the government has the power to incite or limit violence when it is beneficial to do so. There are many situations, however, where the government would benefit electorally from reducing violence but has been unable to do so. When elections are forthcoming, incumbents would benefit from declining crime rates, yet crime rates often remain stable in election years.

Second, most studies focus on cases where the government is confronting well-organized criminal organizations or terrorist groups. There are some large, well-organized criminal groups in Brazil, such as the First Command of the Capital (PCC) in São Paulo and Red Command (CV) in Rio de Janeiro. However, both in Brazil and throughout Latin America, crime often involves

many decentralized local actors that operate only in a small area of a city. In these situations, the literature is silent about the policies that governments will implement to address crime and violence. The lack of research on government responses to everyday crime limits the literature's generalizability across different security contexts. It also leaves a gap in our knowledge of which polices are most effective at reducing crime and violence.

1.1.1 Project Assumptions

I make four assumptions in this project. First, I assume that crime-fighting tools, which are a central focus in this project, can be effective. This assumption is the foundation for the rational-choice approach to crime control and rests on the belief that individuals who may engage in crime respond to incentives (Becker 1968). This rationality enables governors to reduce violence through concerted efforts to tackle the problem rather than relying on luck during their time in office. These efforts take many shapes and include allocating more resources for violence prevention through education and law enforcement, prioritizing security and creating comprehensive public security plans.

Second, I assume that political parties from the left, center and right *project* different images regarding public security. As in most countries, right parties in Brazil emphasize law and order through policing and crime repression policies, while left parties highlight how social ills affect crime and violence (Soares 2005; Cano 2006; Sapori 2007). Meanwhile, the policies that centrist parties advocate are less clear. Scholars typically avoid discussing centrist parties, choosing instead to group them with right parties and assuming that there is only a left-right division. I explicitly address this simplification in the project, showing how it leads to erroneous conclusions about the role of ideology in determining public security policies. Although parties project different images, I do not assume that ideology causes governors to behave differently in

practice or that right governors are more effective at reducing crime. These are arguments that I test in this project, and the evidence, in fact, challenges many of these assumptions.

In assuming that parties from the left, center and right advocate different public security policies, it is necessary to address the issue of party switching, since much has been made of the issue in Brazil (Mainwaring 1999; Power 2000; Ames 2002). If candidates are consistently changing to parties from different parts of the ideological spectrum in an effort to "find the best deal," we should question whether ideology has any influence on how voters view candidates when it comes to public security. It is not possible to examine every gubernatorial candidates' political career to see whether they joined a new party just prior to the election. However, among politicians who run for governor more than once, there is remarkable stability in their ideological leanings. Between 1990 and 2010, 803 candidates ran for office with 140 participating in more than one election. Out of these 140 candidates, 122 remained in the same ideological group across elections. In addition, six out of the 18 candidates who switched to a different ideological group, waited at least 8 years before competing in a second election.

Third, I assume that Brazilian politicians and political parties seek to retain/obtain control of state governorships. This assumption is uncontroversial in the literature. Governorships are a desirable political office with governors wielding widespread power in national and state politics (Ames 2002; Samuels 2003). Governors control state budgets and have vast power over the judiciary and the public security apparatus. They also provide electoral coattails for federal deputies, which allow them to influence their voting behavior in the national Congress (Abrucio 1998; Samuels 2000).

Fourth, since governorships are desirable positions, I expect that governors' responses to violence will vary depending on how violence affects their electoral interests. While violence is

an important public policy issue, governors have different levels of resources, face differing limits on their informal power and must take into account which policies will be most beneficial for advancing their political careers (Ames 1990). Therefore, they must make decisions about how to best allocate their resources and time among the myriad of policy issues that they oversee. These final two assumptions implicitly rest on the premise that institutions matter and alter the behavior of political actors.

In using a rational-choice approach, I do not assume that governors are unconcerned about what happens to the people they govern. Politicians may be greatly concerned about violence. However, their ability to implement policies to address violence and other policy issues requires them to obtain/retain political office. Therefore, they may choose to allocate their resources and to focus their attention on other policy issues. I also do not assume that they will always choose the most effective policies. Governors may implement public security policies that are ineffective in reducing crime rates. I expect, however, that they will implement those policies that they believe will be most effective *conditional* on how they affect their electoral interests.

1.1.2 Brazil's Party System

Any project that makes assumptions about political parties in Brazil must provide careful justification given the high level of fragmentation in Brazil's party system. In 2015, the government officially recognized 35 political parties, with many other parties attempting to gain recognition and the television time and government funding that follow (TSE 2015). Since the country's return to democracy in the 1980s, this fragmentation has been the source of much criticism and debate. Lamounier and Meneguello (1986) argued that as the country began to return to democracy in the 1980s, clientelism, centralization of state power and permissive

electoral rules were to blame for its fragmented political system. Mainwaring (1988) echoed this characterization, describing the country's political parties as being underdeveloped and having a "gelatinous character," leading political competition to depend on familial and personal rivalries. In this system, clientelism rather than programmatic policies drove electoral outcomes. Implicitly, these scholars assumed that ideology did not matter in Brazil.

Understanding these early critiques that ideology does not matter in Brazil, requires a basic understanding of the political context in which they emerged. In October 1965, the country's military regime passed Act N° 2, which abolished all political parties. Just two months later, on November 20, it passed Complementary Act N° 4, establishing a two-party system. Politicians could join either the government-aligned party, the National Renewal Alliance (ARENA), or the opposition Brazilian Democratic Movement (MDB). ARENA consisted overwhelmingly of politicians from defunct conservative parties while politicians opposed to the military government joined the MDB (Powers 2000, 54-56). Despite the MDB's limitations as an opposition party with minimal access to state resources, it began winning a significant share of seats in Congress and many municipal and state elections. By 1978, it controlled almost 40 percent of seats in the Senate, the Chamber of Deputies and state assemblies (Powers 2000, 62). The MDB's growing power concerned the military government. Seeking to fracture the opposition, it returned the country to a multi-party system in 1979.

During this return to a multi-party system, there was an unsurprising growth in the number of parties due to three concurrent factors. First, during the military regime, legal opposition to the military government meant joining the MDB. This limitation, together with the decentralized construction of the party across states, led the MDB to serve as a catch-all party, making it difficult for the party to develop strong ideological leanings (Kinzo 1988; Maciel 2014). With the return of a multi-party system, politicians who joined the MDB out of political necessity could now form parties that better reflected their ideological positions.[2]

Second, with ARENA/PDS increasingly losing support in legislative elections, many of its members began reading the writing on the wall that the military regime was nearing an end.[3] Concerned about how association with the dictatorship would influence their future electoral success, they began joining the PMDB. In addition, the PDS contained rival conservative factions that bitterly competed among themselves during elections under the military regime. With the lifting of restrictions on party formation, these factions split and created rival conservative parties, including the powerful Liberal Front Party (PFL) led by José Sarney, who became Brazil's president in 1985 (Powers 2000, 66-70; Ferreira 2002).

[2] The military government forced the MDB to change its name to the PMDB (Brazilian Democratic Movement Party) in December 1979 in an effort to paint it as just another political party, rather than a movement seeking the return of democratic governance.
[3] ARENA changed its name to the Democratic Social Party (PDS) on January 31, 1980.

Finally, the government began relaxing restrictions placed on the political left. Beginning in 1979, the government allowed leftist politicians, who played a strong role in the country's politics prior to the military coup, to return from political exile. Two of these politicians, Leonel Brizola and Miguel Arraes, created the Democratic Labor Party (PDT) and the Brazilian Socialist Party (PSB), which are currently two of the country's strongest leftist parties. These politicians could now serve as the standard-bearers for political views that the military government had outlawed for more than 13 years. In 1985, Congress farther reduced restrictions on leftist parties, ending the ban on Marxist parties.

Given these three factors, it is unsurprising that scholars in the early post-democratization period viewed parties as fragmented and lacking coherent ideological positions. New parties were emerging and politicians were frequently changing parties as they sought to understand the unstable rules of the game. In hindsight, however, scholars began to reevaluate their initial assessment of the country's parties. Mainwaring, Meneguello and Power (2000) showed that while there was high party fragmentation, politicians from right parties had clear ideological differences from their counterparts in center and left parties going back to the 1980s.

During the National Constitutional Assembly, held in 1987 and 1988 to write a new federal constitution, constituents from conservative parties differed from their counterparts in center and left parties on issues related to democracy and the military regime. While 71 percent of members from non-conservative parties wanted to revoke all secret decrees issued during the military regime, only 16.1 percent of constituents from conservative parties support this amendment. In the 1990s, the issues changed but the differences between the parties remained. Politicians from conservative parties more strongly supported pro-market neoliberal economic policies that included lowering taxes and opening markets, while opposing the nationalization of

natural resources, the strengthening of workers' rights and more spending on social programs. Outside the economic realm, they supported stronger crime control policies while opposing the legalization of abortion and rights for homosexuals. Mainwaring, Meneguello and Power sum up this evidence as follows:

> The image, prevalent before, of non-programmatic parties with only small differences between them, *is wrong*. The right parties are not highly ideological in the sense of aligning themselves vigorously and defending a coherent group of policies, but the programmatic distances are large in the elite environment (2000, 42).[4]

1.1.2.1 Leftist Parties in Brazil

While right parties have been at the center of debate over whether ideological differences exist in Brazil, there is less controversy surrounding left parties. Left parties display strong party discipline with federal deputies voting with the party more than 90 percent of the time. Deputies from these parties also acknowledge that parties play a central role in their campaigns and affiliation with the party is crucial to their electoral success (Mainwaring 1999, 136-174). Among the left, there are three main parties: the Workers' Party (PT), the Brazilian Socialist Party (PSB) and the Democratic Labor Party (PDT).

Much of the recent literature on leftist political parties in Brazil [e.g. Keck 1992; Branford 2003; Hunter 2010; Gómez Bruera 2013] has focused on the Workers' Party. The emphasis on the PT is largely due to their success in national elections that include conquering the presidency four times since the country's return to democracy. There may exist, therefore, a tendency to classify the country's political competition as PT versus anti-PT. Simply assuming that this scheme travels to state politics, however, is problematic.

[4] Author's translation from Portuguese text.

While the PT is the dominant leftist party at the national level, its power in the states is much more subdued. Between 1990 and 2010, leftist parties collectively won 47 gubernatorial elections. Breaking down these wins by parties shows that the PT is not the hegemonic force among the left. The PT won just 18 elections, whereas the Brazilian Socialist Party (PSB) and the Democratic Labor Party (PDT) won 17 and 9 governorships, respectively. Two minor leftist parties, the Popular Socialist Party (PPS) and the National Mobilization Party (PMN) won the other three elections. Given this division of power among several left parties, viewing competition as occurring among left, center and right parties, rather than PT versus anti-PT, is a much more effective way of analyzing the relationship between politics and public security.

1.1.2.2 Centrist Parties

While there are clear ideological distinctions between left and right parties in Brazil, the area in between is more nebulous. In Brazilian gubernatorial elections, the center primarily refers to two parties: the Brazilian Democratic Movement Party (PMDB) and the Brazilian Social Democratic Party (PSDB). Together, they have won 74 out of the 75 gubernatorial elections won by centrist parties in Brazil. In the classic Downsian model, political competition occurs along a left-right dimension (Downs 1957). This unidimensional model assumes that in a multi-party system, there will be centrist parties that advocate positions on issues, such as public security, which are in between the positions that left and right parties hold.

Scholars consider the PSDB, formed by PMDB dissidents in 1988, to be a centrist party in the traditional sense of the word, although its ideological positions have moved from center-left in the early 1990s to center-right in the 2000s (Mainwaring 1999; Powers 2000). There are also, however, parties that do not fall clearly along the ideological spectrum. At times,

politicians from these parties may agree with position held by left or right parties, but these differences are inconsistent across states and over time. Voters support politicians from these catch-all parties due to the economic benefits they provide rather than the programs they advocate. The PMDB is the quintessential example of this type of party. At the federal level, it was part of 15 out of 19 governing coalitions between October 1988 and December 2010, supporting presidents from left, right and centrist parties (Maciel 2014, 30-31). In this project, I will refer to both types of parties as centrist, although I recognize that their behavior is likely to differ from traditional centrist parties. Put another way, in line with accepted practices, I identify "centrist parties" as any party that is not from the right or the left.

1.1.3 The Argument

Given the use of rational choice as the theoretical lens and the assumptions outlined above, I argue that the relationship between local politics and violence occurs in the four-stage cycle shown in Figure 1.2. In the Election Stage, states hold gubernatorial elections. During this stage, the voters are in charge and they must make two choices. First, they must evaluate the incumbent party's security performance and decide whether to punish/reward it at the ballot box for rising/declining levels of crime and violence. Voters are more likely to hold the incumbent party responsible for policy performance when there is strong clarity of responsibility (Powell and Whitten 1993; Duch and Stevenson 2008). In Brazil, where security rests squarely in the governor's hands, voters have a clear view of who is responsible for public safety, making it more likely that they will hold the incumbent responsible for public security failures and successes. When crime declines and voters choose to support the incumbent party, the first stage ends. However, in situations where crime and violence have worsened and they decide to vote against the incumbent party, they must decide which of the opposition parties to support.

In two-party systems, where most of the research on crime and violence originates, the choice is simple. Voters punish the incumbent by supporting the opposition candidate or abstaining from voting. However, the situation is more complex in multiparty systems, in which Brazil is an extreme case. In gubernatorial elections, on average, voters have a choice of six candidates. The presence of multiple candidates forces voters to decide which opposition candidate they believe provides the best possible solution to the security problem.

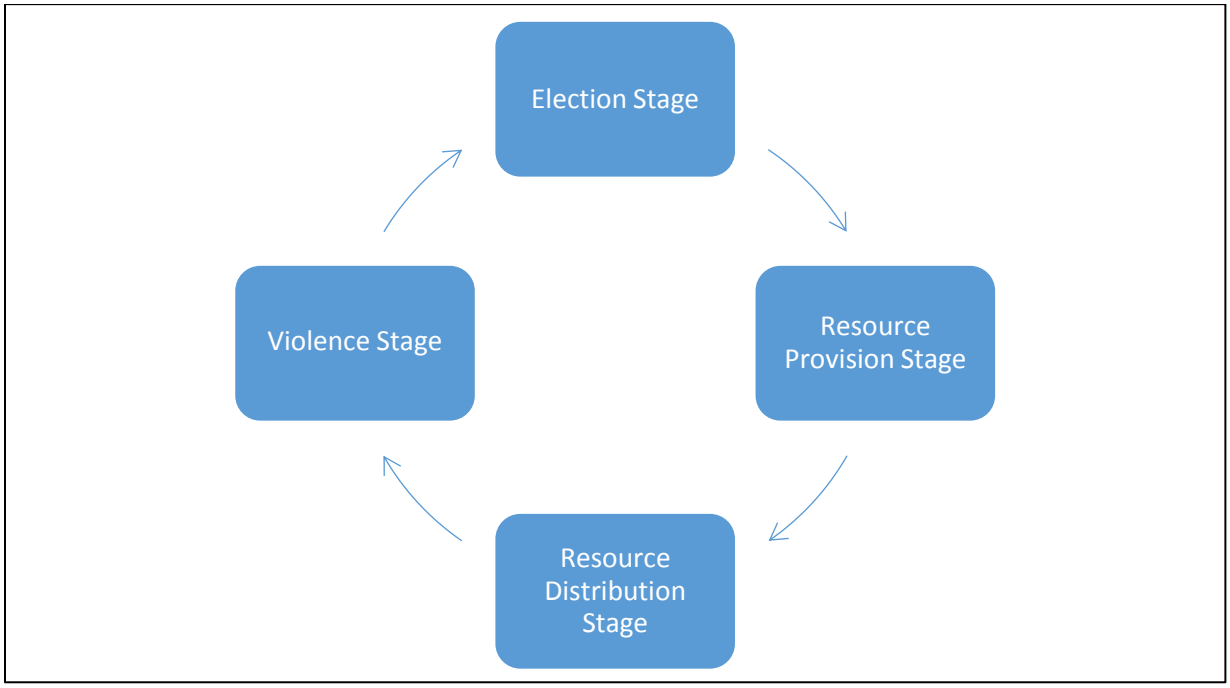

Figure 1.2: The Four-Stage Politics and Violence Cycle

In the Resource Provision Stage, which follows the election, governors must decide what type of policies they should implement to address crime. Their first option is to focus on poverty, inequality and other underlying social structures that lead to higher crime rates. By modifying individuals' personal situations, the government can reduce their incentive to engage

in crime. These policies, while effective in the long term, may be slow at reducing crime. This is problematic for governors who receive pressure to implement policies that will lead to rapid improvements in security. Most often, voters (and politicians) believe that the punitive approach to security is the most effective option to achieve this goal. This leaves governors with the second option, i.e., crime repression. Governors can make it more costly to commit crimes through increased spending on law enforcement and other policies that lead to greater punishment for committing crimes.

After they decide how much of the state's resources they will allocate to both crime prevention and crime repression, the cycle enters the Resource Distribution Stage. In this stage, governors must decide how to distribute law enforcement resources throughout the state when there are not enough resources to go around. A policy-maximizing approach suggests that the governor should allocate resources using technical criteria that reduce crime to its lowest possible level. However, career-interested governors must also take into account how the distribution of these resources will affect their future electoral success.

Finally, in the Violence Stage, governors experience the outcomes that their approaches to public security produce and the cycle continues. This stage shows how providing more resources for crime prevention and crime repression, along with the strategies that governments use to distribute these resources, affect violence. It also answers a central question that underlies the study of politics and crime. Does it matter whether a left, center or right party controls the government or does the ability for any politician to reduce crime and violence rest solely on how they allocate resources to crime repression and crime prevention policies?

1.2 RESEARCH QUESTIONS AND HYPOTHESES

In this project, I examine the four-stage relationship between violence and politics in Brazilian states. Each chapter helps evaluate the central argument that I make in this project. *Governors' responses to security problems depend on how these problems affect their electoral success and these responses, in turn, explain changes in violence*. The questions and the hypotheses tested in these chapters are as follows.

Chapter 2: How does violence affect support for political parties across the ideological spectrum?

H_1: An increase in violence under a left governor will increase support for right parties but will have no effect on support for centrist parties.

H_1: An increase in violence under a center governor will increase support for right parties but will have no effect on support for centrist parties.

H_3: An increase in violence will increase support for candidates from both ideological groups that are not in power.

H_4: An increase in violence when there is a left (right) incumbent party will increase support most strongly for right (left) non-incumbent parties rather than centrist parties.

H_5: Incumbent right parties will lose more electoral support from rising crime rates than incumbent center and left parties.

Chapter 3: How do electoral interests influence the resources that governors devote to different security policies?

H_1: Governors from right parties will spend more on security than governors from left parties only when their primary political opponent is from a left party.

H_2: Governors from left parties will spend more on education than governors from right parties only when their primary political opponent is from a right party

H_3: Governors from centrist parties will spend more on security than governors from left parties only when their primary political opponent is from a left party.

H_4: Governors from centrist parties will spend more on education than governors from right parties only when their primary political opponent is from a right party.

H_5: Governors who run for reelection will spend more on security than governors who do not run for any political office.

Chapter 4: How do electoral interests influence the distribution of law enforcement resources within states?

H_1: The larger the percentage of a governor's total votes that comes from the municipality, the more police officers the municipality will receive.

H_2: The higher the percentage of a governor's total votes that comes from the municipality, the more police officers that *surrounding municipalities* will receive.

H_3: The greater support a municipality gives to state deputies allied with the governor, the more police officers it will receive.

H_4: Municipalities with allied mayors will receive more police officers than municipalities with mayors from opposition parties.

Chapter 5: How do ideology, resources for law enforcement and education, and the distribution of law enforcement resources affect municipal violence?

H_1: More state spending on law enforcement will lead to lower homicide rates.

H_2: More state spending on law enforcement will reduce crime rates most strongly in large municipalities that give the governor a large number of votes (regardless of the total amount of resources spent on security).

H_{2a}: In states with low levels of spending on law enforcement, support for the governor will have no effect on homicide rates.

H_3: Crime rates will be lower when the governor and the mayor are from the same party.

H_4: Municipalities in states with governors from right parties will have lower homicide rates than municipalities in states with governors from left parties.

1.3 METHODOLOGY

To test these arguments, I utilize a mixed methodological approach that combines municipal and state security and violence data from 1991 to 2014 with case studies and interviews. I conducted interviews between July 2015 and June 2016 in the six states highlighted in Figure 1.3: Rio de Janeiro, Paraná, Pernambuco, Sergipe, Rio Grande do Norte and Bahia. I selected states based on violence and political party competition. More specifically, I included states where violence was increasing, as well as states where it was decreasing. I also chose states that had governors from left, centrist, and right parties since partisan politics models, along with popular opinion, assumes that ideology leads politicians to implement different public security policies.

My original plan was to focus the political interviews on governors since they are the central focus of my project. In all six states, I visited governors' offices and made formal interview requests to their staff. However, no governors agreed to participate in an interview. As a result, I decided to focus my efforts on state deputies. State assemblies are a training ground for many state governors, and deputies are able to provide insights into the important debates regarding public security, particularly the role that ideology places in determining support for specific public security policies. They also play an integral role in the state's budget negotiations. Both these issues take center stage in the project.

In each state, I visited the state assembly, where all deputies have office space and extensive staff. Rather than targeting only deputies who focus on public security, I took a broad approach to obtaining interviews and visited the office of every deputy. If deputies were unable to conduct an interview on a specific day, I made return trips to the office unless their staff indicated that the deputy would not participate in the interview. Obtaining some interviews required as many as five office visits, but the strategy was successful. As Table 1.2 shows, I had

an overall success rate of 42 percent, interviewing 119 out of the 285 deputies. This is the largest set of interviews or survey data that researchers have ever obtained from state deputies in Brazil.

Figure 1.3: Fieldwork States

Table 1.2: State Interview Statistics, 2015-2016 Fieldwork

State	Total State Deputies	Deputies Interviewed	Deputy Interview Success Rate (%)	Other Interviews
Bahia	63	24	38.1	3
Paraná	55	31	56.4	2
Pernambuco	49	25	51.0	5
Rio de Janeiro	70	25	35.7	6
Rio Grande do Norte	24	9	37.5	2
Sergipe	24	5	20.8	0
Total	285	119	41.8	18

During these interviews, I used a semi-structured interview script that asked a variety of questions about public security in the state. Since I did not obtain data about individuals or identifiable private information, the University of Pittsburgh Institutional Review Board determined that the project did not involve human subjects and gave permission to begin interviews on December 4, 2014. The full semi-structured interview script is available in Appendix A.

Before each interview, I informed the deputies that these interviews were anonymous and that I would not use their name in the project. To further guarantee anonymity, I took handwritten notes and did not use an audio recorder. At the end of each day, I typed the notes from each interview into a separate document that included their responses as well as my observations about the interview environment and their behavior during the interview.

To obtain interviews with public security officials, I used a three-pronged strategy. First, in each state I visited the state agency in charge of all law enforcement agencies as well as the military police headquarters and requested interviews with the Secretary of Public Security and

the head of the military police. This approach proved successful in only one state. Second, each state's Legislative Assembly has military police officials who provide security for the legislature and serve as policy advisors. In three states, I was able to interview these officials or use their connections to obtain interviews with key public security actors. Finally, when interviewing state deputies I also asked them for recommendations of public security officials whom I should interview. In one state, a deputy who works primarily on public security issues arranged an interview with the state's Secretary of Public Security and a senior aide to the head of the military police. In another state, the former head of the military police worked for a deputy, and he gave me an interview and arranged other interviews with military police officials. Using this strategy, I obtained 18 interviews with high-ranking individuals who work with public security.

The mixed methodological approach has important theoretical and methodological advantages. From a theoretical standpoint, the study of violence and politics has often focused on a single case study or a short period, typically when there is a sudden surge or decline in violence. Although these events are interesting, they are anomalies rather than the norm of everyday politics. Utilizing quantitative data across a 25-year period allows me to analyze how violence affects politics when it is high and increasing, as well as low and decreasing. From a methodological standpoint, panel data extending across multiple years allows me to utilize techniques to correct for variety of issues that include lagged effects, time effects and unobservable state and municipal differences that can bias the statistical findings. Together, my approach's theoretical and methodological benefits allow me to generalize findings across different social and economic contexts beyond Brazil and to make stronger causal arguments about the relationship between politics and violence.

The qualitative research also plays an important role. Altogether, I conducted 137 interviews with state deputies from 25 parties, members of the public security apparatus and non-governmental organizations. These interviews helps me highlight when the on-the-ground reality matches the results found using the large-N analysis and when it differs. They also provide crucial information for the project's four short case studies.

1.4 PROJECT ORGANIZATION

This project proceeds as follows. Chapter 2 begins with an analysis of how violence affects support for gubernatorial candidates across the ideological spectrum. I argue that while right parties traditionally have a strong reputation for being more competent on security issues, this reputation is a double-edged sword. When they are unable to reduce violence, opposition parties are able to challenge this ownership and win electoral support by offering alternative crime prevention policies (Petrocik 1996; Petrocik, Benoit and Hansen 2003; Holian 2004).

Using municipal crime and voting data from 135 gubernatorial elections in Brazil, I show that violence has uneven effects for political parties across the ideological spectrum. More specifically, voters only punish incumbent parties for a rise in violence when the governor is from a right party. I argue that this is due to their emphasis on law enforcement that stresses short-term results. I also show that the electoral punishment that right parties receive benefits both non-incumbent centrist and left parties that see their electoral support increase.

Chapter 3 then focuses on how ideology and electoral interests influence the resources that governors allocate to address public security problems. Partisan budget models suggest that politicians from right parties focus on crime prevention through law enforcement and more

stringent punishment for offenders, while politicians from left parties focus on crime prevention through education and social programs. Using state budget data from 1991 to 2014, I show that across the ideological spectrum, there are no differences in the resources that governors allocate to education. There are, however, differences in the resources they allocate to law enforcement, depending on political competition.

When governors from leftist parties, who are often viewed as soft on crime and violence, face competition from centrist and other left parties, they spend more on law enforcement to distinguish themselves as the best candidate to deal with security problems. However, they do not utilize this strategy when facing right parties, which have the reputation for being the most adept at addressing violence. In contrast, governors from right parties only spend more on law enforcement when they face strong leftist opponents, who they can paint as being weak on the issue. When they face centrist or other right parties, they allocate resources to other policy areas.

In Chapter 4, I then focus on the distribution of law enforcement personnel. While governors from both left and right parties spend more on law enforcement to gain electoral support, the strategies that they use to distribute these resources is largely unknown. Using data on the distribution of military police officers in the state of Minas Gerais between 2007 and 2015, I argue that governors distribute law enforcement resources based on electoral interests, rather than technical factors designed to minimize crime rates. I find that the primary factor influencing changes in the number of police officers that a municipality receives is the share of the governor's votes statewide that come from the municipality. The larger the share, the more police officers that the municipality receives. In addition, using spatial modeling techniques, I show that when governors distribute police for political purposes, neighboring cities lose police officers.

The final chapter examines how governors' public security policy choices influence homicide rates. I argue that governors have four mechanisms that can they can use to tackle rising crime rates: providing more resources for law enforcement, distributing more resources to specific geographical areas, coordinating public security policies with local political actors and emphasizing different public security policies. Using municipal homicide data from 1997 to 2014, I test each of these mechanisms and find mixed evidence that governors use them and that they are effective in reducing violence.

I show that in isolation, more spending on law enforcement does not reduce municipal homicide rates; what matters is the state's wealth and how cities vote in gubernatorial elections. For support for the governor to influence homicide rates, the state must spend at least R$100 (about $33) per capita on law enforcement. I argue that this decline occurs because the governor is giving these cities more law enforcement resources to bolster electoral support. However, for government policy to matter, states need to spend a minimum amount on security. In poor states, governors simply do not have enough security resources that they can use to reward those areas that give them more electoral support.

There is more mixed evidence that governors use the other mechanisms to reduce crime. Cities with mayors from the same party as the governor do not have lower homicide rates, suggesting that the governor makes security policies and distribute resources based on their own electoral interests, rather than the interests of the local political allies. Meanwhile, homicide rates decline 10 percent when a right governor is power. However, these results are sensitive to model specifications.

2. CHAPTER 2: VIOLENCE AND VOTING IN GUBERNATORIAL ELECTIONS

What impact do crime and violence have on support for political parties across the ideological spectrum? In recent years, Brazil has experienced rising levels of insecurity. Between 1989 and 2015, the country lost more than 1.2 million people to criminal violence. As Figure 2.1 shows, the overall number of homicides has exhibited an upward trend, more than doubling from 28,706 in 1989 to 58,138 in 2014. Taking into account population size, the national homicide rate per 100,000 residents increased more than 45 percent from 19.5 victims in 1989 to 28.4 victims in 2015.

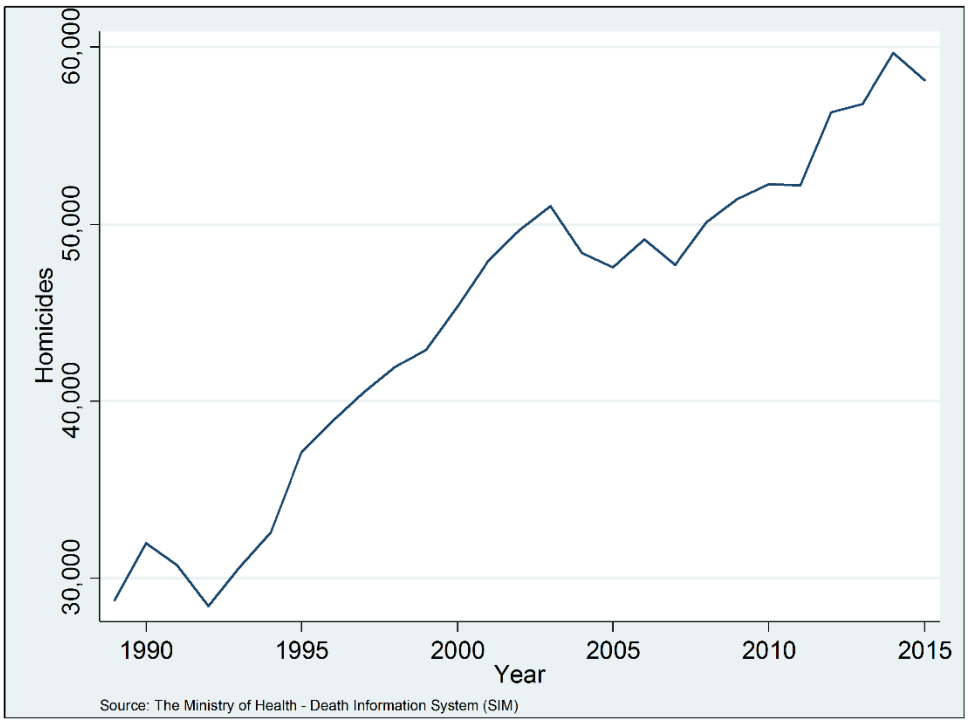

Figure 2.1: Homicides in Brazil, 1989-2015

Most research suggests that rising levels of crime and violence benefit right and center-right political parties that take a tough on crime approach to security (Garland 2000; Chevigny 2005; Dammert 2012; Holland 2013). This chapter challenges these findings using a rational-choice approach to crime control. I argue that while voters support tough on crime measures, they are more willing to abandon them when they do not work. This, in turn, makes it possible for non-incumbent political parties to win electoral support while advocating diverse approaches to crime control.

Using municipal data from 135 gubernatorial elections between 1994 and 2010, I show that opposition political parties across the ideological spectrum gain support when violence rises. However, their electoral gains depend on the incumbent party's ideology. Non-incumbent left parties see the largest electoral gains from increasing violence when a right party is in power and

vice-versa. I also show voters punish political parties unequally for rising crime rates. More specifically, incumbent right parties lose electoral support at a higher rates than their counterparties in leftist parties do. Meanwhile, centrist opposition parties lose support when crime rates rise under a left incumbent party but see an increase in support when it rises under a right incumbent party. I attribute these differing effects to voters rejecting public security policies that fail to reduce violence.

2.1 CRIME AND PUBLIC SECURITY POLICIES

Crime and violence are key concerns for Brazilian voters. Between 2006 and 2016, the Latin American Public Opinion Project (LAPOP) asked people to identify the most important problem facing the country. As Table 2.1 shows, in all years until 2016, when the country's economic crisis peaked, more than 20 percent of survey respondents identified security as the country's most pressing problem.[5] In addition, between 2006 and 2014, voters considered security to be a more important issue than economic problems, corruption or healthcare. Concern over public security is similar for respondents across the socioeconomic spectrum.

[5] Security contains the following categories: violence, drug trafficking, delinquency and lack of security
Economy contains the following categories: economic crisis, unemployment and inequality.

Table 2.1: Brazil's Most Important Issue, (%)

	2006	2008	2010	2012	2014	2016
Security	31	28	27	22	31	9
Economy	24	18	20	18	10	38
Corruption	14	11	9	11	12	19
Healthcare	9	18	14	21	26	9

Source: LAPOP, 2006-2016 biannual survey

For governors, public security is an important electoral issue. Brazil is a federal country and its 1988 Constitution gives states and the federal governments control over public security. In each state, there are two police forces: the civil police and the military police. The civil police investigate crimes after they occur and conduct long-term criminal investigations. Meanwhile, the military police patrol cities in an effort to prevent and repress criminal activity. While the Constitution gives the federal government the power to organize and maintain both police forces, it places them under the governor's control.[6] Apart from these two groups, there are no local law enforcement agencies in Brazilian states.[7] This institutional arrangement creates high clarity of responsibility, which makes voters more likely to hold governors accountable for their success or failures in addressing security problems (Powell and Whitten 1993; Duch and Stevenson 2008). It also makes gubernatorial elections an ideal place to examine how violence influences support for political parties from different ideological groups.

[6] The military police in Brazil are similar to the National Guard in the United States. They are reserve members of the military that the government can call to duty in times of emergency. In addition, they use military rankings and have an organizational structure that is similar to the armed forces.

[7] Some large wealthier cities have public security agents called *municipal guards* that protect city and state property. Recently, the government passed law 13,022/2014 giving them law enforcement powers. However, this law is currently under review at the Supreme Court since the Federal Constitution explicitly states that only civil and military police are law enforcement officials at the state level.

2.1.1 Approaches to Crime Control

While there are disagreements about outcomes in many policy areas, public security is not one of them. Security is a consensus issue, an issue where everyone agrees on the desirability of a particular outcome (Stokes 1963). While political parties agree on the desirability of reducing crime and violence, they may emphasize different methods to achieve this goal. These differing approaches to security are important since gaining support on consensus issues requires that voters believe that the party has the best set of policies to address the problem (Egan 2013, 30-31). Politicians must also demonstrate that they are successful at achieving policy proposals.

A rational-choice approach to crime control offers governments divergent policies to address the problem. The first approach focuses on minimizing crime by increasing the expected costs of engaging in criminal activity, thus making it less attractive to potential offenders (Becker 1968). Cross-nationally, there have been strong efforts to reduce actual and perceived increases in crime through tough on crime measures that include increased law enforcement spending and longer prison sentences, among other policies (Garland 2000; Dammert 2012, 133). Even in countries where trust in law enforcement institutions is low, the public is increasingly making demands for more police officers and penal institutions (Dammert 2012, 22).

The second approach focuses on reducing crime by providing individuals with alternative opportunities and job skills that will enable them to obtain more money from lawful employment (Ehrlich 1975). The emphasis on prevention through social policies has spawned a large body of research on the relationship between crime and education (Ehrlich 1975; Raphael and Winter-Ebmer 2001; Groot and van den Brink 2010; Machin, Marie and Vujić 2011; Meghir, Marten, Schnabel 2012). As one state deputy from the Workers' Party (PT) in Rio de Janeiro stated, "educate children today so that you will not have to punish them as adults."[8]

There are two reasons why education reduces crime rates (Machin, Marie and Vujić 2011). First, education provides individuals with skills that make them more successful in the job market (Raphael and Winter-Ebmer 2001; Groot and van den Brink 2010; Machin, Olivier and Vujić 2011). As wages rise and unemployment decreases, crime rates decline (Grogger 1998; Raphael and Winter-Ebmer 2001). Second, educational activities occupy time that individuals may otherwise spend in criminal activity (Ehrlich 1975; Jacob and Lefgren 2003; Luallen 2006; Anderson 2015). The literature refers to this phenomenon as the 'self-incapacitation effect' (Tauchen et al. 1994).

[8] Personal interview, Rio de Janeiro, October 15, 2015.

In Brazil, voters support both law enforcement and prevention-based approaches to public security, although there is a strong preference for law enforcement. Between July 2015 and June 2016, I interviewed state deputies in six states and asked them what requests they receive from voters to better public security. As Table 2.2 shows, approximately two-thirds of deputies indicated that voters only made requests for law enforcement resources. This included demands for more police officers, street patrols and police stations, among other policies.[9] Meanwhile, the other deputies indicated that voters demanded social policies or a combination of social policies and law enforcement.

Table 2.2: Voter's Security Requests to State Deputies

State	Law Enforcement	Social Policies	Both Policies
Bahia	15	2	1
Paraná	17	2	7
Pernambuco	10	6	0
Rio de Janeiro	9	2	4
Rio Grande do Norte	4	1	2
Sergipe	3	1	0
Total Deputies	58 (67%)	14 (16%)	14 (16%)

Source: Author's Interviews, July 2015-June 2016

[9] Many deputies who received demands from voters for more law enforcement resources criticized this approach to public security. One deputy in Rio de Janeiro said that voters focus on these policies because they are ignorant (Personal interview, Rio de Janeiro, October 15, 2015).

Taken together, viewing crime as an economic decision offers contrasting approaches to public security. Policies that emphasize punitive measures view increasing the cost of crime as the best deterrence. Meanwhile, approaches that emphasize better employment opportunities and increasing education levels focus not on raising the cost of crime, but rather on increasing the benefits of acting legally. In the next section, I examine how ideology influences which approach political parties advocate to address rising crime rates.

2.2 POLITICAL PARTIES AND CRIME

Governments can improve public security by increasing the costs of crime through an emphasis on law enforcement or by using social policies and education to increase the benefits from acting legally. While the evidence supports both approaches to crime control, much of the research on politics and crime has focused on the former policy. The evidence suggests that the left-right ideological divide plays a strong role in determining the type of policies that political parties support and implement. More specifically, right parties focus on law enforcement while left parties focus on social programs. In this discussion, however, the literature is largely silent on the crime control policies that centrist parties adopt.

In the United Kingdom, the Conservative Party has traditionally advocated a law-and-order oriented political platform (Millie 2008). In France and Italy, rising crime rates and growing perceptions of insecurity led France's center-right government under Jacques Chirac and Italy's center-right government under Silvio Berlusconi to fight crime through policies that included hiring more police officers and longer prison sentences (Shea 2009). Across Western

Europe, populist right-wing parties have gained considerable support in recent years by campaigning on a law-and-order platform linking crime to immigration (Betz 1993; Smith 2010).

Additional evidence from the Americas supports the argument that conservative parties take a tough on crime approach. In the United States, the Republican Party has a more law-and-order oriented electoral campaign platform and voters view it as being better able to tackle crime (Egan 2013). Meanwhile, in El Salvador, the conservative Nationalist Republican Alliance (ARENA) party was also able to gain support by emphasizing tough-on-crime policies throughout the 1990s and 2000s (Holland 2013). In recent years, centrist and populist parties in Europe and Latin America have begun adopting a similar approach to crime control in an effort to reduce right parties' advantage on the issue (Chevigny 2005; Millie 2008). As Lab (2004) argues:

> When issues of crime and criminal justice are raised for discussion among many people, particularly politicians and policy makers, prevention is nowhere to be found. Instead, the focus is on arrest, prosecution and punishment of offenders. There may be many reasons for this type of response, but perhaps the major reason that politicians and policymakers turn to these responses is that arrest, prosecution, and punishment are well known to the general public and represent the appearance of doing something about crime…The priority for politicians and policy makers is to show what they have accomplished, and traditional measures of criminal justice system response are easy to enumerate (683-684).

If voters demand punitive policies to address public security, then rising crime rates should increase support only for those parties that place a stronger emphasis on addressing crime through law-and-order policies. This has typically been right-wing parties (Chevigny 2005; Egan 2013; Holland 2013; Millie 2008; Shea 2009). Based on the extant literature, therefore, when crime rises and there is a centrist or leftist governor in power, voters will shift their support to right parties. They will not give more support to non-incumbent left and centrist parties since they view them as being less effective at reducing crime rates than right parties. This leads us to expect the following.

H_1: *An increase in violence under a left governor will increase support for right parties but will have no effect on support for centrist parties.*

H_2: *An increase in violence under a center governor will increase support for right parties but will have no effect on support for left parties.*

Underlying the current research is the assumption that the public's support for tough on crime measures precludes them from also supporting preventive policies that address the underlying social causes of crime. Evidence from surveys, however, strongly challenges this assumption. In 2012, the Latin American Public Opinion Project (LAPOP) survey asked Brazilians what they viewed as the most effective policy to fight crime. A nearly equal number of respondents said that social programs and harsher laws are the best ways to reduce crime. Other surveys from Western countries show widespread support for treating non-violent youth offenders more leniently than adults (Roberts 2004). A large minority also believes that reducing unemployment and increasing social programs are the most effective ways to reduce crime and that people prefer to invest more in crime prevention than building new prisons (Doobs 2000). In addition, a majority of people believe that the main purpose of prison should be rehabilitation, as opposed to punishment, and they are more willing to spend additional money on prevention rather than punishment efforts (Cullen, Vose and Jonson 2012). Cross-nationally, there is strong support for these preventative measures (Roberts and Hastings 2012).

This approach to public security that emphasizes punishment as well as prevention is most common among left parties. When crime rates rose in El Salvador, despite the National Republican Alliance's (ARENA) tough on crime approach, the leftist FMLN (Farabundo Martí National Liberation Front) was able to gain electoral support by providing a comprehensive crime policy that included addressing socioeconomic factors influencing crime (Holland 2013). Similarly in the United States, while candidates from the Democratic Party have emphasized

more spending on law enforcement in recent years, they continue to support to non-punitive based crime prevent efforts (Marion and Farmer 2003; Marion and Oliver 2012). These findings extend to Brazil.

During interviews with state deputies in Brazil, I asked them to define public security and indicate what type of policies the government should implement to improve the security situation. Based on their definition of public security and the policies they advocated for reducing crime and violence, I classified their approaches to public security along a continuum. The first category, *law enforcement*, indicates that deputies emphasized punitive policies, such as hiring more police officers, building more prisons and increasing law enforcement spending. The second category, *combination*, indicates that deputies discussed the need for a combined approach that emphasizes social policies as well as strengthening law enforcement to reduce crime and violence. Finally, *social policies* indicates that deputies emphasized social policies, such as education and poverty reduction, as the best way to reduce security problems.

Next, I classified deputies according to their party's ideological position using Power and Zucco's (2009) index. With 35 national political parties, the index measures ideology using parties' voting behavior in the national Congress and classifies parties similarly to other measures that use expert opinions and elite questionnaires (Tarouco and Madeira 2013). Since Power and Zucco classify parties based on surveys with federal deputies, they do not have ideological classifications available for all political parties that run in state elections. For these parties, I classify ideology using historical documents and official party information. Annex 1 lists each party's ideological classification.

As Table 2.3 shows, only 51 percent of deputies from right parties viewed social policies or a combination of social and law enforcement policies as the best way to increase public

security. In contrast, 85 percent of deputies from leftist parties supported these policies. Among three important leftist parties, the Workers' Party (PT), the Brazilian Socialist Party (PSB) and the Party for Socialism and Liberty (PSOL), all 26 deputies I interviewed said that social policies or a combination of law enforcement and social policies is the best way to increase security. Not a single deputy from these parties viewed law enforcement as the best solution to the problem.

Table 2.3: Security Policies Supported by State Deputies

	Law Enforcement	**Combination**	**Social Policies**
Left Parties	6	23	10
Center Parties	11	14	5
Right Parties	20	18	3
Total	37 (34%)	55 (50%)	18 (16%)

Source: Author's Interviews, July 2015-June 2016

Interviews with two deputies in Rio de Janeiro further illustrate the differences between politicians from the right and left. The deputy from the rightist party said that in his view there are three pillars for public security.[10] The first is to strengthen the laws because prison sentences are too short. The second is to provide more security for police officers, since they often work extensive overtime each month and if they are involved in a shooting incident the government quickly arrests them to quell public attention. The third is better family planning to reduce the number of children among poor families, since with large families and low income it is impossible to provide adequately for everyone. When asked about human rights, he said that he supports the rights for victims and those individuals who, despite poverty and other problems, choose to follow the law and work to better themselves. However, he does not have sympathy

[10] Personal Interview, September 23, 2015, Rio de Janeiro

for criminals. He argued that we cannot see poverty as a reason for crime, since most poor individuals are workers who are not committing crimes. Similarly, there are people from the upper social classes who have excellent opportunities but still engage in crime.

In contrast to the rightist deputy, the deputy from the left party focused on preventative measures.[11] When asked about public security, he said that education is important because it prevents youth from becoming involved with criminal activities. He also noted that when he served as mayor of a major city in the state, they implemented other prevention-based programs that focused on music and the arts. He argued that differences in approaches to public security depend on ideology with left parties wanting to address crime through social programs, while right parties want to use more police.

In summary, a significant portion of the public supports using a combination of tougher policing and prevention policies that address the underlying socioeconomic cause of crime. This support, in turn, should lead voters to support parties that advocate a wide range of policies to address security problems and not only right parties that focus on policing. I expect, therefore, that when a left party is in power and violence increase, voters will give more support to both centrist and right parties. Similarly, when a centrist party is in power and violence increases, both left and right parties should see an increase in support. Finally, both centrist and left parties will see an increase in support when violence rises and a right party is in power. Put more simply, voters will punish candidates from the ideological group that is in power for rising crime rates and move their support to the other ideological groups that are not in power.

H_3: *An increase in violence will increase support for candidates from both ideological groups that are not in power.*

[11] Personal Interview, September 22, 2015, Rio de Janeiro

2.2.1 Crime and Non-Incumbent Party Support

While rising crime rates may benefit non-incumbent parties from across the political spectrum, the level of additional support that they receive is likely to depend on their ideological stance on public security issues in relation to the incumbent party. For parties to gain support from rising crime rates, voters must believe that they have the best approach to address the problem (Egan 2013). If a party is in control of the government and crime increases, then voters will begin to question that approach to public security. This, in turn, opens the door for parties that advocate opposing policies to gain electoral support as voters punish the incumbent party for poor performance (Cummins 2009; Booth and Seligson 2009, ch.4).

It is not possible to determine directly whether Brazilian voters perceive differences in how political parties at different parts of the ideological spectrum respond to crime. Major national surveys, including the Brazilian Electoral Study (BES) and the LAPOP survey, have never asked respondents whether they perceive differences in parties' security policies or which party they view as most competent at handling security issues.[12] The extant literature in Brazil, however, emphasizes that the left and right take different approaches to security that coincide with cross-national generalizations about left and right parties. Right parties dominate the issue and focus on law enforcement and crime repression. In contrast, left parties are less vocal and advocate education and social programs to reduce crime (Da Silva 1990; Soares 2005; Cano 2006; Sapori 2007).

It is important to highlight that in the extant literature on crime control, there is almost no discussion on centrist parties. Research in Brazil, in particular, either ignore these parties or implicitly assume that any party not from the left is from the right. This assumption, however,

[12] I have also been unable to locate any other local surveys that address the issue.

contradicts the broad literature (Mainwaring 1999; Powers 2000; Mainwaring, Meneguello and Power 2000; Maciel 2014) showing that centrist parties clearly differ from right parties. In particular, they lack clear ideological positions, which gives them flexibility to offer either a more police or prevention-centered approach to public security. Center parties' positions on public security is likely to depend on who is in power, if they are not.

While the literature emphasizes differences between left and right parties, politicians disagree about the role that ideology plays in determining *actual* security policies. I asked state deputies how the left-right divide and other factors affect their colleagues' responses to security issues. Thirty-five deputies did not answer the question or gave answers that were too vague to code. Among the 74 deputies whom responded to the question, answers fell into four categories: ideology, ideology and personal differences, personal differences and government-opposition.

Table 2.4: Determinants of State Deputies' Approaches to Public Security

Ideology		**Ideology & Personal Differences**	**Personal Differences**	**Government-Opposition**
Yes	No			
38%	18%	9%	24%	11%

As Table 2.4 shows, 47 percent of deputies agreed with the traditional view that ideology or a combination of ideology and individual factors are the primary determinants of how deputies approach security issues. A large minority, 24 percent, disagreed with this assessment and said that personal factors, such as the deputy's career background and whether they had an established electoral base, determined their responses to security problems. More specifically, new politicians focus heavily on security issues since this offers them an electoral niche. Another 11 percent said the opposition-government divide is the most important factor. When politicians are part of the opposition, they criticize the government and call for alternative policies, regardless of what the governor is doing.

Although politicians disagree about whether ideological differences affect actual responses to security problems, parties fashion the belief that these differences exist. I surmise that voters will use these reputational differences as a *heuristic* to determine which opposition party they will support when the incumbent fails to address security problems. Left parties emphasize education and social programs as the solution to security problems, while right parties focus on tough-on-crime policies. In contrast, centrist parties are stuck between the two. They do not have a strong reputation for either set of policies. As a result, I expect that when violence rises and a centrist party is in power, voters will divide their support among left and right parties. In contrast, since left and right parties have clear policy positions and voters will reject policies that do not work, rising crime rates when there is a left(right) incumbent party will increase support most strongly for right(left) parties rather than centrist parties.

H4: *An increase in violence when there is a left (right) incumbent party will increase support more strongly for right (left) non-incumbent parties rather than centrist parties.*

2.2.2 Crime and Incumbent Party Punishment

A second issue that we must consider is how much voters punish the incumbent party when crime rises. Retrospective voting models typically focus on whether or not voters punish/reward the incumbent party for their failure/success at addressing consensus issues. Strongly absent in the literature, however, is the issue of the policies that governments can use to address these issues. As has been noted throughout the chapter, however, public security is different from many consensus issues since governments can fight crime using both short-term and long-term policies. Voters have an incentive to punish parties divergently for rising crime rates, depending on whether their policies emphasize short or long-term solutions to crime.

Short-term solutions focus on creating a stronger repressive apparatus through policies that include hiring more police officers, building more prisons and building a stronger intelligence system, among others. Long-term solutions, in contrast, focus on identifying the underlying socioeconomic factors leading to crime. These differences map onto the left-right ideological spectrum with right parties advocating more short-term policies, while left parties focus on long-term solutions (Betz 1993; Marion and Farmer 2003; Millie 2008; Shea 2009; Smith 2010; Marion and Oliver 2012; Egan 2013; Holland 2013). Meanwhile, centrist parties use a moderate combination of the two policies.

When right parties emphasize short-term solutions, voters will expect that they will deliver rapid reductions in crime. Their failure to achieve these objectives will be glaringly public, especially since public security is perhaps their strongest electoral issue. Voters will also punish centrist and leftist parties for their failure to reduce crime. However, since their crime control policies focus more on preventative measures, voters are likely to have fewer expectations that they will reduce crime. Therefore, while I expect that voters will punish incumbent parties across the ideological spectrum for rising crime rates, the punishment will be strongest for right parties.

H_5: *Incumbent right parties will lose more electoral support from rising crime rates than incumbent center and left parties.*

2.3 THEORETICAL MODELS AND DATA

To test these arguments, I use municipal homicide and electoral data from gubernatorial elections between 1994 and 2010. Using municipal data is advantageous for studying the impact of violence on party support since homicide rates within states vary greatly across cities. To measure support for left, centrist and right gubernatorial parties, I use election data from all 26 states and the federal district. Since I am interested in how violence affects support for parties at different parts of the political spectrum, I use the collective vote share that all candidates in each ideological group receive in the first round of gubernatorial elections.[13] I calculate the vote share by dividing each ideological group's votes by the total number of valid votes cast in the municipality. I classify each party's ideological position using Power and Zucco's (2009) index

[13] If no gubernatorial candidates receive at least 50 percent of votes, there is a runoff election between the top two candidates.

of ideology, which utilizes voting behavior in the national Congress. For parties that only participate in state politics, I classify their ideological group using historical documents and official party information.

As Table 2.5 shows, since 1994 there has been a decline in the number of right governors in Brazil. This decline appears to have primarily benefited left parties that went from controlling only six governorships, in 1994, to twelve in 2010. Meanwhile, the number of centrist governors has remained steady across the five elections. The rapid rise of leftist parties in state elections coincided with the Workers' Party's (PT) control of the presidency that began in 2002.

Table 2.5: Total Governors by Ideological Group and Year, 1994-2010

	1994	**1998**	**2002**	**2006**	**2010**
Left Governors	6	6	10	12	12
Center Governors	15	13	13	13	13
Right Governors	6	8	4	2	2
N	27	27	27	27	27

Table 2.6 provides summary statistics for model covariates. Right parties have the lowest collective vote share averaging around 17 percent in municipalities across the five elections. In contrast, centrist parties dominate gubernatorial elections, having an average of 39 percent of votes. These differences are in line with data showing that throughout the 1990s and 2000s, centrist parties have maintained control of the governorship in most states.

Table 2.6: Summary Statistics

	Mean	Standard Deviation	Minimum	Maximum
Municipal Factors				
Right Vote Percentage	17.33	20.57	0	87.40
Center Vote Percentage	38.81	26.12	0	94.56
Left Vote Percentage	25.43	20.36	0	95.41
Homicide Rate (log)	0.55	0.62	0	3.10
Population Size (log)	9.41	1.11	6.60	16.22
GDP per Capita (log)	4,315	4,943	139	142
Poverty Reduction	60.36	22.68	0.31	98.92
State Factors				
Unemployment Rate	8.48	2.28	3.1	19.1
Political Party Change	0.03	0.18	0	1
Incumbent Candidate	0.40	0.49	0	1
Right Incumbent Party	0.19	0.39	0	1
Center Incumbent Party	0.62	0.49	0	1
Left Incumbent Party	0.18	0.39	0	1
Right Coalition Parties	4.94	4.35	0	19
Center Coalition Parties	8.11	5.70	0	23
Left Coalition Parties	9.39	4.41	0	26
Total Right Candidates	1.84	1.35	0	5
Total Center Candidates	1.65	0.98	0	5
Total Left Candidates	3.48	1.53	0	6
Viable Right Candidate	0.46	0.59	0	1
Viable Center Candidate	0.84	0.37	0	1
Viable Left Candidate	0.79	0.41	0	1
National Factors				
Inflation Rate	480	766	5	1928

n=25,120

Crime statistics in Brazil suffer from a systematic reporting bias that makes wealthier victims more likely to report crime victimization than poorer victims (Caldeira 2000, 112). In addition, the data that do exist are often unavailable beyond the past five years. Therefore, using data on all types of crime or even just major crimes, such as armed robbery and violent crime, may provide erroneous evidence regarding the influence of crime on support for the different non-incumbent parties. Given these problems, I measure public security using homicide data.

Homicide data are the most reliable indicators of violence and serve as a key source for debates regarding public security (Murray, Cerqueira and Kahn 2013). In Brazil, the military and civil police register homicides as public security incidents. However, there are discrepancies in their reporting methodologies. Most importantly, these institutions measure *homicide incidents*, which indicates that at least one person was murdered. This measure underestimates the number of homicides since it does not provide information on the actual number of victims. In addition, the lack of coordination between the civil and military police leads the government to count some homicides more than once (Caldeira 2000).

Given the problems with official police data on homicide violence, I use public health records. The Ministry of Health's System of Information on Mortality (Sistema de Informações sobre Mortalidade or SIM) contains municipal-level homicide data that includes information on the age, gender, race, marital status and municipal residence of the victim, as well as whether the homicide occurred through gun violence.[14] Since even a few homicides in a small municipality can lead to an extremely high homicide rate, I measure the *homicide rate* per 10,000 people in the year prior to the election using the log value as follows: log(Homicide Rate+1).

[14] The government codes homicides based on where the victim lived rather than where the actual incident occurred. They code it this way since most homicides are officially confirmed at hospitals as opposed to location where they occurred.

Municipalities in Brazil vary in size from 663 to more than 11 million inhabitants. It is unclear whether left and right parties will have more support in smaller or larger municipalities. However, smaller municipalities are likely to have more variance in party support since even a few voters changing whom they support can widely alter the results. To control for this issue, I include the log of the *municipal population* in the analysis.

Several state level political factors are also likely to influence support for each ideological group. Left, center and right parties may all benefit when the incumbent party is from their ideological group since having control of the state executive provides them with resources that they can use to gain votes. The variables *right incumbent*, *left incumbent* and *centrist incumbent* indicates the governor's ideology. It takes a 1 when the governor is from that ideological group and a 0 otherwise. Beginning in 1998, Brazil allowed governors to run for one consecutive reelection. Therefore, I also include *incumbent candidate* to indicate whether the incumbent candidate is running for reelection.

In 1998 and 2006, six candidates ran for reelection but switched to a party from a different ideological group.[15] I include two additional dichotomous variables to control for these factors. *Lost candidate* indicates that the ideological group lost an incumbent governor who ran for reelection but switched to a party from another ideological group. Meanwhile, *gained candidate*, indicates that the ideological group gained an incumbent candidate from another ideological group. I expect that the ideological group that gains the incumbent governor will see an increase in support while the group that loses the incumbent governor will see a decline in support.

[15] In 1998, incumbent candidates changed ideological groups in Mato Grosso (Dante de Oliveira, PDT-PSDB) and Paraná (Jaime Lerner, PDT-PFL). Meanwhile, in 2006, incumbent candidates changed in Amazonas (Eduardo Braga, PPS-PMDB), Espírito Santo (Paulo Hartung, PSB-PMDB), Rondônia (Ivo Cassol, PSDB-PPS) and Tocantins (Marcelo Miranda, PFL-PMDB).

Many elections include multiple candidates from left, right and centrist parties. Therefore, I include three variables, *left candidates, center candidates* and *right candidates* to indicate the total number of candidates from each ideological group. I expect that when an ideological group has more candidates, its vote share will increase since rather than switching to another ideological group, voters may be able to find a candidate that better represents them within the group. In contrast, they will lose support when they must compete with multiple candidates from other ideological groups.

Brazil's open list proportional electoral system for federal and state deputies has led to the creation of 35 officially recognized parties (TSE 2015). The large number of parties means that rather than running alone, most gubernatorial candidates form large electoral coalitions. Therefore, I include *coalition parties* to indicate the total number of parties that support candidates from left, right and centrist parties. I expect that all ideological groups will receive more support when they have more coalition partners.

Although there is a plethora of political parties in each state, gubernatorial elections do not always include viable candidates from all ideological groups. In some states, parties from one or more ideological groups may simply not put forth their own candidate, choosing instead to either endorse no candidate or support a candidate from another ideological group. They often make these deals in exchange for promises of states resources if the candidate wins control of the governorship or an agreement that the gubernatorial candidate's party will support their candidate for other political offices, such as federal deputy or senator. In these situations, voters may not have the option of choosing an entirely different approach to public security.

In other situations, there may be candidates from all three ideological groups. Candidates from a particular group, however, may not have a realistic chance of winning the election or may

lack name recognition among voters. Small parties, such as the leftist Socialism and Liberty Party (PSOL) consistently have a candidate in the race, even though their candidates often receive only one or two percent of the popular vote. Voters understand that voting for them is unlikely to affect public security policies since they do not have a realistic chance of winning these elections. In these situations, voters who want to express their displeasure with the incumbent ideological group's public security policies may simply vote for a viable candidate from any other ideological group. To control for this issue, I include the variable, *viable candidate*, which indicates that the ideological group in power had at least one candidate who received 10 percent of valid votes in the election.

Brazil has experienced major economic changes in recent years that are likely to affect gubernatorial elections. Between 1994 and 2010, the country drastically reduced extreme poverty. However, the most pronounced reductions began in 2002 when the left-leaning Workers' Party (PT) controlled the presidency and implemented internationally known social programs including Bolsa Família. Between 2002 and 2010, the percentage of residents living below one-half of the minimum salary decline almost 24 percent. Although these reductions were the result of national level policies, voters may reward gubernatorial candidates linked to the PT. As a result, I expect to find that declines in municipal poverty levels will increase support for left parties. I measure *poverty reduction* as the percentage of the municipality's population that lives below one-half of the minimum salary. In addition, I use the log value of GDP per capita to control for municipal economic growth.

According to the partisan model of macroeconomic theory, voters vary in the concern over economic policy (Hibbs 1977; Alesina and Sachs 1988). Wageworkers, who high unemployment affects more strongly, tend to vote for left parties. In contrast, right party voters

tend to be more affluent, thus, they are more concerned with inflation. Therefore, I include the *state unemployment rate* and the log of the national *inflation rate* in the model. I expect that higher unemployment rates will increase support for left parties while higher inflation rates will increase support for right parties.

2.4 EMPIRICS AND ANALYSIS

I test the arguments by first examining how changes in violence affects support for right, centrist and left parties in individual elections, using ordinary least squares regression and clustering standard errors by state. I measure change by subtracting each covariates' value in time *t* from its value in time *t-1*. Using this technique, I lose information on how violence affects support for parties in the 1994 elections. This measurement strategy, however, provides a stronger causal argument since it directly measures *changes* rather the simply looking at how violence causes support for parties to be higher or lower, *on average*, across municipalities.

Rather than provide the raw estimates, in Table 2.7, I show how a standard deviation change in violence and other municipal covariates, along with the state's unemployment rate, influence support for parties in each ideological group. This strategy allows us to compare the relative importance of violence to other model covariates. For each ideological group, I calculate the impact of violence on their support under four situations: (1) the ideological group has a governor in power and puts forth a viable candidate, (2) the ideological group has a governor in power but does not put forth a viable candidate, (3) the ideological group is not in power but has a viable candidate and (4) the ideological group is not in power and does not have a viable candidate. For the state level political covariates, the coefficient show how a one-unit change influences support for each group of parties. I include full tables with all interaction terms and measures of goodness of fit in Appendix B.

As Table 2.7 shows, during the 1998 elections, voters did not punish any incumbent party's ideological group for a rise in violence when they had a viable candidate participating in the election. Centrist parties actually see a small increase in their support when violence rises under their tenure. Similarly, no group with a viable candidate saw its support rise when violence increased when it was not in power. There are conflicting ways to interpret this lack of retrospective security voting during the 1998 elections.

Table 2.7: Changes in Violence and Support for Political Parties

		1998	2002	2006	2010
Right Parties					
Municipal Factors					
	Violence (In Power, Viable Candidate)	-1.37	-0.32+	-0.93+	0.33
	Violence (Out of Power, Viable Candidate)	-0.83	0.61*	-0.99	0.74
	Violence (In Power, No Viable Candidate)	-0.21	0.17+	1.34**	-0.11
	Violence (Out of Power, No Viable Candidate)	0.30	-0.51	-0.26	0.30
	Municipal GDP Growth	0.65	0.71	-0.38	-1.48+
	Population Minimum Salary	12.29*	1.52*	-0.39	-0.74
	Population Growth (log)	0.07	-1.00*	0.55+	-0.32
State Factors					
	Right Governor	-14.18*	-17.19+	-42.35**	-18.32**
	State Unemployment Rate	-2.41	2.75+	-1.24	-4.65**
	Lost Incumbent Candidate			17.39	-21.62**
	Gained Incumbent Candidate	8.86	24.62		
	Right Incumbent Candidate	-5.94	-3.59	21.23**	5.76
	Right Coalition Parties	0.43	1.40*	3.85***	4.93***
	Total Left Candidates	-0.49	0.64	8.70**	5.62***
	Total Right Candidates	11.53**	5.13*	0.37	-4.47+
	Total Center Candidates	-2.37	-1.44	0.10	-1.96+
Center Parties					
Municipal Factors					
	Violence (in Power, Viable Candidate)	0.10*	-0.39	-0.10	-0.52**
	Violence (Out of Power, Viable Candidates)	-0.44	-0.22	0.36	-1.35
	Violence (in Power, No Viable Candidate)	-0.88**	0.45	-1.83	-0.22***
	Violence (Out of Power, No Viable Candidate)	1.39+	-0.46	-0.53	1.97***
	Municipal GDP Growth	-0.72	0.49	-2.29**	0.83
	Population Minimum Salary	-2.92	-0.82	0.79	0.88
	Population Growth (log)	-0.20	-1.16*	-0.73	0.54
State Factors					
	Center Governor	-66.94***	-28.91+	-23.56*	-18.651
	State Unemployment Rate	-4.20	2.47	-5.24	-6.14*
	Lost Incumbent Candidate			-43.15+	-43.4***
	Gained Incumbent Candidate	40.17***	19.45+	36.32***	-3.23
	Center Incumbent Candidate	-15.51**	8.81**	6.38	7.89
	Center Coalition Parties	-0.38	-0.58	-0.27	-1.03+

Table 2.7
(Continued)

	Total Left Candidates	-4.74	1.4	5.9	4.94*
	Total Right Candidates	-14.67***	-2.05	-4.05	-14.52***
	Total Center Candidates	5.97+	4.67+	9.72**	7.11**
Left Parties					
Municipal Factors					
	Violence (in Power, Viable Candidate)	-2.89	-0.43	0.61	0.39+
	Violence (Out of Power, Viable Candidates)	0.35	-0.11	0.21	0.59
	Violence (in Power, No Viable Candidate)	-1.32*	-0.544	2.64	1.16***
	Violence (Out of Power, No Viable Candidate)	0.32	-0.23	0.28	0.01
	Municipal GDP Growth	-0.002	-0.40	0.32	-0.07
	Population Minimum Salary	-5.01	0.70	0.71	-1.76+
	Population Growth (log)	-0.10	0.43	0.27	-0.56
State Factors					
	Left Governor	-37.44**	-8.88	-10.35	-19.17**
	State Unemployment Rate	3.19	-2.17	5.19	3.90*
	Lost Incumbent Candidate	17.30	-37.3***	-42.5***	-46.45***
	Gained Incumbent Candidate			78.33***	33.67***
	Left Incumbent Candidate	1.79	15.91*	21.05+	12.19*
	Left Coalition Parties	3.05*	1.24*	1.18	1.29**
	Total Left Candidates	-1.78	1.15	-10.39*	-2.07
	Total Right Candidates	-1.99	-1.43	-0.96	-0.37
	Total Center Candidates	8.31	-3.90+	-4.39	2.54

Robust Standard errors in parentheses, + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

The first way is that voters focused more on economic than security issues. The Center for Studies on Public Opinion (CESOP) at the State University of Campinas has a database of public opinion polls from select states in each election. In 1998, survey organizations asked voters in 19 states to identify their state's top-3 problems. On average, 76 percent of voters identified unemployment as one of the state's most important problem, while only 29 percent identified security issues. The empirical evidence provides mixed support for this argument. In the models, changes in state unemployment rates and municipal GDP growth do not affect support for any of the ideological groups in these elections. Right parties, however, do see a large increase in support when poverty declines.

The second way to interpret the lack of retrospective voting is that voters ignored security problems and chose instead to reward incumbent governors' ideological groups for the country's success in controlling inflation. In 1994, the country's inflation rate was 2076 percent. However, the Real Plan, a national plan to address the economic crisis, reduced inflation to only 3.2 percent in 1998. Even though unemployment continued to be a problem, voters likely rewarded governors for price stabilization, which affected their everyday lives. Since the government measures inflation at the national level, however, I cannot test this theory using cross-sectional data.

In subsequent elections, the effect of violence diverges depending on the ideology of the party that is in power and whether there is a viable candidate from that ideological group. In line with expectations, violence reduces support for right parties when they are in power and put forth a viable candidate in the 2002 and the 2006 elections. However, it does not influence their support in the 2010 elections. The lack of punishment for right parties in the 2010 election is not as puzzling as it first seems. In 2006, candidates from right parties won the election in only

Goías and the Federal District, which are located in the center of Brazil. Since the Federal District accounts for only one observation, the influences of violence on support for incumbent right parties in 2010 depends entirely on the state of Goías. In Goías, Alcides Rodrigues Filho from the Progressive Party (PP) won the 2006 gubernatorial election. Rodrigues Filho was the vice-governor for seven years (1999-2006) in the center-right coalition led by Marconi Perillo from the Brazilian Social Democracy Party (PSDB) and served as the state's governor for the last nine months of 2006. Although a right party candidate had never served as the state's governor, he won the election with crucial backing from Perillo.

In 2010, Rodrigues Filho was unable to run for reelection since he took control of the governor's office more than six months prior to the 2006 elections.[16] In this election, Perillo once again ran with a center-right coalition and won the gubernatorial elections. It is likely that given Perillo's backing of Rodrigues Filho in 2006, voters did not punish right parties for increases in violence since they viewed Rodrigues Filho's time in office as an extension of Perillo's mandate.

[16] If a vice-governor is in control of the governor's office for more than six months, the government considers it to be his/her first term.

For left and center parties with viable candidates, rising levels of violence when they were in power during the 2002 and 2006, did not lead to a decline in support. In 2010, support for left parties actually increased when they were in power and violence increased, while support for centrist parties declined slightly. I suspect that the anomalous findings for left parties in 2010 are due to the Bolsa Família social program. This program, which Luiz "Lula" Inácio da Silva, the country's president from the left-leaning Workers' Party (PT), instituted in 2004, gives cash transfers to low income families. While the program does not give governors direct control over these resources, it is widely recognized as being a policy of the Lula government, likely benefiting governors from left parties.

Taken together, the year-by-year analysis suggests that violence has a stronger effect on support for right parties than it does on support for left and centrist parties. This supports the argument that right parties highlight their reputation for being tough-on-crime and voters, who support them, hold them accountable for their successes or failures in addressing violence. This effect, however, depends on whether right parties put forth *viable* candidates.

When no viable right candidate emerges, retrospective voting does not occur and minor candidates from right parties actually see a rise in support when violence increases. This conditionality highlights the difficulty that voters face in holding the government accountable for security problems in Brazil's extreme multiparty system where parties may emerge or disappear from one election to the next. In cases where violence is rising, potential candidates from right parties may simply choose to run for a different political office or even enter into a coalition with center or left parties to avoid punishment. Governor Roalba Ciarlini used this strategy in the state of Rio Grande do Norte. In 2014, her approval rating was at only seven percent due to rising levels of violence and other problems. She withdrew her reelection bid and her party, the

conservative Democratas (DEM), threw their support behind the centrist candidate from the Brazilian Democratic Movement Party (PMDB). Two years later, voters in the city of Mossoró seemingly forgot these problems and elected her mayor.

The other political and economic covariates have varying effects across ideological groups and elections. During most years, left and right parties benefit when the number of political parties in their electoral coalition increases. Having an incumbent candidate is advantageous for left parties in most years but only increases support for right and center parties in 2002 and 2006, respectively. Ideological groups across the political spectrum also tend to gain support when they gain an incumbent candidate from another group and lose support when the governor changes his party affiliation. At the municipal level, reducing poverty increases support only for right parties in 1998 and 2002. For center and left parties, it has either no effect or leads to a decline in support.

2.4.1 Violence and Support for Alternative Crime Control Measures

I next test whether voters show signs that they are reject law enforcement or social prevention measures by switching their support to parties at the other end of the political spectrum when crime rises. That is, voters who previously supported left parties, now vote for a candidate from a right party and vice versa. Figures 2.2 to 2.4, shows how a unit increase in violence affects support for left, centrist and right parties in each election under these differing conditions.[17] There is less evidence to support this theoretical argument. When the incumbent governor's party is from the left(right) and violence rises, there is not statistically significant increase in support for right(left) parties. During the 1998 elections, left parties actually show a decline in support when violence rises and governor is from a right party.

[17] The full tables are available in Appendix A.

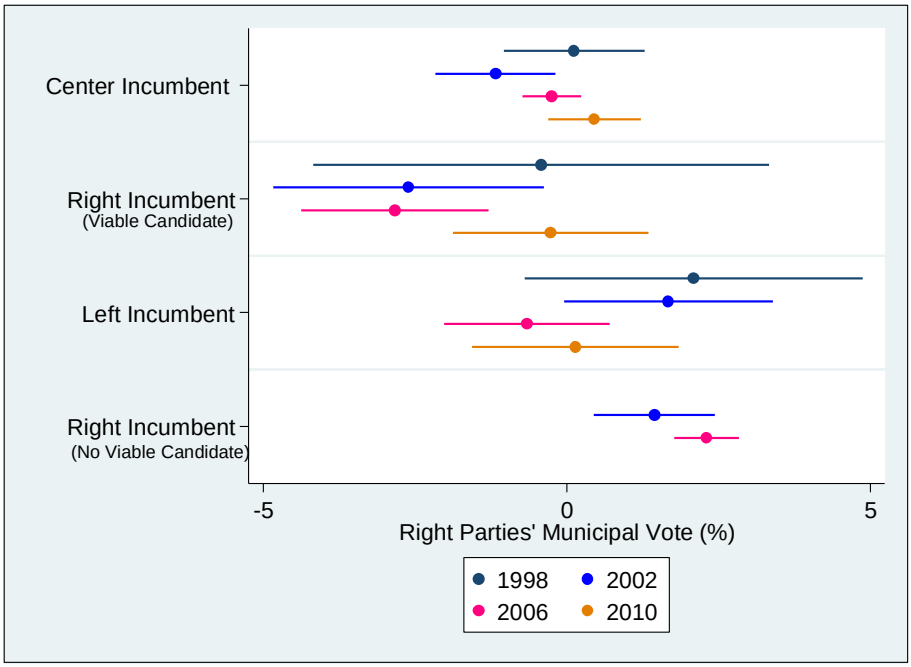

Figure 2.2: Violence & Changes in Support for Right Parties

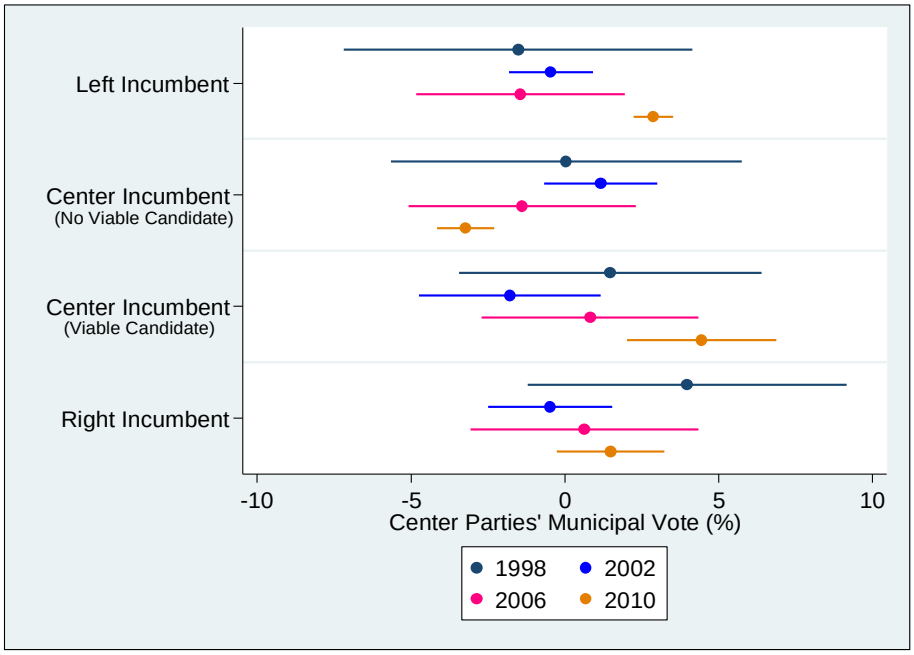

Figure 2.3: Violence & Changes in Support for Centrist Parties

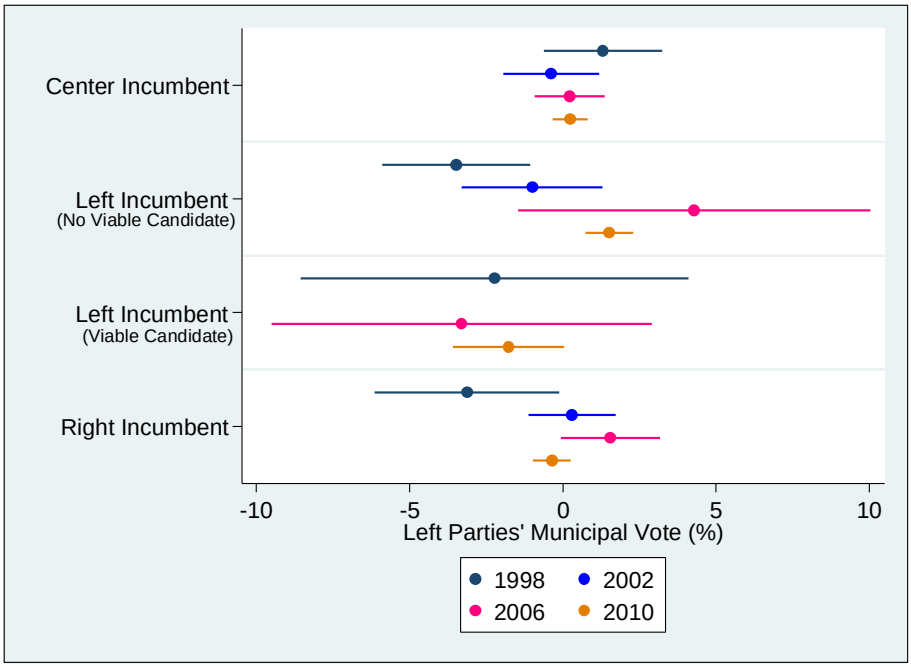

Figure 2.4: Violence & Changes in Support for Left Parties

2.4.2 Alternative Model Specifications

Since I have data on the same municipalities across time, I test the robustness of the results using both fixed effect and Arellano-Bond models. These models provide different ways to measure changes in violence and support for each ideological group in panel data. The fixed effects methodology controls for fixed unobservable features in each municipality that cause violence and municipal support for candidates from each ideological group to be higher or lower, *on average*. It identifies change by examining how deviations from the mean value of each covariate affects changes in support for each ideological group. This estimation strategy also allows me to include inflation as a factor that affects support for governors.

The Arellano-Bond model, meanwhile, controls for temporal dependences in the data by including the lagged dependent variable as a covariate. These dependences may exist since each ideological group's vote share is likely to depend on it vote share in the last election. In addition, the independent variables may have lagged effects. Since there is autocorrelation in the idiosyncratic error term, typical Arellano-Bond models that allow us to avoid estimation biases by including lags of the difference term as an instrument for the lagged difference term are not valid. Instead, I used the second lagged difference, thus I lose three waves of data. While this strategy reduced the autocorrelation in the idiosyncratic error term, it did not eliminate it. I am unable, however, to use deeper lagged differences since I have data from only five elections.

In Table 2.8, I show how a standard deviation in each of the municipal covariates influences support for left, right and centrist parties. For the state level political covariates, the coefficient show how a one-unit change influences support for each group of parties.[18] The results broadly support the evidence from the cross-sectional analysis that violence reduces support for the right when a right party is in power but has minimal to no effect on support for incumbent center and left parties. Put simply, voters expect the right to do a better job at addressing security issues.

In these models, there is more mixed evidence to support my argument that voters reject public security policies that do not work by turning to parties at the opposite end of the political spectrum has more mixed evidence. In line with expectations, right parties see a rise in support when violence increases and a left party is in power. In contrast, when a right party is in power and violence increases, support goes up for both center and left parties in some models.

[18] Full models are available in the chapter appendix.

Table 2.8: Violence and Political Party Support, Panel Models

		Fixed Effects	Arellano-Bond
Right Parties			
Municipal Factors			
	Violence (In Power, Viable Candidate)	-3.78***	-1.30*
	Violence (In Power, No Viable Candidate)	0.63	-1.36*
	Violence (Left Governor in Power)	1.55+	0.95***
	Violence (Center Governor in Power)	0.19	-0.10
	Municipal GDP Growth	0.22	-0.5
	Population Minimum Salary	3.02	4.08***
	Population Growth (log)	-0.06	2.21
State Factors			
	Right Governor	-13.05**	-31.64***
	State Unemployment Rate	-0.30	-0.79
	Lost Incumbent Candidate	0.18	
	Gained Incumbent Candidate	6.07	
	Right Incumbent Candidate	-0.54	10.23*
	Right Coalition Parties	1.27**	3.97***
	Total Left Candidates	1.05	8.14***
	Total Right Candidates	0.78	-11.96***
	Total Center Candidates	-2.63*	-3.12**
National Factor			
	Inflation (log)	0.55	
Center Parties			
Municipal Factors			
	Violence (in Power, Viable Candidate)	-0.27	0.03***
	Violence (in Power, No Viable Candidate)	-0.17	-0.61***
	Violence (Left Governor in Power)	-3.19	1.77***
	Violence (Right Governor in Power)	-0.14*	1.74***
	Municipal GDP Growth	1.25	0.9
	Population Minimum Salary	0.66	4.2**
	Population Growth (log)	-3.67	1.19
State Factors			
	Center Governor	-2.73+	66.12***
	State Unemployment Rate	-0.80	8.65***
	Lost Incumbent Candidate	-33.11***	
	Gained Incumbent Candidate	32.31***	7.31
	Center Incumbent Candidate	4.26	5.71**
	Center Coalition Parties	1.69***	5.04***
	Total Left Candidates	-1.05	-6.90***
	Total Right Candidates	-6.30***	8.20**
	Total Center Candidates	4.31*	-0.81
National Factor			
	Inflation (log)	-0.03	
Left Parties			
Municipal Factors			
	Violence (in Power, Viable Candidate)	-1.25	-0.93
	Violence (in Power, No Viable Candidate)	-0.93	0.17
	Violence (Center Governor in Power)	-0.84	-1.41*
	Violence (Right Governor in Power)	0.04	1.34***
	Municipal GDP Growth	-0.41	-1.36
	Population Minimum Salary	-0.18	-8.41***
	Population Growth (log)	-4.52	-5.32*

Table 2.8 (Continued)

State Factors.			
	Left Governor	9.57	52.97***
	State Unemployment Rate	2.08+	-18.41***
	Lost Incumbent Candidate	-31.60***	-83.90***
	Gained Incumbent Candidate	43.56***	
	Left Incumbent Candidate	17.37***	-5.28*
	Left Coalition Parties	1.48**	0.20
	Total Left Candidates	1.00	13.10***
	Total Right Candidates	1.31	-8.68***
	Total Center Candidates	-2.52*	19.15***
National Factor			
	Inflation (log)	-0.452	

Robust Standard errors in parentheses, + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

2.4.3 Politics and Public Security

Taken together, the evidence provide several insights into the relationship between everyday violence and electoral politics. Contrary to what we would expect from extant research, while voters reward right parties when they are successful at reducing crime, they also punish them harshly when the fail to address security issues. In contrast, there is less evidence that they punish centrist or left parties for rising crime rates. From a public policy standpoint, these findings contradict the argument that the winning electoral strategy is to take a tough on crime stance. Although this can be viable electoral strategy, it carries great risk with voters rewarding(punishing) parties that advocate this stance while largely ignoring changes in security when the incumbent parties advocate a more preventative approach to crime control.

For politicians, these changes in support are most likely to matter when they influence the final electoral outcomes. In Table 2.9, I use data from the 1994 to the 2014 elections to highlight how changes in violence affect which ideological group controls the governorship. When violence rises under the tenure of a right party governor, the right loses control of the governorship in 68 percent of the elections. In this same situation, their counterparts in left parties retain control of the governorship 47 percent of the time. For centrist parties, there are more mixed results. They retain control of the governorship more than 60 percent of the time regardless of whether violence increases or decreases under their tenure.

Table 2.9: Changes in Violence and Control of the Governorship

Ideology	**Increasing Violence**		**Decreasing Violence**	
	Won Governorship	Lost Governorship	Won Governorship	Lost Governorship
Left	7	8	5	3
Center	24	15	10	5
Right	7	15	4	5

These findings have important implications for politics and public security. Most scholars have argued that Latin American politicians win electoral support because they emphasize tough-on-crime policies (Dammert 2012; Holland 2013). The evidence in this chapter, however, provides an important caveat to this assumption. If right parties fail to control crime, voters will turn against them. These results are in line with issue ownership theory, which argues that while parties can "own" an issue by developing reputations for being able to better address it than opposition candidates, poor performance can injure their reputation in the short term (Petrocik 1996; Petrocik et al. 2003). Therefore, rather than having all Brazilian states converging on the use of tough on crime policies, I find that there are shifts in how they address crime depending on the ideology of the political party that is in power.

The other political factors largely conform to expectations. All ideological groups see an increase in support when they have more coalition parties supporting them. They also lose support when an incumbent governor runs for reelection but switches to a party in a different ideological group. Conversely, the group that gains this candidate sees an increase in support. Meanwhile, an incumbent candidate advantage is present with each group gaining support when a candidate runs for reelection. Inflation does not influence support for any ideological groups.

2.5 DISCUSSION AND CONCLUSION

This chapter assessed the impact that violence has on electoral support for right, center and left parties when they are in and out of power. Using municipal data from Brazilian gubernatorial elections between 1994 and 2010, I showed that rising crime rates reduce support most strongly for right incumbent parties. There was also some evidence that voters shift their support to left(right) parties when crime rises and a right(left) party is in power.

These findings contradict the assumption that rising levels of crime and violence are beneficial for right parties that advocate tough on crime policies. Although they can gain support for reducing violence, their failure to do so has more dire consequences for their electoral success than it does for centrist or left parties. This suggests a variation on the 'mythical punitive punishment' problem where politicians tend to overestimate voters' support for tough on crime measures (Roberts 2004b). Although voters may support punitive policies, they also judge parties that use these policies more harshly for failures to address crime. For political parties that do not emphasize these policies, crime has less of an effect on their electoral support.

The variation in punishment for parties across the ideological spectrum has important implications for public security policies. If politicians know that rising levels of violence will influence their electoral support differently depending on the policies they offer, then it is likely that we will find approaches to public security depending on the party that is in power. This, in turn, may help explain the widely varying increases and decreases in state homicide rates that we have seen during the past 20 years in Brazil. I address both these issues in later chapters.

This chapter also suggests that context matters when examining the influence of violence on political parties' support. Most of the research on violence and voting behavior comes from North America and Western Europe where voting is a voluntary act of citizenship. Therefore,

voters' support for particular public security policies may not represent the average citizen's view on the issue. Brazil, in contrast, has strict compulsory voting laws for all literate citizens between the ages of 18 and 70. The increased participation of voters from across the socioeconomic context due to these rules may help explain why voters in Brazil support parties that offer different public security policies. Although we cannot test the argument in this study, it is an issue worth exploring in future cross-national research.

In the next chapter, I turn my attention to state public security policies. Using state budget data from 1991 to 2014, I test that the claim and "common wisdom" that left and right parties focus on different public security policies. I argue that while ideology matters, governors do not blindly allocate resources to education and law enforcement to address security problems. Rather, their strategies depend on political competition, which varies by state and electoral cycle.

3. CHAPTER 3: THE POLITICS OF PUBLIC SECURITY SPENDING

In Chapter 2, my analysis of 135 gubernatorial elections between 1994 and 2010 showed that voters only punish incumbent right parties for rising crime rates due to their electoral platforms emphasizing crime prevention through law enforcement that focuses on short-term results. This chapter turns to the issue of how politics influence the policies that governors use to address rising crime rates. It analyzes whether left and right parties, which advocate different solutions to public security problems, allocate more resources to those policies emphasized in their electoral platforms. Between 1991 and 2014, real per capita spending on public security rose 267 percent, from R$36 to R$96. However, states vary widely in the resources that they allocate to law enforcement.

Figures 3.1 through 3.5 divide states by geographical region and show how their spending on public security has changed between 1991 and 2014. While all states spent more on security, the size of the increase varies greatly. Piauí and Ceará are neighboring states in northeast Brazil with similar levels of inequality and economic development. Between 1991 and 2014, the homicide rate in both states more than quadrupled. However, while Ceará responded by increasing per capita spending on law enforcement by more than 500 percent, in Piauí it rose only 52 percent. These differences leave us with the puzzling issue of why the difference. Why do some states spend more than others do on law enforcement and other crime prevention policies?

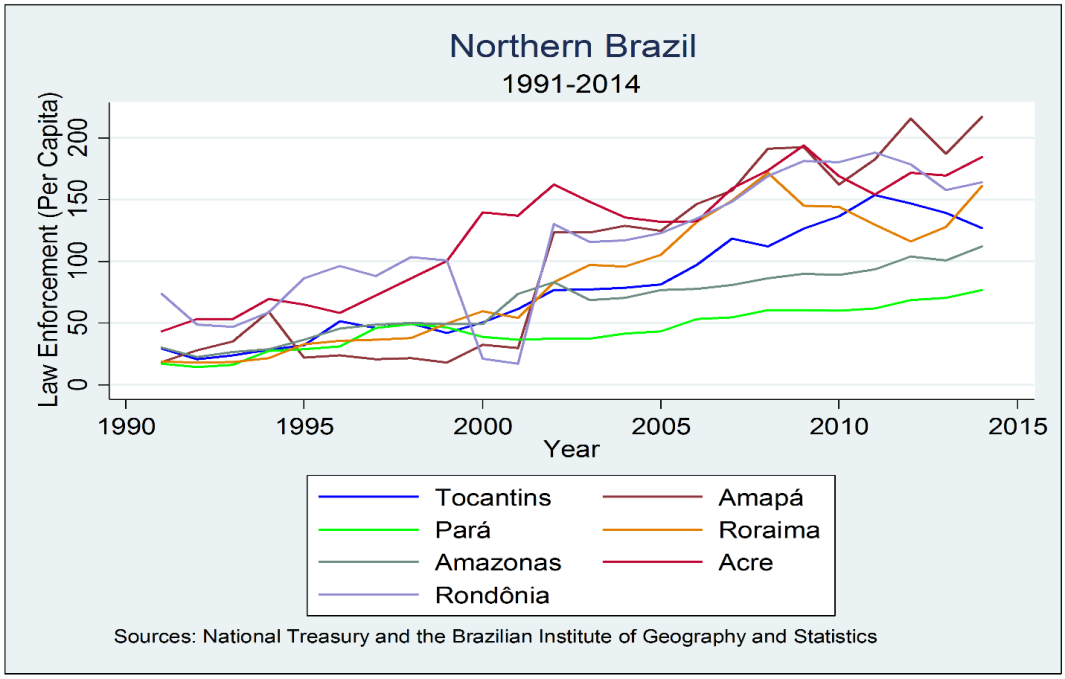

Figure 3.1: Per Capita Security Spending in Northern States, 1991-2014

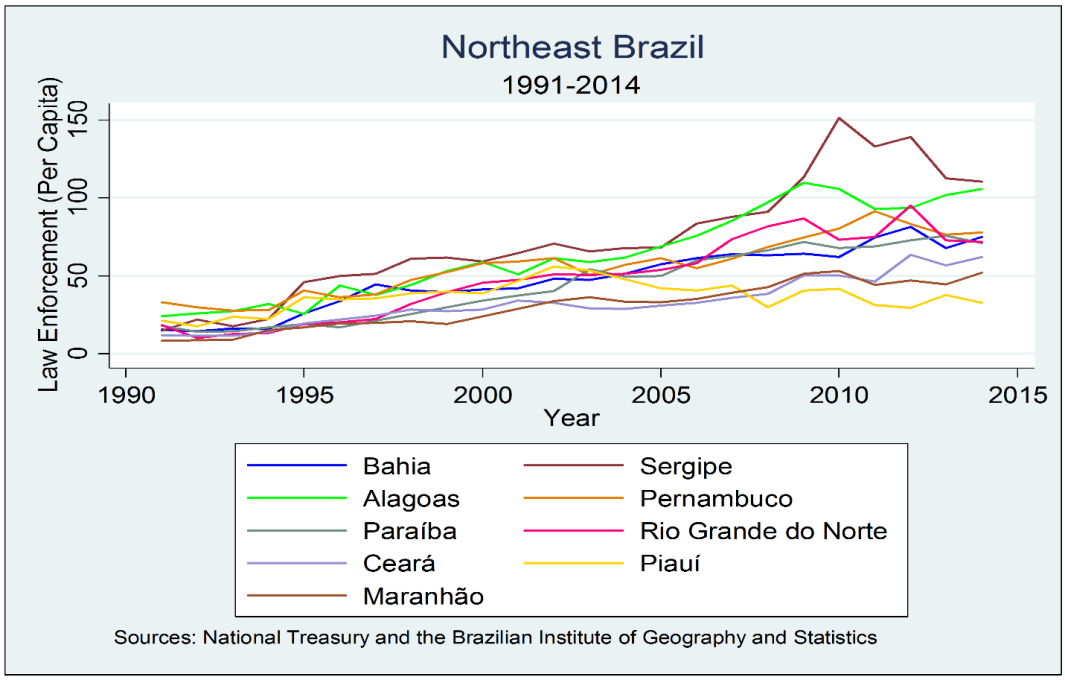

Figure 3.2: Per Capita Security Spending in Northeastern States, 1991-2014

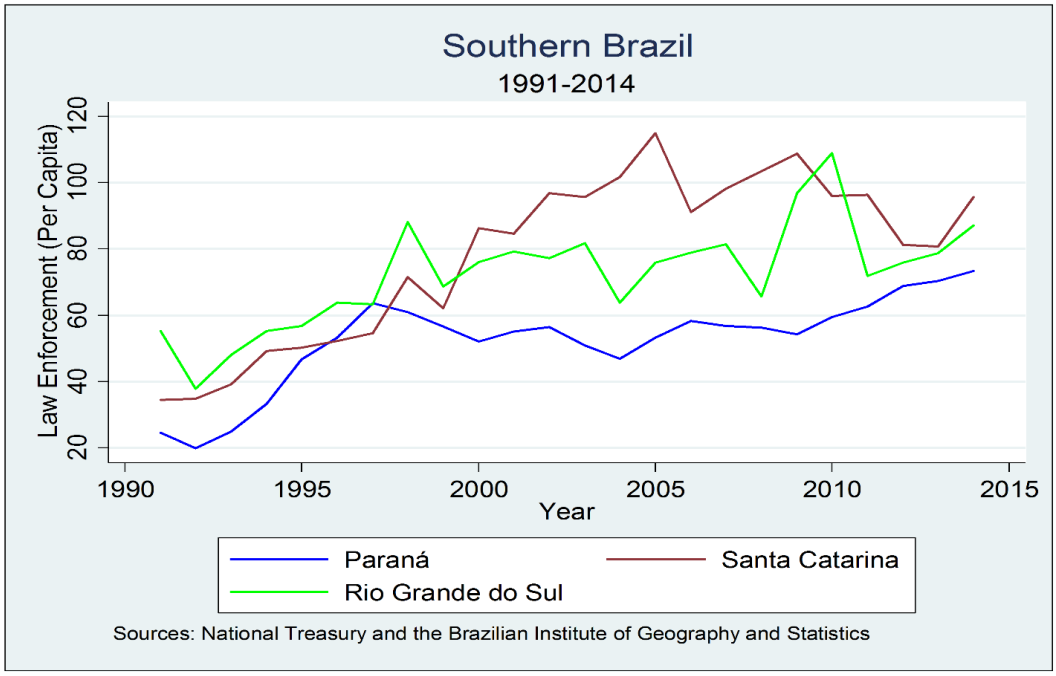

Figure 3.3: Per Capita Security Spending in Southern States, 1991-2014

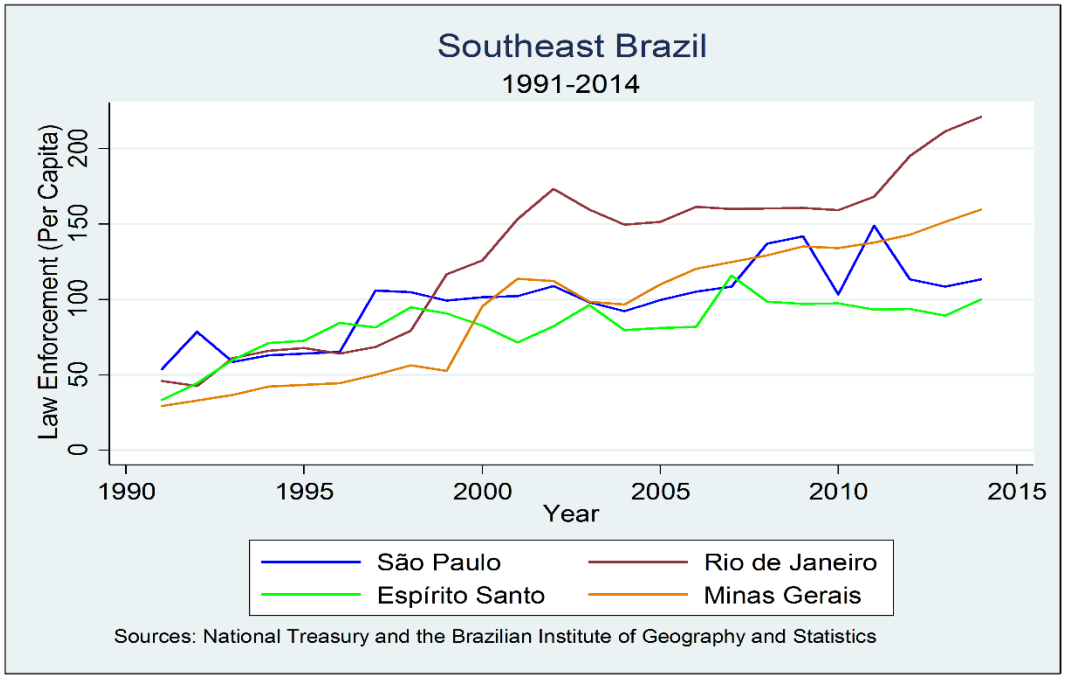

Figure 3.4: Per Capita Security Spending in Southeastern States, 1991-2014

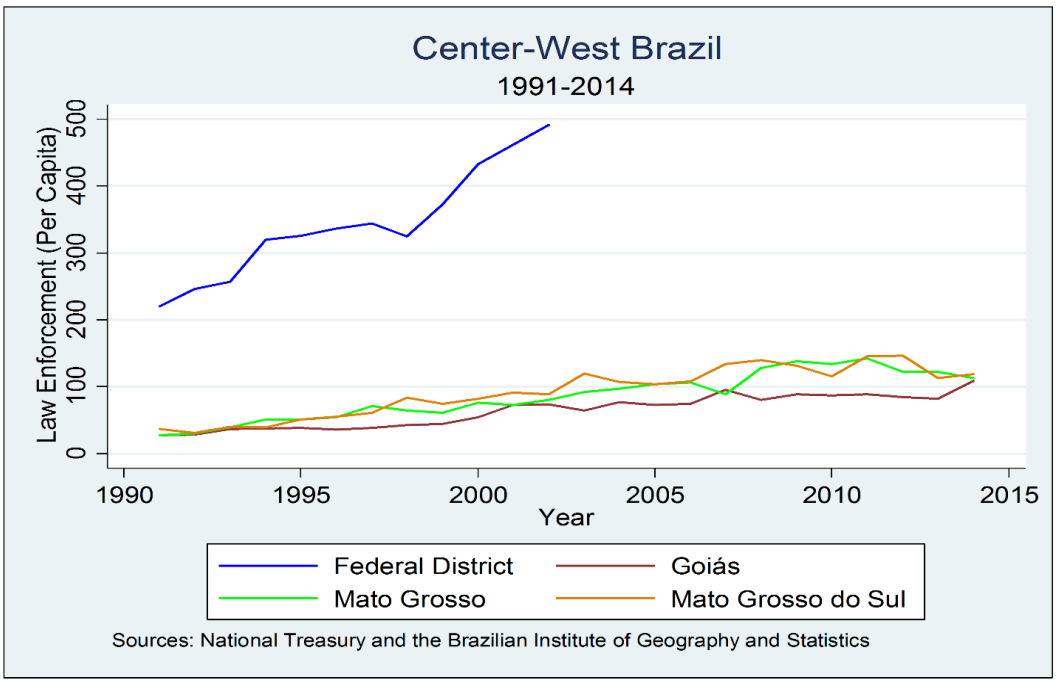

Figure 3.5: Per Capita Security Spending in Center-West States, 1991-2014

This chapter challenge traditional partisan budget models, which posit that politicians from right parties allocate more resources for police-oriented public security policies (Budge and Hofferbert 1990; Wenzelburger 2014). Using state budgetary data from 1991 to 2014, I show that governors across the ideological spectrum allocate resources for public security based on electoral politics rather than ideological beliefs. Governors of all stripes emphasize crime prevention policies that are popular, allow them to distribute benefits to their supporters and promise positive results in the short term. This approach causes both leftists and rightists to emphasize law enforcement, which enables them to show that they are directly confronting public security problems, to the detriment of long-term crime prevention policies. However, the amount of resources that they allocate for law enforcement varies depending on local political

competition. More specifically, governors invest a larger portion of the state budget on law enforcement when this investment distinguishes them from their political competitors.

When governors from leftist parties face competition from other leftist and centrist parties, they will spend more on security to demonstrate to voters that they are most competent to address the issue. However, they will not spend more on security when they face opponents from right parties that traditionally "own" security issues. Governors from right parties, in contrast, will spend more on security only when they face a strong leftist opponent who they can paint as being weak on security issues.

Beyond challenging partisan budget models, this chapter furthers our knowledge of public security policy in two ways. First, it compares the different policies that governments use to increase public security. Most studies group together spending on a variety of public security policies ranging from hiring more law enforcement officers and strengthening the court system, to building more prisons. They also overlook resource allocation to non-punitive based security measures, including education and social programs, which are an essential part of the discourse by many leftist parties. My disaggregation of these budgetary areas shows that although politicians regularly discuss education as an important long-term crime preventative measure, ideology only affects law enforcement spending.

Second, most research on the responses of politicians to public security problems focuses on Western democracies. The majority of these countries, however, already have low and declining crime rates. In the United States, nationwide violent crime and homicide rates fell more than 45 percent between 1995 and 2013 (Federal Bureau of Investigation 2018). Similarly, in the United Kingdom, homicide rates declined 39 percent during this period (World Bank 2014). In contrast, Brazilian states have experienced widely divergent patterns of crime. In São

Paulo, the homicide rate declined 54 percent between 1991 and 2014. Meanwhile, in Bahia, the homicide rate during this period increased almost eightfold rising from 5 to 39 victims per 100 thousand residents. A subnational analysis of state budgets in Brazil allows us to see how politicians in varying political circumstances alter budgetary priorities in the face of large increases and decreases in crime rates.

This chapter proceeds as follows. The first section provides a brief overview of federalism in Brazil and highlights the limits placed on governors' autonomy. The second section examines the extant research on ideology and budgetary allocations. It also moves beyond ideology and examines how career interests and variation in state political competition influence governors' spending decisions. The third section then provides the empirical models to test how these factors influence the policies that governors use to address public security problems. In the fourth section, I return to the cases of Piauí and Ceará to explain why governors in these neighboring states have taken implemented vastly different approaches to public security. The final section concludes with a discussion on my findings' theoretical implications and avenues for future research.

3.1 FEDERALISM IN BRAZIL

To understand how public demands influence budgetary allocations, it is first necessary to understand the formal institutions governing the different levels of government in Brazil. In 1889, the military launched a coup d'état. Two years later, the new government passed the 1891 Constitution, using the U.S. Constitution as a model. The Constitution, which was a reaction to the government's heavily centralized rule, dispersed power to the states and was Brazil's first

experience with federalism (Rosenn 2005). Over the next century, the amount of power that the federal government delegated to state and municipal governments oscillated as the country moved back and forth between dictatorship and democracy. In 1988, the country passed its current constitution, which provides detailed information on the powers delegated to federal, state and municipal governments.

The federal government retains sole power over a variety of policies and crucial infrastructure including federal highways, railways, international borders, the banking industry, immigration, and regional development plans. It also shares powers over important policy areas with local governments. Federal, state and municipal governments jointly control education and healthcare spending.[19] Meanwhile, the federal and state governments oversee courts, policing, social security, culture, environmental and natural resource protection, agriculture, food distribution, housing, sanitation, social welfare and hydroelectricity.

The Constitution requires the federal government to spend 13.2 percent of revenues not transferred to state or municipal governments on healthcare and 18 percent on education. Beyond these constitutional minimums, the federal government's control in joint policy areas is limited to setting rules and passing laws governing the policies of municipal and state governments. In the absence of federal rules and laws, states and municipalities are free to allocate resources to different policy areas as they see fit (Rosenn 2005). Along with the broad responsibility assigned to state and local government, has come a growth in resources. By 1990, more than 50 percent of all government expenditures were at the state or local level (Shah 1991).

[19] Municipal governments control preschools and basic education (7 to 14 years old) in addition to preventative healthcare. The state government, meanwhile, has control over the broader education system, including state high schools and universities.

While governors have sweeping powers to build new programs and alter budgetary allocations in response to electoral interests, they must also contend with two important legal obligations. First, the federal government has used its power in joint policy areas to mandate minimum budgetary allocations. The Constitution requires governors spend at least 25 percent of tax revenues and federal transfers on education and another 12 percent on public healthcare. They are also required to share their revenues with local governments. More specifically, they must transfer 25 percent of all sales and service taxes and 50 percent of taxes on motor vehicle ownership to municipal governments.

Second, governors have minimal ability to reduce personnel expenditures. The Constitution gives most public servants tenure after three years of service, with judges receiving this tenure after only two years. Barring misconduct or extreme failure to fulfill their duties, these employees retain their position until retirement. After retiring, they receive a lifetime government pension that is equal to the highest salary they earned as a public employee and annual costs of living adjustments. As the country's population has aged, state governments have been paying for a growing number of retired employees who are using scarce state resources without helping governors achieve their policy goals. In the next section, I turn to the issue of how ideology influences resource allocation for public security in light of these powers and restrictions.

3.2 IDEOLOGY AND STATE BUDGETS

The role that politics plays in the allocation of government resources has long been a source of contentious debate. In this debate, two models loom large: the partisan model and the

governance model. The partisanship model rests on the assumption that voters elect politicians based on the policies they advocate during the campaign. When they are in office, politicians fulfill these promises by allocating resources to those issues that are important for their supporters (Budge and Hofferbert 1990; Wenzelburger 2014). Politicians from left parties traditionally focus on social issues such as healthcare, social security and education. In contrast, politicians from right parties focus on reducing the national debt, public security and national defense. These differences cause budgetary allocations to shift depending on the ideology of the political party that is in power.

The governance model, in contrast, argues that while politicians have policy preferences, they are unable to allocate more resources to their preferred policy areas since it is difficult to alter spending for many government services, such as social security and education, regardless of which party is in power. In addition, economic crises and other unforeseen circumstances, often force politicians to allocate more resources to policy areas that are outside their party platforms (King et al. 1993; Epp, Lovett and Baumgartner 2014). As a result, there will be minimal changes in the allocation of resources to different policy areas when politicians from different ideological backgrounds take control of the government. The governance model finds some support in criminal justice research, which shows that while politicians may want to provide high levels of public security, they are often unable to do so because of limited budgets (Jackson and Carroll 1981; McDowall and Loftin 1986).

Underlying both partisan and governance budget models is the assumption that politicians want to allocate more resources to specific policy areas to demonstrate their commitment to those issues. For many policy areas, such as healthcare and education, this approach requires them to redirect resources specifically to those issues. However, public

security goes against this trend. Politicians can tackle public security problems by allocating resources to a variety of policy areas including education, social programs, law enforcement, courts and prisons.

3.2.1 Punitive and Preventive Crime Control Policies

In his seminal work, Becker (1968) argues that people commit crimes based on expected economic benefits. Using this rational-choice approach to security, criminologists have argued that making crime less attractive is the most effect way to reduce it. Therefore, governments should allocate more resources to law enforcement, the penal system and the judicial system. This punitive approach to public security has found widespread support among politicians and the public throughout the developed and developing world (Swimmer 1974; Fox 1979; Greenberg and Kessler 1982; Loftin and McDowall 1982; Chamlin and Langworthy 1996; Garland 2001; Pratt and Cullen 2005; Dammert 2012).

Sociologists have criticized the punitive approach to public security for ignoring the underlying socioeconomic causes of crime (Enrlich 1975). As poverty and inequality increase, individuals have a greater incentive to engage in criminal behavior since it provides more economic benefits relative to alternative opportunities (Liska, Chamlin, and Reed 1985; Sever 2003; Stucky 2005, 24). Poverty and inequality may also affect crime through other mechanisms ranging from fewer social controls and deviant subcultures in poor communities (Pare and Felson 2014), to a decline in the legitimacy of institutional rules and frustration with one's relative economic position (Brush 1996; Messner and Rosenfeld 1997).

While there is debate about the causal mechanism linking poverty and inequality to crime, there is a consensus that decreasing poverty and inequality reduce crime rates (Loftin and

Hill 1974; Humphries and Wallace 1980; Smith and Parker 1980; Pratt and Cullen 2005). This approach suggests that politicians can effectively fight crime by implementing prevention-based policies that alter individual incentives to engage in crime. For the government, investing in policies that reduce poverty and inequality can be just as effective in reducing crime as providing more money for law enforcement.

Although the government can fight crime using both prevention and punitive-based policies, most research from developed countries suggests that political parties with conservative and liberal ideologies emphasize different approaches to public security (Da Silva 1990; Soares 2005; Gerber and Hopkins 2011; Guillamón, Bastida and Benito 2013; Wenzelburger 2014). Politicians from left parties focus on crime reduction through increased spending on social programs and education that help reduce poverty and inequality. In contrast, politicians from right parties focus on crime control by increasing the cost of crime through more spending on punitive measures.

Using this partisan budget approach, Gerber and Hopkins (2011) find that following close elections, independent and Republican Party mayors spend 2 percent more on traditional security policies than mayors from the Democratic Party. Guillamón, Bastida and Benito (2013) also show that conservative mayors in Spain spend more on public security than their liberal counterparts do. Wenzelburger (2014) compares spending across 28 Western democracies and finds that this effect is conditional. Conservative parties only spend more on public security when there are few institutional veto players or a low debt to budget ratio. Contradicting this previous work, dos Santos et al. (2015) examine state budgets in Brazil between 1999 and 2010 and find that left parties actually spend more than center or right parties on public security, although they do not theorize on why Brazil differs from other places.

While these studies show that ideology influences spending priorities, they leave two issues unaddressed. The first issue is which tough-on-crime policies ideology affects. Whereas, Gerber and Hopkins (2011) and dos Santos et al. (2015) focus only on law enforcement spending, Wenzelburger (2014) uses OECD (Organization for Economic Cooperation and Development) data that group together spending on police, courts, the penal system and firefighters. However, these studies do not disaggregate the data to examine how politicians allocate resources to the different institutions involved with a tough-on-crime approach. In Brazil, governors control three institutions that increase security through punitive measures.

First, there is law enforcement. Brazil's 1988 constitution gave governors control over law enforcement in the states and there are no municipal law enforcement agencies. Each state has two law enforcement agencies: the military police and the civil police. The military police are the preventative arm of the government. Military police officers patrol the streets and makes arrests when they catch individuals committing crime. Meanwhile, the civil police investigate crimes after they occur and engage in long-term criminal investigations.

The second institution is the penal system, which consists of prisons and jails to hold individuals convicted or accused of committing a crime. The Ministry of Justice oversees the penal system while the National Penitentiary Department manages it. Although the federal government has formal control over penal institutions, states manage and staff most prisons. Brazil's penal population has grown dramatically in recent years rising more than 267 percent from less than 233,000 inmates in 2000 to more than 622,000 in 2014 (Ministry of Justice 2014).

The third institution is the judicial system. Reducing crime requires both arresting and convicting individuals who violate the law. This requires an effective court system that is able to bring the defendants to trial in a speedy manner. Successfully convicting individuals accused of

crimes increases public security by removing them from the general populace. The underfunding of Brazil's judicial system and prison overcrowding have led the government to release many individuals from the penal system without having a trial.

While governors have the option to increase spending on all these policies, they must grapple with budgets that are insufficient to address all the needs for better courts, prisons and police. These limited resources force governors to prioritize which of the tough-on-crime policies they will emphasize. When comparing across the three institutions that scholars typically associate with crime control, a key difference emerges; they vary in their ability to allow governors to distribute resources to their supporters.

Increased spending on courts allows the government to place suspected criminals on trial statewide, while the penal system can increase public safety by holding individuals accused and/or convicted of crimes. Since these institutions deal with people throughout the state, they benefit state residents regardless of where they live. This prevents governors from directing these resources to specific constituencies within the state.

When the government spends more money on law enforcement, it can use these resources for a variety of purposes including hiring more police officers, building new police stations or buying other resources such as vehicles that allow the police to patrol cities. However, the government has flexibility with how it can distribute these resources. Although some states have guidelines specifying the criteria that the government should use to distribute police officers, governors can direct law enforcement resources to specific geographical areas with minimal public oversight. Many states classify information on law enforcement as data that are vital to public security, thus they do not need to release it to the public. This secrecy and the lack of fixed criteria for the distribution of resources, allows them to send more police officers to

specific municipalities in response to political interests. In the next chapter, I show that the politicization of security is a common strategy with governors sending more police officers to populous municipalities that are important for their electoral success.

Taken together, spending on all three policies allows governors to show that they are tough on crime. However, only spending on law enforcement allows them to show that they are tough on crime *and* reward their supporters. As I showed in Chapter 2, these policies are also popular among the public with 67 percent of state deputies saying that voters' primary demands are for more police officers. I expect that the high level of support for greater policing and governors' ability to use these resources to benefit supporters in specific geographical areas, will affect their budgetary decisions. State governors from right parties, which take a tough-on-crime approach, will devote a larger share of their budget for law enforcement than left parties do. However, since stronger courts benefit the entire state, right parties will not spend more on these institutions than left parties do. This common wisdom from the literature suggests the following.

CW_1: *Governors from right parties will spend more on law enforcement than governors from left parties but they will not spend more on courts*.

The second issue relates to the broader conceptualization of public security. The study of public security typically focuses only on law enforcement spending while ignoring spending on non-punitive crime prevention methods (Gerber and Hopkins 2011; Wenzelburger 2014; dos Santos et al. 2015). However, the extant literature in Brazil argues that leftist parties' approach public security with an emphasis on prevention (Da Silva 1990; Soares 2005; Cano 2006; Sapori 2007). If governors from left parties are tackling crime through preventative measures, overlooking these policies will erroneously show that they are ignoring the issue when, in fact, they are using a different policy approach. Education is the crime prevention method that has received the most attention.

The rational-choice approach suggests two reasons why education reduces crime rates (Machin, Marie and Vujić 2011). First, education makes crime less attractive by providing individuals with skills that help them obtain higher salaries in the legal job market. Moreover, as individuals obtain more specialized job skills, they have fewer incentives to participate in criminal activities. This occurs since skills individuals develop at technical colleges and universities allow them to obtain better job opportunities but do not help them commit crimes more effectively (Ehrlich 1975).

Second, since young males engage in criminal behavior at higher levels than all other groups, education may deter crime by occupying time that they would otherwise spend in criminal activity. Tauchen, Witte and Griesinger (1994) refer to the phenomenon as the 'self-incapacitation' effect. When schools are not in session due to teacher workdays, employee strikes or inclement weather and there are lower minimum dropout ages, criminal activity increases (Jacob and Lefgren 2003; Luallen 2006; Anderson 2014). Together, the partisan approach to public security, which is based on the common wisdom in the literature, suggests the following.

CW_2: *Governors from left parties will spend more on education than governors from right parties*.

3.2.2 Political Competition

While the extant literature gives ideology a prominent role in determining how governments allocate resources, politicians must balance public security with other policy areas that are important to their constituents such as healthcare, infrastructure and low unemployment. Governorships are a prestigious post for ambitious politicians in Brazil with governors wielding power in both national and state politics (Ames 2002; Samuels 2003). They are in charge of

state budgets and have vast control over the judiciary and public security apparatus, while at the national level they provide a coattail for federal deputy candidates and have a strong influence on their voting behavior in the national Congress (Abrucio 1998; Samuels 2000). Governors, however, also have different levels of resources, face differing limits on their power and must take into account which policies will be most beneficial for advancing their political careers (Ames 1990).

Partisan budget models assume that politicians from left and right parties allocate resources to different policy areas to demonstrate their commitment to those issues. They also posit that left and right parties "own" certain issues. Voters view left parties as more competent at managing social issues and education while right parties have a reputation for being stronger on policing and security issues. These differences allow voters to distinguish parties from one another during elections. However, Brazil's open list proportional electoral system for state and federal deputies has created an extreme multiparty system with more than 35 officially recognized political parties (Tribunal Superior Eleitoral 2016). The plethora of political parties has led to different patterns of electoral competition within each state. Figure 3.6 maps state political competition based on whether the state elected a governor from a left, right or centrist party in elections between 1990 and 2010.

Figure 3.6: Governor Ideologies by State, 1990-2010

This map shows five distinct patterns of political competition: Right-Center-Left, Center-Right, Center-Left, Right-Left and Center-Center. In the southeast, which holds the country's three most populous states (Rio de Janeiro, Minas Gerais and São Paulo), the centrist Brazilian Democratic Movement Party (PMDB) and the Brazilian Social Democratic Party (PSDB) dominate state politics with their competition primarily arising from each other as well as the leftist Workers' Party (PT) and the Democratic Labor Party (PDT). Since 1990, right parties have not won any governorships in this region despite crime increases and only centrist parties have controlled the governorship in Minas Gerais and São Paulo. In contrast, in the northeast region, there is more variety in political competition with governors coming from major left, center and right parties.

Competition within states may also vary across elections. Candidates from political parties across the ideological spectrum can be formidable political opponents even if they never win the governorship. Governors' successes in addressing security problems drive some of these changes in competition. Table 3.1 shows that when violence is decreasing, the top-two candidates are from the same ideological groups in 64 percent of consecutive elections. In contrast, when violence increases, the percentage declines to 41 percent. The decline in stability is even more pronounced when we consider that when violence is increasing, the incumbent governor's ideological group does not even finish among the top-two candidates in 20 percent of the elections.

Table 3.1: Changes in Political Competition as Violence Increases and Decreases

Increasing Violence		
Stable Competition	Changes in Competition	No Incumbent Group
33 (41%)	32 (39%)	16 (20%)
Decreasing Violence		
Stable Competition	Changes in Competition	No Incumbent Group
54 (64%)	30 (26%)	8 (10%)

Partisan budget models are silent on the role that variation in political competition will have on governor's budgetary allocations. For parties seeking to build or maintain their reputation for being strong in specific policy areas these differences in competition are likely to affect their spending priorities. Table 3.2 shows the percentage of years when the governor's strongest opponent in the last election was from a left, centrist or right party. When left governors are in power, they face a leftist or centrist competitor more than 50 percent of the time. Similarly, right governors face a right or centrist opponent more than 70 percent of the time.

Table 3.2: Governors and their Primary Electoral Competitors (%)

	Right Governor	**Center Governor**	**Left Governor**
Left Competitor	28	50	18
Center Competitor	49	19	37
Right Competitor	23	31	45

A casual analysis of Brazilian gubernatorial elections may lead observers to question whether competition should influence spending on security policies since there are, on average, six candidates participating in each election. A closer examination of electoral results suggests that despite facing many competitors, winning candidates often have a strong idea about their likely opponent's ideology in the following election. Between 1990 and 2010, there were 162 gubernatorial elections. In 126 elections, or approximately 78 percent of all elections, the second place candidate's vote share surpassed the third place candidate by more than 10 percentage points. In another 8 percent of elections, the third place candidate's vote total was within 10 percentage points of the second place candidate, but both candidates were from the same ideological group. Governors faced greater uncertainty about their likely future political competitor's ideology in only 14 percent of elections where the third place candidates was from a different ideological group and finished within 10 percentage points of the second place candidate.

For right governors, spending more on security will not distinguish them from their political competition when their opponents are also from right parties. Since voters view right parties as strong on security issues, they will expect similar security policies from both candidates. Therefore, more spending on law enforcement will provide minimal electoral advantages. Leftist governors will face the same problem in using their reputation for being strong on social issues and education to their advantage in the election when their primary competitor is from another left party. Governors from both left and right parties will have less of an incentive to distinguish themselves by spending more in the core policy areas where they are stronger when they face opponents with similar ideological beliefs.

Similar patterns are likely to arise when governors from left and right parties face competition from centrist parties. While all political parties in Brazil have clientelistic linkages with voters, centrist parties, especially the Brazilian Democratic Movement Party (PMDB), are well known for obtaining electoral support by delivering material benefits to their supporters (Ames 2002; Samuels 2003). They also lack coherent positions on important public policy issues, including education and security. These two features provide them with flexibility to alter budgetary allocations and policy positions in response to political competition.

If governors from leftist parties spend more on education and social programs to reduce crime, their centrist opponents can emphasize the need to take a more balanced approach to security that recognizes a strong role for both law enforcement and preventative measures. Similarly, when facing governors from right parties, centrist opponents can emphasize the need to engage in crime prevention through more spending on social programs and education. This strategy played out in Rio de Janeiro. During the 2006 gubernatorial campaign, Sérgio Cabral from the PMDB faced Denise Frossard from the leftist Popular Socialist Party (PPS). Throughout the campaign, Cabral emphasized a balanced approach to public security that called for fighting crime through social programs in conjunction with a stronger police presence.

The third situation is when rightist governors face opponents from left parties and vice versa. This occurs primarily in northern and northeastern states, such as Bahia, Amapá and Pernambuco. These situations are when governors will follow traditional partisan budget models. For right parties spending more on security will allow them to distinguish themselves from their leftist opponents. In contrast, left parties can demonstrate their commitment to crime prevention through education and social policies. Therefore, in contrast to the popular wisdom,

which suggests that right governors always spend more on security and left governors spend more on education, I expect to find that their behavior varies according to political competition.

H_1: *Governors from right parties will spend more on security than governors from left parties only when their primary political opponent is from a leftist party.*

H_2: *Governors from left parties will spend more on education than governors from right parties only when their primary political opponent is from a right party.*

The final category that we must consider is centrist parties. When centrist governors face competition from left parties, emphasizing educational issues is not a winning electoral strategy since they will have difficulty in establishing themselves as more competent than their competitors. They will face similar problems on security issues when facing opponents from right parties. They can, however, develop distinguish themselves as being stronger on education(security) issues compared to right(left) parties. In contrast, when they face competition from other centrist parties, there are no clear expectations regarding their spending behavior. Since neither party owns the education or security issue, their opponents can quickly counteract their efforts to establish a reputation on these issues. Taken together, therefore, I expect to find the following.

H_3: *Governors from centrist parties will spend more on security than governors from left parties only when their primary political opponent is from a leftist party.*

H_4: *Governors from centrist parties will spend more on education than governors from right parties only when their primary political opponent is from a rightist party.*

In summary, governors from different ideological groups may prefer to implement different policies to address crime and violence. However, variation in political competition plays a crucial role in determining how budgetary choices will affect their electoral success. These electoral effects, in turn, alter how they distribute government resources to different crime control policies.

3.2.3 Political Careers

While ideology leads governors from left and right parties to prefer different security policies, these beliefs must contend with individual governor's career interests as well as the environment in which they operate. Brazil's 1988 constitution initially allowed governors to remain in office for one four-year term. However, in 1997, Congress passed a constitutional amendment allowing executives at the federal, state and local level to run for one consecutive term. Since the 1998 elections, 75 percent of eligible governors have run for reelection.

There is wide variation in post-gubernatorial career paths among lame duck governors and those who did not run for reelection.[20] As Table 3.3 shows, almost 50 percent of governors ran for federal office while three died before completing their term.[21] Surprisingly, 38 percent of governors did not seek any political office over the next two years. Some of them worked for their political party's state offices but the majority returned to the private sector or opened non-governmental organizations. While Samuels (2003) claims that ambitious politicians seek state executive offices, less than ten percent of former governors competed in mayoral elections.

Table 3.3: Governors' Post-Gubernatorial Career Paths

Non-Government job	38% (33)
Died in Office	3% (3)
Federal Agency	6% (5)
Federal Political Office	47% (41)
State Political Office	7% (6)
N=88	

[20] I chose two years as the cutoff point since all states hold municipal elections two years after gubernatorial elections, thus allowing me to analyze whether governors remained involved in local politics.
[21] Edmund Pinto (Acre, 1990-1992) was only governor killed in office. In 1992, he traveled to São Paulo to meet with a parliamentary commission investigating fraud involving public works and the Brazilian company Odebrecht. A gunman entered his room and the room of another hotel guest and shot both men.

The impact that differing career paths have on spending is an important issue. During interviews in Brazil, one state deputy from the Workers' Party (PT) told me that people support a policy where "police shoot first and ask questions later" while another deputy, who is also from the PT, said that voters want to fight "violence with violence."[22][23] Given voters' demands, governors running for reelection are likely to spend more on law enforcement, compared to lame duck governors and those not running for reelection.

The policies for governors who leave politics or run for other political offices is less clear. While more spending on law enforcement may increase support for governors running in senate or mayoral elections, higher spending on non-security pork barrel goods, such as road projects, improved sanitation or providing political jobs to supporters, may be a more effective strategy to win votes. Meanwhile, among governors who return to the private sector or start their own non-governmental organizations, pork barrel goods may allow them to be more successful in these endeavors. Given this mixed evidence, I expect to find the following.

H_5: *Governors who run for reelection will spend more on security than governors who do not run for any political office.*

Another factor likely to influence governors' budgetary priorities is the closeness of the election. In Brazil, governors must win a majority of the votes to win the election. If no candidate earns a majority of votes there is a runoff election where the top two candidates compete. Competition for governorships varies widely among states. In Paraná, a large state in southwest Brazil, the winning governor's primary competitor receives, on average, 45 percent of the popular vote and there has never been an election where the competitor won less than 38 percent. In contrast, in Bahia, a large state in northeastern Brazil, governors won elections in

[22] Personal Interview, Paraná, December 2, 2015.
[23] Personal Interview, Paraná, December 1, 2015.

1998 and 2010 against competitors who obtained only 16 percent of the popular vote. Given the importance of public security as an electoral issue, I expect that vulnerable governors running for reelection will spend more on public security than non-vulnerable governors do. I classify governors as vulnerable if their primary competitor in the last election received at least 47 percent of the popular vote. Using this criterion, 33 percent of governors were vulnerable.

3.2.4 Additional Determinants of Budgetary Allocations

The political-business cycle literature suggests that politicians increase spending during electoral years to bolster their electoral support (Nordhaus 1975; Rose 2006). In Brazil, research finds that mayors increase spending in election years (Sakurai and Menezes-Filho 2011). Increasing spending during election years allows governors to demonstrate to voters that they are confronting crime and violence in a heads-on-manner. Therefore, I include a dichotomous variable indicating whether it is an election year.

While electoral politics and individual career choices are likely to vary state spending patterns, governors face state economic realities that vary on two fronts. The first is the size of the budget. Wealth is highly concentrated in Brazil with eight states producing more than 76 percent of the country's GDP (Valor 2014). In 1991, Bahia's per capita budget of R$271 was less than a third of São Paulo's budget of R$899 per capita. However, as the Brazilian economy grew in the 1990s and early 2000s, states began to benefit from increasing tax revenues and government transfers. Between 1991 and 2014, per capita budgets more than doubled in 18 states of the country's 27 states. Having more resources can allow governors to prioritize security while also providing more resources to other public policies.

Despite the growth in budgets, Brazilian states became increasingly indebted. Throughout the 1990s, state governments were in charge of collecting and spending a large share

of all government revenues (Samuels 2003, ch.8-9). During this time, they borrowed heavily from state development banks and international lenders to fund infrastructure projects. They were eventually unable to pay back their debt and threatened to default. The federal government agreed to take over this debt. However, as part of this agreement, it passed the Fiscal Responsibility Law in 2000.

The Fiscal Responsibility Law attempted to alter states spending patterns. It placed limits on hiring procedures during the six months prior to an election, limited the percentage of the budget that state governments can spend on personnel and made it more difficult for states to engage in deficit spending (Samuels 2003). With these new institutional constraints, governments seeking to gain electoral support by allocating resources to different policies related to public security have to better plan out their budgetary priorities.

Even with these legal restraints in place, governors regularly leave their successors with large debts that force them to prioritize state spending priorities. When Sérgio Cabral took control of Rio de Janeiro's state government in 2007, he inherited a billion dollar debt from the previous administration.[24] Similarly, following the 2014 elections, eight newly elected opposition governors inherited approximately U.S.$3.64 billion in debt from their predecessors.[25] When governors enter office and have large debt repayments, they have fewer resources to spend on public policies. Therefore, as state debt spending rises, there will be less spending on both education and law enforcement.

[24] Folha de São Paulo. 2006. "Eleito herda Estado com déficit de R$ 2,2 bi." October 30. *Factiva*.
[25] Folha de São Paulo. 2015. "Ex-governadores deixaram dívidas de R$ 7,4 bi a rivais." January 15. *Factiva*.

3.3 DATA AND ANALYSIS

I test these arguments using data from Brazil's 26 states between 1991 and 2014 and the Federal District between 1991 and 2001. This 24-year period covers six gubernatorial administrations following the passage of the country's 1988 constitution that gave governors control over public security. I do not include the Federal District in my analysis after 2001 since in 2002, the federal government passed law 10,633 that made the Federal District's military police, civil police and firefighters federal employees, thus removing their salaries from the state budget. Table 3.4 provides summary statistics for all model covariates.

Table 3.4: Summary Statistics

	Mean	Std. Dev.	Min	Max
Security Budget Percent	7.90	2.78	.92	17.53
Judiciary Budget Percent	6.63	2.39	0.84	28.74
Education Budget Percent	17.36	3.97	4.47	28.49
Debt Repayment Percent	3.80	3.70	0	48.98
Per Capita Budget (Brazilian Reais)	980	506	194	3,439
Right Party Governor	0.24	0.43	0	1
Center Party Governor	0.46	0.43	0	1
Left Party Governor	0.30	0.46	0	1
Left Competitor	0.34	0.48	0	1
Center Competitor	0.32	0.47	0	1
Right Competitor	0.34	0.47	0	1
Close Election	0.33	0.47	0	1
Reelection Run	0.43	0.50	0	1
Other Political Office	0.30	0.46	0	1
Election Year	0.22	0.41	0	1
Homicides	1,681	2,333	51	15,758
Homicide Rate	26.30	13.30	3.52	71.39
Inequality	0.56	0.05	0.42	0.69
Population	6,463,350	7,716,848	217,583	44,000,000
Population Density (km^2)	60.71	91.83	0.97	482.66

N=636

Since state budgets often mirror the budget from previous years, I use an Arellano-Bond model that includes the lagged dependent variable in the model. I analyze data yearly rather than by political administration for two reasons. First, there are several cases when the regional electoral courts invalidated elections due to fraud or vote buying during the campaign. In this situation, the court can declare the second place candidate as the winning governor or it can hold a new election. This often leads the state to have a governor from a new ideological group in the middle of an administrative term. Analyzing the data by administration would misidentify how the governor's ideology and changes in political competition, which are the primary covariates of interest, influence spending patterns. Second, governors are likely to respond to events, such as a rise in homicide rates, as they occur. A yearly examination of the data provides greater insight into how governors respond to these events, especially in cases where there are strong changes in important model covariates, such as state debt, homicide rates and budget expenditures.

My primary measure of spending on security policies is the percentage of the state's total budget that the government allocates to law enforcement, education and the judiciary. State budgets vary widely due to differing population sizes and wealth. Comparing spending using per capita budgetary allocations is problematic since governors in wealthier states, such as São Paulo, are likely to spend more per capita on security than governors from poorer states, regardless of ideology. However, I do include these models in the Appendix C since politicians may argue that they are prioritizing these policies areas by providing more resources for them, even if they are receiving a smaller share of the overall budget.

I gathered the budget data from the National Treasury Secretary (STN), which requires all states to submit annual budget data. State expenditures for education, law enforcement and the judiciary remain relatively stable over time but do exhibit wide swings in select years. In

investigating these sudden changes, I found that they are a result of how states classify pension payments. In most years, they consider pension payments to be part of total expenditures on education, the judiciary and security personnel. However, in some years, individual states reclassify these expenditures and place them into the social security and social assistance budgetary category. I address this problem by examining each state's transparency website to determine whether pensions were included in the education, judiciary and public security budgets. When they are not included, I examine the social security and social assistance budget to determine the amount of money spent on these pensions. In cases, where the government does not directly identify pension expenditures for educators, members of the judiciary and public security personnel, I estimate these expenditures by using the last available year of pension data, and assuming that the percentage of the state's pension expenditures spent on personnel in each area remained the same. When this information is unavailable, I remove the observations from the analysis.

Another issue arises for spending on law enforcement personnel. State governments occasionally move spending on law enforcement in a specific year to another budgetary category for unknown reasons. For example, in Acre, a small state in northwestern Brazil, the percentage of the budget devoted to law enforcement declined from 5 percent in 1996, to 0.5 percent in 1997 and 1998, before returning to 7 percent in 1999. During these two years, the government decided to move salary payments for all government personnel to the Administration and Planning budgetary category before returning them to their respective categories in 1999. In these situations, I analyzed individual state's budget data to identify the missing information. When detailed budgets are unavailable, I also removed the observations from the analysis. Altogether, this strategy led to the loss of approximately 2 percent of observations.

I classify governors as being from right, center or left parties using Power and Zucco's (2009) index of party ideology in Brazil. The index measures ideology based on parties' voting behavior in the national Congress and classifies parties similar to other measures based on elite questionnaires and expert opinions (Tarouco and Madeira 2013). As Figure 3.7 shows, partisan control over state government has varied widely between 1991 and 2014. In 1990, when Brazil held its first gubernatorial elections under the new constitution, right parties captured almost 60 percent of the governorships. However, by 2006, they controlled governorships only in the Federal District and Goiás. Their loss primarily benefited left parties that went from winning only three governorships in 1990 to 12 governorships in 2006. The left's advances in state politics came primarily from northern and northeastern states. In these regions, they went from winning only three governorships during the 1998 elections to 11 governorships in the 2006.

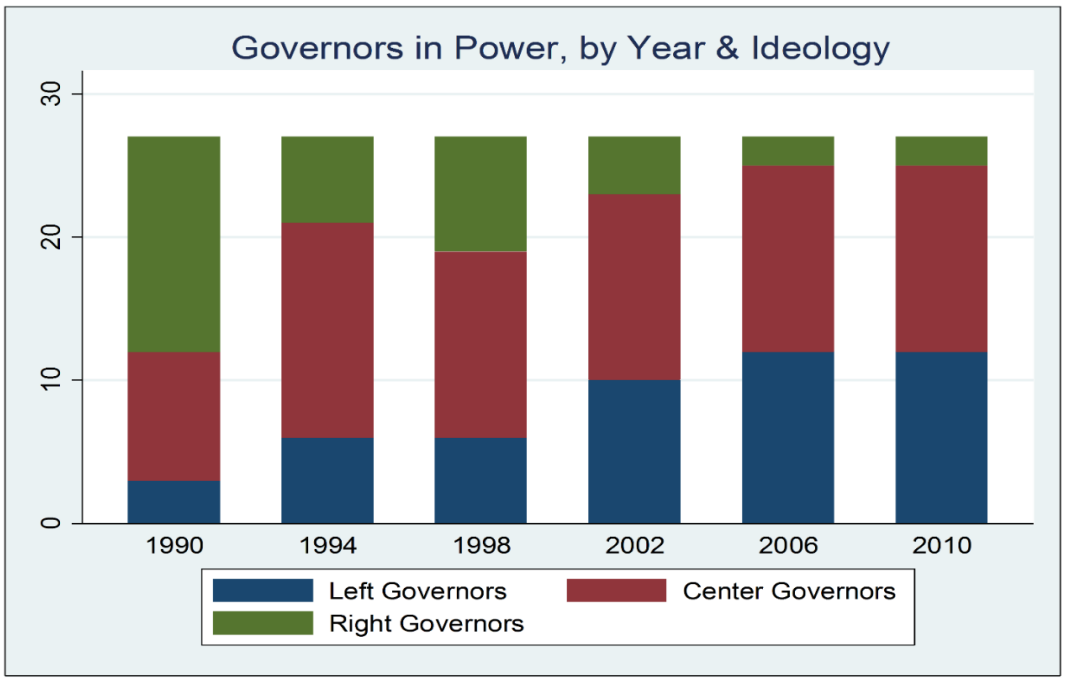

Figure 3.7: State Governors Elected by Year, 1990-2010

Nationwide Brazil has more than 30 political parties. However, power over state politics rest primarily in the hands of large parties that have a strong national presence. Between 1990 and 2010, just five political parties won 82 percent of the gubernatorial elections: the Liberal Front Party (Right, 24 mandates), the Brazilian Democratic Movement Party (Center, 40 mandates), the Brazilian Social Democracy Party (Center, 34 mandates), the Workers' Party (Left, 18 mandates) and the Brazilian Socialist Party (Left, 17 mandates).[26]

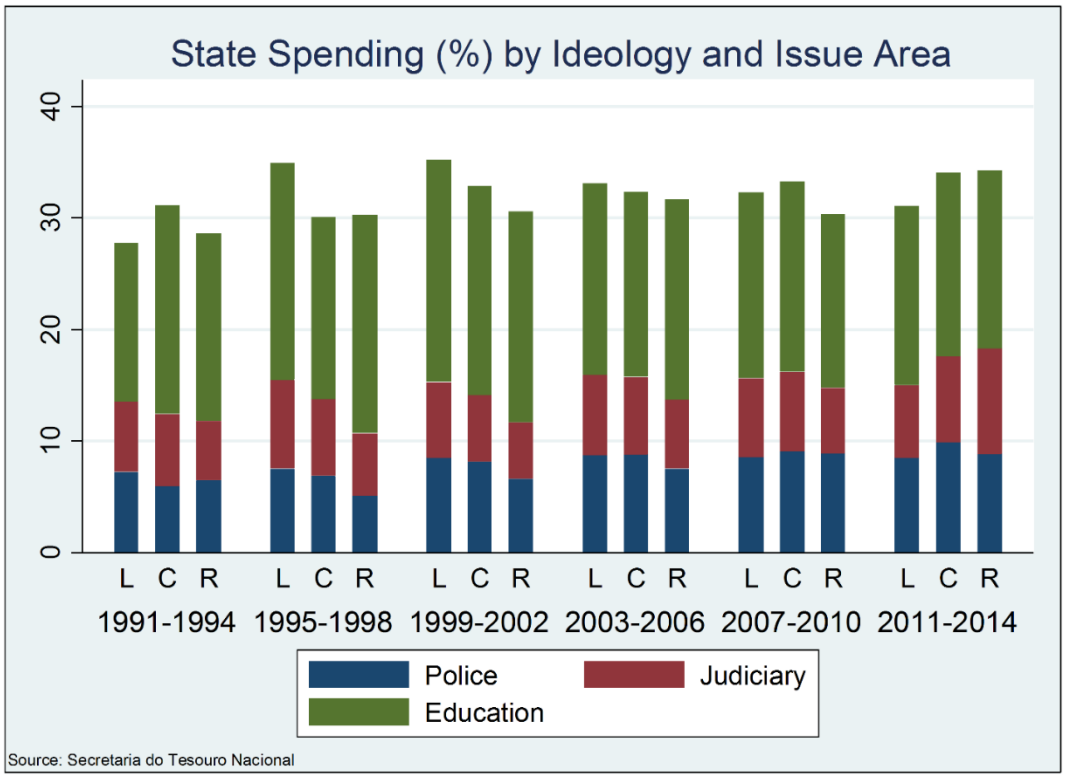

Figure 3.8: Center, Left and Right Governors' Budgetary Allocations

[26] The Liberal Front Party changed its name to Democrats (DEM) in 2007.

Figure 3.8 shows the average percentage of the state budget that governors from left, center and right parties, which are labeled "L", "C" and "R," respectively, spent on education, police and the judiciary. Contrary to what we would expect from traditional partisan budget models, between 1991 and 2006, governors from left parties spent the most on public security. Meanwhile, after 2006, governors from centrist parties spent the most on public security although the law enforcement spending gap between ideological groups declined.

During the 24-year period examined, the ideological group that spent the most on education and the judiciary also varied. Governors from left parties spent more on the judiciary than center and right parties between 1995 and 2006 but only spent more on education between 1999 and 2002. In contrast, right governors spent more on education during two periods; 1995-1998 and 2002-2006. Taken as a whole, while there are differences in how governors from the left, center and right allocate state resources for security policies, these differences are limited. This initial evidence provides minimal support for the argument that ideology alone drives governors' decisions when choosing how to allocate resources to different public security policies.

3.2.1: Technical Considerations and Budgetary Allocations

In addition to political factors and states' economic situations, I include technical factors that a rational-choice approach to security suggests will influence security spending. The first one is crime. As crime rates rise, government spending on security should also increase in an effort to reduce its impact on society. Crime data are often unavailable beyond the past five years and the data that do exist suffer from systematic reporting biases (Caldeira 2000, 112). Given these problems, I measure crime using homicide data. Homicide data are the most reliable indicators

of violence and are a key source of information for debates on public security in Brazil (Murray, Cerqueira and Kahn 2013). I measure crime using both the homicide rate per 100,000 people as well as the total number of homicides in the state.

The second factor is unemployment. Governance theories of budgets argue that politicians must respond to events that occur while they are in office (King et al. 1993, Epp, Lovett and Baumgartner 2014). High unemployment levels may force state governors to divert resources away from public security and focus their spending on other areas such as social programs. Finally, I include the population size as well as population density per square-kilometer. Studies find that crime rates are higher in areas with larger populations due to factors including lower social capital and larger transient populations (see Rotolo and Tittle [2006] for an overview). Meanwhile, population density has an unclear influence on crime rates (Harries 2006). Some studies finds that it increases crime rates while others suggest that it has either a negligible or a negative effect on them. I am agnostic about the impact that population growth and higher population density have on crime rates.

Sociological theories of crime argue that income inequality is a key factor influencing spending on public security (Liska, Chamlin and Reed 1985; Stucky 2005, 24). Rising levels of low-income individuals lead wealthier segments of the population to feel more insecure. The government assuages these fears through more spending on public security. I use the GINI index to measure income inequality. A 0 on the GINI index indicates complete equality in household income while a 1 indicates complete inequality. The average value of the GINI index is .62.

In 1988, the federal government elevated the territories of Amapá and Roraima to states. A debate ensued over who was responsible for government employees in these territories at the time they became states since the federal government originally hired these employees. In 1998,

the federal government passed a law taking financial responsibility for all government employees in these ex-territories at the time they became states, and in 2002, they applied this same rule to Roraima, which was also an ex-territory. In 2002, federal law 10.486 of July 4, 2002 also extended the federal government's financial responsibility. It gave members of the military police in ex-territories the same benefits that members of the military receive, leading to a large increase in resources spent on security in these states. I include an ex-territory variable, which indicates that the federal government was paying for state employees.

3.4 EMPIRICAL EVIDENCE AND ANALYSIS

3.4.1 Politics and Spending on Law Enforcement and the Judiciary

Tables 3.5 and 3.6 show how electoral politics and career interests influence spending on policing and the judiciary. Model 1 measures the impact that ideology has on both areas of the budget while controlling only for spending in the previous years.[27] In this basic model, which includes dummies for the governors' party, governors from right parties spend less on policing than governors from left parties and there is no discernable differences in the resources that center and left governors allocate to this policy area. However, these differences disappear once I take into account additional socioeconomic and political factors in Model 2. There is also no evidence that governors from right and centrist parties allocate a larger portion of the budget for the judiciary.

[27] While I include time fixed effects for all models, I do not include them in the chapter tables.

Table 3.5: Ideology and Law Enforcement Spending (%)

	Model 1	Model 2	Model 3	Model 4
Security Budget (t-1)	0.56***	0.40***	0.37***	0.39***
	(0.09)	(0.1)	(0.11)	(0.10)
Right Governor	-0.66**	-0.33	-1.20**	-0.33
	(0.25)	(0.34)	(0.46)	(0.32)
Center Governor	-0.10	0.08	-0.03	0.49*
	(0.14)	(0.18)	(0.24)	(0.2)
Right Competitor			-0.08	0.18
			(0.29)	(0.30)
Left Competitor			-0.04	0.66*
			(0.24)	(0.31)
Right Governor x Right Competitor			1.22**	
			(0.42)	
Right Governor x Left Competitor			1.98***	
			(0.51)	
Center Governor x Right Competitor				-0.53
				(0.38)
Center Governor x Left Competitor				-1.01**
				(0.37)
Reelection Run		-0.06	-0.06	-0.02
		(0.11)	(0.12)	(0.10)
Political Office		0.01	-0.12	-0.04
		(0.18)	(0.17)	(0.18)
Close Election		0.18	0.18	0.20
		(0.18)	(0.19)	(0.18)
Election Year		-3.08***	-2.92***	-3.04***
		(0.62)	(0.65)	(0.59)
Homicides		0.00007	0.0002	0.0001
		(0.0001)	(0.0001)	(0.0001)
Homicide Rate		-0.002	-0.01	-0.003
		(0.01)	(0.01)	(0.01)
Inequality		4.08**	4.02*	3.67*
		(1.53)	(1.68)	(1.78)
Population		-0.0000002	-0.0000001	-0.0000002
		(0.0000002)	(0.0000002)	(0.0000002)
Population Density		0.01	0.01	0.01
		(0.02)	(0.02)	(0.02)
Per Capita Budget		-0.003***	-0.003***	-0.003***
		(0.0006)	(0.0006)	(0.0006)
Debt Repayment (%)		-0.06**	-0.06**	-0.06**
		(0.02)	(0.02)	(0.02)
Ex-Territory		-0.43	-0.63	-0.48
		(1.57)	(1.64)	(1.46)
Constant	3.81***	7.66***	6.96***	7.49***
	(0.83)	(1.87)	(2.0)	(1.83)
N	584	498	498	498

+ 0.10 * 0.05 ** 0.01 ***.001, robust standard errors in parentheses

Table 3.6: Ideology and Judicial Spending (%)

	Model 1	**Model 2**	**Model 3**	**Model 4**
Security Budget (t-1)	0.27*	0.19**	0.19**	0.21**
	(0.11)	(0.06)	(0.06)	(0.07)
Right Governor	-0.90	-0.91	-1.22	-0.61
	(0.55)	(0.88)	(1.05)	(0.77)
Center Governor	-0.08	-0.06	-0.04	0.51
	(0.31)	(0.41)	(0.54)	(0.41)
Right Competitor			0.17	0.44
			(0.50)	(0.51)
Left Competitor			-0.23	0.49
			(0.34)	(0.57)
Right Governor x Right Competitor			0.62	
			(0.75)	
Right Governor x Left Competitor			1.49	
			(1.07)	
Center Governor x Right Competitor				-0.51
				(0.42)
Center Governor x Left Competitor				-1.21*
				(0.57)
Reelection Run		-0.01	-0.04	-0.03
		(0.13)	(0.15)	(0.15)
Political Office		-0.28	-0.38	-0.30
		(0.33)	(0.37)	(0.30)
Close Election		-0.0006	0.04	0.006
		(0.32)	(0.28)	(0.31)
Election Year		-0.51*	-1.94***	-2.15***
		(0.24)	(0.45)	(0.47)
Homicides		-0.002	-0.0001	-0.0002
		(0.002)	(0.0002)	(0.0002)
Homicide Rate		0.01	0.01	0.003
		(0.02)	(0.02)	(0.02)
Inequality		6.96	6.20	6.77
		(3.78)	(3.89)	(3.64)
Population		-0.000001**	-0.0000009**	-0.0000008**
		(0.0000003)	(0.0000003)	(0.0000003)
Population Density		0.04	0.03	0.02
		(0.02)	(0.02)	(0.03)
Per Capita Budget		-0.005***	-0.003***	-0.004***
		(0.0006)	(0.005)	(0.0006)
Debt Repayment (%)		0.01	0.01	0.01
		(0.03)	(0.03)	(0.03)
Ex-Territory		0.50	0.34	-0.29
		(0.56)	(0.71)	(0.83)
Constant		11.41**	11.40**	11.39**
		(3.95)	(4.15)	(4.03)
N	559	491	491	491

+ 0.10 * 0.05 ** 0.01 ***.001, robust standard errors in parentheses

The initial results do not provide support for traditional partisan budget models. Conservative governors do not spend more on policing or the judiciary than their leftist counterparts do, suggesting that there is a disconnect between rhetoric and reality. These findings contradict the widely accepted evidence from the United States (Gerber and Hopkins 2011) and Europe (Guillamón, Bastida and Benito 2013; Wenzelburger 2014) that the government spends more on security when a conservative party is in power. There is also no evidence that ideology influences how conservative governors allocate their resources. However, the issue of how election competition affects governors' spending choices remains.

Models 3 and 4 test the electoral competition hypothesis, which posits that political competition affects the amount of resources conservative and centrist governors allocate to law enforcement. In Model 3, I interact the right governor variable with two variables that indicate whether a right governor's primary electoral opponent in the last election was from a left or right party. Model 4 follows the same pattern. It interacts the center governor variable with the same two variables indicating whether the centrist governor faced competition from a left or centrist party. These interaction terms show how right and center governors' spending on law enforcement and the judiciary differs from left governors' spending when they face different political opponents. I identify the governor's primary electoral opponent as the political party that finished second in the last election.

For right parties, the evidence suggests that their spending on law enforcement is contingent on political competition. More specifically, governors from right parties spend more on law enforcement relative to left parties only when they face competition from the left. Meanwhile, centrist governors spend more on law enforcement than leftist governors do, but the results are contrary to expectations. They spend more when they face competition from centrist opponents and less when their competition comes from leftist opponents.

In Table 3.7, I identify the change in how much governors from right and centrist parties spend on law enforcement under different patterns of political competition. To demonstrate the relative importance of political competition, I also show how a standard deviation increase in the other statistically significant model covariates affects the percentage of the state budget spent on law enforcement. For the election year covariate, which is dichotomous, the coefficient shows how law enforcement spending differs during election years.

Table 3.7: % of State Budget Spent on Law Enforcement

	Law Enforcement
Right Party Governor	
Left Party Opponent	+0.74
Center Party Opponent	-1.20
Right Party Opponent	-0.06
Center Party Governor	
Left Party Opponent	-0.52**
Center Party Opponent	+0.49*
Right Party Opponent	0.04
Election Year	-2.92
Inequality	+0.20
Per Capita Budget	-1.52
Debt Repayment	-0.22

When their primary opposition is from leftist competitors, governors from right parties devote almost three-quarters of a percentage point more of the state's total budget to law enforcement. With law enforcement consuming, on average, 7.9 percent of states' total budgets, this change represent a 9 percent increase in security spending. In other situations, political competition changes their spending patterns in the opposite direction. Right governors most commonly face opponents from centrist parties, and when they do, they spend significantly less on law enforcement than their counterparts in left parties do. In an otherwise average state, governors from right parties spend around 15 percent less when they faced a centrist opponent in the election. When they face an opponent from another right party, they spend around 1 percent less on security during all years of their administration.

In contrast to governors from right parties, centrist governors spend around 6.5 percent less than their counterparts in left parties when the face competition from the left. In contrast, when they face competition from the center, they spending around 6 percent more. The greater spending on law enforcement when facing centrist competitors may be an attempt by centrist parties to distinguish themselves from other centrists by developing a reputation as being stronger in this important policy area.

3.4.2 Politics and Education Spending

In Table 3.8, I use these same models to test whether leftist and centrist parties focus on improving security through increased spending on education rather than law enforcement. There is no evidence, however, to support traditional partisan budget models or my electoral competition hypothesis. States do not spend more on education when a governor from a left party is in power even when a left governor faced competition from a right party in the last

election. There is also no evidence that centrist governors try to distinguish themselves by spending more on education when they face strong competition from right party candidates.

Table 3.8: Ideology and Education Spending (%)

	Model 1	**Model 2**	**Model 3**	**Model 4**
Education Budget (t-1)	0.45***	0.35***	0.33***	0.34***
	(0.07)	(0.06)	(0.06)	(0.06)
Left Governor	-0.39	-0.44	0.32	-0.39
	(0.36)	(0.55)	(0.85)	(0.67)
Center Governor	-0.17	-0.33	-0.53	-0.38
	(0.50)	(0.60)	(0.59)	(0.54)
Right Competitor			0.97	0.27
			(0.77)	(0.47)
Left Competitor			0.86	0.88
			(0.84)	(0.71)
Left Governor x Right Competitor			-1.19	
			(0.64)	
Left Governor x Left Competitor			-0.90	
			(1.12)	
Center Governor x Right Competitor				0.31
				(0.73)
Center Governor x Left Competitor				-0.67
				(0.67)
Reelection Run		0.06	-0.01	0.08
		(0.24)	(0.26)	(0.28)
Political Office		0.08	-0.03	0.01
		(0.40)	(0.38)	(0.39)
Close Election		0.15	0.22	0.26
		(0.31)	(0.37)	(0.35)
Election Year		0.66	0.89	-0.29
		(0.99)	(1.06)	(0.67)
Homicides		0.0002	0.0002	0.002
		(0.0002)	(0.0002)	(0.0002)
Homicide Rate		-0.05*	-0.05*	-0.05*
		(0.02)	(0.02)	(0.02)
Inequality		-10.97*	-10.59**	-11.41**
		(4.37)	(4.08)	(4.32)
Population		-0.0000	-0.0000	-0.0000
		(0.0000)	(0.0000)	(0.0000)
Population Density		0.002	-0.01	-0.005
		(0.03)	(0.03)	(0.033)
Per Capita Budget		-0.004*	-0.004*	-0.004
		(0.002)	(0.002)	(0.002)
Debt Repayment (%)		-0.18***	-0.18***	-0.17***
		(0.04)	(0.04)	(0.04)
Ex-Territory		0.90	1.01	0.86
		(1.17)	(1.55)	(1.45)
Constant	9.63***	22.74***	22.49***	22.59***
	(1.17)	(4.77)	(4.74)	(4.86)
N	578	498	498	498

* 0.05 ** 0.01 ***.001, robust standard errors in parentheses

3.4.3 Partisanship and Spending Priorities

Taken together, there is minimal support for traditional partisan budget models. While partisanship affects spending on public security, its influence depends upon political competition. Governors from right parties spend more on law enforcement only when they face a leftist opponent. When their competition comes from centrist and other right parties, they spend less on security. These findings contradict the popular belief that right parties always take a tough-on-crime approach to security in Brazil. Although governors from right parties advocate these policies during the campaign, they implement them selectively when they are in office. Their budgetary priorities, instead, appear to be driven by how allocating more resources to law enforcement will influence their electoral success as opposed to strong ideological beliefs.

There is also no empirical evidence that ideology or political competition leads left or centrist parties to spend more than right parties on education. This finding contradicts the left's electoral platform that emphasize addressing the underlying social conditions that influence the likelihood that individuals will commit crimes. The lack of partisanship in education spending is likely due to the constitutional requirement that states spend at least 25 percent of tax revenues and government transfers on education. Given the vast amount of resources that states are already spending on education, it may be difficult for leftist governors to justify allocating more resources for it. In line with governance budget models, this floor on education spending appears to mitigate large spending swings when governors from different parties and ideological beliefs gain power.

Put another way, institutions work. By setting spending floors on education, the federal government is able to tie politicians' hands and prevent them from playing politics with this important policy area. In contrast, in law enforcement, where there are no constitutional minimal

requirements, there is strong politicization with spending swings occurring depending on who is in power and the political competition they face. The popular press and public security practioners in Brazil are aware of this problem. In recent years, a growing number of politicians and scholars have called for the government to address the law enforcement deficit by mandating minimum spending requirements for public security. To date, however, the federal government has refrained from intervening in this crucial policy area.

Turning our attention to the overall model, governors running for reelection or another political office at the state or national level do not spend more on education, the judiciary or law enforcement than governors who leave politics. Similarly, governors who win close elections do not spend more than those who win with a wider margin of victory. Among the other political, social and technical factors, there are uneven effects depending on the type of policy we examine. Population growth leads to more spending on the judiciary but does not affect spending on education or law enforcement. Meanwhile, more homicides lead states to increase spending on law enforcement although states with higher homicide rates do not spend more. In line with expectations, higher inequality leads to more spending on the police but reduces education spending. State finances have effects that are largely in line with expectations. Higher state debt reduces spending on the judiciary and education but does not affect spending on the judiciary. States also spend a smaller percentage of their budgets on security, education and the judiciary as their budgets grow larger.

3.5 NORTHEAST NEIGHBORS: THE CASES OF CEARÁ AND PIAUÍ

I return to the cases of Ceará and Piauí, which motivated the chapter, to highlight how these mechanisms function in state politics. More specifically, I show that governors in both states largely behave in line with expectations, with resource allocation for public security depending on political competition. The states are neighbors in northeastern Brazil and have many other similarities. As Table 3.9 shows, in 1991, the states had similar budgets and levels of economic development. While Ceará was more populous and had a higher homicide rate, it spent less per capita and a smaller portion of its budget on security. Over time, however, this changed with security spending declining relative to other budgetary areas in Piauí, while it increased in Ceará. In this section, I explore how state politics influenced governors' security spending priorities in these states.

Table 3.9: Ceará and Piauí Socioeconomic and Security Comparison, 1991-2010

	Ceará			**Piauí**		
Year	1991	2000	2010	1991	2000	2010
Population	6,366,647	7,200,167	8,448,055	2,582,137	2,753,373	3,119,015
Homicide Rate	9.5	17.1	31.8	4.0	8.4	13.2
GDP per Capita	R$5090	R$7081	R$9217	R$4264	R$4868	R$7073
Security Budget (%)	4.32	5.16	6.0	8.97	8.59	5.22
Per Capita Security	R$12	R$28	R$50	R$21	R$39	R$42
Per Capita Budget	R$272	R$548	R$839	R$237	R$449	R$797

Source: Brazilian Institute of Geography and Statistics (IBGE) and the Ministry of Health

3.5.1 Ceará: The Land of Technocrats

Ceará's modern political history began in 1986 with the election of Tasso Jereissati from the Brazilian Democratic Movement Party (PMDB). Jereissati was the president of the Ceará Industrial Center (CIC); a non-partisan group of young business elite that sought to modernize the state's economic and political environment. During the electoral campaign, he garnered widespread support from a diverse coalition that included the business community as well as social movements and leftist parties (Chaves Vieira 2012). These forces were seeking to break the cycle of *coronelismo*, whereby the conservative Liberal Front Party (PFL) maintained a stronghold on state politics through agreements with powerful political brokers from the interior of the state.[28] Tasso easily won the election, garnering more than 61 percent of valid votes. This began the "Tasso Era" in state politics that would last through 2002.

During the electoral campaign, he promised to modernize the state's police forces and tackle the issue of *pistolagem*, whereby the rural elite would hire hitman to deal with labor and public security problems (Xavier 2016). Upon taking office, he hired two outsiders from the Federal Police, Moroni Torgan and Renato Torrano, to lead the Secretary of Public Security. Both these men were originally from southern Brazil. Their hiring led to widespread anger among the state's police officers who argued that the governor overlooked many competent internal candidates (Barreira 2004). The backlash it generated hindered his efforts to reform the public security apparatus and Tasso had minimal success in reducing contract killings despite widely publicizing these efforts (Brasil 2000).

Outside the realm of public security, Tasso faced other problems. Following the elections, he abandoned campaign promises, such as agrarian reform, which had earned him the

[28] The Liberal Front Party changed its name to Democrats (DEM) in 2007.

support of leftist groups. He made this decision because these promises clashed with the CIC's view of modernization that focused on defending private property, reducing state intervention in the economy, criticizing corporatism and condemning interregional economic imbalances (Chaves Vieira 2012). He also lost support among public workers and the middle class in the capital city of Fortaleza due to his administration's efforts to reduce clientelism and to modernize the state's administrative apparatus, which resulted in the firing of many public employees (Queiroz Nobre 2008, 228-229). Compounding these problem, Tasso began to feud with the PMDB's national leadership and on January 15, 1990, he left the PMDB to become a founding member of the Brazilian Social Democratic Party (PSDB) (CPDOC 2018).

With the constitution prohibiting him from running for reelection, Tasso chose his political ally and the popular mayor of Fortaleza, Ciro Gomes, to be the PSDB's candidate. Gomes came from an influential family that had been involved with state government and politics since the 18th century (Vasconcelos Monte 2016). Tasso's declining support among leftist supporters and urban dwellers forced Gomes and the PSDB to build new bases of electoral support. They turned their attention to traditional political leaders from the interior of the state who they had previously shunned (Queiroz Nobre 2008, 153-154). With their support, Gomes won the election defeating the conservative Liberal Front Party's candidate, Paulo Lustosa, by more than 18 percentage points.

Having faced a conservative competitor who he easily defeated, Ciro Gomes did not make major modifications to the state's security policies. He chose Francisco Crisóstomo, a civil police delegate known as the "contract killer hunter" to be the Secretary of Public Security. He also did not make major budgetary changes or create new public security programs. As Figure 3.9 shows, he maintained spending levels for all three types of crime prevention policies –

education, law enforcement and the court – although there were some spending increases prior to the 1994 elections. Despite lacking a strong public security policy, violence declined 23 percent during his administration.

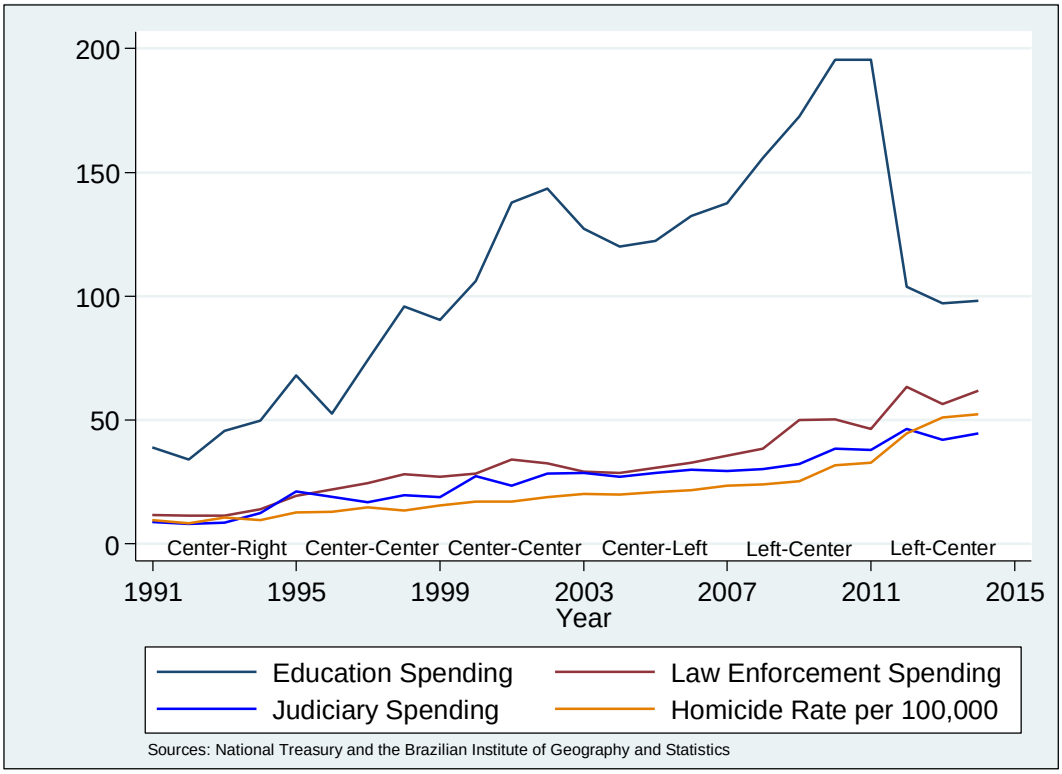

Figure 3.9: Homicides and Per Capita Expenditures in Ceará

In 1994, Tasso returned to the forefront of state politics defeating his former ally in the PMDB, Juraci Magalhães, who was running with strong support from the state's conservative parties.[29] He also won reelection in 1998, again defeating the PMDB.[30] With the economy growing, the state government more than doubled per capita spending on education, law enforcement and the judiciary. During his second stint as governor, Tasso's law enforcement policies focused primarily on institutions.

To demonstrate his commitment to democratic policing, he abolished the Secretary of Public Security and created the Secretary of Public Security and Social Defense in 1997. This change, however, came across as superficial to human rights groups when he made a military general, Cândido Vargas de Freire, the secretary of this new institution (Xavier 2008, 99). The state also hired the Bratton Group, founded by former New York City Police Commissioner, William Bratton, to evaluate its public security system. Bratton, who was well known for his "zero tolerance" policies in New York City, recommended that the government use a district policing model, whereby the government would assign individual military and civil police units to specific geographical areas and have them work together more cohesively (Brasil 2000, 230). He believed that this policy design would increase their effectiveness compared to the standard protocol, whereby the two police forces acted independently. Tasso also created a variety of other state agencies to improve security, including the State Human Rights Council (CEDH), the State Public Security Council (CONSESP), the Program for the Protection of Witnesses and Family Members of Victims of Violence (PROVITA) and Community Defense Councils (Xavier 2008).

[29] Magalhães served as Fortaleza's vice-mayor under Ciro Gomes.
[30] Gonzaga Mota, who was the state's governor from 1983-1986 was his opponent.

During this time, there was not a lot of focus on providing better training or salaries for military police personnel. On July 29, 1997, the military police went on strike to demand better salaries. The strike, which lasted two days, saw several acts of violence between strikers and the police sent to end the strike. However, Tasso refused to budge on salary increases. He also fired dozens of police officers who participated in the strike.[31] During his eight years in office, the state's homicide rate rose more than 60 percent.

Tasso's emphasis on institution building is puzzling at first glance since there is widespread popular support for hiring and better equipping law enforcement officers. Three aspects of the state's electoral competition help explain his policy choices. First, in both elections, he faced competition from the PMDB. The PMDB is well-known for lacking coherent ideological positions, giving it flexibility to modify its position in response to the local political environment. While the PSDB has more defined ideological positions, its place in the center also provides it flexibility, allowing it to counteract critiques from the PMDB.

Second, there is the issue of public security relative to other electoral issues. In a 1994 election survey, less than five percent of respondents identified crime it as one of the state's top-3 problems (CESOP-IBOPE 1994). In 1998, security became an increasingly important issue with 20 percent of respondents identifying it as one of the state's top-3 problems. For voters in both elections, however, security remained a less important issue than unemployment, healthcare, the state's drought situation and education (CESOP-IBOPE 1998).

Third, there was a lack of strong political competition in both elections. Tasso won the 1994 election by 17 percentage points and the 1998 election by more than 40 percentage points.

[31] O Povo. 2017. "As Polemicas Sobre a Primeira Greve das Polícias no CE." July 29. https://www.opovo.com.br/jornal/cotidiano/2017/07/as-polemicas-sobre-a-primeira-greve-das-policias-no-ce.html (May 8, 2018).

The relatively low importance of security as an electoral issue and the low levels of political competition gave Tasso flexibility to emphasize both prevention through education, as well as long-term policies designed to make law enforcement more effective, since his political survival was not at stake.

In 2002, Tasso's handpicked successor, Lúcio Alcântara from the PSDB, won control of the governorship, defeating José Airton from the leftist Workers' Party (PT). Despite Tasso's support, Alcântara made major modification to the state's public security policy and implemented a new security program called "Ceará Public Security –Actions 2003/2006 and Strategic Vision 2007-2010." This program called for a wide range of public security policies, including better protection for the public, crime prevention, reducing public disorder, transparency and respect for human rights. However, with the federal government reducing transfers to the state and facing a budgetary crisis, he could only implement a few select policies. During his tenure, the state hired 1981 new police officers, purchased 1246 vehicles, constructed new police forensic laboratories and police stations and expanded the state's prison system (Xavier 2016).

The emphasis on short-term crime control policies represented a major departure from Tasso's institutional building approach. Alcântara's choice, however, was strategic. Although he won the 2002 election, he was the first candidate in the Tasso Era unable to win the gubernatorial election in the first round. In the runoff election, he eked out a victory, defeating his opponent by only 3047 votes out of more than 3.5 million votes cast. In this election, public security became an increasingly important issue with 50 percent of voters identifying it as one of the state's top-3 problems, outranked only by unemployment and healthcare (CESOP-IBOPE 2002). Choosing popular public security policies was crucial to his reelection efforts.

Second, there is the issue of political competition. During the two previous elections, Tasso faced competition from other centrist parties where taking a tough-on-crime approach to security was unlikely to differentiate him from his opponents. Alcântara, in contrast, faced competition from the leftist Workers' Party (PT) that was benefiting from President Lula's Bolsa Família social program, which drastically increased income among the state's poorest voters. With the public viewing the left as less adept at addressing crime issues, emphasizing visible and popular policies provided a way for Alcântara to differentiate himself from his political competition.

While voters positively evaluated Alcântara's management of the state government, there were concerns within the PSDB that the state's economic and administrative advances were stalling. Prior to the 2006 elections, the party's two main leaders in the state, Tasso Jereissati and Ciro Gomes, tried to convince Alcântara to run for the state's open senate seat, paving the way for a grand coalition behind Ciro's brother, Cid Gomes, who was the Brazilian Socialist Party (PSB) candidate. However, he refused the offer, leading both Tasso and Ciro to informally supported Cid's election bid (Vasconcelos Monte 2016, 77). In the interior region of the state, Alcântara also lost the support of allied mayors who were upset that he did not fulfill his investment promises due to the state's economic problems. These setbacks allowed Cid Gomes to win the 2006 elections by more than a million votes, running with a left-center coalition of eight parties that included the PT and the PMDB.

Soon after the election, Cid Gomes directly supervised the creation of a security program called Ronda do Quarteirão (Block Patrols) that included 24-hour patrols by police officers especially assigned to three-kilometer grids. This program, which he widely publicized in the media, created tensions within the military police since the government gave these officers

additional bonuses, distinct uniforms and access to better equipment (Brasil and de Sousa 2010). He also invested heavily in expanding the security apparatus. Between 2007 and 2010, the state hired nearly 2600 new military police officers, increasing its police force from 12,630 to 15,258 (Ministry of Justice 2018).

During his first term in office, Gomes increased per capita spending on all three areas of the budget related to public security: education, law enforcement and the judiciary. However, he gave the most money to law enforcement, which saw its budget increase by 44 percent. In comparison, state spending on education and the judiciary rose by 31 and 14 percent, respectively. With competition arising from centrist parties, more spending on law enforcement allowed Gomes to break away from the left's reputation as being weak on crime. In addition, he received strong support from the leading members of the PSDB, which is a centrist party. Despite these efforts, the state's homicide rate rose 46 percent during his first term in office.

In the 2010 elections, there were major change in political alliances. Although Tasso's support was crucial for winning the 2006 elections, Gomes did not support his senatorial campaign. He instead threw his support for the state's two open senate seats behind Eunício Oliveira (PMDB) and José Pimentel (PT). This decision led to a formal rupture between the allies and Tasso supported the PSDB's gubernatorial candidate (Vasconcelos Monte 2016, 85).[32] Gomes's decision to not support Tasso reflected the PSDB's declining power in state politics. While the party won 70 of the state's 183 mayoral elections in 2004, by 2008 it controlled only 54 municipalities.[33] During his reelection campaign, Gomes promised greater investment in public security, health and transportation. With the economy continuing to grow, he won the election by more than 40 percentage points.

[32] The PSDB candidate, Marcos Cals, served as Ciro Gomes' Secretary of Justice and Citizenship.
[33] In 2012, they won only eight municipal elections.

In 2011, the state managed to stabilize violence. However, the government faced dissent within the state's security forces. The civil police launched two partial strikes that lasted five months. On December 31, 2011, the state's military police and firefighters also went on a 7-day strike, forcing the federal government to send the military and the National Force, a federal police force, to provide security. Unlike the 1997 military police strike, which resulted in no changes in the state's compensation policy, Gomes negotiated with police officers. He agreed to a seven percent salary increase, a reduction in work hours from 44 to 40 hours per week, a monthly R$850 bonus for all police officers who worked the morning and afternoon shifts and amnesty for all strike participants.[3435] While the state lost 800 military police officers between 2011 and 2012, the strike agreement led the state's per capita security to increase 37 percent while the percentage of the state's total budget spent on security rose from 5.8 to 8.9 percent.

In 2013, Gomes brought new management to the Secretary of Public Security and Social Defense (SSPDS) to address the state's growing security crisis. Between 2011 and 2012, the state' homicide rate rose more than 36 percent. Looking for solutions to the security problem, his government followed the example of Pernambuco, which achieved major reductions in violence under the leadership of Eduardo Campos, who was also from the Brazilian Socialist Party. The government divided the entire state into integrated Security Areas (AIS) and assigned military and civil police units to each area and required them to track monthly crime statistics. The government then held police commanders in each area accountable for achieving specified reductions in crime rates.

On April 10, 2014, the state also launched the "In Defense of Life Program," which sought to motivate police production by providing financial incentives for reducing crime. This

[34] Police officers who worked the overnight shift already received this bonus.
[35] It is illegal for military police officers to strike since they are members of the armed forces.

program gives each AIS monthly goals for reducing violent crimes, theft and completion of arrest warrants based on past criminal activity in the area. The government also gives overall crime reduction goals for its four territories and the overall state, which each count toward 20 percent of the overall goal. The police working in these areas then receive bonuses in proportion to the goals they achieve. For example, if an AIS achieves 70 percent of the goal, its employees receive 70 percent of the bonus. When all AISs does not fully achieve their goals, the leftover money goes to the top 15 AISs that achieved the highest absolute production (Dantas 2014).

During Gomes' final two years in office, the state hired 1036 police officers, filling the gap in police officers that left in previous years (Ministry of Justice 2018). Despite this increase in resources and the state's new security program, a growing gang war between two large gangs, the First Command of the Capital and the Guardians of the State, caused crime rates to continue to rise. The state's homicide rate rose 72 percent over this four-year period. Compared to his first four years in office when the state had 8802 homicides, during his second term there were 15,729 homicides.

In 2014, ruptures emerged among allies in the PSB's electoral coalition. The PT made Camilo Santana, a state deputy, their candidate while the PMDB put forth Eunício Oliveira, who was one of the state's senators. Although the PSB had an official candidate, Eliane Novais, both Cid and Ciro Gomes supported and coordinated Santana's campaign. During the campaign, both Santana and Oliveira made public security a central issue (Vasconcelos Monte 2016, 94). Santana offered a new security program called Ceará Pacífico (Ceará Pacified). This program called for a number of policies that including greater investment in police officers, strengthening law enforcement institutions, combating drugs, creating a public security research institute and increasing the police presence in the state's rural areas. These policies were similar to those of

Oliveira, who called for more investment in police officers and law enforcement institutions, combating drugs, increasing police mobility, reorganizing the police and better police intelligence.

Santana won a runoff election with 53 percent of the vote. He had initially success in reducing violence with homicides declining in both 2015 and 2016. However, with the continued gang war between the First Command of the Capital (PCC) and the Guardians of the State (GDE), violence continued to reach record levels with more than 5300 homicides in 2017 and another 3863 homicides through October 2018.

In summary, throughout the 1990s and early 2000s, the country's two strongest centrist parties, the PMDB and the PSDB, dominated Cearenese politics. During their time in office, spending on security largely followed the patterns identified in the cross-state quantitative analysis. These governors spent more on law enforcement and their spending was highest when they faced competition from centrist competitors. Since 2006, when leftist parties wrestled control of the governorship, there has been an even greater increase in law enforcement spending and more comprehensive public security programs.

The left's emphasis on law enforcement in Ceará further highlights the role of political competition in determining budgetary allocation. While the chapter emphasizes how political competition influences the right's spending on law enforcement, the greater emphasis that both Cid Gomes and Camilo Santana paid to public security, suggests that the left also recognizes that under certain situations it pays to make law enforcement an important electoral issue. Facing competition from centrist parties, which lack clear ideological positions, both governors exploited the issue in a successful attempt to further their own electoral success.

Finally, across all gubernatorial terms, there were not any patterns to suggest that ideological jockeying drove spending on education. Across both centrist and leftist governors' administrations, education spending increased. This rise in spending should not be surprising given the evidence from the quantitative analysis, showing that there is no difference in education, regardless of the governor's ideology. Together, the evidence from both policy areas points to the importance of rules versus discretion. Rules limited the politicization of education spending, while discretion in law enforcement spending led to budgetary shifts depending on political competition and the governor in power.

3.5.2 Piauí: Familiar Politics

To the west of Ceará lies Piauí. Piauí is Brazil's second poorest state with wealth that surpasses only the neighboring state of Maranhão. Despite this poverty, the state allocated nine percent of its budget to law enforcement in 1991, making it the state with the fourth highest investment in public security. By 2014, however, these numbers had reversed. Although the state increased per capita spending by R$11 (about US$3), law enforcement spending accounted for less than five percent of the state's budget and Piauí became the state that invested the least amount of resources in security. This decline, however, was not linear. As Figure 3.10 shows, spending on security rose steadily from 1991 to 2002, before declining slowly over the next 12 years. In contrast, spending on education increased more linearly while spending on the judiciary increased suddenly between 1991 and 1994, before remaining steady from 1995 to 2003. After this period, judiciary spending rises and falls unevenly.

The seemingly uneven importance that Piauí's governors have given to public security over the years is puzzling since security has become increasingly important to voters. In 1998, only 22 percent of the state's voters identified it as one of the top-3 problem, lagging behind the drought crisis, healthcare and unemployment (CESOP-IBOPE 1998b). However, by 2002, this had increased to 31 percent (CESOP-IBOPE 2002b). Only eight years later, more than 41 percent of voters identified it as one of the state's most important issues, surpassed only by healthcare and unemployment (CESOP-IBOPE 2010).

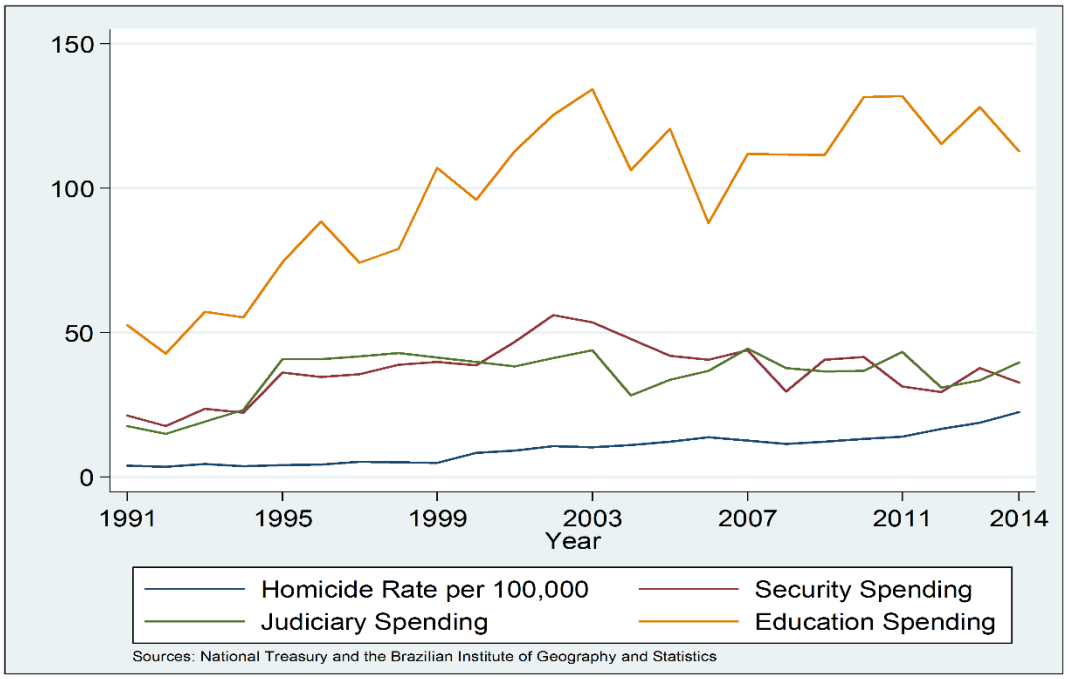

Figure 3.10: Homicides and Per Capita Expenditures in Piauí

The state's modern political history began in 1986 with a clash of political titans. The election pitted a coalition platform consisting of two former governors, Alberto Silva (PMDB, 1971-1975) and Lucídio Portela (PDS, 1979-1983), against Antônio Freitas Neto from the

Liberal Front Party (PFL) and Deoclécio Dantas from the Democratic Workers Party (PDT). Although they were electoral opponents, Portela and Freitas Neto came from powerful political families linked through marriage. Between the 1950s and the 1990s, members of their extended family controlled the governorship eight times (Arraes Filho 2000, 78-80). The PFL had only recently emerged in the state when Hugo Napoleão Neto, the state's governor from 1983 to 1986, left the PDS after it refused to nominate Antônio, who was his cousin, as the party's candidate in the 1986 elections. This split among the state's conservative elite helped Alberto Silva win in a close election.

In 1990, the PFL and the PDS resolved their differences and Antônio Freitas Neto won the election, defeating a centrist coalition headed by Wall Ferraz from the Brazilian Social Democratic Party (PSDB). Throughout his tenure, the state had the lowest homicide rate anywhere in Brazil, averaging less than four homicides for every 100 thousand residents. With low levels of violence and political competition arising from the center, the government had minimal incentive to increase spending on security. It was already devoting almost nine percent of the state budget to law enforcement and had managed to minimize the state's security problems. Any additional efforts would not allow the government to distinguish itself from its competitors and with family politics taking center stage in the state, the resources could be more efficiently utilized to benefit political allies. During Freitas Neto's tenure, state spending on public security remained stagnant while education spending increased slightly.

In 1994, the PFL chose Átila Freitas Lira, the cousin of former governor Hugo Napoleão Neto and current governor Antônio Freitas Neto, to be its candidate. The PMDB's candidate was Francisco Moraes Souza, more commonly known by his nickname, Mão Santa (Holy Hand), for his work as a doctor. Sousa was the mayor of Parnaíba, the state's second largest city, and

came from an important political family in northern Piauí. With support from the center-right PSDB, which dominated politics in the capital city and surrounding areas, he defeated Lira in a runoff election.

Souza arrived at an opportune time. The Real Plan, a national economic stabilization plan, had reduced the country's inflation rate from more than 900 percent in 1994 to 22 percent in 1995. The state's budget also began to grow rapidly, with per capita spending increasing 77 percent from R$250 to R$442. Despite these economic advances, the government did not place strong priority on improving public security.

Although the state provided more overall resources for education, security and the judiciary, both security and education received a smaller portion of the state's overall budget. In contrast to Ceará, where governors regularly developed new security plans, Souza did not launch any major security policies or maintain direct control over policies that could reduce violence. He gave the Secretary of Public Security to his allies in the Liberal Party (PL) and the Secretary of Education to the PSDB (De Sandes Freitas 2015).

In July 1997, the state's military police went on strike demanding better salaries and working conditions.[36] After six days, they agreed to end in the strike in exchange for salary increases, construction of housing for military police officers and an agreement not to punish police officers who participated in the strike.[37] This contrasted with the police strike occurring in Ceará at the same time, which resulted in no salary increases and the firing of dozens of police officers. The difference in outcomes stems largely from the government in power. Whereas Tasso came from Ceará's business elite, which sought to improve government efficiency, Souza

[36] Mota, Paulo. 1997. "Policiais do Piauí decidem manter greve." July 8. *Folha de São Paulo.* http://www1.folha.uol.com.br/fsp/cotidian/ff080735.htm

[37] It is illegal for the military police to go on strike since they are members of the Armed Forces.

won elections through negotiation and populist policies. Taking a hardline approach to the police strike would reduce his reputation as a politician who was open to negotiation regardless of the circumstances.

During his tenure, the state's homicide rate rose 22 percent. At first glance, Souza's lack of attention to this violence comes across as puzzling, especially since constitutional changes allowed him to run for reelection. A closer examination, however, reveals that there were strong political reasons he did not address the problem. While violence was rising, the state still had the lowest homicide rate in the country with 5.2 homicides per 100 thousand residents. In addition, violence was less important for voters than unemployment, healthcare and the state's drought problems (CESOP-IBOPE 1998). For politician seeking to maintain their power, winning election requires addressing those problems that are most important to voters. During his seven years in office (1995-2001), he invested heavily in popular policies, which addressed these concerns through projects such as a food program called Soup in the Hand (Sopa na Mão) and the Good Health (Boa Saúde) and the State Funeral Service (Funerária Estadual) medical programs (de Araújo and de Lima 2011). Between 1995 and 2000, the state invested almost R$110 million in social project (Mendes 2003).

In 1998, Souza ran for reelection, facing competition from his old foe Hugo Napoleão Neto (PFL). During this election, the PSDB, which was crucial to Souza's 1994 victory, left his electoral coalition and joined forces with the Workers' Party (PT). According to the PSDB gubernatorial candidate, Francisco Gerardo, the goal was to "defeat the PMDB and the PFL, which have altered power for years."[38] The election was highly contested with the federal government deploying the military and the Federal Police to prevent candidates from providing

[38] Folha de São Paulo. 1998. "No Acre, petista "light' fecha aliança com tucanos." July 1. http://www1.folha.uol.com.br/fsp/brasil/fc01079825.htm.

transportation to the polls, using stolen cars for campaign efforts and providing food in exchange for votes.[39] The Federal Police also investigated allegations that a mayor allied with Souza demanded that local government employees support him and tortured one man who could not guarantee that he would bring ten people to vote for Souza.[40] Despite these allegations of corruption, Souza defeated Napoleão Neto after the PSDB supported him in the runoff election.

Violence remained steady during the first year of his second term but then rose sharply, almost doubling by 2001. Responding to this increase, Souza took a balanced approach to reducing violence by increasing spending on both education and law enforcement. During this time, a major scandal also rocked the state's security apparatus. Federal Deputy Wellington Dias (PT) gave the Ministry of Justice documents alleging that at least 500 of the state's police officers were involved with crime. In addition, a Federal Police wiretap recorded the commander of the state's military police force threatening to kill the director of the Federal Police in the state.[41] Despite these problems, Souza did not attempt any widespread institutional reforms in the state's security apparatus.

On November 6, 2001, the Superior Electoral Court (TSE) removed Souza from power for using government resources to produce campaign material, providing free medicine and giving amnesty for late payments on water bills during the 1998 campaign.[42] As part of their decision, they declared Hugo Napoleão Neto to be the legitimate winner and allowed him to take power for the rest of the term. With the election less than a year away and facing competition

[39] De Oliveira, Eduardo. 2000. "Justiça pede tropa federal em mais de 10% do Piauí." September 14. *Folha de São Paulo*. http://www1.folha.uol.com.br/folha/brasil/ult96u6326.shtml.
[40] Guedes, Gil. 1998. "Exército e PF tentam evitar violência e irregularidades na votação no Piauí." October 24. *O Estado de São Paulo*.
[41] Leali, Francisco. 1999. "Violência/Piaui." September 18. *Agência Jornal do Brasil*.
[42] Costa, Victor. 2017. "Santa comenta absolvição de Dilma-Temer." June 11. *Oito Meia*. https://www.oitomeia.com.br/noticias/politica/2017/06/11/primeiro-governador-cassado-do-brasil-mao-santa-comenta-absolvicao-de-dilma-temer/.

from the PT candidate, Wellington Dias, Napoleão Neto made rapid changes in the state budget. In 2002, he sought to address the state's growing security problems by increasing education and law enforcement spending by five and ten percent, respectively. The greater allocation of resources for law enforcement coalesces with the argument that right governors will spend more on security when they face competition from leftist parties that they can portray as weak on crime.

In the months leading up to the 2002 elections, Dias made a deal with Souza. In exchange for supporting Souza's 2002 senatorial campaign, Souza and the PMDB would support his gubernatorial campaign. Dias defeated Napoleão Neto in an election that signaled the slow downfall of conservative oligarchic parties in the state.

During his first term in office, Dias did not make major modifications to the state's public security policy. In June 2004, the military police went on strike, demanding a 28 percent salary increase, changes in career plans and overdue 13th salary payments.[43] He argued, however, that the state's high expenditures on personnel and a decline in the state's revenue from the State Participation Fund, a federal transfer which accounted for 60 percent of the state's budget, prevented him from addressing these demands.[44] Over his four-year term, per capita spending on education and law enforcement remained steady, although both areas saw their portion of the budget decline.

Despite these setbacks, the state began experiencing economic growth during the final years of his term and PT candidates nationwide experienced a surge in popularity due to the national social program Bolsa Família. In Piauí, which had 1,548,121 valid votes cast in the

[43] In Brazil, government employees receive an additional paycheck in December that is equivalent to their monthly salary.
[44] Coelho, Luciano. 2004. "Piauí pede dinheiro à União para negociar com polícia em greve." June 14. *O Estado de São Paulo*.

2006 elections, the program reached 366,906 families (Ministry of Social Development 2018). In 2006, the PMDB left the government's electoral coalition and Dias faced his former ally, Francisco Moraes Souza, who was crucial to his 2002 victory. However, times had changed and dissent within the PMDB led many of its members to support other candidates. Dias won the election defeating Souza by more than 35 percentage points.

With the state's economic situation improving, Dias behaved as traditional partisan budgetary models would anticipate. He increased spending on education until it reached levels similar to those that existed before the state's financial crisis. In addition, despite a continued rise a crime, he reduced state spending on law enforcement and the judiciary. Throughout his second term, the government did not develop any new policies to address the state's growing public security problems.

Unable to remain in office for a third term, Dias supported his vice-governor Wilson Martins from the Brazilian Socialist Party (PSB), which is another left-leaning party that has its electoral base in northeastern Brazil. He chose Moraes Souza Filho, who is from the PMDB and the nephew of former governor Francisco Moraes Souza, to be the vice-governor candidate. Martins campaigned on the continued benefits that Bolsa Família brought to the state and his strong relationship with presidential candidate Dilma Rousseff. He also promised to expand broadband Internet access throughout the state, place health units in schools and hire 4000 police officers.[45] Martins won a runoff election, defeating Sílvio Mendes (PSDB), who was the ex-mayor of Teresina, the capital city.

[45] O Globo. 2010. "Wilson Martins é reeleito governador do Piauí." October 31. http://g1.globo.com/especiais/eleicoes-2010/noticia/2010/10/wilson-martins-e-reeleito-governador-do-piaui.html (May 21, 2018).

Although he cast himself as a candidate who was strong on security issues, Wilson took minimal action to implement law-enforcement based solutions to address the state's security problems. During his tenure, law enforcement spending declined to only R$32 per capita in 2014, compared to R$56 in 2002. The state also lost more than 1100 of its 6506 military police officers due to retirement and normal attrition (Ministry of Justice 2018). Despite the declining level of law enforcement resources, he attempted to address security issues through a new program called Projeto Ronda Cidadão: A Polícia Militar Mais Perto de Você (Block Patrol: The Military Police Closer to You). This program, which copied the Projeto Ronda do Quarteirão (Block Patrol Project) implemented by Governor Cid Gomes in Ceará, divided the capital city into 3-kilometer areas, and assigned special police officers to provide 24-hour patrols in these areas. However, these efforts had minimal effect on crime with the state's murder rate rising more than 44 percent during his tenure.

Wilson was unable to run for the governor's office in the 2014 election, since he took control of the governorship in April 2010.[46] In the 2014 elections, the PSB's relationship with the PT broke down when the popular governor of Pernambuco, Eduardo Campos, launched his own presidential campaign in opposition to Dilma Rousseff's reelection campaign. In Piauí, Wilson and the PSB supported Moraes Souza Filho's gubernatorial campaign. However, he lost to Wellington Dias, who assumed his third mandate as governor. Since taking office, Dias has had mixed success addressing security problems with violence declining in 2015 and 2017 but rising in 2016.

In summary, Piauí challenges the traditional view that conservative parties focus on law enforcement while leftist parties focus on education. Despite having strong conservative parties

[46] Vice-governors who take over the office of governor for six months before the election are only eligible to run for one additional term since the federal constitution classifies them as having already been governor for one term.

competing for the governorship and a growing budget throughout the 1990s and early 2000s, the state only moderately increased per capita spending on law enforcement. Moreover, most of the increase in the state's law enforcement spending was due to a police strike during the tenure of centrist governor Francisco Moraes Souza, rather than a concerted effort by the government to address security problems.

The lack of spending on law enforcement supports the theory that right governors and centrist governors will not focus on these issues when they face each other, since it is more difficult to use the issue to distinguish themselves from their competitors. Similarly, when the left took power, they faced strong competition from the right, also making it less politically useful to focus on law enforcement. It is not surprising, therefore, that security spending dropped under the state's leftist governors while in Ceará, where leftist governors faced competition from the center, it increased.

3.6 CONCLUSION AND DISCUSSION

This chapter focused on how political ideology, political competition and career interests influence spending on crime control policies. Although governors from left and right political parties advocate different policies to reduce crime and violence during electoral campaigns, when they are in office, they implement these policies only under select circumstances. While governors from right political parties have a reputation for being tough on crime, they do not spend more on the judiciary and only spend more than left parties do on law enforcement when they face competition from left parties. I also do not find evidence that left parties focus on

addressing the underlying socioeconomic causes of crime by allocating more resources to education, despite popular belief that they take this differing approach to public security.

These findings are contrary to the extant research on crime and politics and have two important implications for the study of public security. First, they show the benefit of testing broad theoretical arguments across different socioeconomic and political context. Most research on politicians' responses to public security problems focuses on Western democracies. The majority of these countries, however, already have low and declining crime rates. This situation may allow left and right parties to implement different policies to address public security problems since citizens have a lower probability of being a victim of crime or violence. However, in countries where there are high levels of violence and crime victimization, political necessity may force politicians from across the ideological spectrum to take a tough on crime stance, which primarily involves using law enforcement to make people feel safe.

Second, it shows the importance of taking a more comprehensive view of public security. The few studies that examine public security policy in developing countries rely primarily on qualitative evidence and survey data that cover only a short time period (Chevigny 2005; Holland 2013). While they show that parties advocate different approaches to security in their discourse and even at times in their behavior, they do not allow us to see whether parties systematically differ in the policies the implement over long periods. This chapter shows that there are discrepancies between discourse and practices. Leftist parties often adopt tough-on-crime policies to make citizens feel safer rather than addressing the underlying causes of crime and violence (Swimmer 1974; Fox 1979; Greenberg and Kessler 1982; Loftin and McDowall 1982; Chamlin and Langworthy 1996; Pratt and Cullen 2005; Dammert 2012). Right parties, in

contrast, seem to rely on their reputation for being tough on crime while only devoting more resources to law enforcement when it distinguishes them from their political competition.

In the next chapter, I address the logical question that arises from the study of state budgets. How do states decide to distribute their limited law enforcement resources? This question is central to my theory and addresses the key assertion made in this chapter that governors spend more on law enforcement because they can distribute these resources to their supporters. Using a novel dataset gathered from local sources during my fieldwork in Brazil, I examine how states use political and technical factors to decide the number of police officers that cities will receive.

4. CHAPTER 4: POLITICS AND THE DISTRIBUTION OF POLICE OFFICERS

How does politics influence the distribution of public security resources? In the last chapter, I examined state budgets and showed that electoral competition influenced the resources governors allocate to law enforcement. In this chapter, I turn to the issue of how governors utilize their existing public security resources. Given the benefits of controlling the state executive, governors have an incentive to provide high levels of public security. Like all politicians, however, governors face budgetary and constitutional constraints that limit the number of police officers they can hire (Jackson and Carroll 1981; McDowall and Loftin 1986).

A technical approach to public security suggests that governors should distribute police officers using criteria that minimize crime (Becker 1968). However, research from both the United States (Smith 1933) and South Africa (Fourchard 2012) suggests that the provision of public security can be an important electoral tool for political parties. In this chapter, I examine how governors' electoral interests, as well as the interests of their allies in state and local government, affect the number of police officers that cities receive.

Using electoral and police distribution data from the state of Minas Gerais between 2007 and 2015, I show that governors distribute police officers based on a municipality's importance for their electoral success. More specifically, the larger the portion of their statewide votes that come from the city, the more police officers the city receives. I also demonstrate that governors support allied mayors and state deputies by providing more police officers in cities where they

do well. This support, however, is conditional. Governors provide more police officers to local political allies only in the largest cities where they also garner a large portion of their statewide votes. Finally, contrary to expectations, there is no evidence that governors attempt to avoid crime spillover into neighboring municipalities by providing them with more police officers.

This chapter proceeds as follows. In the first section, I examine the extant literature on resource distribution and the recent evidence examining how politics influence governments' security policies. I also discuss the importance of considering spatial spillover effects when analyzing how the government allocates law enforcement resources. In the second section, I discuss why governors have incentives to provide more police officers to cities that support their political allies. In the third section, I examine how local political dynamics influence the government's decisions about how to allocate law enforcement resources. The fourth section provides the empirical models and analysis. The final section concludes with a discussion of the chapter's broader significance for the study of public security and distributive politics.

4.1 RESOURCE DISTRIBUTION

The influence of politics on public security has long been an important issue. Smith (1933) argues that beginning in the Colonial Era, the decentralization of law enforcement in the United States allowed local political actors to capture and use these agencies for personal and political gain. Individuals would appeal to political parties to avoid prosecution for crimes while business owners deployed the police against competitors. Fourchard's (2012) recent analysis of public security in South Africa shows that providing security through neighborhood watch and vigilante

groups is an important electoral strategy for political parties. In recent years, there has been growing interest in how politics influences the distribution of police resources.

A technical approach to policing involves the government distributing police officers based on criteria designed to minimize crime rates (Becker 1968). Using this approach, high crime areas and those that are at risk for violence will receive the most resources. A growing body of research suggests, however, that governments often deviate from this strategy and allow politics to play a central role in determining when and where the government provides security. Wilkinson's (2004) seminal work examines the relationship between ethnic violence and electoral competition in India. He shows that the government sends police and military forces to prevent violence toward ethnic minority groups when they support the ruling party or its allies and when electoral competition increases the possibility that they will have to negotiate with them later. In contrast, when minority groups support opposition parties, the government allows the violence to go unchecked and even escalates it in an effort to bolster support among its core supporters. Studies from across Latin America provide similar evidence.

Auyero (2006) examines supermarket looting in Argentina in 2001 and shows that implicit signals from local Justicialist Party leaders and the police influenced which stores the public looted. The police provided security for large, foreign supermarkets while the party directed the public away from smaller stores owned by party supporters. Acemoglu, Robinson and Santos (2013) analyze the relationship between politics and paramilitary groups in Colombia. They find that the federal government did not confront these groups in areas where they helped the president and his congressional allies by coercing voters who otherwise would have supported leftist candidates. Trejo and Ley (2016) scrutinize how partisan politics affected the distribution of federal police in the context of Mexico's drug war. They argue that the

federal government's strategic actions explain differences in violence across states and municipalities. In states and municipalities governed by copartisans, the government cooperated with subnational authorities on security policies, helping reduce crime rates. In contrast, it unilaterally implemented security policies in areas dominates by leftist opposition parties in an effort to discredit them by increasing homicide rates.

Taken together, these studies show that governments foment or prevent violence in response to electoral interests although the causal mechanism varies. In Argentina and India, politicians allowed violence and looting to go unchecked to bolster support and turnout among their core supporters. Importantly, politicians in both countries ensured the safety of their own supporters and their financial interests while targeting opposition supporters. In contrast, in Colombia and Mexico, the governments strategically allowed non-state actors to threaten or use violence to discredit opposition parties and coerce voters into supporting right parties.

Despite the argument that the federal government strategically allowed violence in an effort to influence vote choice in Mexico, it is unclear that voters actually blamed opposition governors and mayors for rising crime rates. In 2012, the incumbent National Action Party (PAN) lost the presidency. In addition, between 2007 and 2012, the PAN had a net loss of one governorship, thereby calling into question whether they were really attempting to discredit local opposition members by allowing violence to increase in these areas. Meanwhile, in Colombia, paramilitary groups had a predisposition toward right candidates. However, in countries not fighting political insurgencies, criminal groups and actors are less likely to have preexisting ideological positions. Therefore, the extant literature still leaves unaddressed the issue of how political interests influence the distribution of police resources to address everyday crime.

4.1.1 The Politics of Resource Distribution

The broad body of research on distributive politics suggests that electoral geography plays an important role in the distribution of government resources. Cross-nationally, the spatial clustering of electoral support has been found to influence the location of infrastructure investment (Cadot et al. 2006), budgetary amendments (Lancaster 1986; Ames 2002; Samuels 2003), disaster declarations (Reeves 2011; Gasper and Reeves 2011; Kriner and Reeves 2015) and federal spending (Berry, Burden and Howell 2010). Put simply, politicians distribute resources to those areas that are important for their electoral success.

The literature, however, has largely overlooked the issue of whether law enforcement is another public good that politicians use to benefit their constituents. The opaque nature of law enforcement data makes it especially vulnerable to political manipulation. Across Brazil, most states do not have databases that track local crime rates. When the data are available, the police are often unwilling to release it to the public or even to other law enforcement authorities. In his autobiography, Rio de Janeiro's former Secretary of Public Security, José Beltrame, said that he often had difficulty in obtaining basic information from local police commanders on the police battalion's structure, the territory under their control, the population of low-income neighborhoods in their districts and crime rates (Beltrame 2014). The lack of reliable crime data makes it easier for the government to use political factors when distributing law enforcement resources since critics will have greater difficulty demonstrating that the government is not following technical criteria.

State public security officials and politicians recognize that politics plays an important role in how the government distributes police officers across municipalities. Beltrame put it as follows:

> Dialogue is important and I was always open to discussion. But I know that a decision made only for politics has a great risk of being wrong. The criteria [used] for the distribution of military police battalions was *essentially political*. In the center of the city [of Rio de Janeiro], there are five barracks. The ideal would be to reduce it to two units and the neighborhood would not be less secure (2014, 97).[47]

Politicians and public security officials who I interviewed in Brazil echoed this statement. In one state, the secretary of public security said that he regularly holds meetings with state deputies that include city council members and mayors. During these meetings, they ask him to put more police officers in a particular area or to conduct an operation to reduce a particular type of crime. He said that this is not political interference but rather deputies representing their constituents' interests and "the majority defend the interests of their electoral bases."[48] In another state in northeastern Brazil, high-level military police officials said that if the governor wanted 40 police officers in a small city, then the state would send 40 police officers there.[49]

4.1.2 The Political Determinants of Resource Distribution

While political considerations likely influence how governors distribute security resources, an important issue remains. Which strategy do governors use to distribute these resources? In this debate, two models loom large: the core constituency model and the swing voter model. The core constituency model argues that politicians direct resources to loyal party voters. As incumbents' levels of risk aversion rise, they direct benefits to loyal coalition members to stabilize their support (Cox and McCubbins 1986). Directing benefits to swing voters is a risky endeavor since these voters may not respond to these inducements. As such, we would expect to find that governors will provide more resources to areas that give them more support.

[47] Author's translation from Portuguese text. I italicize the phrase for emphasis.
[48] Secretary of Public Security, Personal Interview, November 23, 2015.
[49] Military Police Officials, Personal Interview, February 27, 2016.

The swing voter model of redistribution offers a competing strategy. It argues that politicians should target undecided voters (Lindbeck and Weibull 1987). When parties have loyal bases that are unlikely to defect to other parties, directing resources to those voters who they can persuade with particularistic benefits can help them to win the election. This policy is most likely to be in place when voters are less ideological and more pragmatic (Dixit and Londregan 1996).

Scholars classify Brazil as a system where voters have low attachment to political parties (Ames 2002; Samuels 2003). Although these scholars focus on legislative elections, there is no evidence that voters have high attachment to political parties in gubernatorial elections. Therefore, parties cannot count on continued voter support based only on their name. Instead, they must provide particularistic benefits in exchange for electoral support. Directing public security resources to those municipalities where they dominate the vote can help ensure that they will retain this electoral support. This form of vote domination is most likely in less populous municipalities, making it seem likely that they will direct more law enforcement resources to these areas.

While governors may be able to dominate the vote in small municipalities, they must win a majority of vote statewide. Although they may be unable to win an overwhelming majority of votes in more populous municipalities, these areas are more essential for their electoral success since they give the governor a large number of votes. This suggests that governors have an incentive to provide more law enforcement resources to populous municipalities where they receive a large percentage of their total electoral support. I expect, therefore, to find the following:

H_1: *The larger the percentage of a governor's total votes that comes from the municipality, the more police officers the municipality will receive.*

Figures 4.1 and 4.2 provides visual support for this argument with data from 2007 in municipalities surrounding two of the state's most important cities; Juiz de Fora and Belo Horizonte. Both graphs show the number of police officers per 1000 residents using green circles, with larger circles indicating municipalities where there are fewer police officers per capita. Governor Aécio Neves' total statewide votes that came from each city is also shown using shades of red, with darker colors indicating that the city was more important for his electoral success. The general pattern observed in both regions is that in municipalities where the governor receives more votes, there are fewer residents per police officer. In Belo Horizonte, for example, there are approximately five police officers per 1000 residents, which is more than double the statewide average of 2.3 police officers for every 1000 residents.

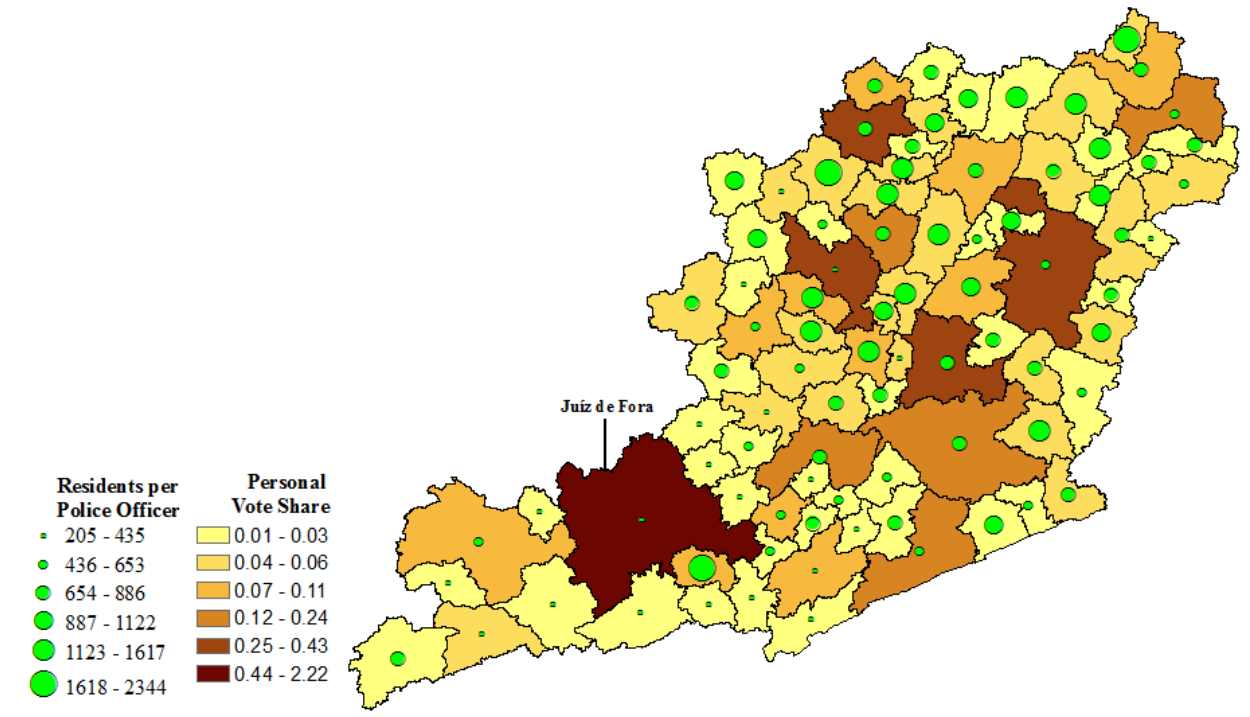

Figure 4.1: Governor Support and Police Distribution in the Juiz de Fora region, 2007

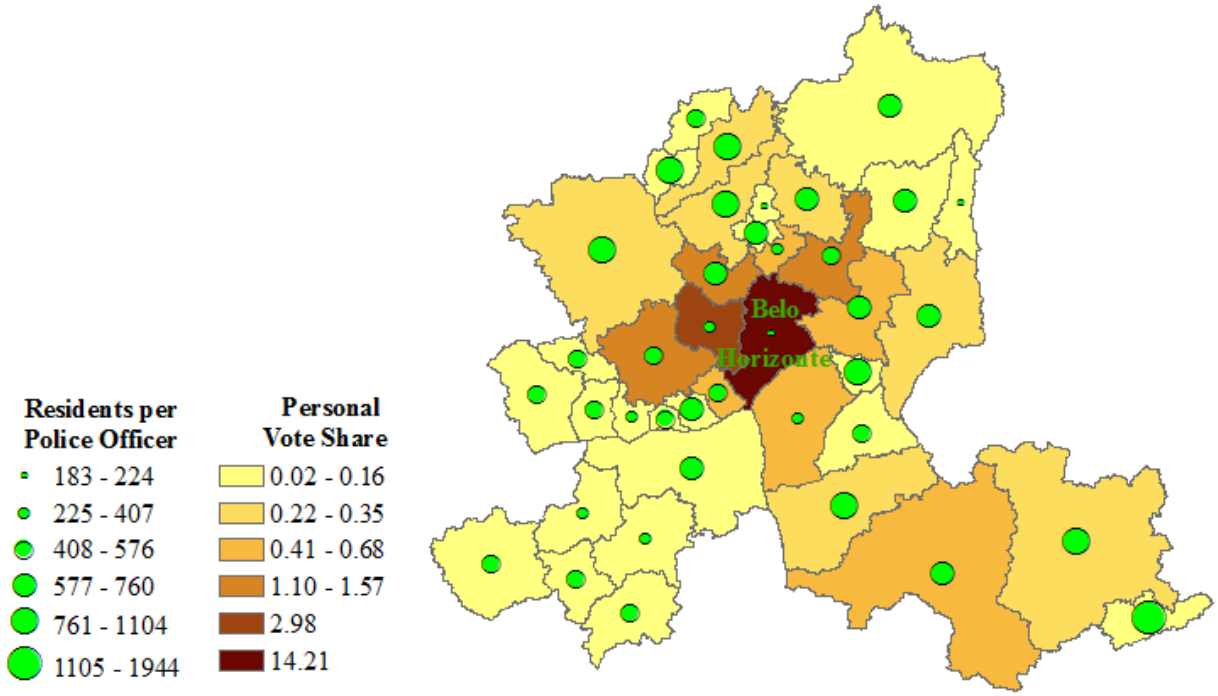

Figure 4.2: Governor Support and Police Distribution in the Belo Horizonte region, 2007

The expectation that governors provide more resources to areas that are more important for their electoral success must be understand in the context of the state's fiscal environment. As Table 4.1 shows, between 2007 and 2015, there were large changes in the number of military police officers in Minas Gerais. In 2008, during Aécio Neves's second administration (2007-2010), the state lost more than 3500 police officers. The following year, he reversed this trend hiring more than 4800 police officers. Since then, however, the state has seen a slow decline in the number of police officers despite continued population growth. By 2015, the state had 2774 fewer police officers than it did in 2007, while also adding nearly 1.8 million residents. Taking into account population growth and the decline in police officers, each police officer had responsibility for 506 people in 2015 but only 433 people in 2007.

Table 4.1: Changes in Military Police Officers and Growth in State Debt, 2007-2015

Year	Police Officers	Population	Residents per Police Officer	State Debt & Interest Payments
2007	44,035	19,069,172	433	R$2,539,289,699
2008	41,595	19,243,616	463	R$3,015,842,285
2009	46,411	19,419,664	418	R$3,245,843,426
2010	46,214	19,597,330	424	R$3,379,343,847
2011	45,848	19,821,516	432	R$3,960,957,826
2012	43,444	20,107,836	463	R$6,118,298,051
2013	43,198	20,456,154	474	R$7,582,815,803
2014	43,440	20,763,000	478	R$5,625,464,384
2015	41,261	20,869,100	506	R$6,066,287,725

The exact reason for the decline in police officers is unknown. It is likely, however, that the state's debt problem is partially to blame. In 2007, the state had approximately R$2.5 billion (US$758 million) in debt and interest payments. By 2012, when the state experienced a large decline in police officers, these payments had increased to more than R$6 billion (US$1.8 billion). These debt and interests payments were largely beyond the governor's control. Out of

the R$6 billion in debt, R$5.8 billion came from loans that had been taken out in the 1990s. Forced to fulfill these debt payments, Governor Antônio Anastasia had fewer resources to devote to public security even if he wanted to address the problem.

The widespread loss of police officers in some years suggests that there are times when governors will have difficulty in providing more resources to their electoral bases, even though it would benefit them politically. Put another way, while governors will try to take care of their supporters, their behavior will depend on available resources. In years when the state sees a *net gain* in police officers, I expect more politically important municipalities to see an *increase* in police officers. In contrast, in years when there is a *decline* in policing resources, I would expect these municipalities to have a *net loss* in police officers that is less extensive than it is in less politically important municipalities.

4.1.3 The Spillover Effects of Law Enforcement Policies

While politicians can benefit from distributing resources to politically important municipalities, the distributive politics literature has largely ignored the role of spillover effects.[50] For politicians seeking to distribute resources for political gain, however, this is an important issue since many government resources have positive or negative influences on geographically adjacent areas as well. For example, U.S. presidents use federal disaster declarations to bolster electoral support for themselves and members of their party in Congress (Gasper and Reeves 2011; Reeves 2011; Kriner and Reeves 2015). However, when the president declares a disaster

[50] The exception to this rule is Ames (2002) who implicitly recognizes the role of spillover effects during elections for federal deputies in Brazil. He argues that federal deputies whose support is concentrated in specific municipalities will file more budgetary amendments in an effort to stave off electoral competitors. However, he does not show the impact that amendments directed to specific municipalities have on their electoral support in surrounding areas.

and provides funds to a particular county, workers in surrounding areas can also participate in the rebuilding efforts. The positive economic benefits these funds generate for businesses and individuals in surrounding areas can lead to an increase in support for the president in these areas as well. Failure to consider these spillover effects can lead to an underestimation of the true electoral benefits that these resources provide.

There are competing views on how law enforcement policies directed toward a specific geographical area will have on crime in surrounding areas. Crime displacement theory argues that criminals are rational actors who migrate to surrounding areas when the area they are in receives more law enforcement resources (Teichman 2005). The police's main effect, therefore, is not to reduce crime but rather to move it to locations in other political jurisdictions and/or relocate crime to areas that are less visible to the public. Crime diffusion theory, in contrast, argues that when an area receives more law enforcement resources, it causes a decline in crime. Moreover, since individuals are not fully rational, crime in surrounding areas will also decline since people overestimate the extent of the police's presence. There is mixed evidence to support both these theories.

The first effort at systematically analyzing spillover effects came in Hesseling's (1994) review of 55 studies on crime prevention policies. He finds that these policies led to crime displacement in 60 percent of the cases and diffusion in only 11 percent. Guerette and Bowers' (2009) more recent review of 102 studies provides contradictory results. They show that crime displacement occurs only 23 percent of the time while crime diffusion occurs in 37 percent of the cases. Other studies find that crime prevention efforts lead to similar levels of crime displacement and diffusion (Bowers et. al 2011; Johnson, Guerette and Bowers 2014). However, many of these policy interventions focused on small areas such as districts, blocks and

neighborhoods. Studies on aggregate level interventions at the city and state level find that rather than reducing crime, many crime prevention policies simply push crime into surrounding areas (Worrall and Gaines 2006; Gonzalez-Navarro 2013).

For politicians, the importance of these spillover effects depends on the structure of public security institutions. In countries where authority over police agencies primarily rests with local government, politicians may implement public security policies without concern for the effect it will have on crime in surrounding areas. Since these areas are outside their electoral district, a rise in crime will not reduce their electoral support. Moreover, if voters benchmark and measure security in relation to neighboring areas, a rise in crime rates in surrounding areas may actually increase their electoral support since it shows that they are more competent in reducing crime than neighboring politicians.

In Brazil, however, there are no local police forces and governors control security throughout the state.[51] This makes it more difficult for them to export the negative externalities that their public security policies generate.[52] Therefore, when distributing public security resources for political gain, governors must take into account both how providing more law enforcement resources to a specific area will affect their electoral support in that area as well as the impact it will have on their support in surrounding areas.

If governors expect that providing more police officers to a municipality will reduce crime in surrounding areas, then there is unlikely to be a relationship between the number of police officers in a municipality and its neighbors. Since security is improving in surrounding areas, they need not analyze whether they should provide more resources to surrounding cities.

[51] Governors also control public security in other countries including Argentina and India.
[52] One way that they can avoid dealing with spillover effects is by increased policing on state borders. A state deputy from Sergipe said that death squads regularly traverse state borders to avoid law enforcement (Personal Interview, Sergipe, May 18, 2016).

However, if they expect that crime will diffuse to surrounding locations, then they may seek to prevent this negative spillover by providing more police officers to surrounding areas as well. Given the uncertainty of whether crime displacement occurs, I expect that governors will err on the side of caution and try to avoid the movement of crime across municipal borders by also providing more police officers to surrounding areas.

H_2: *The higher the percentage of a governor's total votes that comes from the municipality, the more police officers that surrounding municipalities will receive.*

4.2 STATE POLITICAL ALLIES AND PARTISANSHIP

While governors in Brazil seek reelection, they must work with allies in the state and municipal governments to achieve career and political goals. There are strong links between local politicians and the governor who controls the resources they need to survive (Abrucio 1998; Samuels 2003). While most research focuses on local politicians' efforts to obtain state financial resources for specific municipalities, public security resources are also a valuable asset. Brazil elects mayors to control the municipal government. Given the importance of public security for voters, governors can use law enforcement as a tool to influence municipal elections (Trejo and Ley 2016). By providing more police officers to municipalities governed by mayors from the same or allied parties, governors may be able to reduce crime and increase support for local electoral allies. These allies, in turn, can help support the governor's political agenda and reelection efforts. In contrast, providing fewer police officers to cities controlled by opposition parties can lead to higher crime rates and make it more likely that gubernatorial allies will be able to win control of local government.

Each state also elects state deputies using an open-list proportional representation system with the entire state serving as a district. For many state deputies, public security is an important issue. Between July 2015 and June 2016, I interviewed 121 state deputies from 25 political parties in six states across Brazil.[53] During these interviews, I asked them whether security was an important electoral issue and what policies voters demanded to address public security problems. As Table 4.2 shows, more than 80 percent of deputies said that it was an important electoral issue. In addition, 83 percent said that voters asked for law enforcement resources or a combination of law enforcement resources and social policies to reduce crime. These demands from voters have led deputies from across the ideological spectrum to take an interest in public security even though they do not directly control it.

Table 4.2: Public Security as an Electoral Issue and Voters' Policy Demands

State	**Important Issue**		**Policy Wanted**		
	Yes	No	Law Enforcement	Social Policies	Both
Bahia	16	5	15	2	1
Paraná	25	5	17	2	7
Pernambuco	19	4	10	6	0
Rio de Janeiro	15	6	9	2	4
Rio Grande do Norte	9	0	4	1	2
Sergipe	5	0	3	1	0
Total	82%	18%	67%	16%	16%

Source: Author's Interviews, August 2015-July 2016

With voters regularly requesting more police officers to deal with crime, I also asked deputies what factors influence how the government distribute law enforcement resources. As Table 4.3 shows, almost 40 percent of deputies thought that politics or a combination of politics

[53] Bahia, Paraná, Pernambuco, Rio de Janeiro, Rio Grande do Norte and Sergipe.

and other factors influenced how the government distributes resources. In Paraná, one deputy said that the governor helps those who help him the most. However, she admitted that this is a common strategy for all politicians, saying that if she received 5000 votes from a city but not its sister city, she would direct more police officers to the city that supported her.[54] Another deputy in Paraná said that deputies with links to the governor receive more support than areas that have deputies from other parties.[55]

Table 4.3: Factors State Deputies Believe Influence the Distribution of Police Officers

	Bahia	**Paraná**	**Pernambuco**	**Rio de Janeiro**	**Rio Grande do Norte**	**Sergipe**
Politics	2	2	2	1	0	0
Politics/Other Factors	4	12	4	5	2	2
Technical Criteria	3	7	0	2	1	2
Lack of Resources/Planning	11	7	7	0	5	1
Wealth/Media Visibility	1	0	1	11	0	0

Source: Authors' Interviews, August 2015-July 2016

Given the research from Colombia (Acemoglu, Robinson and Santos 2013) and Mexico (Trejo and Leyes 2016), as well as my qualitative research in Brazil, I expect to find the following.

H_3: *The greater support a municipality gives to state deputies allied with the governor, the more police officers it will receive.*

H_4: *Municipalities with allied mayors will receive more police officers than municipalities with mayors from opposition parties.*

[54] State Deputy, Personal Interview, Paraná, November 9, 2015
[55] State Deputy, Personal Interview, Paraná, November 24, 2015

4.3 DATA AND EMPIRICAL MODELS

To test the strategies that governors may use to distribute law enforcement resources, I requested data on the number of police officers from all 26 states and the Federal District. Twenty-five states and the Federal District either ignored the requests or denied access to the data based on provisions within the country's open access law that allows them to withhold data that pose a risk to the lives or security of the state's population or its institutions.[56] In Minas Gerais, however, the government released a web portal containing information on the distribution of police officers between 2007 and 2015. With 853 municipalities and more than 20 million residents, the state provides ample variation in political and electoral dynamics to test the arguments.

Minas Gerais is a tough case for the theory. Given the ready availability of data on policing, distortions from technical criteria are more readily transparent, making it easier for critics to attack the government. This transparency reduces the government's incentives to manipulate policing for political purposes. The state also has a reputation for having the country's most efficient bureaucracy, one that is likely to be more vigilant at minimizing political distortions in the distribution of police officers. Table 4.4 includes summary statistics for all model covariates.

[56] During fieldwork in Brazil, I made contact with officials in the secretary of public security in Paraná and Pernambuco who indicated that they would provide me with the data. However, when I emailed them reminders, one official ignored my emails and the second one told me that the secretary of public security does not have the data. Instead, it rests with the military police who are unwilling to provide it.

Table 4.4: Summary Statistics, 2007-2015

	Mean	Standard Deviation	Minimum	Maximum
Police Officers	51.92	448	0	13,688
Governor Vote Dominance	70.18	14.22	14.06	95.83
Governor Personal Share	0.12	0.53	0.005	15.09
Deputy Vote Dominance	55.09	22.17	1.74	97.87
Coalition Party Mayor	0.58	0.49	0	1
Homicide Rate	10.99	15.17	0	121.83
Homicides	4.9	36.02	0	1201
Population Density	66	319	1	7578
Population	23,224	94,758	814	2,493,906
Infant Mortality Rate	13.9	14.1	0	176.5
Bolsa Família	1315	3061	31	72,849
N=7677				

I measure the dependent variable, the distribution of security resources, using the total quantity of military police officers in the municipality. In Figure 4.1, I map the number of people that each municipality requires to have a single police officer. While Minas Gerais has an average of one officer for every 478 residents in 2014, the city of Marliéria, which is located in the center of the state, has 26 police officers for only 4,128 residents. In contrast, in Carmo de Rio Claro, which is located in the state's south region, there are only four police officers to provide security for 21,293 residents. These differences suggest that the government is distributing police officers based on other factors besides population size.

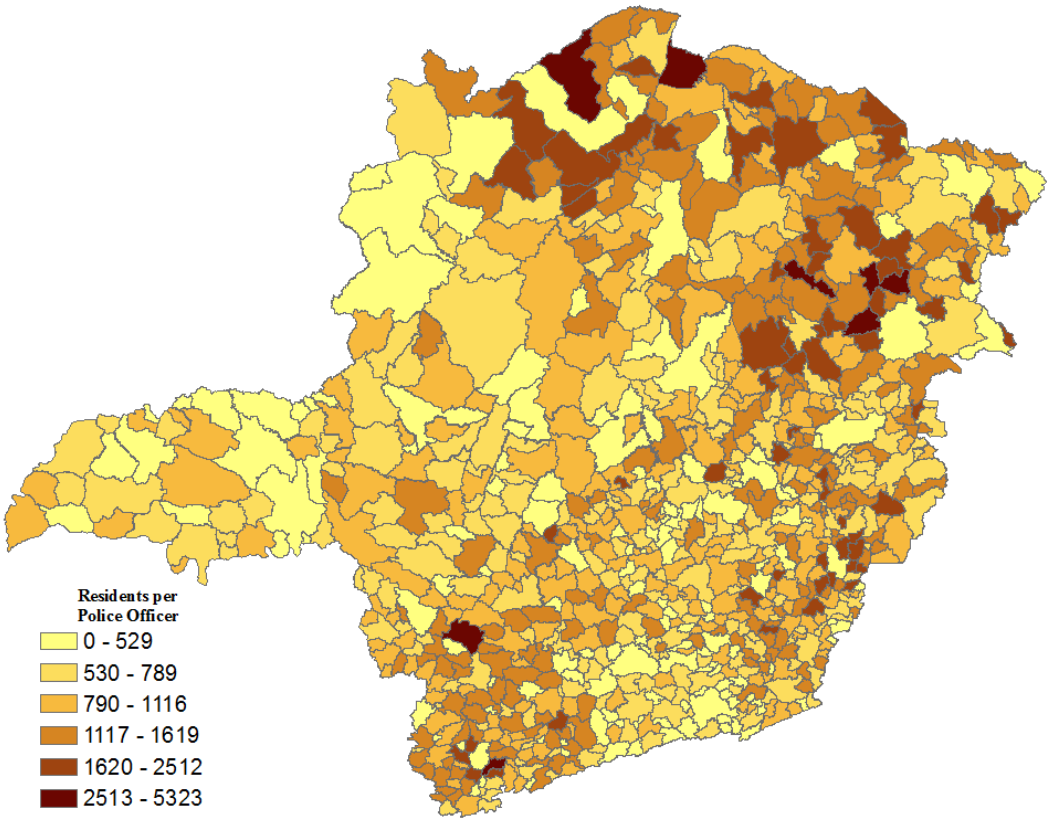

Figure 4.3: Residents per Military Police Officer, 2014

4.3.1 Primary Independent Variables

I measure the governor's *vote dominance* using the percentage of the municipality's valid votes that the governor received in the first round of the last election.[57] Meanwhile, *deputy vote dominance* indicates the percentage of valid votes received by state deputies and political parties that supported the governor during the last election. I calculate both variables using Ames's (2002) formula:

> Vote Dominance = (Votes Received in Municipality/Total Valid Votes Cast in Municipality) x 100

Across the three elections, governors won an average of 72 percent of the valid votes in all municipalities while their political allies in the state legislature won 59 percent.

Personal vote share measures the importance of the municipality for the governor's electoral success. I calculate it using the following formula:

> Personal Share = (Winning Governor's Votes Received in Municipality/Total Votes Received by the Winning Governor) x 100.

The average personal vote share received from each municipality is only .05 percent while the maximum amount is 14.2. Finally, *mayor* is a dichotomous variable indicating whether the mayor is from a party in the governor's electoral coalition.[58]

4.3.2 Technical Determinants of Policing

Minas Gerais does not provide the technical criteria it uses to distribute police officers. However, in 1983 the country's military government issued a decree that lists the following

[57] Gubernatorial elections in Brazil require that the winning candidate receive at least 50 percent of valid votes cast. If no candidate reaches this threshold during the first round of voting, then there is a runoff election between the top two candidates.

[58] I also tested my models using only mayors from the governor's party and obtained similar results.

factors as determinants of the distribution of police: socioeconomic conditions, crime rates, demographic changes, territorial size, the recruitment and formation capacity of military police cadets and "other" factors established by the military government.[59] Similarly, in 2009, Rio de Janeiro listed territorial size, violent crime rates, demographic factors and "peculiar situations" as factors influencing the distribution of military police forces in the state.[60] Based on these documents, I include four technical factors that are likely to influence the distribution of public security resources.

The first factor is crime rates. If the government is seeking to reduce crime to its minimal possible level, then it should target those municipalities with the highest crime rate. In Brazil, many crimes, apart from homicides, either go unreported or suffer from a reporting bias where wealthier victims are more likely to report crime victimization than poorer victims (Caldeira 2000, 112). However, if public security officials are distributing police officers based on crime rates, then they may use these data even though they do not represent the true distribution of crime in the state. I measure crime rates using the homicide rate per 10,000 residents along with the total number of homicides. Homicide rates are the most reliable measure of crime and are highly correlated with other types of crime. Meanwhile, regardless of population size, more homicides in an area lead to an increase in paperwork and other resources needed to investigate crime (Chamlin and Langworthy 1996). To control for differences in the size of municipalities, I use the log value of both *homicide rates* and *total homicides*.[61]

[59] Decree nº 88,777 from September 30, 1983.
[60] Annex II of Decree Nº 43,624 of May 31, 2012. The annex specifically notes that the military police should not include management, support staff and specialized units when making these calculations. The decree indicates that three factors should be weighted as follow: population size (73%), violent crime rate (15%) and territorial size (12%).
[61] Note: Since some municipalities have zero homicides or violent crimes, I add 1 to the log value to avoid losing these observations.

The second factor is population size. Studies show that cities with larger populations tend to have higher crime rates due to factors including lower social capital and larger transient populations (see Rotolo and Tittle [2006] for an overview). Meanwhile, the influence of population density on crime rates is highly debated (Harries 2006). Some research finds that higher population density increases crime rates while others find that it has either no or a negative effect on them. While I am agnostic about the impact that population growth and a higher population density will have on crime rates, I expect that both factors will influence the distribution of police officers in the state. Therefore, I include *population density* as well as the log of *population size* in the model.

The final technical factor is poverty rates. Sociological theories of crime argue that income inequality is a key factor influencing spending on public security (Liska et al. 1985; Stucky 2005, 24). Rising levels of low-income individuals lead wealthier segments of society to feel more insecure. In turn, these individuals demand that the government provide a greater police presence to assuage these fears. Alternatively, rational-choice theory suggests that individuals living in poverty have stronger incentive to engage in crime since it provides them with higher economic benefits relative to other opportunities (Becker 1968). I include two proxies for poverty. The first is the *infant death rate* per thousand live births, and the second, *Bolsa Familía*, is the total number of families that receive Bolsa Familía. The latter is a national social program that provides monthly stipends to low-income families. The expectation is that increases in both the number of infant deaths and the number of families receiving assistance from social programs will lead the municipality to gain more police officers. I use the log value of both variables to control for differences in municipal size.

4.4 EMPIRICAL EVIDENCE AND ANALYSIS

To test these arguments, I begin with a yearly analysis of the data, using ordinary least squares (OLS) regression. In this initial analysis, I examine how yearly changes in technical covariates along with the level of the political covariates affects the changes in the number of police officers assigned to each municipality.[62] Examining the data year by year, helps identify patterns in the distribution of police that pooling the data together may miss. It also highlights how governors may alter their resource distribution strategies throughout their four year term.

As Table 4.5 shows, governors do not reward those municipalities that are more important for their electoral success in every year.[63] In some years, these municipalities actually see a decrease in the number of police officers that they receive compared to municipalities that gave less support for the governor. However, an important pattern emerges. In both 2009 and 2013, which are pre-election years, municipalities that were more important for the governor's electoral success received more police officers. The increase in 2013 is especially interesting since there was a statewide decline of 246 police officers that year, suggesting that Governor Antônio Anastasia shifted police officers from other municipalities to reward his supporters.

[62] I measure changes using the following formula: $covariate_t$-$covariate_{t-1}$. I do not include the technical covariates in the subsequent table but full models are available in the chapter appendix.
[63] I do not show the technical covariates in the table although I do include them in all models.

Table 4.5: Impact of Politics on Municipal Police Officers, Yearly Analysis

Year	Police Officer Change	Personal Vote Share	Governor Vote Dominance	Allied Mayor	State Deputy Dominance
2008	-2440	-135.16***	-0.03	0.02	-0.03
2009	+4816	**251.52*** **	0.11	4.12*	0.01
2010	-197	-20.55***	0.02	-2.22	0.06
2011	-366	-2.75	-0.02	1.54+	0.01
2012	-2404	-142.90***	0.16***	-3.01***	-0.05**
2013	-246	**132.0*** **	-0.11***	0.39	0.04**
2014	+242	4.36	0.01	0.07	-0.002
2015	-2179	-146.87***	0.21***	0.53	0.04+

+ p<0.10, * p<0.05, ** p<.01, *** p<.001

Among the other political variables, the results differ depending on the year. In some years, municipalities with allied mayors and those where the governor and his state political allies more strongly dominate voting, receive more police officers. In other years, however, there is no effect or a small decline in police officers. Further investigation reveals that governors are willing to give more police officers to municipalities that have allied mayors and give more support to their state political allies. However, their largesse depends on the municipality's importance for their personal electoral success.

Tables 4.6 and 4.7 highlight the average change in the number of police officers present in each municipality, dividing municipalities based on whether they gave the governor a low, average and high share of his total statewide votes.[64] Table 4.6 compares changes in police

[64] On average, governors received 0.12 percent of their total votes from a municipality with a standard deviation of 0.52. Therefore, I classified a municipality as giving the governor a low vote share if it contributed less than 0.6 percent and high vote share as a standard deviation above the mean personal share (0.64 percent).

officers in municipalities controlled by allied and opposition mayors, while Table 4.7 compares municipalities with low, average and high levels of vote dominance by allied state deputies.[65] In areas with low or average electoral importance for the governor, there are minimal differences in the number of police officers that municipalities with allied mayors received, compared to those municipalities controlled by opposition party mayors. Similarly, greater municipal support for allied deputies does not appear to influence the number of police officers these cities receive.

[65] I classify municipal vote dominance as follows: low (more than a standard deviation below the mean), average (within a standard deviation of the mean) and high (more than a standard deviation above the mean).

Table 4.6: Governor Support, Mayors and Changes in Police Officers

Year	Mayor Status	State Police Officer Change	Governor Personal Share (%)		
			Low Votes <0.06	Average Votes	High Votes >0.64
2008	Overall	-2440	-0.5	-0.60	-115.1
	Allied Mayor		-0.5	-0.90	**-1.5**
	Opposition Mayor		-0.4	+0.09	**-410.4**
2009	Overall	+4816	-0.02	+2.6	+226.4
	Allied Mayor		+0.04	+2.3	**+380**
	Opposition Mayor		-0.07	+2.9	**+34.4**
2010	Overall	-197	+0.9	+1.1	-57.7
	Allied Mayor		+1.0	+0.5	-98.5
	Opposition Mayor		+0.9	+1.7	-6.8
2011	Overall	-366	+0.5	+0.3	-36.2
	Allied Mayor		+0.5	+0.7	**-19.4**
	Opposition Mayor		+0.5	-0.4	**-56.8**
2012	Overall	-2404	-0.4	-1.7	-84.5
	Allied Mayor		-0.4	-2.0	-151.6
	Opposition Mayor		-0.5	-1.2	-2.3
2013	Overall	-246	-0.7	-2.3	+39.1
	Allied Mayor		-0.6	-2.3	**+134.9**
	Opposition Mayor		-0.7	-2.5	**-12.5**
2014	Overall	+242	+0.3	+0.1	+2.1
	Allied Mayor		+0.3	+0.2	**+8.1**
	Opposition Mayor		+0.4	-0.1	**-1.2**
2015	Overall	-2179	-0.2	-0.3	-104.2
	Allied Mayor		-0.2	+2.3	**-50.1**
	Opposition Mayor		-0.2	-1.3	**-152.3**

Table 4.7: Governor Support, Allied State Deputy Support, and Changes in Police Officers

Year	Deputy Dominance	Police Officer Change	Governor Personal Share		
			Low Votes	Average Votes	High
2008	Low Dominance	-2440	-0.6	-0.5	**-43.0**
	Average Dominance		-0.4	-0.5	**-132.3**
	High Dominance		-0.6	-0.7	**-1.0**
2009	Low Dominance	4816	-0.3	+9.3	+81.0
	Average Dominance		0	+2.3	+261.1
	High Dominance		+0.09	-1.7	-15.5
2010	Low Dominance	-197	+0.9	-4.7	**-115**
	Average Dominance		+1.0	+1.6	**-54.3**
	High Dominance		+0.8	+4.2	**+6.0**
2011	Low Dominance	-366	+0.3	+2.3	**-57.8**
	Average Dominance		+0.6	-0.3	**-29.0**
	High Dominance		+0.4	0.7	--
2012	Low Dominance	-2404	-0.5	-2.7	-15.2
	Average Dominance		-0.5	-1.2	-107.5
	High Dominance		-0.4	-2.7	--
2013	Low Dominance	-246	-0.6	-1.9	**+3.0**
	Average Dominance		-0.7	-2.2	**+51.1**
	High Dominance		-0.6	-3.5	--
2014	Low Dominance	242	+0.3	+1.0	**-1.6**
	Average Dominance		+0.3	-0.2	**+3.3**
	High Dominance		+0.4	+0.6	--
2015	Low Dominance	-2179	-0.2	-1.1	**-161.3**
	Average Dominance		-0.3	+1.0	**-40.8**
	High Dominance		-0.5	---	--

The results differ greatly in large municipalities where the governor receives a high share of total statewide votes. This group contains between 18 and 20 municipalities, or about 2 percent of all municipalities statewide, across the three election cycles. However, they collectively account for between 36 and 40 percent of governors' statewide votes. Among these municipalities, those that gave more support to the governor's allies in the state legislature or had a mayor from the governor's electoral coalition received more police officers in most years when the state increased the size of its police force. Meanwhile, in most years when the police force shrank, municipalities that gave less support to allied state deputies, as well as those controlled by opposition mayors, saw a greater loss in police officers.

Taken together, the initial evidence suggests that the distribution of law enforcement officers across the state follows a two-stage logic. Governors first seek to take care of their electoral bases. As a result, they distribute police officers to municipalities based on their importance for their electoral success. In distributing resources, however, they also recognize that building bases of support for future electoral cycles or their state policy proposals, requires helping their allies. This, in turn, leads them to try to maximize the political effectiveness of their resources, by focusing more strongly on large municipalities that are important for both their electoral success as well as the electoral success of their local political allies.

4.4.1 A Panel Analysis of Police Distribution

Since I have data across multiple years, I more systematically test these arguments using both fixed effects panel models and Arellano-Bond models. The fixed effects panel models show how changes in political and technical factors influence changes in the number of police officers that a municipality receives while controlling for unobservable fixed factors that cause it to have, on average, more or fewer police officers. Meanwhile, the Arellano-Bond model controls for

temporal dependences in the model by using lags of the difference term as an instrument for the lagged dependent variable. Put more simply, it accounts for the fact that the number of police officers a city has in year *t* is likely to be highly dependent on the number of officers it had in year *t-1*.

In Model 1, I look only at how political and technical factors influence changes in the number of municipal polices officers across all year using the fixed effects method. In Model 2, I interact the political covariates with dichotomous variables indicating whether it is the year prior to a mayoral or gubernatorial election, when we would expect the manipulation of policing for political purposes to occur most strongly. Model 3 is the same as Model 2, except that I use the Arellano-Bond estimation method. Finally, in Model 4, I test whether the governors systematically target the largest cities where they receive widespread support *and* allied mayors are in power. In all models, I include time dummies to control for unobservable factors in each year. In some models, I exclude the capital city of Belo Horizonte since it has more than seven times the number of police officers than the next largest city.

As Table 4.8 shows, the results largely conform to expectations. In all models that include the capital city of Belo Horizonte, municipalities that are more important for the governor's electoral success receive more police officers. The larger the share of the governor's statewide votes that comes from a municipality, the more police officers the city receives. Moreover, the politicized distribution of law enforcement resources is even stronger in the year prior to the election. Delving deeper into the data, the evidence suggests that one group of municipalities is driving these results: large municipalities with coalition party mayors.

Table 4.8: Politics and Changes in Municipal Police Officers, 2007-2015

	Model 1 w/capital city	**Model 2** w/capital city	**Model 3** w/capital city	**Model 4** w/capital city	**Model 1** w/o capital city	**Model 2** w/o capital city	**Model 3** w/o capital city	**Model 4** w/o capital city
Police Officers (t-1)			0.27				0.52***	
			(0.21)				(0.11)	
Governor Personal Share	280.0***	240.0***	235.1***	-57.98	0.837	5.852	-33.38	8.06
	(71.12)	(55.36)	(19.62)	(71.67)	(45.34)	(44.79)	(18.56)	(51.33)
Governor Personal Share		53.61***	85.71**			22.35**	19.34	
x Pre-Election Year		(3.438)	(31.86)			(8.492)	(12.50)	
Governor Dominance	-0.35***	-0.31***	-.248***	0.040	0.00553	-0.00551	0.0444*	-0.002
	(0.0910)	(0.0692)	(0.0265)	(0.08)	(0.0536)	(0.0534)	(0.0197)	(0.58)
Governor Dominance		0.0434	0.0082			0.0127	-0.180	
x Pre-Election Year		(0.0301)	(0.0352)			(0.0275)	(0.0264)	
Deputy Dominance	-0.0444*	-0.0351*	-0.0126		-0.0374*	-0.0288*	-0.0051	-0.04*
	(0.0212)	(0.0174)	(0.0143)		(0.0157)	(0.0135)	(0.0107)	(0.02)
Deputy Dominance		0.00622	0.0383	-0.03		-0.0274	0.0457	
x Pre-Election Year		(0.0214)	(0.0385)	(0.02)		(0.0190)	(0.0236)	
Allied Mayor	1.420	2.102	0.502	-9.32***	-0.0652	0.223	0.243	0.44
	(1.761)	(1.996)	(0.478)	(2.09)	(0.513)	(0.735)	(0.324)	(1.07)
Allied Mayor x		-2.369	-0.504			-0.635	0.0195	
Pre-Mayor Election Year		(1.830)	(0.630)			(0.826)	(0.450)	
Pre-Election Year		-9.94***				-1.775		
		(2.222)				(1.880)		
Pre-Mayor Election Year		-5.79***				-1.326		
		(1.047)				(0.900)		
Allied Mayor x Governor				88.10***				-4.71
Personal Share				(20.14)				(13.85)
Homicide Rate (log)	-0.0576	-0.0541	0.0442	-0.18	-0.0498	-0.0568	-0.0331	-0.05
	(0.0778)	(0.0838)	(0.120)	(0.12)	(0.0746)	(0.0749)	(0.0783)	(0.07)
Homicides (log)	0.262	0.193	-0.0812	0.62	0.0629	0.0690	0.0943	0.06
	(0.533)	(0.553)	(0.588)	(0.63)	(0.516)	(0.510)	(0.373)	(0.52)
Population Density	-0.341**	-0.368**	-0.368***	-0.71	-0.274	-0.276	-0.130	-0.27
	(0.116)	(0.114)	(0.107)	(0.40)	(0.162)	(0.162)	(0.194)	(0.16)
Population Growth (log)	15.20	19.89	20.83	93.62	21.45	21.00	11.92	20.25
	(16.98)	(15.90)	(14.35)	(54.46)	(19.83)	(19.82)	(15.96)	(17.69)
Infant Mort. Rate (log)	0.0478	0.0216	0.0306	0.05	0.0440	0.0293	0.0144	0.04
	(0.0468)	(0.0458)	(0.0495)	(0.05)	(0.0319)	(0.0300)	(0.0277)	(0.03)
Bolsa Família (log)	1.457	0.478	-3.815	-1.14	2.034	1.754	-0.633	2.12
	(1.642)	(1.618)	(2.532)	(2.32)	(1.787)	(1.722)	(1.675)	(1.70)
Constant	-90.82	-117.2	-142.2	-754.27	-158.8	-151.3	-95.81	-148.56
	(145.9)	(138.0)	(121.8)	(464.55)	(169.5)	(169.7)	(135.8)	(151.15)
N	7677	7677	5971	7677	7668	7668	5971	7668
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Within R-Squared	0.1334	0.2548		0.3912	0.0527	0.0807		0.0538
Between R-Squared	0.5196	0.2966		0.5431	0.0592	0.0472		0.0574
Overall R-Squared	0.5116	0.2897		0.5273	0.0580	0.0458		0.0562

* p<0.05, ** p<.01, *** p<.001

Model 4 highlights how changes in the governor's personal vote shares influence the number of police officers a municipality receives when the mayor is from a coalition party or part of the opposition. When an opposition mayor is in power, the share of the governor's total votes coming from the municipality has a negative but statistically insignificant effect on the number of police officers that the city receives. In contrast, when an allied mayor is in power, the municipality sees an increase in police officers but only in highly populous municipalities.

Figure 4.2 plots the expected change in police officers when increasing the governor's vote share from its minimum (0.04) to its maximum (15) percentage. In cities where an allied mayor is in power but the governor receives less than 0.2 percent of total statewide support (around 90 percent of all cities), support for the governor has no effect on the number of police officers that the city receives. In the other 10 percent of cities, which hold approximately a third of the state's total residents, greater support for the governor leads the city to receive more police officers.

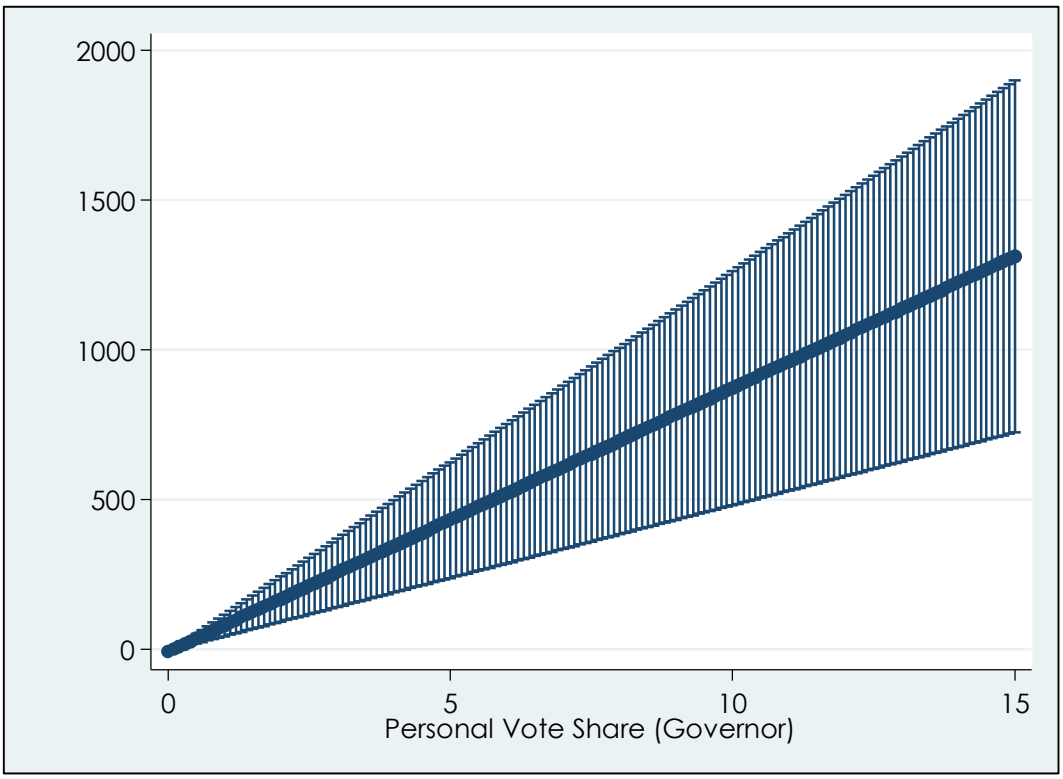

Figure 4.4: Changes in Police Officers, Coalition Mayor in Power

When we exclude Belo Horizonte from the analysis, a more complex picture emerges. In the models that take into account the number of policers officers present in the city in the prior year, the municipality's voting behavior has no effect on the number of police officers the city receives. In the fixed effects models, however, municipalities where the governor receives more support continue to receive more police officers but only in the year prior to the gubernatorial election. In all other years, the municipality's voting behavior in the last election has no impact on the number of police officers it receives. Although the effect is more muted compared to the models including Belo Horizonte, it is still quite large.

Consider the following example from the 2010 election. That year, Antonio Anastasia won a decisive victory in the first round, receiving more than 62 percent of the popular vote, or 6,275,520 total votes. On average, we would expect a city to receive one police officer for each additional 2225 votes that Anastasia received *above* the votes received by his predecessor, Aécio Neves. Abre Campo is a small city situated in western Minas Gerais that has approximately 14 thousand residents. During the 2010 elections, Anastasia received 1176 fewer votes from the municipality than his predecessor did. In 2013, with the next election cycle closing in, the city lost one of its 18 police officers.

As I noted earlier, it is important to emphasize that when a municipality gives more support to the governor, it does not always lead it to obtain more security resources. Between 2009 and 2013, the state lost 2434 police officers outside the capital city and there was a decline in police officers in cities where the governor's support both increased and decreased. However, the decline in the number of police officers occurred at more than twice the rate in cities where Anastasia's support declined compared to his predecessor, Aécio Neves. The cities where his supported declined lost, on average, one police officer for every 5112 residents. In contrast, cities where his support increased lost only one police officer for every 12,480 residents.

Table 4.9 highlights these effects in the six largest cities outside the capital that together have more than 2.91 million residents. It shows changes in technical factors (homicides and municipal population) and the governor's personal vote in 2013 compared to 2009, and their relationship with changes in the number of police officers assigned to these municipalities. All six municipalities experienced population growth and five out of the six cities saw an increase in homicides. By 2013, the three cities where support for the governor declined had 839 fewer police officers despite having almost 200 more homicides. In contrast, among the three

municipalities where support for the governor increased, only Betim lost police officers. Interestingly, this is the only city where support for the governor increased while homicides declined. In Montes Claros and Ribeirão das Neves, a rise in violence coincided with an increase in the number of police officers assigned to these cities.

Table 4.9: Changes in Support for the Governor and Police Officers, 2009 & 2013

	Homicide Change	Population Change	Police Officers Change	Personal Vote Share Change
Uberlândia	+33	+49,334	-263	-0.169
Contagem	+63	+36,973	-194	-0.107
Juiz de Fora	+100	+32,186	-382	-0.227
Betim	-13	+33,391	-90	+0.021
Montes Claros	+47	+27,219	+14	+0.044
Ribeirão das Neves	+72	+22,685	+15	+0.002

The other political factors conform to the theoretical expectations given the earlier evidence showing that governor's focus their resources on the largest municipalities. Cities that have mayors from allied parties and give more support for allied state deputies also do not receive more police officers even during election years. This is unsurprising, given my earlier evidence that governors support these allies only in a small number of politically important cities. Contrary to expectation, however, the stronger the governor's electoral dominance in a municipality, the fewer police officers it receives. I suspect that higher vote dominance reduces the number of police officers a city receives since governors most strongly dominate voting in smaller cities. Although these areas more strongly support the governor, they have less electoral importance for the governor than large cities. There is less evidence that governors distribute police forces using technical criteria. Increasing population density leads to fewer police officers

in some models. I also find higher homicide higher homicide rates lead municipalities to gain more officers while municipalities with a higher total number of homicides receive fewer officers.

Taken together, these findings suggest that when deciding which locations will receive more public security resources, the primary factor is the municipality's importance for the governor's electoral success. Needing to win a majority of votes, governors send more resources to populous areas that support them. Highlighting this bias in the distribution of law enforcement resources toward large areas, in 2010 there was an average of one military police officer for every 891 residents in Minas Gerais. However, municipalities with more than 50 thousand residents had an average of one officer for every 530 residents while those with less than 50 thousand residents had one officer for every 922 residents.

The emphasis on municipalities where large quantities of votes are available has important implications for public security. In recent years, violence has begun to increasingly move away from large cities and into the interior of Brazilian states (Waiselfisz 2011; Steeves, Petterini and Moura 2015). While some scholars have attributed this geographical shift to a growing market for illicit drugs, the lack of police officers in small towns may also play a role. If criminal groups know that they will face minimal interference from law enforcement in small and medium size municipalities, they will have a stronger incentive to operate there rather than in large cities.

4.4.2 Voting Behavior and Resource Provision in Surrounding Areas

I next test whether municipal voting behavior influences the number of police officers neighboring municipalities receive. Traditional panel data models have the underlying assumption that units are independent. That is, changes in the number of police officers and

covariates in one municipality do not affect changes in the number of police officers in neighboring municipalities and vice versa. To test whether this assumption is violated and there is spatial autocorrelation in the distribution of police officers, I first calculate the Global Moran's I score.

The Global Moran's I score is a diagnostic test that shows the level of correlation between model covariates in neighboring units. It ranges from -1, indicating perfect negative autocorrelation, to 1 which indicates perfect positive autocorrelation. The closer to 0, the less spatial autocorrelation that exists. Most studies of crime spillover that study areas larger than a street or census tract, focus on crime spillover into geographically contiguous political units such as counties or states (Worrall and Gaines 2006; Gonzalez-Navarro 2013). Following this pattern, I use a first-order row-standardized queen spatial weight matrix. This weight matrix defines a neighbor as any municipality sharing a boundary point with the municipality.

To calculate the spatial lag variable, each municipality lists every other municipality using a 0 to indicate that the municipality is not a neighbor or a 1 to indicate that it is a neighbor. Then, we add up the total number of neighbors and divide it by 1. In each neighboring municipality, we then multiply this fraction by the variable value in each neighboring municipalities and sum their values. The Moran's I score then provides the correlation between that variable and the average value for its neighbors. It ranges from -1, indicating perfect negative autocorrelation, to 1 which indicates perfect positive autocorrelation. As Table 4.10 shows, there is significant and positive spatial autocorrelation between the number of police officers in a municipality and its neighbors in every year.

Table 4.10: Quantity of Police Officers, Spatial Autocorrelation

Year	Moran's I	P value
2007	0.078	0.004
2008	0.095	0.002
2009	0.072	0.004
2010	0.074	0.001
2011	0.075	0.004
2012	0.087	0.001
2013	0.075	0.004
2014	0.074	0.002
2015	0.082	0.001

So in what areas is this spatial autocorrelation occurring? In Figure 4.5, I use the local Moran's I score to identify patterns of spatial autocorrelation in the distribution of police throughout the state. The local Moran's I score identifies municipalities that have fewer residents per police officer surrounded by municipalities that also have fewer residents per police officer (low-low spatial autocorrelation), as well as municipalities where there are fewer police officers per capita surrounded by municipalities where there are also fewer police officers per capita (high-high spatial autocorrelation). In the northwestern region and the center region where the state capital, Belo Horizonte, is located, there are several clusters of low-low spatial autocorrelation, indicating an overabundance of police officers. These areas were also, unsurprisingly, important for Governor Aécio Neves' reelection in 2006. In contrast, in the northeast region, where he received minimal electoral support, there is widespread high-high autocorrelation, indicating clusters of municipalities that had fewer police officers, surrounded by municipalities that also had fewer police officers.

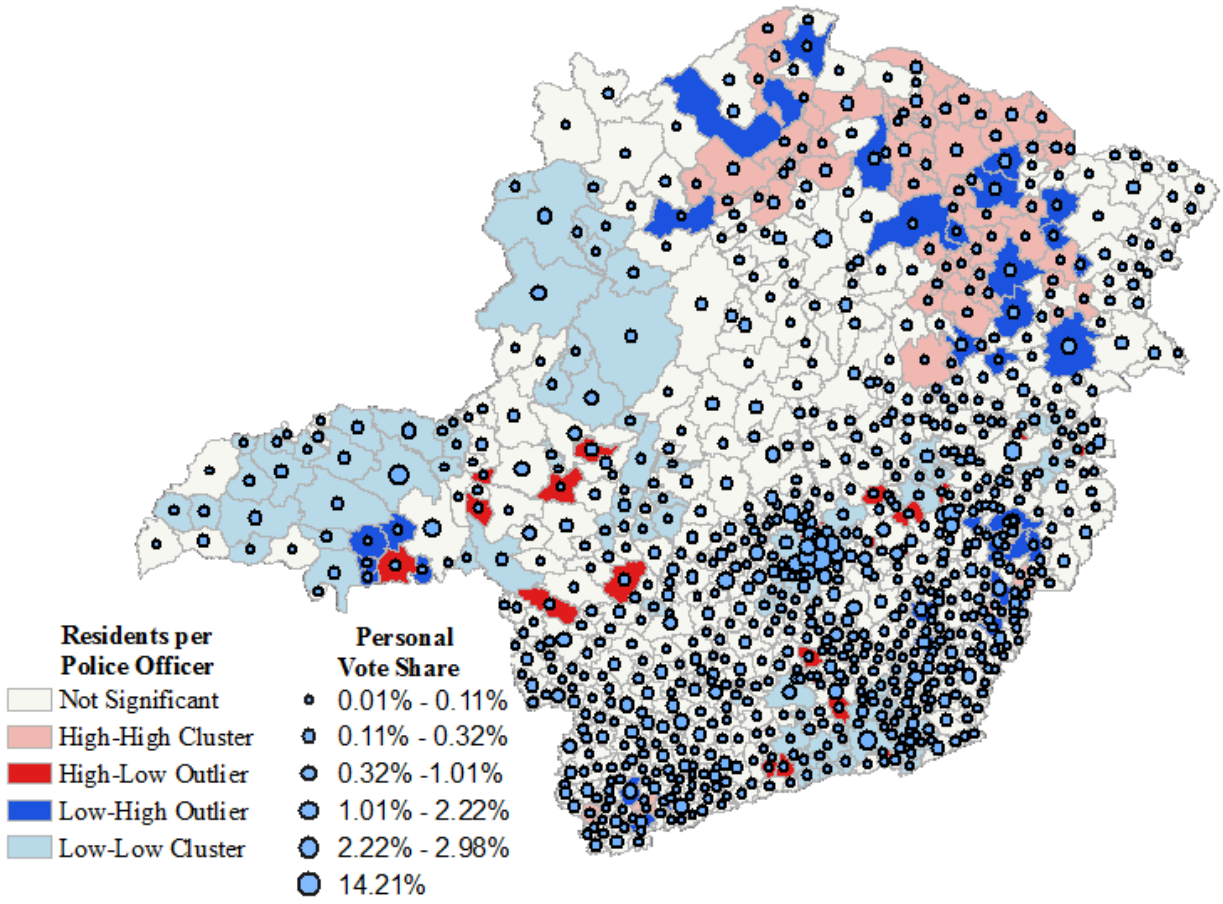

Figure 4.5: Distribution of Police Officers and Personal Vote Share, 2007

Given the apparent presence of spatial autocorrelation, I formally test the theoretical arguments using spatial panel models. There are a several models to analyze spatial data and model choice depends on substantive and theoretical concerns. Since I am interested in whether support for the governor and state political allies influences the number of police officers that surrounding municipalities receive, I use the spatial Durbin model (SDM). This model estimates both the direct and indirect impact of all independent variables in the model as well as the overall correlation between dependent variables in neighboring municipalities. The *direct effect* shows the impact that a unit change in the independent variables has on the dependent variable in our unit including any feedback effects.[66] Meanwhile, the *indirect effect* shows the impact that changes in the independent variable in the municipality have on the number of police officers in neighboring municipalities including any feedback effects (Pace 2014).

In the spatial models, I could not remove the capital city of Belo Horizonte from the analysis in some models since spatial panel regression requires perfectly balanced data. To address this issue, I included an interaction term between the governor's personal vote share and a dummy variable for the capital city. This strategy allows me to show the impact that increasing the governor's personal vote share has on support both inside and outside the capital city.

[66] Feedback effects occur when changes in the municipality's independent variables affect its neighbors, which in turn has an effect on the original unit.

As Table 4.11 shows, even controlling for spatial spillovers, the direct effect that state politics has on the number of police officers in the municipality remains largely the same compared to the fixed effects model. Municipalities where governors receive a larger number of votes receive more police officers. In contrast, increasing the governor or allied state deputies' electoral domination in the municipality leads to a slight decline in the number of police officers that the municipality receives.[67]

[67] Note: due to limitations in computing power, my models looking at the effect of voting for the governor outside of Bahia, only look at the governor's personal vote share rather than simultaneously looking at how it affects support for allied deputies, coalition party mayors and the governor's vote dominance.

Table 4.11: Politics and Changes in Police Officers in Neighboring Cities, 2007-2015

	Regular Model	Regular Model w/o capital city	Pre-Election Overall	Pre-Election w/o capital city
Spatially Lagged Dependent Variable				
Rho	-0.0018	-0.0039	0.0054	
	(0.0074)	(0.00639)	(0.0108)	
Direct Effect				
Governor Personal Share	276.55***	-1.69	239.7***	7.25
	(68.60)	(43.92)	(51.29)	(44.47)
Governor Personal Share (in capital)		73.22***		59.82***
		(9.044)		(8.964)
Governor Personal Share (in capital)			53.87***	6.489***
x Pre-Election Year			(3.396)	(1.490)
Governor Personal Share (outside				23.76**
capital) x Pre-Election Year				(7.455)
Governor Vote Dominance	-0.3139	0.0114	-0.277***	0.00764
	(-0.0913)	(0.049)	(0.0691)	(0.0528)
Governor Vote Dominance			0.0582*	
x Pre-Election Year			(0.0254)	
Deputy Vote Dominance	-0.0596	-0.0533*	-0.0530*	-0.0505**
	(0.0276)	(0.0225)	(0.0232)	(0.0180)
Deputy Vote Dominance			0.00208	
x Pre-Election Year			(0.0318)	
Coalition Party Mayor	1.2786	1.309	2.130	
	(1.836)	(1.830)	(2.077)	
Coalition Party Mayor			-2.675	1.344
x Pre-Election Year			(1.972)	(1.566)
Homicide Rate (log)	-0.0905	-0.0411	-0.0782	-0.0521
	(0.0880)	(0.0707)	(0.0798)	(0.0754)
Homicides	0.4251	-0.105	0.221	-0.0818
	(0.5787)	(0.469)	(0.511)	(0.527)
Population Density	-0.3528**	-0.278*	-0.389***	-0.314**
	(0.1173)	(0.114)	(0.114)	(0.116)
Population (log)	11.096	17.40	16.44	20.31
	(19.801)	(18.67)	(19.14)	(17.95)
Infant Mortality Rate (log)	0.0205	0.0433	0.00106	0.0312
	(0.0398)	(0.0353)	(0.0410)	(0.0354)
Bolsa Familía (log)	0.9253	2.154	0.00493	0.976
	(1.8884)	(2.059)	(1.832)	(1.801)
Indirect Effect				
Governor Personal Share	-17.878	-10.38	-9.696	
	(13.574)	(12.79)	(10.79)	
Governor Personal Share			-5.431	
x Pre-Election Year			(2.789)	
Governor Vote Dominance	-0.1061	-0.0251	-0.110*	-0.0389
	(0.0619)	(0.0428)	(0.0506)	(0.0414)

Table 4.11 (Continued)

Governor Personal Share (in capital)		2.29		2.466
		(2.748)		(2.304)
Governor Personal Share (outside capital)		-9.208		-8.204
		(13.551)		(11.29)
Governor Personal Share x Pre-Election				-7.228*
Year (outside Capital)				(3.432)
Governor Personal Share				1.308
x Pre-Election Year (in capital)				(0.681)
Governor Vote Dominance			-0.0834	
x Pre-Election Year			(0.0501)	
Deputy Vote Dominance	0.0808*	0.0514	0.0735*	0.0496
	(0.0382)	(0.0362)	(0.0336)	(0.0342)
Deputy Vote Dominance			0.0416	
x Pre-Election Year			(0.0660)	
Coalition Party Mayor	-2.018	-1.147	0.424	-1.832
	(1.9608)	(2.016)	(1.079)	(2.441)
Coalition Party Mayor			-6.881	
x Pre-Election Year			(4.861)	
Homicide Rate (log)	-1.5899	-0.943	-1.947	-1.442
	(1.0388)	(0.914)	(1.197)	(1.223)
Homicides	1.4003	1.10	1.851	1.744
	(1.6469)	(1.746)	(1.844)	(2.025)
Population Density	0.1067	0.0988	0.141	0.133
	(0.1070)	(0.0976)	(0.120)	(0.101)
Population (log)	-12.7684	-7.424	-14.82	-8.628
	(25.4152)	(25.157)	(27.84)	(26.66)
Infant Mortality Rate (log)	1.0215	0.877	0.706	0.633
	(1.0285)	(1.023)	(0.620)	(0.655)
Bolsa Família (log)	6.0947	3.381	5.991	4.106
	(4.8987)	(4.363)	(4.709)	(4.066)
Time Fixed Effects	Yes	Yes	Yes	Yes
Unit Fixed Effects	Yes	Yes	Yes	Yes
Spatial Fixed Effects	Yes	Yes	Yes	Yes
n	7677	7677	7677	7677
Variance	1017	977	874	841
Within R-Squared	0.1187	0.1660	0.2350	0.2815
Between R-Squared	0.4817	0.7178	0.2343	0.5465
Overall R-Squared	0.4731	0.7105	0.2281	0.5355

Robust standard errors in parentheses, + p<0.10, * p<0.05, ** p<.01, *** p<.001

Turning attention to spillover effects, the municipality's importance for the governor's electoral success is the one factor that matters. Its effect on the number of police officers that surrounding communities receive, however, is contrary to expectations. The final model shows that in municipalities outside the capital city of Belo Horizonte, municipalities receive fewer police officers when their neighbors receive more police officers. This affect is quite large. For each additional 0.50 percent of the governor's total votes that come from the municipality, neighboring municipalities collective lose around three police officers. Put more simply, when governors use political criteria to send more police officers to a city, they do so at the expense of the municipality's neighbors. Rather than trying to reduce the negative impact of sending more police officers to a municipality for political purpose, the evidence suggests that the fight for police officers is a winner-takes-all battle.

4.5 DISCUSSION AND CONCLUSION

Public security is an important issue in Brazilian politics. Between 1989 and 2015, the country lost more than 1.2 million people to criminal violence. Despite the importance of security as an electoral issue, both in Brazil and cross-nationally, the role that politics plays in the distribution of public security resources has been largely unexplored. My analysis used both traditional quantitative methods and spatial techniques to analyze how state politics influences the distribution of security resources. I showed that governors provide more police officers to municipalities that are most important for their electoral success. The extra resources these municipalities receive, however, come at the expense of their neighbors. I also showed that governors reward municipalities that vote for their allies in state and municipal government with

more law enforcement resources. However, these additional resources go only to the largest cities that governors with large quantities of votes that make them crucial for their electoral success.

From a thematic standpoint, this chapter contributes to our understanding of distributive politics at the subnational level in Brazil. While there is broad evidence that Brazilian governors have vast power and governorships are a key prize for ambitious politicians, we know much less about the strategies they use to reward their supporters (Abrucio 1998; Samuels 2003). This chapter shows that politics play a role in determining government resource allocation beyond the traditional financial resources typically analyzed in the literature. For municipalities seeking more law enforcement resources, the answer is clear. If you want more police officers, you should vote for the governor.

This chapter also furthers our understanding of public security policies in Latin America more generally. There is widespread agreement that politicians respond to security problems using tough-on-crime measures that emphasize increased law enforcement spending and longer prison sentences, among other policies (Garland 2000; Dammert 2012). However, the analysis often stops at this point. This is problematic since analyzing the effectiveness (or lack thereof) of these policies, requires knowing how governments actually implement them. My analysis of the distribution of police officers in Minas Gerais tackle this task using a direct measure rather than proxies that are common in most research.

From a theoretical standpoint, this chapter advances our knowledge of pork-barrel politics by highlighting how politicians deal with the spillover effects that their policies generate. Distributive politics research has traditionally focused on how governments distribute economic resources that have the potential to generate positive benefits for surrounding areas (Lancaster

1986; Ames 2002; Samuels 2003; Reeves 2011; Gasper and Reeves 2011; Kriner and Reeves 2015). However, these studies have often failed to address the role of negative spillover effects. My research shows that when politicians make policy decisions that have a negative impact on surrounding areas that they cannot export, they do not try to mitigate these effects by providing more resources to surrounding areas. Rather, they actually take away resources from these areas to reward those municipalities that are important for their electoral success.

In the next chapter, I examine the final stage in the four-part cycle between crime and politics. This stage addresses the key question that has driven the research project. How do municipal and state politics influence violence? I answer this question using a novel dataset on homicides from Brazil's more than 5500 municipalities between 1997 and 2014.

5. CHAPTER 5: POLITICS AND MUNICIPAL VIOLENCE, 1997-2014

In the first three empirical chapters of this project, I examined how violence influences state gubernatorial elections and the impact that politics has on the amount of resources that governors devote to law enforcement and other crime prevention policies. I also analyzed the distribution of law enforcement personnel and found that governors give more resources to municipalities that are important for their electoral success. This chapter looks at the other side of the coin. In it, I examine the various tools that governors can use to address security problems and the effect that they have on violence.

Since 1991, Brazil has lost more than 1.2 million people to violence and the national homicide rate has increased more than 32 percent. Despite the dramatic increase in the nationwide homicide rate since the early 1990s, there is wide variation in violence throughout the country. Table 5.1 shows average state homicide rates per 100 thousand residents during two periods: 1991-2002 and 2003-2015. Homicide rates increased more than 50 percent in 13 states while they declined more than 25 percent in three states. The most drastic increases in violence occurred in the northeast where seven states saw their homicide rates more than double. These spatial differences in violence are also present at the local level. Each year, 78 percent of the country's 5570 municipalities have less than four homicides while 49 percent of municipalities did not have a single murder.

Table 5.1: State Homicide Rates, 1991-2015

Region	State	Homicide Rate		Homicide Rate Change (%)
		1991-2002	2003-2015	
North				
	Acre	21.5	23.4	8.8
	Amapá	33.7	33.4	-1.0
	Amazonas	18.4	27.2	48.0
	Pará	13.9	36.0	259.0
	Rondônia	34.7	33.6	-3.0
	Roraima	39.4	29.0	-26.3
	Tocantins	11.5	21.5	86.8
Northeast				
	Alagoas	25.7	55.9	217.5
	Bahia	11.1	31.2	281.1
	Ceará	13.4	31.9	238.1
	Maranhão	7.4	22.6	305.4
	Paraíba	13.8	31.0	224.6
	Pernambuco	46.7	45.1	-3.5
	Piauí	5.6	14.5	258.9
	Rio Grande do Norte	9.3	26.9	289.2
	Sergipe	20.6	34.6	65.0
Center-West				
	Distrito Federal	32.3	30.8	-4.6
	Goiás	19.3	34.3	77.7
	Mato Grosso	28.6	33.7	17.8
	Mato Grosso do Sul	30.0	28.1	-6.3
Southeast				
	Espírito Santo	45.0	48.5	7.8
	Minas Gerais	9.3	21.3	229.0
	Rio de Janeiro	51.0	36.8	-27.8
	São Paulo	35.8	17.8	-50.3
South				
	Paraná	16.9	29.7	75.7
	Rio Grande do Sul	16.1	20.6	28.0
	Santa Catarina	8.2	12.2	48.8

Sources: The Brazilian Institute of Geography and Statistics (IBGE) and the Ministry of Health

The rise in violence in many areas is puzzling given Brazil's success in addressing widespread social problems. Between 1991 and 2010, nationwide illiteracy rates declined 51 percent while the percentage of the population living on less than half the minimum wage fell 48 percent. However, as Table 5.2 shows, there is not a clear relationship between states' successes in reducing poverty and homicide rates. In Bahia, which reduced the percentage of the population living on less than half the minimum wage by 37 percent, homicide rates increased 182 percent. Meanwhile, in São Paulo, a 53 percent reduction in poverty coincided with a 53 percent decline in violence.

This chapter moves beyond traditional arguments that focus on the relationship between social factors, such as poverty and inequality, and violence. I identify four mechanisms that governors can use to influence homicide rates: resource allocation, resource distribution, policy coordination and policy choice. Using municipal homicide data and case studies from the states of Rio de Janeiro and Pernambuco, I show that in isolation, more spending on law enforcement does not lower municipal homicide rates. What matters is how important the city is for the governor's electoral success. In cities that give the governor large numbers of votes, violence declines when states spend more on law enforcement. I attribute these differing effects to the governor rewarding politically important locales with more security resources in an effort to reduce violence. Meanwhile, I find mixed evidence that policy coordination and policy choices, which extend beyond provision and distribution of resources, affect violence.

Table 5.2: Homicide Rates and % of the Population living Below 1/2 the Minimum Wage

State	Homicide Rate Change (%)	Inequality		Inequality Change (%)
		1991	2010	
North				
Acre	+8.8	79.5	53.0	-33.3
Amapá	-1.0	69.8	47.3	-32.3
Amazonas	+48.0	72.9	54.4	-25.3
Pará	+159.6	81.4	57.6	-29.3
Rondônia	-3.0	76.5	35.4	-53.7
Roraima	-26.3	63.0	47.8	-24.2
Tocantins	+86.8	84.1	46.1	-45.2
Northeast				
Alagoas	+117.6	86.8	60.8	-29.9
Bahia	+182.3	85.6	54.3	-36.6
Ceará	+138.4	86.6	56.2	-35.1
Maranhão	+203.7	91.5	64.7	-29.3
Paraíba	+124.3	87.9	54.8	-37.7
Pernambuco	-3.5	82.2	53.5	-34.9
Piauí	+157.7	89.7	59.0	-34.3
Rio Grande do Norte	+189.4	83.5	48.9	-41.4
Sergipe	+68.1	83.4	53.7	-35.6
Center-West				
Distrito Federal	-4.7	43.3	18.3	-57.7
Goiás	+77.6	69.0	26.5	-61.7
Mato Grosso	+17.8	70.0	29.5	-57.8
Mato Grosso do Sul	-6.2	69.0	28.1	-59.3
Southeast				
Espírito Santo	+7.6	70.9	28.9	-59.3
Minas Gerais	+128.8	72.5	30.3	-58.2
Rio de Janeiro	-27.9	56.1	25.9	-53.9
São Paulo	-50.2	40.9	19.4	-52.6
South				
Paraná	+75.9	66.2	21.3	-67.8
Rio Grande do Sul	+28.1	59.4	20.2	-65.9
Santa Catarina	+49.2	60.0	13.9	-76.9

Sources: The Brazilian Institute of Geography and Statistics (IBGE) and the Ministry of Health

This chapter proceeds as follows. In the first section, I review the extant literature on crime and violence in Brazil. I argue that while scholars have focused on the criminal justice system as being a key determinant of crime rates in Brazil, they fail to take into account how politics influences criminal justice policies. I then discuss four mechanisms through which politics can influence crime and illustrate these mechanisms using case studies from Pernambuco and Rio de Janeiro. In the next section, I test these arguments systematically using homicide data from more than 5500 municipalities between 1997 and 2014. The final section discusses the importance of these findings for the study of violence.

5.1 Crime and Violence in Brazil

Violence has long been an important issue in Brazil. In recent years, surveys have shown that individuals rank violence as one of the most pressing national issues and are more willing to support a military coup under high levels of crime (Pérez 2003). Other research suggests that support for and satisfaction with democracy decline as crime levels rise (Fernandez and Kuenzi 2010; Bateson 2012; Carreras 2013). In addition to causing widespread political problems, violence has a negative impact on the economy. In 2004, crime had a total direct and indirect cost of US$92.2 billion or approximately 5 percent of the country's GDP (Cerqueira et al. 2007).[68] A more recent study (Sachsida and Mendonça 2013) found that in 2012, homicides alone cost Brazil's economy an estimated R$17.73 billion (approximately US$7.53 billion) and 2.15 million years of life.

[68] Direct and indirect costs include factors such as lost wages due to mental or physical problems, paying police officers and building more prisons.

In the 1980s, Brazilian scholars began studying the country's rapidly rising crime rates. From this research, emerged two broad strands of literature that continue to guide debates about public security (Rodrigues 2011). The first strand focuses on the relationship between resource deprivation and crime. Brazilian scholars originally took the opposite approach from U.S.-based researchers, who viewed poverty as a major cause of crime. They argued that the wealthy and the poor engage in criminal activity at similar rates. However, the government focuses its attention on crimes committed by the poor and punishes them more harshly (Coelho 1978; Zaluar 1999). By decoupling the link between poverty and crime, they hoped to destigmatize poverty (Rodrigues 2011).

In recent years, there has been an emphasis on understanding the more nuanced relationship between poverty and crime since while most violent areas are poor, not all poor areas are violent. This observation has led to studies examining how poverty and inequality influence crime rates due to greater economic benefits (Liska, Chamlin and Reed 1985; Sever 2003; Stucky 2005, 24; Beato, da Silva and Tavares 2008), frustration with one's relative economic situation (Brush 1996; Messner and Rosenfeld 1997) and fewer social controls (Pare and Felson 2014). In Brazil, Resende and Andrade (2011) find that reducing inequality leads to a reduction in property crimes but does not affect crimes against people. Chioda, de Mello and Soares (2016), in contrast, find that Bolsa Família, a federal cash transfer program for low-income families, reduces violent crimes, crimes against minors and theft.

The second strand of crime research in Brazil focuses on the criminal justice system. In the 2014 LAPOP (Latin American Public Opinion Project) survey, 55 percent of Brazilian respondents expressed dissatisfaction with policing in their neighborhood while more than 68 percent thought that police would take at least half an hour to arrive if someone was burglarizing

their home. There is, however, a paradox. The police are more effective when the public has confidence in them. However, the public is more likely to cooperate with the police when they trust them (Silva and Beato 2013).

For law enforcement, reducing crime rates is one of the central ways to gain the public's trust. Studies in Brazil have focused on how changes in police strategies affect crime rates. Beato, da Silva and Tavares (2008) use a quasi-experimental change in the deployment of police in Minas Gerais, a large state in southeast Brazil, to examine the impact of law enforcement on crime. They show that between January 2001 and October 2002, the state's Police of Results Program, which emphasized working with local community leaders and deploying police using georeferenced crime data, reduced violent crime by 10 percent. However, crime rapidly increased when a new police commander disbanded the program. Macedo (2012) analyzes Pernambuco's Pact for Life program and shows that the state government was able to reduce crime using a combination of repressive and preventative policies. Macaulay (2012), meanwhile, provides an overview of efforts by the federal government to increase coordination between state and national law enforcement agencies to make them more effective.

Other scholars (Caldeira 2000; Ahnen 2007) have focused on police effectiveness by examining police violence and the impact it has on public trust in the police. Between 2009 and 2015, Brazilian police killed 17,688 people (Fórum Brasileiro de Segurança Pública 2016). However, the police are also regularly victims of violence. Between 1995 and August 2017, the state of Rio de Janeiro alone had more than 3,155 police officers killed.[69] Skogan (2013) finds that almost two-thirds of police officers believe they work in a high-risk environment and as risk levels rise, they are more willing to use force. Conversely, officers are less willing to use force

[69] Rouvenat, Fernanda and Gabriel Barreira. 2017. "PM é baleado e morre no RJ; é o 100º no ano." *O Globo*. http://g1.globo.com/rio-de-janeiro/noticia/pm-e-baleado-e-morre-no-rj-e-o-100-no-ano.ghtml (August 26, 2017).

when they are better equipped, trained and managed. While crime research focuses on reducing police violence, the country's weak criminal justice system and the low likelihood of punishment for committing crimes has led to strong public support for "mano duro" policies, including extrajudicial killings by the police. Even though people from poor and lower middle class neighborhoods are most likely to be victims of police violence, they are also its strongest supporters (Paixão and Beato 1997; Caldeira 2000).

5.1.1 Political Incentives and Crime Fighting Policies

Despite the rich body of research examining how the criminal justice system, poverty and inequality influence crime rates, the role that politics play in determining how the government responds to rising crime rates has been largely unaddressed. This oversight is puzzling since governors have wide latitude over what policies the government will take to address public security problems. There is, therefore, the possibility that security policies may see large shifts depending on who is in power. Career interests may also disincentivize governors from tackling crime by addressing long-term social problems and deficiencies in the criminal justice system that have been the primary focus in recent research.

While governors can focus on violence prevention through policies that reduce poverty and inequality, these efforts are likely to reduce crime only in the long term. Consider the issue of education. There is widespread agreement that providing educational opportunities can help reduce crime rates by better preparing children for the job market (Ehrlich 1975; Machin, Marie and Vujić 2011). However, a better education only effects children's economic situation in several years when they enter the labor market. This is problematic for governors who must demonstrate the success of their crime control policies within the four-year electoral cycle.

Similar problems are likely to affect efforts to reform police agencies. Reforming institutions is often a slow process that requires changing patterns of behavior and long-existing bureaucratic structures. Moreover, whereas there is often strong support for more spending on education, reforms to address problems with law enforcement agencies may actually hurt the governor's electoral interests. Law enforcement reforms often result in backlash from the police, who can threaten public order by being less proactive in confronting crime or, more gravely, committing massacres and other crimes that will discredit the governor's policies (Maranhão Costa 2004). Even if the police agree to reforms, governors may not have political incentives to implement them. Ahnen (2007) finds that police violence is an effective electoral strategy for governors from right and center-right parties that allows them to demonstrate their commitment to tough-on-crime policies. More recently, a 2016 survey showed that 57 percent of Brazilians agree with the phrase "a good criminal is a dead criminal."[70]

5.1.2 Gubernatorial Crime Fighting Tools

Taken together, career interests provide governors with minimal incentives to enact policies that will only show success in the long-term. Beyond not benefitting from reductions in crime that these policies provide, any long-term successes they achieve may actually help their successors claim credit for reducing crime, making them more powerful political opponents. Given, these issues, I expect governors to focus on crime fighting policies that they can rapidly implement and strategically use to bolster electoral support. I propose that governors have four crime fighting tools. Figure 5.1 shows these tools and the pathways through which they can reduce violence.

[70] O Globo. 2016. "Para 57% dos brasileiros, 'bandido bom é bandido morto', diz Datafolha," November 2. http://g1.globo.com/sao-paulo/noticia/2016/11/para-57-dos-brasileiros-bandido-bom-e-bandido-morto-diz-datafolha.html (October 12, 2017).

The first tool is r*esource provision*. Providing more resources for law enforcement strengthens the government's deterrence capacity (Becker 1968). Governors can use these resources for policies such as building more prisons, providing better training for police officers, hiring more police officers and constructing more police stations. Assessing the impact that police have on crime rates is a difficult and controversial endeavor, with some people claiming that police officers do not reduce crime rates. The endogeneity problem plays a strong role in this debate. Governments often hire more police officers when crime rate are rising, making it appear that having more police officers has no effect on crime or even increases it. Recent studies have tackled this problem using an instrumental variable approach that focuses on events unrelated to changing crime rates that modify the police presence in specific geographical areas.

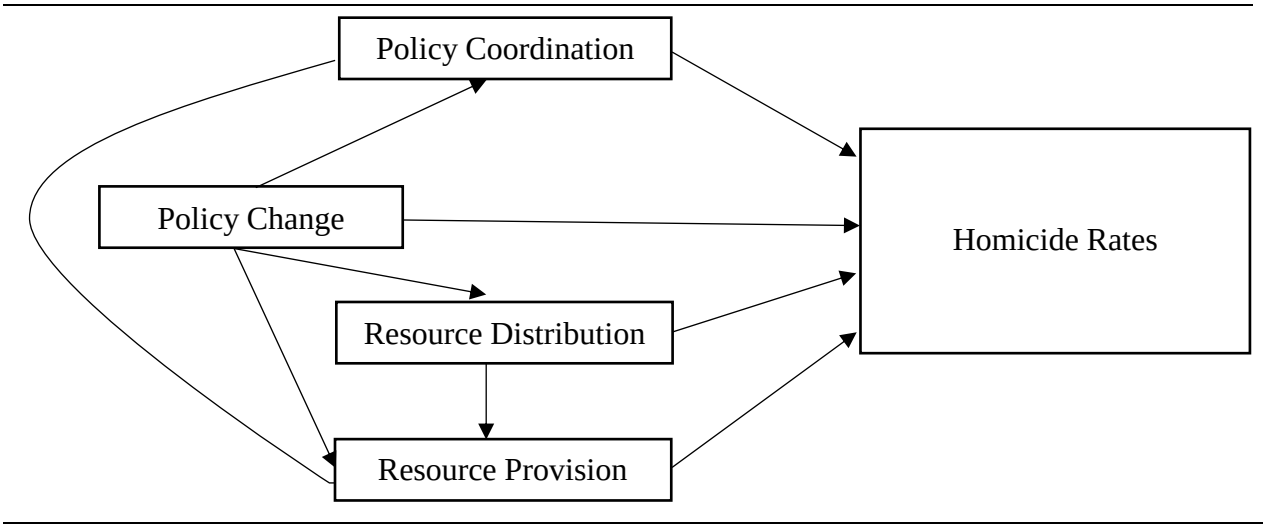

Figure 5.1: Gubernatorial Crime Fighting Tools

Levitt (1997) finds that violent crime rates decline in mayoral and gubernatorial election years when politicians hire more police officers to bolster their crime-fighting image. However,

McCrary (2002) reanalyzes Levitt's data and shows that this effect is largely due to an estimation error. More recently, scholars have used exogenous changes in police presence during terror alerts and terrorist attacks to examine the impact that policing has on crime rates. Studies following terrorist attacks against Jewish centers in Argentina (Di Tella and Schargrodsky 2004) and terrorist threats in Washington, D.C. (Klick and Tabarrok 2005) find that the increased police presence in target areas reduces car thefts and thefts from cars but not violent crime. However, Draca, Machin and Witt (2011) challenge these findings using a more precise measure that utilizes internal law enforcement data on the number of hours and locations where police officers worked following the 2005 terrorist attacks in London. They show that in central London, a ten percent increase in police presence led to a three percent decline in both theft and violent crime rates. Taken together, therefore, we should expect the following.

H_1: *More state spending on law enforcement will lead to lower homicide rates.*

Providing more resources for law enforcement is an attractive tool for governors. These policies are popular among the public and help politicians develop a reputation for being tough-on-crime (Campbell 1999; Tonry 1999; Roberts, Stalans and Hough 2002, 5-7; Dammert 2012, 22). During interviews with 88 state deputies in six states, I asked them what requests they received from voters to increase public security. As Table 5.3 shows, two-thirds said that voters primarily asked them to send more law enforcement resources to their neighborhood while an additional 16 percent wanted both law enforcement and social programs. This policy is also popular among law enforcement officials who regularly highlight the need for more resources. One military police officer in charge of a popular tourist beach community said that his police company had only one vehicle to patrol an area with 40,000 residents.[71] In another state, the

[71] Military Police Officer, Personal Interview, Rio Grande do Norte, February 27, 2016.

secretary of public security, the state's top law enforcement official, said that the police sometimes conduct fewer patrols at the end of the year due to a lack of funds for fuel and vehicles.[72]

Table 5.3: Voters' Security Demands for State Deputies during Political Campaigns

State	Law Enforcement	Social Policies	Both	Other
Bahia	15 (79%)	2 (11%)	1 (5%)	1 (5%)
Paraná	17 (63%)	2 (7%)	7 (26%)	1 (4%)
Pernambuco	10 (63%)	6 (38%)	0 (0%)	0 (0%)
Rio de Janeiro	9 (60%)	2 (13%)	4 (27%)	0 (0%)
Rio Grande do Norte	4 (57%)	1 (14%)	2 (29%)	0 (0%)
Sergipe	3(75%)	1(25%)	0 (0%)	0 (0%)
Total	**58 (66%)**	**14 (16%)**	**14 (16%)**	**2 (2%)**

Source: Author's Interviews, July 2015-June 2016

The second tool that governors have is *resource distribution*. While providing more resources for law enforcement enables states to develop a more effective deterrence capacity, the impact these resources have on local crime rates should depend on how governors distribute them. A rational-choice approach to crime control suggests that the government should distribute these resources, using technical criteria designed to minimize crime throughout the state. However, as I showed in Chapter 4, governors are strategic actors who distribute police officers based on political considerations. They send more police to large municipalities that are important for their electoral success rather than ones with higher crime rates.

Given that governments consistently distribute police based on political interests, the common wisdom would lead us to expect that the effect of more spending on law enforcement will vary depending on the municipality's population and the candidate that residents support

[72] Secretary of Public Security, Personal Interview, Brazil, November 23, 2015.

during gubernatorial elections. More specifically, security resources will reduce crime the most in municipalities that are more important for the governor's electoral success. That is, those municipalities that are large and strongly support the governor.

Governors may send more law enforcement resources to large municipalities that are important for their electoral success. Across states, however, the impact that the political distribution of security resources will have on crime rates is likely to vary depending on how much states investment in law enforcement. If the state is poor or the governor does not prioritize law enforcement, then even though they may politicize the distribution of security resources, they will have fewer resources to send to politically important municipalities. If state spending on law enforcement is low enough, it is likely that giving more support for the governor will have minimal to no impact on the municipality's homicide rate.

Imagine the following scenario. There are two municipalities in different states. In each state, the governor receives 100,000 votes from the municipality that gives her five percent of her total votes statewide. In State A, however, the governor investments $50 per capita on law enforcement while the governor in State B investment $100 per capita. If both governors give their respective municipalities five percent of all law enforcement spending, the municipality in State A will have only $2.5 per capita for law enforcement while the municipality in State B will have $5. The higher level of resources available to the municipality in State B makes it likely that it will be more successful at reducing homicide rates since the city will be receiving more *overall* security resources than . Taken together, we have competing hypotheses.

H_2: *More state spending on law enforcement will reduce crime rates most strongly in large municipalities that give the governor a large number of votes (regardless of the total amount of resources spent on security).*

H_{2a}: *In states with low levels of spending on law enforcement, changes in municipal support for the governor will have no effect on homicide rates.*

Policy coordination is the third tool that governors have to reduce violence. Better coordination between the local and state government can bolster security by allowing both actors to more effectively use their resources. While Brazilian cities do not have their own police forces, mayors may work with the state government to implement policies such as paying overtime for police officers in their city, constructing police stations when the governor agrees to provide more police officers to work there and paying for gasoline so that the police can conduct additional patrols. Recent research suggests that policy coordination can reduce crime rates.

Hoelscher (2015) shows that homicide rates in Brazilian municipalities are lower when the governor and the mayor are from the same party. He is, however, unable to identify whether this decline in crime rates is due to an increase in resources or better coordination between the state and municipal government. Trejo and Ley (2016) provide a more sinister side of this policy coordination. They examine drug violence in Mexico and find that homicide rates are lower when local political actors are from allied parties due to better coordination between state and local officials. In contrast, when an opposition party is in power, the federal government will unilaterally implement public security operations in an effort to increase violence to discredit opposition politicians.

Policy coordination has two potential benefits for governors. First, if policy coordination reduces violence, then governors will obtain greater electoral support when running for reelection or seeking other political offices. Second, reducing crime in specific municipalities can help governors gain the support of local political allies. Although governors control security, violence is also an important political issue for mayors. During interviews with state deputies, many of whom have been mayors, I asked them which group of politicians voters blame for public security problems. As Table 5.4 shows, more than 60 percent said that they blame all

politicians including mayors. For mayors, policy coordination can help bolster their political support and provide them with more opportunities to advance their political careers by reducing crime.

Table 5.4: Politicians whom Voters Blame for Security Problems

Governor	12
State Deputies	2
Mayors	2
Governor and Deputies	2
All Politicians	32
N	50

Source: Author Interviews, July 2015-June 2016

There is some evidence that mayors and governors coordinate security policies in Brazil. Table 5.5 shows how average homicide rates vary in cities with more and less than 20,000 residents when the governor and the mayor are from the same party or an opposition party. In both small and large municipalities, average homicide rates are more than five percent lower when the governor and the mayor are from the same party. Together with the evidence from Chapter 4, which showed that governors provide more police officers to allied mayors in large cities, I expect the following.

H_3: *Crime rates will be lower when the governor and the mayor are from the same party*.

Table 5.5: Average Homicide Rates per 100 Thousand Residents, 1997-2014

	Allied Mayor	Opposition Mayor
Small Cities	9.2	10.0
Large Cities	18.4	19.4

Policy change is the final mechanism that governors have to reduce violence. Newspapers regularly provide anecdotes about changes in public security policies when a new governor enters office. However, there is scant research on why some governors, such as Eduardo Campos in Pernambuco and Sérgio Cabral in Rio de Janeiro, highlight public security during their campaign and when they are in office, while other governors focus on other policy issues. Instead, most studies examine public security policies in individual states during one governor's administration, such as the Pact for Life in Pernambuco (Macêdo 2012) and Bahia (Freitas 2015) or Rio de Janeiro's Pacifying Police Program (Misse 2014). These studies typically describe the program's emergence and evolution over time. However, they ignore the many cases where governors do not develop clear plans to better public security, and they do not explain why some governors implement elaborate public security policies that fail.

One study attempts to address this issue by focusing on how politics influence public security policies. Goertzel and Kahn (2009) argue that in the 1990s, voters in São Paulo expressed outrage over the state's high homicide rate that led to more than 15,000 homicides each year. This outrage, in turn, forced the police to implement a number of new policies, including GIS mapping of crime, more community police stations, and specialized units to deal with homicides and sexual assaults. By 2007, these policies, in conjunction with a more aggressive approach to firearm seizures, led to a 62 percent decline in the murder rate, making São Paulo one of the country's safest states.

Outrage over violence, however, is not unique to São Paulo. Throughout the country, voters regularly identify public security as a major problem. If outrage is the causal mechanism leading governors to address security problems, then we should find declining levels of crime and violence throughout the country. However, crime and violence continue to rise in most

cities and states. This does not indicate that outrage does not play a role in determining public security policies. Rather, it depends on how this outrage affects electoral support for politicians across the ideological spectrum.

In Chapter 2, I showed that voters punish right parties more strongly for rising crime rates than they punish centrist and leftist parties. I argue that this difference in punishment occurs since voters believe that right parties emphasize tough-on-crime policies while left and centrist parties use a more balanced approach to security that emphasizes crime prevention along with repression. Part of these differences in how parties approach public security relate to the provision and distribution of public security resources. States that have more resources are able to provide better security and to distribute these resources to areas that are important for the governor's electoral success. However, policy approaches go beyond the provision and distribution of resources. Even if governors do not provide more resources for law enforcement, they can prioritize security as an issue that they will focus on during their time in office. One way to view the priority that governors are giving to security is by examining their electoral platforms.

Federal law requires each gubernatorial candidate to submit a document outlining policy proposals for their time in office. Table 5.6 shows the percentage of each governor's electoral platform that was devoted to security in 2010 and 2014. In 2010, governors from right parties spent, on average, 6.4 percent of their platform discussing security issues while governors from leftist parties spent slightly more at 6.7 percent. However, these numbers changed drastically during the 2014 elections when governors from right parties spent more than 11 percent of their platform on security issues compared to only 6 percent by left parties.

Table 5.6: Percent of Party Platform Devoted to Public Security, 2010 and 2014

State	**Party** 2010	**Ideology** 2010	**Security %** 2010	**Party** 2014	**Ideology** 2014	**Security %** 2014
Acre	PT	Left	3.3	PT	Left	7.9
Alagoas	PSDB	Center	4.7	PMDB	Center	5.0
Amapá	PSB	Left	2.0	PDT	Left	5.2
Amazonas	PMN	Left	12.5	PROS	Center	0.6
Bahia	PT	Left	3.8	PT	Left	5.5
Ceará	PSB	Left	7.0	PT	Left	6.3
Distrito Federal	PT	Left	4.4	PSB	Left	4.2
Espírito Santo	PSB	Left	14.4	PMDB	Center	4.3
Goiás	PSDB	Center	0.9	PSDB	Center	4.1
Maranhão	PMDB	Center	7.5	PC do B	Left	7.7
Mato Grosso	PMDB	Center	11.2	PDT	Left	5.7
Mato Grosso do Sul	PMDB	Center	5.0	PSDB	Center	3.7
Minas Gerais	PSDB	Center	0.0	PT	Left	10.0
Pará	PSDB	Center	7.7	PSDB	Center	5.1
Paraíba	PSB	Left	5.2	PSB	Left	11.5
Paraná	PSDB	Center	2.4	PSDB	Center	2.0
Pernambuco	PSB	Left	3.0	PSB	Left	2.5
Piauí	PSB	Left	5.0	PT	Left	6.7
Rio de Janeiro	PMDB	Center	8.5	PMDB	Center	13.0
Rio Grande do Norte	DEM	Right	10.6	PSD	Right	7.5
Rio Grande do Sul	PT	Left	5.0	PMDB	Center	13.7
Rondônia	PMDB	Center	6.1	PMDB	Center	4.5
Roraima	PSDB	Center	2.4	PP	Right	13.0
Santa Catarina	DEM	Right	2.1	PSD	Right	13.9
São Paulo	PSDB	Center	0.6	PSDB	Center	6.4
Sergipe	PT	Left	6.7	PMDB	Center	4.9
Tocantins	PSDB	Center	4.5	PMDB	Center	3.6
Left Parties			6.7			6.0
Center Parties			5.4			4.7
Right Parties			6.4			11.5

While voters may not read these platforms, the country's press and governors' political opponents regularly highlight failures to achieve these goals, making them a costly signal for all governors. However, the electoral ramifications for rising crime rates are strongest for right parties, which receive widespread punishment/rewards for increasing (decreasing) crime rates. This stronger electoral punishment, gives governors from right parties greater incentive to prioritize public security among the myriad of policies they must address during their time in office. They also have greater incentive to focus on policies that provide short-term reductions in crime, such as more aggressive policing with an emphasis on incarceration. In contrast, governors from left parties and centrist parties, which receive minimal to no punishment for rising crime rates, have more flexibility to focus on long-term crime prevention efforts, which may have less of an effect on violence in the short term. Given these differences in electoral punishment for rising crime rates, I expect that homicide rates will be lower when the governor is from a right party.

H_4: *Municipalities in states with governors from right parties will have lower homicide rates than municipalities in states with governors from left parties.*

5.2 CRIME CONTROL POLICIES IN RIO DE JANEIRO AND PERNAMBUCO

I illustrate the four mechanisms outlined above using case studies from Rio de Janeiro and Pernambuco between 1991 and 2014. I chose these states using the "diverse-case" strategy (Seawright and Gerring 2008). This strategy seeks cases that have maximum variation in both the indicators and outcomes that allow the researcher to explore how changes in each of the causal factors, either independently or interactively, explain variation in the outcome of interest. In this case, how variation in security spending, the distribution of security resources and

cooperation between state and local officials, along with policy changes, influence violence. Focusing on two states over an extended period allows me to naturally control for other factors, such as the states' histories and political cultures. From a broader standpoint, these are also two of Brazil's most populous states, and they have experienced wide-ranging changes in public security policies and crime over the past three decades.

5.2.1 Rio de Janeiro: The Marvelous City

Crime has been a longstanding political issue in Rio de Janeiro's politics stretching back to the state's first direct elections as the military dictatorship drew to a close. In 1982, Leonel Brizola, from the left-leaning Democratic Labour Party (PDT), won the election and began the first attempts at modifying the state's public security policy.[73][74] He eliminated the secretary of public security position, which the military controlled, and elevated civilian heads of the military and civil police forces to the role of state secretaries.[75] He also prohibited police operations in favelas without judicial orders, created the Council of Justice, Public Security and Human Rights to prevent human rights abuses and attempted to create better policing in lower and middle class communities through the neighborhood-policing program and the creation of a center for community policing (Maranhão Costa 2004). Despite Brizola's efforts, crime and police violence continued to increase. During his tenure, the state's homicide rate rose seven percent, although the 2454 homicides during his final year in office would be less than a third of the state's 8216 homicides just nine years later.[76]

[73] Brizola portrayed himself as a man of the people often wearing half-buttoned dress shirt with sleeves rolled up to his elbows even during gubernatorial debates. A video of Brizola during a campaign debate can be seen at https://www.youtube.com/watch?v=iqEGWJBwbtQ

[74] As a reminder, I classify parties using Power and Zucco's (2009) index of party ideology in Brazil, which measures ideology by looking at parties' voting behavior in the national Congress.

[75] The state did not recreate the Secretary of Public Security position until 1995.

[76] The state homicide rate increased from 20.2 to 61.8 victims per 100 thousand residents during this time.

In 1986, voters elected Wellington Moreira Franco from the centrist Brazilian Democratic Movement Party (PMDB). Franco campaigned on a promise to wipe out crime in 100 days. His plan included placing 2500 additional police officers on the streets and an equipment modernization program that led the government to purchase 280 vehicles along with other equipment for the police (Mamede 2010). However, crime and violence continued to rise with critics arguing that his security plan merely centered on giving police a blank check to engage in indiscriminate killing. Moreira blamed his security failures on Brizola, whom he accused of severely weakening the police. In 1990, the PMDB's successor candidate, Nelson Carneiro, lost to Brizola, who returned for a second term in office and continued to emphasize crime prevention through social programs rather than violent repression (Aziz Filho 2003).

Without an opportunity to run for reelection, Brizola left office in 1994 to run for the presidency.[77] Although multiple parties disputed the governorship, the elections turned into a runoff between the center-right coalition *Rio Unido* (PSDB, PFL, PP and PL) led by Marcello Alencar from the PSDB and the center-left *Força do Povo* (PDT, PMN and PTB) led by Anthony Garotinho. Alencar won the runoff election and immediately took a tough stance on public security. He hired General Nilton Cerqueira, who headed Rio de Janeiro's military police during the final years of the country's dictatorship in the 1980s, to be the state's secretary of public security. The strategy was simple. The best way to defeat crime was confronting it head on.

General Cerqueira instituted a bravery bonus that rewarded police officers with bonuses and permanent salary increases for engaging in firefights with suspected criminals. This policy led to a large increase in police killings that came with the governor's tacit approval (Cavallaro

[77] In 1997, the country passed a law permitting one consecutive term for all executive offices.

and Manuel 1997, 39-41). During the first 19 months of his administration, police killed 647 people and wounded 336, compared to 547 killed and 383 wounded in the previous two years (Cano 1997, 26). One incident, in particular, highlights this growing police violence. In May 1995, the police entered the Nova Brasília favela and killed 13 suspected drug traffickers.[78] Governor Alencar addressed the controversy surrounding these killing by telling local newspapers:

> These violent criminals have become animals…They are animals. They can't be understood any other way. That's why encounters with them can't be civilized. These people don't have to be treated in a civilized way. They have to be treated like animals (Cavallaro and Manuel 1997, 1).

Governor Alencar did not seek reelection in 1998, following a rupture between the PSDB and the powerful Liberal Front Party (PFL). This dispute left the governorship wide open. Anthony Garotinho, the former radio talk host, mayor and state deputy from the left-leaning PDT, who placed second in the 1994 elections, emerged as a leading candidate. In 1998, he wrote a 158-page book, *Violência e Criminalidade no Estado do Rio de Janeiro*, with leading academics, including Luíz Eduardo Soares. The book diagnosed and provided solutions to the state's public security problems. It advocated crime prevention through social programs and tough-on-crime policies that included: police occupation of favelas and poor communities, creating a public security council to coordinate state, local and federal agencies, investing in police intelligence, reducing police violence and investing in schools and social programs to protect children and adolescents from becoming involved in crime. Although Garotinho was from the PDT, he sought to differentiate himself from Brizola by emphasizing a strong role for both *prevention* and *repression*.

[78] *Favela* is the term used for Brazil's urban slums.

After winning the election, Garotinho immediately increased law enforcement and education spending by 47 and 32 percent, respectively. He also hired General José Siqueira to be the state's Secretary of Security and Luíz Eduardo Soares to be the Subsecretary of Research and Citizenship. The divided civilian-military control of the Secretary of Public Security, along with regular confrontations between military police officials and Soares, led to widespread tensions within the agency, and efforts to reform the police failed (Maranhão Costa 2004). Despite these problems, homicide rates declined 10 percent overall during his administration.

The drop in crime suggests that in line with my theoretical expectations, crime rates will decline when governors spend more on law enforcement. However, it is important to highlight that while crime declined overall during Garatinho's tenure, it increased 12 percent during his final year in office. This sudden increase in violence is puzzling until we examine his career path. In 2002, he did not seek reelection, choosing instead to focus on the presidency. During this time, his focus was outside the state and he had less time to devote to public security.

In 2002, Rosângela Matheus de Oliveira, Garotinho's spouse, became the PDT candidate and won the governorship. Her administration gave continuity to Garotinho's public security policies and homicide rates declined another nine percent.[79] The decline in violence during Governor Rosângela Matheus de Oliveira's administration helps us distinguish the effects of education and law enforcement spending. During her time in office, spending on law enforcement rose nine percent while education spending declined 16 percent. If education was the only tool for reducing crime, we would expect there to have been a sudden increase in violence during her tenure. This does not mean that providing more resources for education is

[79] Brazil's electoral rules allow incumbent governors to run for only one consecutive reelection and does not allow direct family members to run in subsequent election. The electoral court ruled, however, that she could serve one term in office based on the argument that her term in office was Anthony Garotinho's second term.

unimportant for reducing crime rates. The spike in education spending during Garotinho's administration may have had delayed effects that were now paying dividends, which coalesces with the theory that education is a long-term crime reduction policy. However, it does suggest that more spending on law enforcement can be an effective policy for governors to tackle violence in the short term.

Her administration also gives credence to the argument that governors can reduce violence by coordinating policies with local political allies. When she entered office in 2003, municipalities with PDT mayors had an average homicide rate of 39 victims per 100 thousand residents, compared to 32 victims per 100 thousand residents in municipalities controlled by opposition parties. By the end of her tenure, violence had decline across all municipalities. However, this decline was steepest in cities with allied mayors, which saw their homicide rates decline 54 percent, compared to only eight percent in cities controlled by opposition parties.

Although security was improving, violence remained an important issue during the 2006 elections, with the state continuing to have the country's fourth highest homicide rate and more than 7000 homicides annually. The PMDB candidate, Sérgio Cabral Filho, made public security a central campaign issue. After winning the election, his government began forming a new policy, the Pacifying Police Program. This strategy emphasized fighting crime through social programs in conjunction with a stronger police presence through Pacifying Police Units (UPPs). In December 2008, Secretary of Public Security José Beltrame launched the first UPP in the Santa Marta Community in Rio de Janeiro's South Zone, the zone that contains the world famous Copacabana beach and the Christ the Redeemer statue. The government inaugurated the Santa Marta UPP just one month prior to the arrival of the city's new mayor; Eduardo Paes from the

PMDB. Paes was the first mayor from the PMDB in Rio de Janeiro since César Maia in 1996 and the party controlled the mayor's office until 2016 when crime rates began to rise steadily.

The Pacifying Police strategy involves several steps. First, military police from the Special Operations Police Battalion (BOPE) enter low-income communities (favelas) to expel criminal groups operating there.[80] Afterwards, the state constructs permanent police posts in the community to prevent the return of criminal groups and reduce violence. This security, in turn, allows other government agencies to enter the communities to provide education and social services to community residents.

This public security strategy uses a rational-choice approach to crime control that emphasizes making crime less attractive by providing alternative opportunities for community residents while also increasing the costs for committing crime. However, while the policy emphasizes crime prevention as well as repression, critics argue that it focuses primarily on repression through a stronger police presence in low-income communities. One of its strongest critics has been the program's architect; José Beltrame. In a May 2016 interview, he publically criticized the state government for focusing only on policing, asking, "Where is the money for social programs?"[81]

[80] Before occupying a favela, the military police release pamphlets letting the residents the exact day when they will be entering the community. This strategy has led reduced violence between drug trafficking organizations and the police since many drug traffickers flee the favela prior to the police entering the community.
[81] Thomé, Clarissa. 2016. "A UPP fez sua parte. Para onde foi a verba de assistência social?" *O Estado de São Paulo*. May 25. (October 10, 2017). http://brasil.estadao.com.br/noticias/rio-de-janeiro,a-upp-fez-sua-parte-para-onde-foi-a-verba-de-assistencia-social,10000053273

Despite the lack of funding for social programs in these communities, the strategy had great success in reducing violence in the city of Rio de Janeiro. Between 2008 and 2014, the city's homicide rate fell 26 percent and it had 524 fewer homicides. However, it did not lead to an overall reduction in violence. Homicide rates outside the capital city increased 10 percent, and the total number of homicides statewide remained steady at around 5600 annually.

These seemingly contradictory differences in violence statewide have their roots in the state's public security strategy. Between 2008 and 2014, the state hired 8,000 military police officers, increasing the size of its police force by 20 percent (Forúm Brasileiro de Segurança Pública 2016). However, it assigned most of these new officers to work in Pacifying Police Units. With 37 out of 38 UPPs located in the city of Rio de Janeiro, the capital has been the primary beneficiary of the government's security strategy to the detriment of security in the rest of the state.[82] Violence alone cannot explain the government's overemphasis on the capital city. Despite receiving the bulk of the state's additional security resources, the capital has only a third of the state's homicides.

Figure 5.2 shows the number of police officers per 1000 residents in each Integrated Security Area (AISP) in 2015. AISPs are the organizational unit that the government uses to divide responsibility for policing in the state. In less populated areas, AISPs cover multiple municipalities, while in large cities, such as Rio de Janeiro, they cover a small section of the city. The state has an average of one police officer for every 545 people. However, the city of Rio de Janeiro has one officer for every 375 residents while the rest of the state has only one police officer for every 774 residents. In some areas, the distribution is even worse. Belford Roxo, a city governed by a mayor from the Communist Party of Brazil (PCdoB), which opposed Cabral's

[82] http://www.upprj.com/index.php/historico

handpicked successor during the 2014 gubernatorial elections, has only one police officer for every 1643 residents, although its homicide rate exceeds 50 victims per 100 thousand residents.

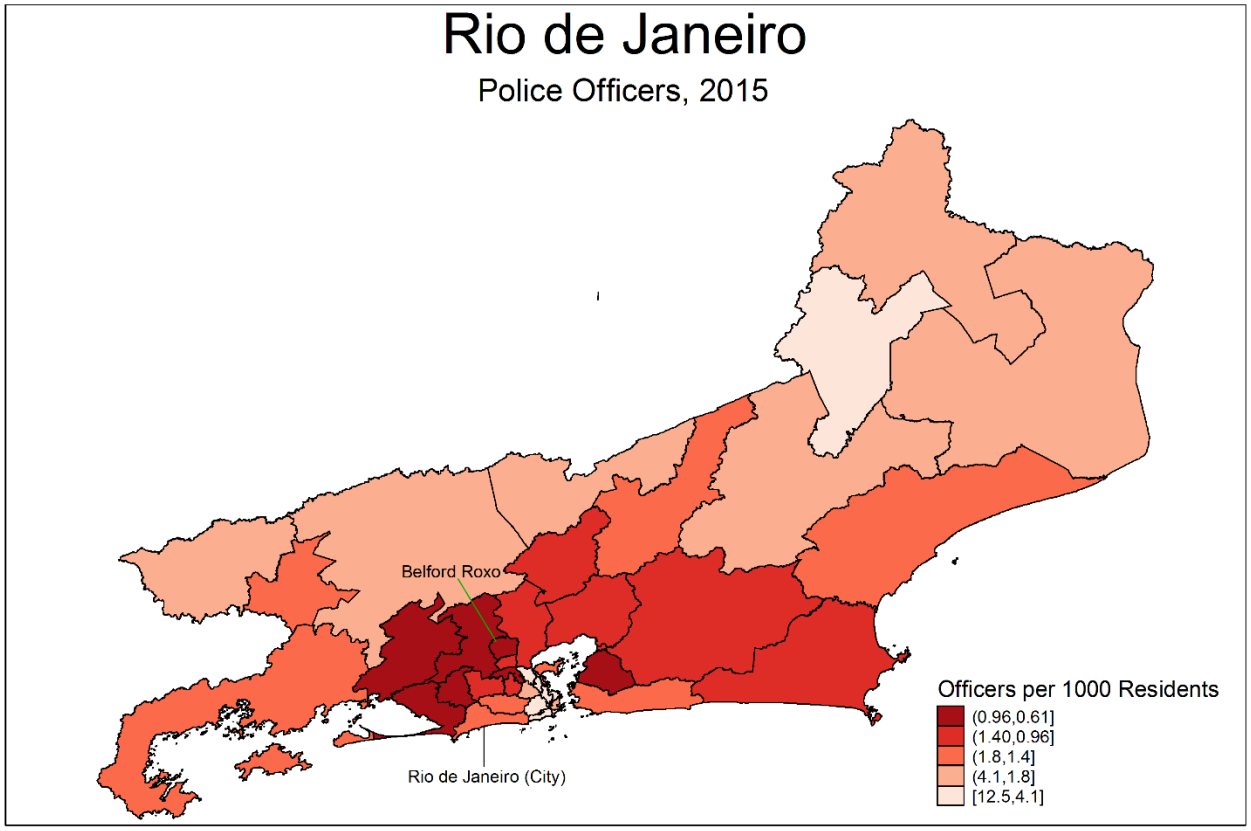

Figure 5.2: Police Officers per 1000 Residents in Each Integrated Security Area

Economic factors provide one explanation for the government's emphasis on the capital city. In areas where there is higher level of inequality, wealthier citizens demands more security (Liska, Chamlin and Reed 1985; Stucky 2005). Many individuals also travel from surrounding areas to work in the capital city and the city is the state's tourism hub. As a result, the capital may need more police officers than we would expect by just looking at the residential population, since criminal groups might more strongly target these areas. There is some evidence to support these theories. In the districts of Leblon and Copacabana, there is one police

officer for every 235 residents, despite the area having the highest levels of wealth and the lowest level of violence anywhere in the state. The government, however, has sent most of the state's new police officers work in Pacifying Police Units that are located in the city's favelas.

A stronger explanation lies in electoral politics. The city of Rio de Janeiro contains almost 40 percent of the state's voters and during the 2006 election, Cabral received 32 percent of all his votes from the city. Given the city's importance for his electoral success, Cabral needed to focus his administration's public security efforts on the capital. The capital is also visible in the public eye with even minor crimes making the national news. One state deputy that I interviewed said that a bike robbery in Rio de Janeiro's touristic south zone receives more media attention than homicides elsewhere.[83] This strategy appears to have worked. In 2006, Governor Cabral participated in a runoff election after receiving only 41 percent of the popular vote in the first round. In contrast, with crime declining rapidly, he won the 2010 election with more than 68 percent of the first round votes.

Many state deputies have expressed concern over the role that politics plays in the distribution of law enforcement resources. One deputy from the conservative Progressive Party (PP) said that the governor creates new Pacifying Police Units in locations where there are many votes. In addition, outside the capital, the government is not replacing officers who are quitting or injured on the job.[84] Another deputy from the state's mountain region said that this area of the state has fewer police officers because "There, there are few votes."[85] Deputies from political parties across the ideological spectrum including the Brazilian Social Democratic Party (PSDB), the Workers' Party (PT), the Socialism and Liberty Party (PSOL) and the Social Democratic

[83] [83] State Deputy, Personal Interview, Rio de Janeiro, October 6, 2015.
[84] Personal Interview, State Deputy, September 23, 2015.
[85] "Lá tem poucos votos." Personal Interview, State Deputy, October 6, 2015.

Party (PSD) also argued that the UPPs have exacerbated security problems outside the capital as criminals migrate to these regions with a smaller law enforcement presence. There is some evidence to support this assertion that the UPP program is simply displacing crime. Prior to the implementation of the UPP program, violence was falling steadily outside the capital with the total number of homicides declining from 3854 in 2001, to 3350 in 2008. In contrast, after the government implemented the UPP program, the number of homicides declined at a much slower rate, with an average of 3257 homicides annually between 2009 and 2016.

In recent years, the government has responded to these concerns by placing more police officers in cities outside the capital. However, most of these new police officers have also gone to areas where the governor received a large number of votes. In the four Integrated Security Areas (AISPs) outside the capital where the governor received 20 percent of his total votes during the 2014 elections, the number of police officers per capita increased around 23 percent between 2013 and 2015. In contrast, in the four AISPs where he received the smallest percentage of his total votes, around five percent, the number of officers per capita increased only 2.9 percent.

While both areas have similar crime rates, they have vastly different pool of voters. In the four AISPs where the governor received 20 percent of his support, around 1.75 million people voted in the elections. In contrast, in the four smaller AISPs, there were only 348 thousand voters. For governors seeking to maximize their political support, the winning strategy is to target large cities where there are many voters.

Moving forward, the state's public security strategy is confronting an uncertain future. In 2015, the state began to suffer financial problems due to the Operation Carwash corruption scandal and declining oil prices. These financial problems led to cutbacks in the state's plans to

hire more police officers and reduced its ability to pay officers for overtime work. In addition, with the state's homicide rate seeing an unprecedented 22 percent increase in 2016 along with 146 police officers murdered, the architect of the Pacifying Police Program, Secretary of Public Security José Beltrame, resigned. His trusted assistant, Roberto Sá, took control of the Secretary of Public Security but violence continued to rise. In 2017, homicide rates increased six percent and violence claimed the life of 134 additional police officers.

The rising violence in Rio de Janeiro, which regularly made headlines in national and international news, led the federal government to take an unprecedented step. In February 2018, President Michele Temer issued a decree placing the federal government in charge of Rio de Janeiro's security through the end of the year.[86] This intervention allows the federal government to use of the armed forces for public security. As part of this process, the government ousted Roberto Sá from the Secretary of Public Security and the commander of the military's eastern forces, General Walter Brago Netto, took control of the state's security forces with no oversight by the governor or other state political actors.

The results have not been encouraging so far. Between January to August 15, security forces killed 895 people, representing an 89 percent increase compared to the same period in 2016 and almost a fourfold increase over 2013 when they killed 236 people.[87] During this period, criminals killed 65 police officers, along with three members of the military, and homicide rates have risen eight percent.[88][89]

[86] Decree 9.288/2018
[87] Grandin, Felipe and Marco Antonio Martins. 2018. "Número de mortes por intervenção policial no RJ mais que dobra em cinco anos." August 15. https://g1.globo.com/rj/rio-de-janeiro/noticia/2018/08/15/numero-de-mortes-por-intervencao-policial-no-rj-chega-a-895-em-2018.ghtml
[88] O Dia. 2018. "Policial militar morto em São Gonçalo é enterrado." August 26. https://odia.ig.com.br/rio-de-janeiro/2018/08/5569717-policial-militar-morto-em-sao-goncalo-e-enterrado.html#foto=1
[89] Nascimento, Karina. 2018. Homicídios e crimes contra o patrimônio registram queda em junho 2018." July 17. *State of Rio de Janeiro: Instituto de Segurança Pública*. http://www.isp.rj.gov.br/Noticias.asp?ident=406

5.2.2 Pernambuco: The Pact for Life

Pernambuco is northeastern Brazil's second most populous state, with just over 9.2 million residents. Throughout the 1990s, the northeast was one of the country's safest regions. In the 2000s, however, violence increased dramatically, with the regional homicide rate more than doubling between 2000 and 2015. Pernambuco went against this trend. The state's homicide rate rose throughout the 1990s before declining more than 27 percent in the 2000s. Despite the high level of violence in the 1990s, public security only became an important political issue in the early 2000s.

Pernambuco's post-dictatorial political history began in 1986 with the election of Miguel Arraes (PMDB), who won with the support of a center-left coalition.[90] During Arraes' four years in office, public security was not a major priority. Instead, his focus fell along two lines. In the interior of the state, he emphasized the distribution of seeds, providing credit to rural areas and preserving jobs in the sugar cane industry, while he focused on housing, health, education and transportation in Recife and other cities in the capital region (CPDOC 2017).[91]

In 1990, Joaquim Francisco from the conservative Liberal Front Party (PFL) won the gubernatorial election. During this period, governors did not develop multifaceted public security programs but instead continued with the repression-based policies implemented during the military dictatorship (Zaverucha 2003). While Francisco was in office, Arraes' relationship with the PMDB began to deteriorate, and in 1992, he officially left the party to join the leftist Brazilian Socialist Party (PSB). In 1994, he won his third term as the state's governor with a

[90] He was also governor from 1963 until 1964 when the government exiled him to Europe following the country's military coup.
[91] Centro de Pesquisa e Documentação História Contemporânea do Brasil Centro de Pesquisa e Documentação História Contemporânea do Brasil

coalition that joined several leftist parties (PDT, PPS, PCdoB, PCB, PT, PMN and the PT) and conservative owners of sugar cane plantations who were important for garnering support in the interior of the state (CPDOC 2017).

During his time in office, Arraes did not initially establish any new programs for public security, and the percentage of the budget devoted to security remained stable. Instead, his administration focused on other issues, including the state's growing debt problems, developing the sugarcane industry and regional development. However, public security forced its way to the forefront of state politics. In October 1995, military police and firefighters held a small protest in in Recife to highlight precarious working conditions and low salaries.[92] The protests quickly ended, but discontent continued to grow.

In 1997, Colonel Menezes, an Arraes ally, took control of the military police. During his first few days in office, he released a document outlining his vision for the police that emphasized improving police-society relations, investing in technology, creating better working conditions for the police and increasing productivity.[93] Specific strategies he supported included having a police captain and lieutenant in every municipality, increasing police patrols, creating a center for citizens to file police reports in each area, treating citizens with respect and reducing police violence.

Although the police supported his policies, the state was facing a major economic crisis and there were no immediate changes in police officers' salaries and benefits. The lack of changes led to widespread discontent. In a survey of more than 1300 police officers, 86 percent indicated that the government did not have any policies to address the wage concerns or that it had very bad policies (Braz Miranda 2006, 42). In July 1997, the military police, the civil police

[92] Soldier, which is the designation for rank-and-file police officers, were earning R$300 (about US$267) per month.
[93] Normative Supplement N° G 1.0.00.0 03, of 1/15/1997 released on January 1, 1997.

and the military firefighting units went on strike for twelve days, leading to a sudden surge in violence in the capital city of Recife. The government responded by calling in the military to police the state and jailing the strike leaders.[94] However, as violence continued to climb, the government began to negotiate, agreeing to a 14 percent salary increase for police officials and a 45.7 percent salary increase for rank-and-file police officers.[95] The following year, per capita spending on public security rose 24 percent.[96] Still, with the increase in resources directed toward better salaries rather than hiring new police officers or purchasing new equipment, violence continued to climb.

While in office, Arraes sought to expand his political power by persuading politicians from other states, including Ciro Gomes from an influential family in Cearense politics, to join the PSB.[97] In the days leading up to the 1998 elections, these efforts created tensions within the leftist coalition that brought him into power. At the same time, Jarbas Vasconcelos, the former mayor of Recife and the PMDB's most experienced political operator in the state, formed an alliance with the Liberal Front Party, the PMDB's traditional adversaries in Pernambucan politics. Vasconcelos won the 1998 election with more than 64 percent of the vote.

Vasconcelos' arrival brought about the first real changes in Pernambuco's public security policies. In 2000, the state disbanded the Secretary of Public Security, which only controlled the civil police, and formed the Secretary of Social Defense (SDS) with power over the civil police, military police and firefighters.[98] Although Vasconcelos focused primarily on security, making

[94] It is illegal for members of the military police and firefighters to go on strike since they are members of the Armed Forces.
[95] Folha de Sao Paulo. 2000. "PM de Pernambuco fez greve em 97." October 20. http://www1.folha.uol.com.br/folha/cotidiano/ult95u12678.shtml (November 9, 2017).
[96] Although it grew in absolute terms, it declined in relative terms as the state's overall budget grew. While the government spent 8.6 percent of its budget on security in 1997, this percentage declined to 6.2 in 1998.
[97] Ciro Gomes was governor of Ceará from 1991-1994 and is a leading political candidate in the 2018 presidential election. His brother, Cid Gomes was the state's governor from 2007to 2014.
[98] Law Nº 11,629 of January 28, 1999.

General Adalberto Bueno da Cruz, the first secretary of social defense, he also created a Social Defense Council to establish a policy to protect the public and coordinate the state's public security agencies (Zaverucha 2003, 25). In addition, the state released its *Integrated Citizen Security Plan of the State of Pernambuco* with three broad focus areas: (1) social defense, justice and citizenship, (2) social policies and (3) community actions. These policies and new instituations achieved some success. Between 1999 and 2006, the state's five percent increase in security spending coincided with a five percent decline in the homicide rate.

So why did Arraes, a politically astute politician who served three terms as Pernambuco's governor, give minimal attention to public security, while Vasconcelos created several programs to address security problems? A key component lies in their bases of electoral support. In Pernambuco, violence is concentrated in large urban areas, especially the state capital, Recife, and the metropolitan region surrounding it. The 13 cities that make up this region have more than 50 percent of the state's homicides.

For Vasconcelos, tackling violence in this region was crucial to his political future, since it was his base of electoral support. In the 1998 and 2002 elections, he received around 50 percent of all his votes from this region. In addition, during his first term in office, five cities in this region had mayors from the PMDB and its electoral partners. In contrast, Arraes received only 37 percent of his total electoral support from this area and only three small cities in the region had mayors from the PSB and its electoral partners. Vasconcelos was also the mayor of Recife while Arraes was governor. Thus, any efforts Arraes made to better security in the capital would reflect positively on his political rival. Although the region was important for his electoral success, his electoral base was concentrated in the interior of the state, where agricultural problems, rather than violence, were the most important political issue.

The 2006 elections brought about major changes in the state's public security policies. With term limits forcing Vasconcelos from office, his vice-governor, José Mendonça Filho (PFL) ran for office and lost in a surprising defeat to Eduardo Campos from the PSB. Campos was part of a political dynasty in Pernambuco. His grandfather was Miguel Arraes de Alencar and his mother served one term as federal deputy. Prior to running for governor, he was a state and federal deputy and served as the state's Secretary of Treasury during his grandfather's administration as well as federal minister of Science and Technology under Luíz "Lula" Inácio da Silva.

Campos made public security an important part of his electoral platform. Working with José Luiz Ratton, a sociologist and leading expert on violence at the Federal University of Pernambuco, the state government created the *Pact for Life: State Plan for Public Security* to address the persistently high levels of violence. Despite Vasconcelos' security successes, in 2006, Pernambuco still had the country's highest second homicide rate with more than 52 victims per 100 thousand residents. The Pact for Life identified patterns of violence in different groups of people and regions in the state and provided tailored policies to address them. As Table 5.7 shows, the plan lists dozens of projects that focus on crime repression, social prevention and institutional improvement, among others. Specific projects include generating better data to allocate police resources more efficiently, providing more career security for law enforcement officers and hiring more police officers. It also includes crime prevention through social programs such as Youth in Movement (Juventude em Movimento) that guarantees young people the right to access education, work, employment and income.

Table 5.7: Pact for Life, Total Projects by Thematic Area

Repression	38
Institutional Improvement	29
Information and Knowledge Management	17
Training	1
Social Prevention	41
Democratic Management	4

Source: Pact for Life: State Plan for Public Security

During his tenure, Campos actively directed the state's public security policy and regularly participated in the Pact for Life's weekly meetings. These meetings typically last three hours and have 80 to 90 people from different branches of government involved in public security, including the military and civil police, judges, public prosecutors and a variety of people from the state's Secretary of Social Defense and other state agencies. In March 2016, I attended one of these meetings.

The meeting begins with a review of the progress made on tasks that the director assigned to specific individuals in previous meetings. Afterwards, attendees bring up important pressing issues that range from prison overcrowding to building a new DNA database. Each group has 5 to 10 minutes to discuss its issue. The meeting director then assigns an individual to fix these issues by an agreed-upon date. This first part of the meeting lasts one hour.

The next two hours involve a review of crime and police productivity at the municipal level and in integrated security areas (AIS) that cover multiple small municipalities or part of a large municipality. Each municipality and all 26 AISs have set goals for crime reduction in several areas, including homicides and robberies. They also have goals for firearm seizures, drug seizures, arrest warrants issued and arrest warrants carried out. Since 2004, the government has given bonuses for firearm seizures. In 2004, police officers received between R$100 and

R$500 for each weapon, depending on its lethality and how it was seized. In 2015, the government increased this bonus to R$700-R$2000.[99] With new police officers earning R$2320 per month, this bonus can be a significant source of income.

In 2011, the government also began providing financial incentives for meeting goals in the following areas: arrest warrants issued, arrest warrants carried out and cocaine products seized.[100] Each month, the top five AISs and operational groups receive R$10,000 (approximately US$3300) that they divide among the top ten productive officers in the unit. [101] In 2015, the state legislature modified the program to include arrests for low-level offenders. However, as part of the bargaining with the public security unions, it also added individual bonuses for achieving goals in these policy areas. Each month, the 150 police officers who seize the most cocaine receive bonuses of up to R$1000 (about US$330).

[99] Law Nº 12.719, of December 2, 2004, Law Nº 13.355, of December 13, 2007, Law nº 15.457, of February 12, 2015.
[100] Law Nº 14.320, of May 27, 2011.
[101] Operational groups are police units dedicated to specific themes such as the Women's Police Department (DPMUL) and the Department for Drug Suppression (DENARC).

Although the government motivates police productivity, it also has a strong accountability mechanism. At the meeting, commanders from areas where crime is increasing are required to stand before the group, justify the increase and explain the policies that they are taking to tackle the problem. During the meeting I attended, the commander in a rural part of the state said that violence in the area he managed was increasing because there was more family violence, rural violence and a reduction in the number of police officers he had under his command. The meeting leader became irritated and began yelling at the police officer. He said that this area only lost three out of 113 police officers. Therefore, there needs to be a real answer to the question and the officer needed to stop making excuses for the problem. "If we do not fix the problem, the population will fix us" (Pact for Life Meeting, Pernambuco, 2016).

As Figure 5.3 shows, the Pact for Life's multidimensional approach to security coincided with a large increase in resources for security. Since 2006, the state has increased per capita spending on security more than 42 percent. This change in resources was a result of the state's growing budget rather than the government placing a stronger emphasis on providing more security resources. Between 2006 and 2014, the state's per capita budget grew from R$657 to R$928. However, the percentage of the state's total budget devoted to security has remained flat at 8.50 percent since 2006 and has declined 36 percent since 1991, when the government spent 11.4 percent of its budget to security.

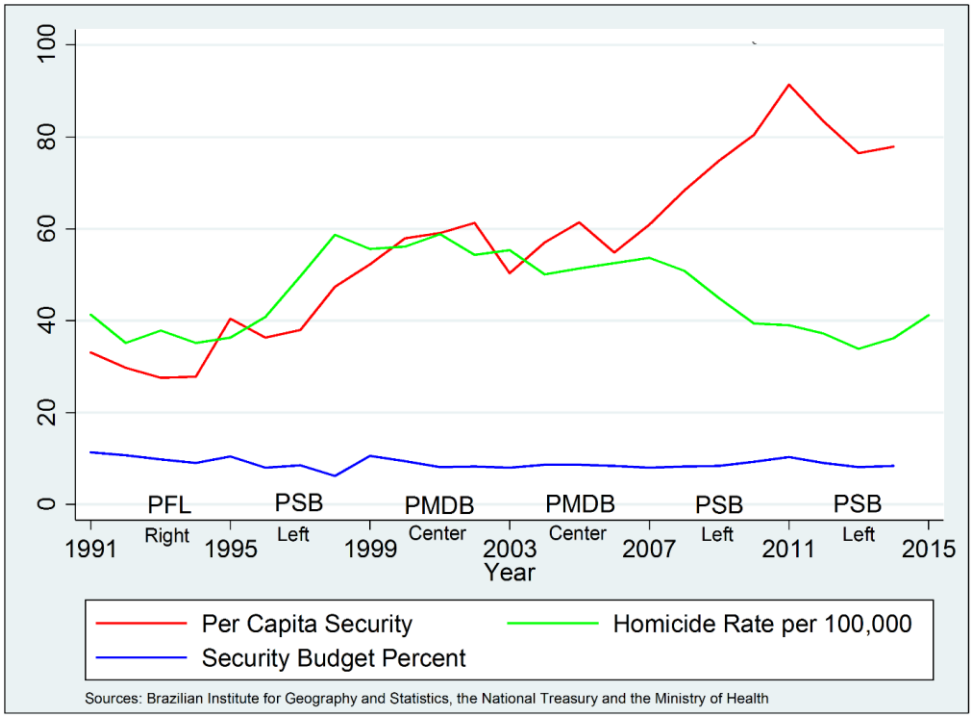

Figure 5.3: Pernambuco Homicide Rates and Public Security Spending

Figure 5.3 reveals other important patterns. While more money for law enforcement coincided with declining homicide rates when Governor Campos was in power, it coincided with more violence during previous administrations. The highest increase in violence came when his grandfather was governor between 1995 and 1998. This finding suggests that simply giving more resources to law enforcement is not sufficient to reduce crime rates. Rather, reducing violence requires politically astute governors to prioritize public security among the many policies they must manage.

In Table 5.8, I measure the bivariate correlation between homicide rates and the governor's personal vote share that came from a municipality, and homicide rates and having a mayor from the same party as the governor. In all years, there is a positive correlation the governor's personal vote share and violence, suggesting that simply giving more support to the

governor does not guarantee lower crime rates. Meanwhile, the effects of having a mayor from the same party are more mixed. During the governorships of Arraes and his grandson, Eduardo Campos, there is a moderate negative correlation between violence and having a PSB mayor. In contrast, when Jarbas Vasconcelos controlled the governorship between 1999 and 2006, there is a positive correlation between violence and the mayor's party.

Table 5.8: Correlation Coefficients, Homicide Rates and Politics

Term	Governor	Governor's Personal Vote Share	Same Party Mayor
1997-1998	Miguel Arraes	0.2418	-0.0673
1999-2002	Jarbas Vasconcelos	0.2373	0.0918
2003-2006	Jarbas Vasconcelos	0.2742	0.0453
2007-2010	Eduardo Campos	0.1907	-0.0906
2011-2014	Eduardo Campos	0.1122	-0.0458

The Pact for Life had a strong impact on Campos's electoral success. In 2006, he won only 34 percent of the popular vote in the first round, forcing him to participate in a runoff election. Following the large drop in crime that occurred during his first four years in office, he won the 2010 election with an unprecedented 83 percent of the popular vote, making him the most successful governor elected that year. In 2014, Campos resigned the governorship and began a presidential run promising to bring the Pact for Life's violence reducing policies to all of Brazil. However, he died in a plane crash in São Paulo on August 13, 2014.

In 2014, Campos's Secretary of the Treasury, Paulo Câmara, won the state's gubernatorial election. Although he continued with the Pact for Life, the state's public security successes have begun to falter. Between 2014 and 2016 the state's homicide rate increased 32 percent while violent property crimes rose almost 76 percent (Secretaria de Defensa Social 2017). In 2017, the security situation has continued to deteriorate with 5427 murders, making it the most violent year in Pernambuco since Brazil's return to democracy.

The exact reasons behind Câmara's public security failures are not apparent. However, two factors stand out. First, he took control of the state just as its economy was beginning to falter. While the unemployment rate was around 11 percent during Campos' second election, by 2017 it had increased to 17.6 percent. When there are fewer economic opportunities, people have greater incentives to commit crimes. Second, while Câmara had served in various cabinet level position under Campos, he had minimal political experience. Prior to becoming the state's governor, he had never held an elected office. This is uncommon among governors who typically hold multiple political offices before running in gubernatorial elections. The lack of political experience may have made it more difficult for him to negotiate with various elements of the public security apparatus, thus reducing their overall effectiveness.

5.3 MODELS OF CRIME CONTROL

While these case studies illustrate the different mechanisms that governors use to influence security, I more systematically test their effect on violence using data from more than 5500 municipalities across Brazil between 1997 and 2014. Table 5.9 contains summary statistics for all model covariates. I measure violence using homicide data from the Ministry of Health's

Death Information System (SIM). This is the most comprehensive database on the causes of intentional deaths in Brazil. To control for differences in municipal size, I use the log of the homicide rate per 100 thousand residents.[102]

Table 5.9: Summary Statistics

	Mean	Std. Deviation	Minimum	Maximum
Homicide Rate	13.41	18.13	0	270.18
Personal Vote Share	0.49	2.63	0.0009	100
Right Governor	0.15	0.35	0	1
Center Governor	0.61	0.35	0	1
Same Party, Governor and Mayor	0.22	0.49	0	1
Security Spending (per capita)	78.30	31.73	8.59	491.58
Education Spending (per capita)	154.37	57.56	51.87	512.85
Infant Death Rate (per 1000 live births)	17.05	15.10	0	100
Population	32,765	195,503	697	11,900,000
Population Density (km^2)	106	563	0.08	13,341
State Unemployment Rate	8.57	2.63	3.1	20.5
Reelection Run	0.48	0.50	0	1
N=96,576				

5.3.1 The Political Determinants of Crime Control

I use per capita spending on law enforcement to test the r*esource allocation* mechanism, which argues that states that spend more on law enforcement will have lower crime rates, since they can develop a more effective deterrence capacity by hiring more police officers, creating bonus programs and investing in law enforcement infrastructure. During the period under investigation, the security budget data exhibit problems in select years with pension data missing

[102] I use the following formula: log(Homicide Rate +1).

from the expenditures. They also occasionally move spending on law enforcement to other budgetary categories, such as general expenditures, for unknown reasons. As discussed in Chapter 3, I corrected for this problem by reviewing states' transparency websites. Using this strategy led to the loss of only 1.7 percent of all observations.

Since data on how the government distributes law enforcement resources to individual municipalities is unavailable for this period, I test the *resource distribution* mechanism, which posits that cities with more security resources will have lower crime rates, using the percentage of the governor's total votes throughout the state that came from the municipality. In Chapter 4, I showed that state governors sent more police officers to large municipalities that were important for their electoral success. I calculate this variable using Ames' (2002) formula:

Personal Share = (Votes Governor Received in Municipality/Total Votes Received by Candidate in the State) x 100

I test the *policy coordination* mechanism using the mayor and the governor's party affiliation. This is a dummy variable that takes a value of 1, when the mayor and the governor are from the same party, and a 0 otherwise. In line with previous scholarship (Hoelscher 2015; Trejo and Ley 2016), I expect to find that homicide rates will be lower in municipalities where the governor and mayor are from the same party. As Table 5.10 shows, as the number of political parties has increased in recent years, the percentage of municipalities throughout the country where the mayor is from the same party as the governor has declined. While 28 percent of mayors were from the governor's party in 1997, by 2013 only 19 percent of mayors were from the governor's party.

Table 5.10: Municipalities with Governor and Mayor from the Same Party

	1997	2001	2005	2009	2013
Same Party Mayor	1,538	1,460	1,444	1,219	1,063
Different Party Mayor	3,864	4,044	4,058	4,329	4,495

I measure the final mechanism, *policy change*, which argues that governors from right parties will focus more on security since voters punish them more harshly for rising crime rates, using the governor's ideological affiliation. I classify the governor's ideological group using the same measure I used in previous chapters; historical documents and official party information along with Power and Zucco's (2009) party classification index, which measures ideology based on parties' voting behavior in the national Congress. This measure classifies parties similar to other studies that have used elite questionnaires and expert opinions (Tarouco and Madeira 2013).

5.3.2 Additional Determinants of Crime Rates

I also control for a variety of socioeconomic factors that scholarship has previously been associated with crime and violence. The first factor is population size. Rapid population growth may strain the government's ability to provide an adequate law enforcement presence to deter crime. As municipalities grow, there may be a lag between the presence of more people and the state's ability to hire more police officers. A large body of research (see Nolan [2004] for an overview) suggests that there is a strong relationship between population size and crime rates. Therefore, I include the log of the municipal population along with the population density per square kilometer.

Rational choice theories of crime control argue that people commit crimes for economic benefits (Becker 1968). Increasing municipal wealth has the potential to reduce crime since it may make alternative work opportunities available. However, as the economy grows, the city may be more attractive to offenders since there are more potential targets. Meanwhile, sociological theories of crime argue that inequality rather than overall wealth affects crime rates (Brush 1996; Messner and Rosenfeld 1997; Pare and Felson 2014). I control for both wealth and inequality using the infant death rate per 1000 live births. Although the infant mortality rate is not a direct measure of inequality, it is available for all years and correlates with the more widely used GINI index of income inequality, which is available only during census years.[103]

I also include four state level factors related to crime and violence. While education has primarily long-term effects on crime, it may also provide some short-term crime prevention benefits by occupying children's time. A phenomenon that Tauchen, Witte and Griesinger (1994) refer to as the 'self-incapacitation' effect. I measure the impact that education has on crime using per capita education spending.

As the economy worsens the incentive to engage in criminal activity increases. I measure the state's economic health using the unemployment rate. Finally, I expect that governors' responses to crime may also depend on their career path. More specifically, governors who are running for reelection have a stronger incentive to focus on public security than those who choose not to run or are unable to run due to term limits. Therefore, I expect to find that homicide rates will be lower in municipalities located in states where governors are running for reelection.

[103] I did not measure wealth using municipal GDP per capita since municipal GDP data are only available until 2010.

5.4 EMPIRICAL EVIDENCE AND ANALYSIS

To test the mechanisms, I use three models: the Arellano-Bond model, the fixed effects model and the multilevel model. The Arellano-Bond model allows me to include violence in prior years, as a covariate that influences violence in the current year. Since violence within cities often exhibits trends within units, failure to control for previous levels of violence can erroneously show that politics is reducing violence when it is in fact, an artifact of the model. The Arellano-Bond model, however, has its shortcomings. Most importantly, it rests on the assumption that municipalities are independent. However, the data violate this assumption since municipalities within states share a common governor and other state level covariates, including spending on security and education, which are central to my argument. Therefore, there is likely to be correlation in levels of violence across municipalities in the same state. I address this problem using by also testing my theory using multilevel and fixed effects panel models.

The multilevel model consists of level 1 and level 2 components. Level 1 contains those municipal factors that account for changes in the municipality's homicide rate. In addition, when there are higher-level covariates that change over time, such as the governor's ideology and state security spending, we include these features at level 1 (Rabe-Hesketh and Skrondal 2012). Level 2 contains state level covariates that remain stable over time and cause municipalities located within states to have, on average, higher or lower levels of violence. My theoretical models do not include any level 2 factors that remain stable over time. Therefore, I only include a random intercept term at level 2 and there are no cross-level interactions.

Finally, the fixed effects model assumes that observations within municipalities will be similar since cities have unchanging features that cause them to have, on average, higher or lower levels of violence. It corrects this problem by using deviations from the mean values of

the covariates in each municipality, to measure how they affect violence. When using this model, I also cluster standard errors at the state level to account for clustering of observations within states.

I divide municipalities into two groups; those that have more than 20,000 residents and those with fewer than 20,000 residents. Although I measure violence using the log of the homicide rate, small municipalities will continue to show high homicide rates even though a city may be relative peaceful. For example, a double homicide during a bar fight in a city with 2000 residents will results in astronomically high homicide rate of 100 victims per 100 thousand residents. However, this is qualitatively different from a city with 100 thousand residents that has 100 homicides. Since more than 90 percent of homicides occur in cities with at least 20,000 residents, I focus on these municipalities to understand how politics influences local violence. I include the statistical results for cities with fewer than 20,000 residents in Appendix D.

Table 5.11 shows how state and local politics affect violence in large municipalities. The results provided mixed evidence that governors use the four popular crime-fighting tools that are at their disposal. Across all models, there is a moderate decline in municipal homicide rates when a right governor is in power. On average, cities have 23 homicides annually. We would expect there to be one less homicide when a right governor is in power compared to the same city had a left governor been in power.

Table 5.11: Effects of Politics on Municipal Violence, 1997-2014

	Fixed Effect Models		**Multi-Level Models**		**Arellano-Bond Models**	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Level 1						
Homicide Rate (t-1)					0.242***	0.240***
					(0.016)	(0.016)
Homicide Rate (t-2)					0.134***	0.133***
					(0.013)	(0.013)
Homicide Rate (t-3)					0.095***	0.094***
					(0.011)	(0.011)
Right Governor	-0.31**	-0.312**	-0.334***	-0.334***	-0.088*	-0.086*
	(0.102)	(0.102)	(0.102)	(0.102)	(0.036)	(0.036)
Center Governor	-0.12*	-0.12*	-0.117*	-0.117*	-0.039+	-0.038+
	(0.056)	(0.056)	(0.059)	(0.059)	(0.023)	(0.023)
Same Party	-0.017	-0.017	-0.02	-0.02	-0.011	-0.011
	(0.015)	(0.015)	(0.018)	(0.018)	(0.020)	(0.020)
Security Spending	0.002	0.002	0.002	0.003	0.001+	0.001*
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)
Personal Share	0.001	0.012	-0.014*	-0.0004	-0.003	0.007
	(0.006)	(0.007)	(0.008)	(0.008)	(0.005)	(0.011)
Personal Share x		-0.00016*		-0.0001+		-0.0001
Per Capita Security		(0.00006)		(.00008)		(0.0002)
Reelection	-0.038	-0.038	-0.044	-0.044	-0.008	-0.008
	(0.050)	(0.050)	(0.048)	(0.048)	(0.016)	(0.016)
Education Spending	-0.002**	-0.002**	-0.002**	-0.002**	-0.0005+	-0.0005+
	(0.0007)	(0.0007)	(0.0008)	(0.0008)	(0.0003)	(0.0003)
Infant Death Rate	0.004	0.004	0.008***	0.008***	0.001	0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)
Population (log)	-0.034	-0.012	0.356***	0.356***	-0.430*	-0.439*
	(0.103)	(0.101)	(0.039)	(0.038)	(0.203)	(0.202)
Population Density	-0.0008***	-0.0008***	0.00004**	0.00004	-0.001*	-0.0008*
	(0.0001)	(0.0001)	(0.00002)	(0.00002)	(0.0004)	(0.0003)
State Unemployment Rate	0.096	0.097**	0.10***	0.10***	0.032***	0.032***
	(0.031)	(0.031)	(0.031)	(0.031)	(0.007)	(0.007)
Constant	1.804	1.506	-1.338**	-1.338**	6.360**	6.438**
	(1.195)	(1.163)	(0.478)	(0.478)	(2.208)	(2.198)
N	27,176	27,176	27,176	27,176	25,627	25,627
Within R-Squared	0.1730	0.1730				
Pseudo Level 1 R-Squared			0.1890	0.1898		

Robust standard errors in parentheses, + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

There is less evidence that governors are utilizing other popular crime fighting tools, and if they are, they do not appear to be effective. Homicide rates do not decline when the mayor and the governor are from the same party or when the governor runs for reelection. Similarly, the provision of more law enforcement resources is actually associated with a slight increase in violence, although these results are not robust across all models. The former finding contradicts my expectations that better coordination between the two levels of government reduces violence and may indicate that what really matter is how the government distributes resources. As I showed in Chapter 4, governors send more police officers to large cities governed by allied mayors. Therefore, the effect of having an allied mayor may be due to more resources rather than better coordinate. The latter finding is most likely due to reverse causality problem. More specifically, governors are likely to increase their spending on security when crime increased in the previous period.

In Model 2, I test the hypotheses that the effect of security resources on crime depends on both a) how the government distributes these resources and b) how much the government invests in public security. First, if governors are giving more law enforcement resources to politically important cities, then more spending on security should reduce violence most sharply in those cities where the governor receives more support. To test this argument, I interact state law enforcement spending and the percentage of the governor's total statewide support that came from the municipality. The interaction term is negative but insignificant in both the multilevel and Arellano-Bond models. Interaction terms, however, can be insignificant overall but significant at specific levels.

In Figure 5.4, I use the results from the multi-level model to graph the average effect of security spending as the personal share of the governor's votes that comes from the municipality increases from 0 to 10 percent. This range covers more than 98 percent of observations. Contrary to expectations, the results continue to show that, on average, security spending does not reduce municipal violence even as the municipality becomes more important for the governor's electoral success.

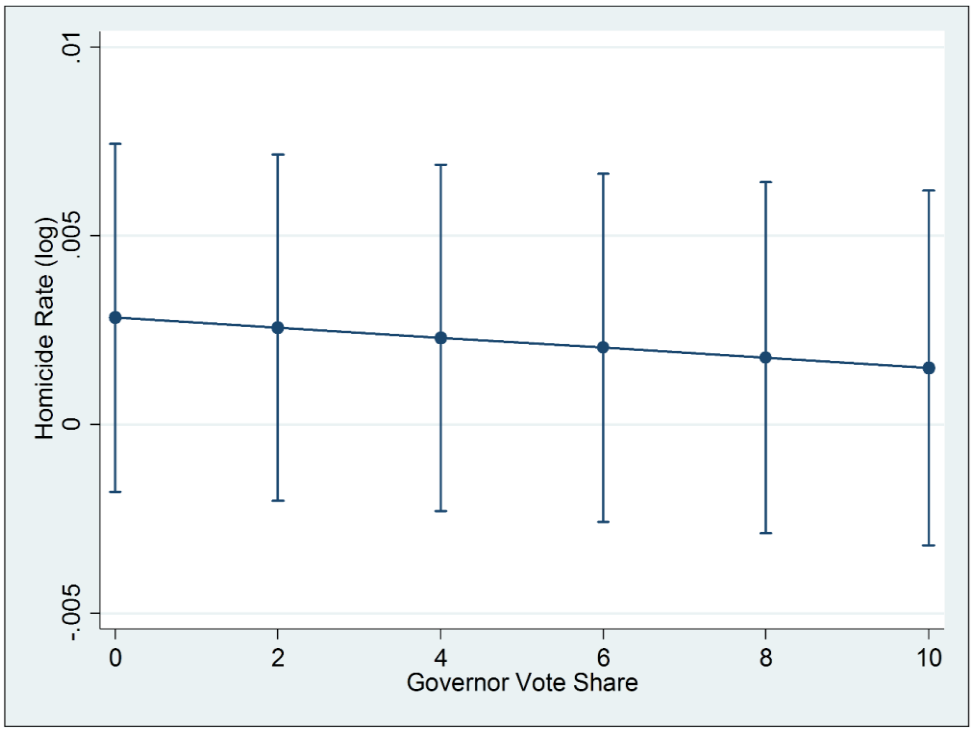

Figure 5.4: The Effect of Security Spending as Support for the Governor Increases

I next test whether the impact that giving more support for the governor is contingent upon the amount of resources that the state spends on law enforcement. In Figure 5.5, I plot the interaction between gubernatorial support and security spending. This graph shows the average effect that a unit increase in support for the governor has on municipal violence when states

invest different levels of resources in law enforcement. In states that spend less than R$100 (about US$33) per capita on security, homicide rates do not decline in municipalities when the governor receives more electoral support from a municipality. However, in states that spend more than R$100 per capita on law enforcement, support for the governor is associated with a decline in municipal violence and this effect grows stronger the more that the state spends on law enforcement. Consider the following cases. In a city with an average homicide rate that gives the governor one percent of her total electoral support, increasing per capita spending on law enforcement from R$100 to R$300 leads to a one percent decline in the homicide rate. In contrast, a city that gives the governor five percent of her total support would see a five percent decline in violence from this same increase.

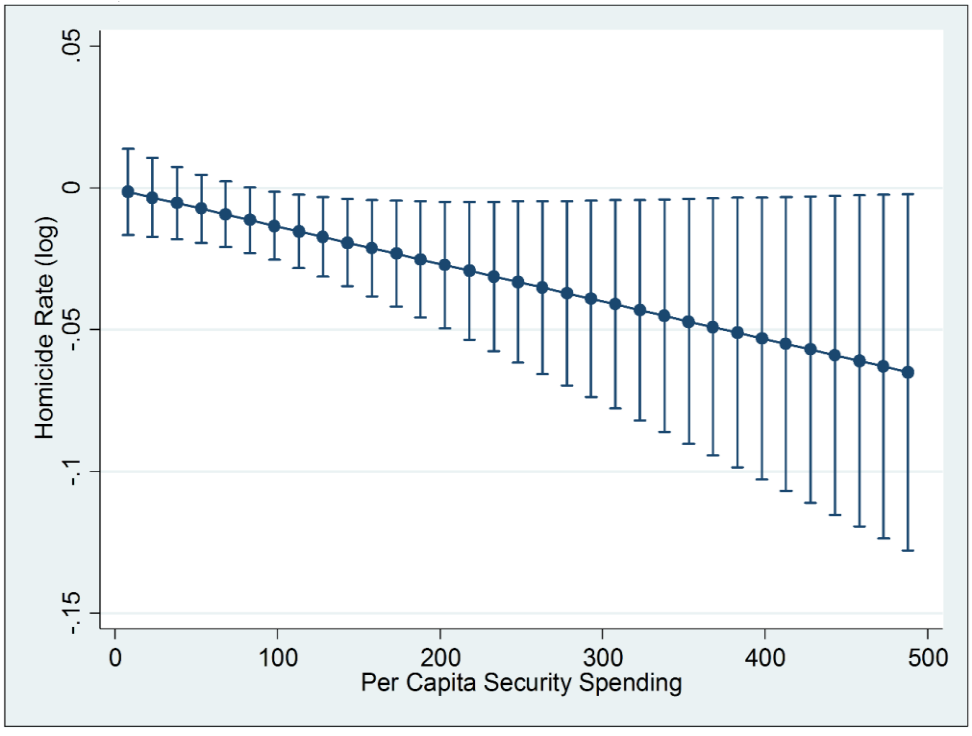

Figure 5.5: Gubernatorial Support, Security Spending and Violence

5.4.1 Model Summary

Taken together, the empirical evidence provides two important insights about the politics of public security. First, it suggests that governors from left and right parties take different approaches to public security that extend beyond the provision and distribute of security resources. Violence is lower when right governors are in power. This finding coalesces with evidence from Chapter 2 where I show that voters more strongly punish governors from right parties for rising crime rates. For governors from right parties, reducing crime is more vital for their electoral success. Focusing more on security is also be an effective electoral strategy that allows them to differentiate themselves from political opponents who they can paint as being soft on crime.

Second, it shows that across the ideological spectrum, governors can reduce violence through the effective provision and allocation of security resources. However, there is a floor on the amount of resources that governors need before they are able to reduce violence. If the state is poor or the government does not prioritize law enforcement by allocating more money for law enforcement, then any efforts governors make to reward supporters with more security will fail. These findings shed light on the puzzling increase in violence in northern and northeastern states in Brazil, which I highlighted at the beginning of the chapter. Although these states have had great success in reducing inequality in recent years, they remain poor and have minimal resources for law enforcement. Nine out of the ten states that have never spent R$100 on law enforcement, the threshold needed for local politics to influence violence, are located in the north and northeast. It should not be surprising, therefore, that states in these regions have seen some of the country's largest increases in violence.

Beyond law enforcement, other state measures to reduce violence also show promising results. In line with expectations, violence declines when spending on education rises. A standard deviation increase in education spending (about R$60 or US$20), leads to a 10 percent decline in the homicide rate across all models. This finding suggests that while critics argue that education is primarily a long-term solution to violence, it can also be an effective policy for reducing crime in the short term through the 'self-incapacitation effect', whereby it occupies children's time and prevents them from being crime victims or perpetrators (Tauchen et al. 1994). The crime reducing impact of education is even more interesting when we consider that the analysis of state budgets in Chapter 3 showed no evidence that governors from left parties spend more on education than governors from right parties.

While we do not directly have information on how the state government distributes these resources, the evidence suggests that governors have more difficulty giving additional educational resources to municipalities that are more important for their electoral success. In Figure 5.6, I graph the average effect of security spending at different levels of support for the governor. As the graph shows, regardless of how much support the municipality gives the governor, education spending reduces violence. Moreover, its violence reducing effects are slightly smaller in municipalities that give the governor more electoral support. The lack of a strong ability to direct education resources to politically important municipalities may help explain why we do not find differences in education spending among governors from different ends of the ideological spectrum.

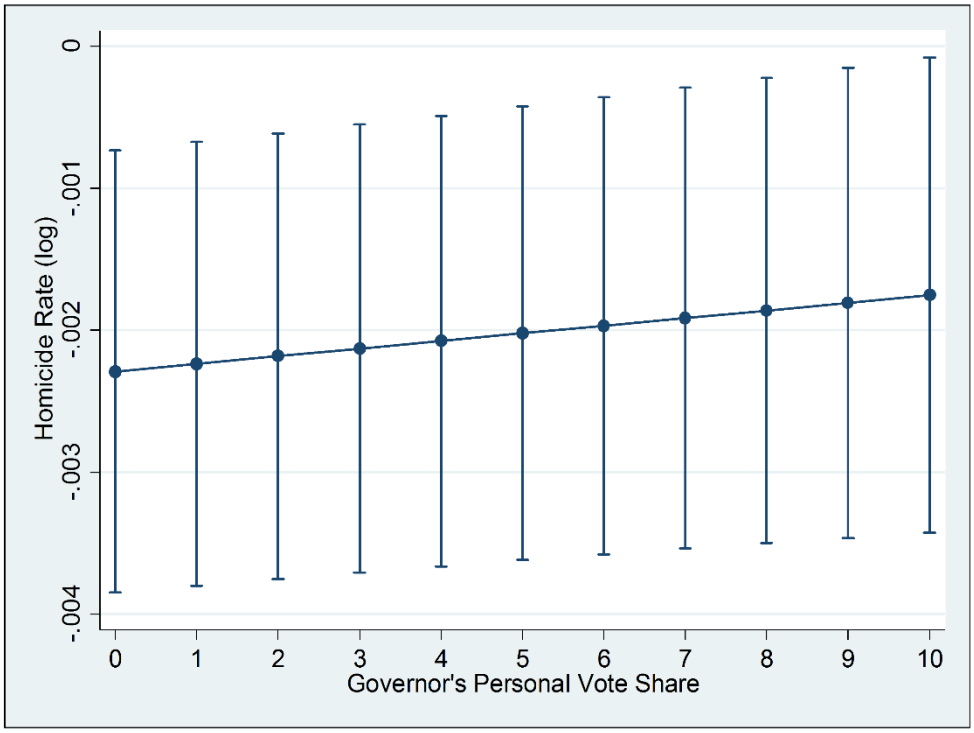

Figure 5.6: Education Spending, Support for the Governor and Violence

Other factors largely conform to expectations. Higher infant mortality and unemployment rates lead to higher rates of violence suggesting that economic problems and poverty plays an important role in shaping crime rates. Meanwhile, homicide rates decline as population growth and density increases. This finding is in line with recent studies (Waiselfisz 2011; Steeves, Petterini and Moura 2015) showing that violence in Brazil has begun to move away from large cities and into smaller cities in the interior of states.

5.5 CONCLUSION

This chapter examined four important mechanisms through which local and state politics can influence homicide rates; resource provision, resource distribution, policy coordination and policy change. In previous chapters, I showed that the amount of resources governors allocate to law enforcement depends on the governor's ideology and the main political opponent in the last election. In addition, governors across the ideological spectrum send more police officers to large municipalities that are important for their electoral success.

This chapter showed that providing more resources for law enforcement helps reduce violence in large cities when states spend at least R$100 on law enforcement. Governors provide resources based on the city's importance for their own electoral success but they do not coordinate efforts with local political allies. At first glance, this may be puzzling. However, while politicians within the same party are part of the same team, there are often strong interparty rivalries. Thus, greater policy coordinate could potentially be harmful for the governors' political careers.

There is also evidence that governors' choices for public security policies affect crime rates. When a conservative governor is in power, homicide rates decline around 5 percent. The difference in homicide rates depending on the governor's ideology are in line with the evidence from Chapter 1, where I show that voters punish right parties more harshly than they punish left parties for rising homicide rates. For governors from right parties, this stronger punishment provides them with greater incentives to focus on security while they are in office.

This chapter also shows the importance of taking into account the local political environment when examining human security. While modifying structural factors, such as poverty and inequality often require long-term concerted efforts, state governments still have the

power to implement policies that can help achieve moderation reductions in violence by increasing spending on education and other policies that reduce unemployment. For both the national government and international organizations seeking to reduce violence, this finding suggests that working with governors may be an important strategy to reduce violence.

6. CHAPTER 6: THE LONG ROAD AHEAD

Brazil reached a new milestone in 2017. For the first time in its history, the country passed the psychologically important mark of 60,000 homicides. It now has the most homicides of any country in the world, surpassing the combined totals for India and China. With the economy in shambles and gang violence growing at alarming rates, 2018 looks to be an even bloodier year. Raul Jungmann, the Minister of Defense, put it simply, saying, "The current system is failing."[104]

In this dissertation, I examined the intertwined relationship between local politics, state policies and violence in Brazilian states. My argument was simple. Politicians are rational actors who tackle violence based on how it affects their electoral interests. Using this approach, I argued that we should understand this relationship as a continuous four-stage cycle that includes elections, provision of security resources, distribution of security resources and violence. In the four chapters that followed, I then examined each stage of this cycle.

In Chapter 2, I examined how violence influences political parties' electoral success. My findings challenged the common wisdom that public security problems benefit right-wing parties that advocate tough-on-crime policies. Using municipal crime and voting data from 135 gubernatorial elections in Brazil between 1994 and 2010, I showed that parties across the ideological spectrum benefit from rising crime rates when the incumbent party is from a different

[104] Folha de São Paulo. 2018. "Sistema de segurança no país está 'falido', diz ministro Raul Jungmann." January 31. http://www1.folha.uol.com.br/cotidiano/2018/01/1954844-sistema-de-seguranca-no-pais-esta-falido-diz-ministro-raul-jungmann.shtml

ideological group. However, their electoral gains depend on the incumbent party's ideology. Non-incumbent left parties see the largest electoral gains from increasing violence when a right party is in power and vice-versa. I also show voters punish political parties unequally for rising crime rates. More specifically, voters punish incumbent right-wing parties more harshly for rising levels of crime and violence than they punish center and left parties. I attributed these differences in punishment to right-wing parties emphasizing crime prevention through law enforcement that focuses on short-term results.

In Chapter 3, I then turned to the issue of how ideology and state electoral politics influences the resources that governors allocate for public security. I argued that governors allocate resources based on political competition and ideology rather than ideology alone. Using state budget data, I demonstrated that governors from right parties do not spend more on the judiciary, which is more difficult to distribute to their supporters. In addition, they only spend more on law enforcement when they face competition from left parties, which they can paint as being soft on security. When right governors are in a state where their primary political competition comes from a centrist or another right party, they spend less on security than governors from left parties do. I also showed that while leftist parties advocate education as a long-term solution to crime, they do not allocate more resources for education when they are in power. I attributed the lack of partisan differences for spending on education to the constitutional requirement that state governments must spend 25 percent of their tax revenues on education.

Chapter 4 then focused on how governors allocate law enforcement resources throughout the state. Using data on the distribution of police officers in Mins Gerais, which has 853 cities, I showed that political factors are the driving force that determines the distribution of police

officers. When the state's military police force is growing, governors send more police officers to those municipalities that are large and give them many votes. Meanwhile, when the police force is shrinking, these cities lose fewer police officers. In other words, governors direct resources to those cities that are most important for their electoral success. These additional resources, however, come at the expense of neighboring cities that receive fewer police officers. I also demonstrate that governors support important political allies by sending more police officers to large municipalities that give more support to allied states deputies and those that have mayors from allied parties.

In the final chapter, I used quantitative evidence and case studies from the states of Pernambuco and Rio de Janeiro to examine how gubernatorial crime fighting tools affect municipal homicide rates. Using homicide data from 1997 to 2014, I found that homicide rates decline in cities that provide more support for the governor. I attribute this decline to these cities receiving more police resources. This effect, however, is only present when the state spend a minimum of R$100 per person on law enforcement. This spending floor suggests that governors from poor states, states that lack resources, will have minimal success in rewarding supporters with lower crime rates. I also showed that homicide rates decline when states spend more on education and when the state has a governor from a right party. However, there is no evidence that governors reward political allies in state and local government with more security resources. Taking into account the four stages of the politics-violence cycle, my research provides strong support for the overarching claim that politics play an important role in public security policies and outcomes in Brazil. Politicians are career-oriented actors and local political conditions drive public security policies. Using a rational-choice approach, I showed that governors implement security policies and distribute security resources based largely on how crime affects their career

success, rather than relying on technical criteria designed to minimize crime rates. These resources, in turn, help explain changes in violence within municipalities and across states.

6.1 CONTRIBUTIONS AND POLICY IMPLICATIONS

On a broader level, this project is the first effort to analyze the cycle of violence and politics throughout Brazil and it has important implications for government policies and the study of Brazilian politics along with our broader understanding of security issues in Latin America. Research on violence in Brazil often asserts that patterns of violence and government security policies in one region or state can apply to all regions or states. This is, however, a dangerous assumption that can lead state governments to copy successful policies from other states that are not well suited for their particular social and political context. The problem has already affected Bahia, one of Brazil's largest states.

With violence rising throughout Bahia in the 2000s, the state government began looking for programs to address the problem. It turned its attention northward where Pernambuco had great success in reducing violence through the Pact for Life security program. In 2011, Bahia followed Pernambuco's example and implemented its own Pact for Life program. While this program reduced violence in Pernambuco, it failed in Bahia despite similar policies and a large increase in the state's law enforcement budget. By showing how different public security policies affect crime and violence throughout the country, this project can help state government make better decisions, which take into account the local context, when attempting to reduce violence.

At the federal level, Brazil's constitution strictly limits the government's role in law enforcement. However, my study suggests that the federal government can implement policies that have minimal costs, yet have the potential to yield broad dividends in reducing violence. One of these policies is forcing states to provide more information about public security policies. As I discussed in Chapter 3, the federal government's transparency law allows governors to keep basic security information, such as the number of total police officers in the state and each municipality, a secret since it is "vital to citizen security." Since there are no criteria for what constitutes a policy that is "vital to citizen security," governors can hide or release this information at their convenience.

The federal government can modify the transparency law, forcing states to release this public security data. Based on my research, this would show a vastly uneven distribution of law enforcement officers in municipalities across the country. Given the importance of security for voters, this information has the potential to create political pressures that would force states to better allocate police officers based on technical factors, rather than simply sending more officers to municipalities important for the governor's electoral success. These changes, in turn, have the potential of helping the government reduce crime rates without incurring further costs.

The project's emphasis on states also contributes to our broader understanding of politics in Brazil. Scholars routinely view governors as some of the country's most important political actors. Since the country's return to democracy, however, the study of Brazilian politics has primarily centered on how national politics affects state politics or how state politics affects national politics. Strangely absent from the debate, have been efforts to understand how state

politics affect state policies and vice versa.[105] With state governments controlling many public policies, state policies often play just as or an even more important role than national policies in the lives of many people.

The study of public security in Brazilian states also provides important insights into national politics. While governors exercise vast power, their interactions with the federal government is likely to vary depending on states' security situations. In states where governors are vulnerable due to rising levels of crime and violence, governors may be more willing to pressure national legislators from their state to support government actions that they would otherwise oppose in exchange for more resources to address security problems or to buy support through other policies. However, in situations where successful state security policies have helped elevate their popularity, they may be able to extract more concessions from the federal government or even oppose its policies. Studying violence, which is a major electoral issue for governors, can in this way further our understanding of the federal legislative process.

Beyond its policy and research implications for Brazilian scholars, the project provides insights into how politics and government policies may affect violence in countries throughout Latin America. In Chapter 5, I showed that governors must reach a minimal level of spending (approximately US$33 per capita) on law enforcement before more security resources help reduce violence. In contrast, more resources for education help reduce violence at all levels of spending. From a political standpoint, poorer countries in the region may not have sufficient resources to tackle crime through law enforcement, regardless of which party is in power. In

[105] I suspect that the paucity of research on state politics is due to the financial and research burdens of traveling to multiple locations, developing contacts in each location and obtaining data that are often unavailable in electronic format. My own interviews with politicians and state officials often required multiple visits to the same office over the course of several weeks. Even when I was able to obtain interviews with government officials, people would promise to send data via email but then they would either ignore my subsequent emails or suddenly indicate that they did not have the data.

these situations, it may be more advantageous for them to focus on reducing violence through education, which addresses the long-term social structures that lead to higher crime rates.

Finally, while this project focused specifically on Brazil, it also suggests that it can be fruitful to compare public security in Brazilian states and other countries in the region. Cross-national research often compares countries of widely varying size and wealth, where capacity to implement security policies may vary greatly. However, Brazilian states are a more natural comparison to many countries in Latin America. Rio de Janeiro has the same income level as Guatemala, while the state of Ceará is comparable in population and wealth to Nicaragua. Comparing states to countries of similar size and wealth can provide a better understanding of how differences in political systems and public security policies influence violence.

6.2 STUDY LIMITATIONS AND FUTURE AREAS FOR RESEARCH

Although this study provides critical insights into public security and politics in Brazil, it is not without limitations that future research should address. The first limitation stems from the unit of analysis. I primarily use municipalities as the unit of analysis since more localized data on economic conditions and violence are unavailable in many states even today. When I requested local crime data from the state of Mato Grosso in 2014, officials told me that they were still in the processing of building a system that would allow them to provide this information. Utilizing homicide data spanning a 24-year period imparts a better understanding of how public security policies have changed over time. It also provides major advancements in making causal claims over the current body of literature that primarily focuses on security policies at the state, provincial or country level, often during a single electoral cycle.

Cities, however, are not monolithic. There are likely to be vast differences in how governments allocate resources to different sectors of the city, how police officers interact with residents in different neighborhoods and the effect that more policing versus spending on other policies, such as education, have on crime. While my project data enables me to analyze broad public security policies in Brazilian states, it does not allow me to address these micro-level differences within cities.

The second limitation is that this study measure crime using homicide data. The use of homicide data to study security policies is a common and well-supported practice in the literature. Homicide data suffer from the fewest reporting biases and are available for a long period, making it possible to make comparisons across states and cities. In addition, homicides are the most visible type of crime. The news media and political rivals regularly use homicide statistics to highlight the government's security successes and failures. However, homicides do not occur evenly throughout the population. They overwhelmingly occur in poor areas and involve low-income male victims. Residents of middle-class and wealthier areas grapple with other crimes, such as auto theft and street robberies. Using homicide data to measure the success of security policies may overlook successes or failures in reducing other crimes that are important to the public and influence their voting behavior.

Addressing these limitations, will require moving beyond the municipal-level indicators that I utilize in this project. Future research should focus on these issues through in-depth studies on a few cities or even a few neighborhoods within a single city. This will require a different methodological and theoretical approach than the one I used in this project and will include techniques including neighborhood surveys, focus groups, one-on-one interviews and geo-mapping the local provision of government services.

Moving forward, there are also a variety of other avenues for future research on violence and politics in Latin America. One of the most promising involves the study of violence and electoral campaigns. The credibility of democratic elections rests on the premise that candidates are able to freely campaign for office. In recent years, there has been a growing body of research on how armed non-state actors affect elections. Scholars have focused primarily on electoral interference by ideologically oriented armed groups, such as the Revolutionary Armed Forces of Colombia (FARC) (e.g. Acemoglu, Robinson and Santos 2013). Since the Third Wave of democratization swept through the region, however, non-ideological criminal groups have been the more prevalent threat.

The effect that these groups have on election is most visible when they publicly use violence. Since 2006, criminal groups have assassinated 109 current, former and elected mayors in Mexico.[106] Meanwhile, in Rio de Janeiro, gunman murdered 15 candidates in the 8 months prior to the state's 2016 municipal elections. However, the campaign effects extend beyond direct cases of violence. Many candidates face threats that are unknown to the public. One mayoral candidate in Rio de Janeiro, State Deputy Deodalto Ferreira, received a phone call telling him, "Either you stop [campaigning], or your family is going to pay the consequences. And it will be where you play ball in São Jose Park."[107] During my own interviews in Brazil, 35 percent of state deputies said threats of violence caused them to alter their campaign strategies or avoid campaigning in poor urban communities.

Despite the impact that non-ideologically oriented armed actors have on democracy, there has been minimal research on how they operate. However, non-ideologically oriented armed

[106] Rosagel, Shaila. 2017. "El sexenio de EPN supera al de FCH en alcaldes asesinados: 60; urgen a Segob protocolo de seguridad." December 31. *SinEmbargo*. http://www.sinembargo.mx/21-12-2017/3365581.
[107] Martín, María. 2016. "A campanha de "matar quem atrapalha" nas eleições municipais do Rio." July 25. *El País*.

actors are likely to affect the electoral process differently than their ideologically-oriented counterparts. These groups may support candidates across the ideological spectrum who will represent their interests in government, or they may simply "sell" their communities to the highest bidder, coercing voters into supporting a specific candidate. Future research should analyze the various pathways through which violence and threats of violence against candidates affect political campaigns and electoral outcomes. This will involve answering a variety of questions: How do threats of violence affect electoral campaigns? In which communities and which countries? Which candidates negotiate with criminal groups and which ones are threatened?

6.3 A HOPEFUL FUTURE?

In the classic work, *Politics as a Vocation*, Max Weber defines the state as the actor that has the "monopoly on the legitimate use of force." Modern states in Latin America, however, all often struggle to control violence within their territory. Brazil has been no exception to this trend and its large size has led to more causalities than are experienced in many modern wars. The more than 1.2 million homicides since the country's return to democratization surpasses total deaths attributed to the Vietnam War. Reducing violence in the coming years will require the country to take more proactive actions.

Throughout the country, states have been increasingly developing strategic public security plans, which have typically been missing in past years. The federal government is also taking a growing interest in security; an issue that it has typically neglected. There is reason to suspect that the focus on security will grow even stronger in coming years. In October of 2018,

Brazilians elected Jair Bolsonaro, a conservative politician, who has called for tough-on-crime measures, to be the country's president. In addition, right-wing parties made major gains at the state level, electing 12 governors, marking a sharp conservative turn in state politics.

In recent months, the federal government has implemented a variety of new policies to tackle crime. On February 16, 2018, the federal government announced a takeover of Rio de Janeiro's public security system that will last at least through the end of the year. During this time, a military general is in charge of the state's security and military personnel will work alongside police officers. Just 10 days later, it also created a new federal cabinet post, the Extraordinary Ministry of Public Security, led by the country's former defense minister. The government followed this decision with another announcement on March 1 that it will make R$42 billion (US$13.53 billion) in loans available over the next five years for states to reorganize and strengthen their public security systems.[108] These policies have the potential to help reduce violence in the short term. However, the government's plan does not include any efforts to address the long-term issues driving rising crime rates. It remains to be seen, therefore, how the politics of public security will play out in the coming years.

[108] Paraguassu, Linsandra, and Ricardo Brito. 2018. "Governo federal anuncia R$42 bi a Estados para reorganizar segurança pública; R$ 5 bi serão liberados este ano." March 1. *Reuters*. https://br.reuters.com/article/topNews/idBRKCN1GD5U2-OBRTP

APPENDIX A

Semi-Structured Interview Script

1. How do you define “public security?

2. Do you think that ideology influences how deputies think about public security or do positions depend on other factors?
    a. What other factors?

3. What impact did violence have on your electoral campaign?
    a. Is it an important them?
    b. Are their neighborhoods or locations where you were unable to conduct your campaign due to lack of security?

4. Which group of voters, if any, appear to be the most worried about this problem?

5. How do they want the State to resolve the problem?
    a. More spending on social programs?
    b. More spending on the police?
    c. Other policies?

6. What impact does crime and violence have on the state’s politics?
    a. Legislation
    b. Political debates

7. When you talk with voters, who do they blame for crime and violence?
    a. Governors
    b. Mayors
    c. State deputies
    d. Political parties from the left and right

8. What factors explain the distribution of military police in the state? Put another way, are there political factors that affect which municipality receives more police officers?

9. Are there other people who you recommend that I contact?

APPENDIX B

POLITICAL PARTY IDEOLOGY AND CHAPTER 2 SUPPLEMENTARY TABLES

Left Political Parties

Partido Comunista do Brasil (PC do B)

Partido Comunista Brasileiro (PCB)

Partido da Causa Operária (PCO)

Partido Democrático Trabalhista (PDT)

Partido Geral dos Trabalhadores (PGT)

Partido da Mobilização Nacional (PMN)

Partido Popular Socialista (PPS)

Partido Socialista Brasileiro (PSB)

Partido Socialismo e Liberdade (PSOL)

Partido Social Trabalhista (PST)

Partido Socialista dos Trabalhadores Unificado (PSTU)

Partido dos Trabalhadores (PT)

Partido Verde (PV)

Centrist Political Parties

Partido dos Aposentados da Nação (PAN)

Partido Humanista da Solidariedade (PHS)

Partido Liberal (PL)

Partido do Movimento Democrático Brasileiro (PMDB)

Partido da Social Democracia Brasileira (PSDB)

Partido Social Liberal (PSL)

Partido da Solidariedade Nacional (PSN)

Partido Trabalhista do Brasil (PT do B)

Partido Trabalhista Nacional (PTN)

Right Political Parties

Partido da Frente Liberal (PFL)

Democratas (DEM) (Formerly the PFL)

Partido Progressista (PP)

Partido Progressista Brasileiro (PPB)

Partido Progressista Reformador (PPR)

Partido Republicano Brasileiro (PRB)

Partido da Reconstrução Nacional (PRN)

Partido da Reedificação da Ordem Nacional (PRONA)

Partido Republicano (PR)

Partido Republicano Progressista (PRP)

Partido Renovador Trabalhista Brasileiro (PRTB)

Partido Social Cristão (PSC)

Partido Social Democrático (PSD)

Partido Social Democrata Cristão (PSDC)

Partido Trabalhista Brasileiro (PTB)

Partido Trabalhista Cristão (PTC)

Table B.1: Changes in Violence and Support for Right Parties

	1998	**2002**	**2006**	**2010**
Right Incumbent	-14.177*	-17.185+	-42.345**	-18.316**
	(6.696)	(9.991)	(13.778)	(5.226)
Viable Right Candidate	16.838*	-3.843	6.581	5.525
	(7.209)	(4.810)	(5.283)	(5.835)
Right Incumbent x Viable Right Candidate		38.031**	-5.620	
		(11.886)	(18.176)	
Homicide Rate Change (log)	0.491	-0.821	-0.400	0.428
	(0.823)	(0.569)	(0.317)	(0.491)
Right Wing Incumbent x Homicide Rate Change (log)	-0.866	1.087+	2.465***	-0.592
	(2.272)	(0.590)	(0.395)	(0.791)
Viable Right Candidate x Homicide Rate Change (log)	-1.845	1.804*	-1.124	0.643
	(1.316)	(0.768)	(0.906)	(0.940)
Right Incumbent x Viable Right Candidate x Homicide Rate Change (log)		-2.587+	-2.373+	
		(1.362)	(1.172)	
Population (log) Change	0.355	-8.208*	6.528+	-2.531
	(3.120)	(3.227)	(3.585)	(2.206)
Population Minimum Salary Change	0.758*	0.124*	-0.102	-0.192
	(0.310)	(0.056)	(0.090)	(0.167)
GDP Capita (log) Change	2.231	2.513	-1.684	-6.797+
	(1.409)	(1.975)	(1.703)	(3.747)
Unemployment Rate Change	-1.857	1.608+	-1.040	-3.972**
	(1.824)	(0.961)	(1.429)	(1.312)
Lost Incumbent Candidate			17.392	-21.617**
			(16.593)	(6.690)
Gained Incumbent Candidate	8.856	24.619		
	(11.488)	(15.658)		
Right Incumbent Candidate Change	-5.936	-3.593	21.226**	5.755
	(15.358)	(4.804)	(6.195)	(7.057)
Right Coalition Parties Change	0.434	1.404*	3.846***	4.929***
	(1.334)	(0.573)	(0.659)	(0.748)
Total Left Candidates Change	-0.491	0.644	8.701**	5.615***
	(1.611)	(1.177)	(2.913)	(1.282)
Total Right Candidates Change	11.533**	5.132*	0.368	-4.474+
	(3.215)	(2.316)	(1.575)	(2.219)
Total Center Candidates Change	-2.369	-1.442	0.100	-1.964+
	(2.198)	(1.266)	(2.149)	(1.049)
Constant	6.624	-3.626	4.680*	-6.872
	(5.888)	(3.359)	(2.046)	(4.745)
N	3905	4633	5560	5564
Adjusted R-Squared	0.810	0.635	0.808	0.796

Standard errors in parentheses, + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Table B.2: Changes in Violence and Support for Center Parties

	1998	2002	2006	2010
Centrist Incumbent	-66.938***	-28.909+	-23.560*	-18.651
	(9.627)	(15.000)	(10.006)	(16.947)
Viable Center Candidate	1.623	16.495**	17.189	19.577
	(10.276)	(5.914)	(14.914)	(16.991)
Center Incumbent x Viable Center Candidate	75.628***	30.891+	-0.547	5.963
	(12.584)	(17.531)	(14.112)	(18.198)
Homicide Rate Change (log)	2.265+	-0.746	-0.811	2.837***
	(1.247)	(0.641)	(0.810)	(0.364)
Centrist Incumbent x Homicide Rate Change (log)	-3.691**	1.471	-2.010	-3.153***
	(1.259)	(1.092)	(1.210)	(0.551)
Viable Center Candidate x Homicide Rate Change (log)	-2.986+	0.393	1.360	-4.774***
	(1.561)	(0.856)	(1.215)	(0.958)
Center Incumbent x Viable Center Candidate x	4.575**	-1.740	1.305	4.344**
Homicide Rate Change (log)	(1.574)	(1.656)	(1.661)	(1.292)
Population Change (log)	-1.059	-9.542*	-8.773	4.257
	(2.585)	(4.399)	(7.715)	(3.921)
Population Minimum Salary Change (%)	-0.180	-0.067	0.205	0.231
	(0.427)	(0.083)	(0.190)	(0.221)
GDP Capita Change (log)	-2.488	1.718	-10.083**	3.799
	(2.080)	(1.850)	(2.993)	(2.697)
Unemployment Rate Change	-3.245	1.444	-4.403	-5.245*
	(2.332)	(1.367)	(3.519)	(2.419)
Lost Incumbent Candidate Change			-43.148+	-43.399***
			(20.997)	(9.735)
Gained Incumbent Candidate Change	40.169***	19.449+	36.324***	-3.225
	(8.350)	(9.498)	(8.177)	(16.514)
Center Incumbent Candidate Change	-15.508**	8.810**	6.375	7.893
	(4.611)	(2.806)	(6.310)	(4.656)
Center Coalition Parties Change	-0.384	-0.577	-0.270	-1.030+
	(0.536)	(0.375)	(0.759)	(0.575)
Total Left Candidates Change	-4.740	1.399	5.895	4.937*
	(3.176)	(1.240)	(6.561)	(2.375)
Total Right Candidates Change	-14.667***	-2.053	-4.052	-14.521***
	(1.437)	(2.087)	(3.487)	(3.760)
Total Center Candidates Change	5.969+	4.665+	9.719**	7.109**
	(3.201)	(2.425)	(3.451)	(2.077)
Constant	7.883	-11.499	11.952	-28.546+
	(5.219)	(5.824)	(7.598)	(15.100)
N	3905	4633	5560	5564
Adjusted R-Squared	0.800	0.565	0.692	0.710

Standard errors in parentheses, + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Table B.3: Changes and Violence and Support for Left Parties

	1998	2002	2006	2010
Left Incumbent	-37.438**	-8.880	-10.349	-19.168**
	(12.793)	(4.447)	(15.283)	(6.531)
Viable Left Candidate	2.080	27.652***	6.292	26.014***
	(5.888)	(4.459)	(9.844)	(5.304)
Left Incumbent x Viable Left Candidate			0.326	-0.731
			(18.898)	(9.366)
Homicide Rate Change (log)	0.519	-0.365	0.430	0.008
	(1.089)	(0.607)	(0.498)	(0.242)
Left Incumbent x Homicide Rate Change (log)	-2.677*	-0.509	3.638	1.668***
	(1.295)	(1.401)	(3.101)	(0.343)
Viable Left Candidate x Homicide Rate Change (log)	0.046	0.188	-0.108	0.836
	(1.222)	(0.665)	(0.581)	(0.539)
Left Incumbent x Viable Left Candidate x Homicide	-2.586		-3.020	-1.954+
Rate Change (log)	(3.658)		(3.421)	(1.033)
Population (log) Change	-0.519	3.538	3.243	-4.423
	(3.371)	(4.216)	(6.987)	(2.629)
Population Minimum Salary Change	-0.309	0.057	0.185	-0.461+
	(0.238)	(0.054)	(0.206)	(0.247)
GDP Capita (log) Change	-0.006	-1.404	1.424	-0.338
	(0.906)	(2.389)	(2.636)	(2.129)
Unemployment Rate Change	2.463	-1.272	4.359	3.332*
	(2.059)	(1.016)	(2.657)	(1.587)
Lost Incumbent Candidate Change	17.298	-37.333***	-42.514***	-46.446***
	(19.075)	(8.268)	(10.560)	(7.061)
Gained Incumbent Candidate Change			78.327***	33.669***
			(13.242)	(6.619)
Left Incumbent Candidate Change	1.792	15.908*	21.054+	12.191*
	(5.862)	(6.353)	(10.861)	(4.944)
Left Coalition Parties Change	3.054*	1.236*	1.177	1.287**
	(1.349)	(0.490)	(0.833)	(0.443)
Total Left Candidates Change	-1.780	1.148	-10.394*	-2.066
	(4.007)	(2.208)	(4.488)	(1.599)
Total Right Candidates Change	-1.991	-1.427	-0.955	-0.369
	(1.174)	(1.076)	(1.910)	(2.696)
Total Center Candidates Change	8.305	-3.896+	-4.389	2.541
	(5.274)	(2.263)	(3.773)	(1.693)
Constant	-13.910*	-11.739*	-8.268	-10.186+
	(6.635)	(5.687)	(8.888)	(5.979)
N	3905	4633	5560	5564
Adjusted R-Squared	0.618	0.598	0.542	0.635

Standard errors in parentheses, + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Table B.4: Changes in Political Competition and Violence and Support for Right Parties

	1998	2002	2006	2010
Right Incumbent	-9.325	-18.74	-55.25**	-4.693
	(7.327)	(9.723)	(16.31)	(6.798)
Left Incumbent	-7.555	-2.489	-11.03	10.32*
	(6.234)	(5.316)	(6.337)	(4.568)
Viable Right Candidate	14.74*	-3.869	6.680	-2.190
	(7.046)	(4.875)	(4.668)	(4.357)
Right Incumbent x Viable Right Candidate		38.43**	6.374	
		(11.76)	(17.98)	
Homicide Rate Change (log)	0.125	-1.173	-0.246	0.459
	(0.681)	(0.578)	(0.282)	(0.449)
Right Incumbent x Homicide Rate Change (log)	-0.422	1.445*	2.305***	-0.263
	(2.202)	(0.584)	(0.313)	(0.946)
Left Incumbent x Homicide Rate Change (log)	2.093	1.677	-0.655	0.145
	(1.634)	(1.009)	(0.798)	(0.998)
Viable Right Candidate x Homicide Rate Change (log)	-1.800	1.858**	-0.970	0.235
	(0.961)	(0.650)	(0.593)	(0.956)
Right Incumbent x Viable Right Candidate x Homicide Rate Change (log)		-2.606	-2.830**	
		(1.306)	(0.903)	
Population (log) Change	0.586	-8.157*	6.204	-4.863
	(3.164)	(3.201)	(3.304)	(2.533)
Population Minimum Salary Change	0.686*	0.129*	-0.0373	-0.318
	(0.275)	(0.0549)	(0.124)	(0.175)
GDP Capita (log) Change	1.967	2.415	-1.064	-8.033*
	(1.326)	(2.000)	(1.270)	(3.546)
Unemployment Rate Change	-1.827	1.581	0.0396	-4.971***
	(1.789)	(0.949)	(1.336)	(1.243)
Lost Incumbent Candidate			24.69	-31.79**
			(17.71)	(9.403)
Gained Incumbent Candidate	14.93	26.59		
	(13.43)	(16.70)		
Right Incumbent Candidate Change	-10.67	-3.412	20.63***	1.398
	(15.55)	(4.856)	(3.880)	(5.714)
Right Coalition Parties Change	0.568	1.244	3.790***	6.028***
	(1.316)	(0.703)	(0.618)	(0.647)
Total Left Candidates Change	-1.301	0.717	7.154**	8.187***
	(1.595)	(1.152)	(1.942)	(2.055)
Total Right Candidates Change	11.52**	5.612*	0.492	-7.558***
	(3.252)	(2.543)	(1.643)	(1.724)
Total Center Candidates Change	-0.342	-1.445	2.326	-2.799*
	(2.402)	(1.282)	(2.822)	(1.149)
Constant	7.387	-3.192	6.256*	-13.74*
	(5.996)	(3.444)	(2.756)	(5.309)
N	3905	4633	5560	5564
Adjusted R-Squared	0.813	0.636	0.823	0.811

Standard errors in parentheses, + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Table B.5: The Effect of Political Competition and Violence on Support for Right Parties

	1998	2002	2006	2010
Centrist Incumbent	-58.085***	-28.249+	-7.827	-18.442
	(15.233)	(15.340)	(16.763)	(17.131)
Right Incumbent	10.083	0.883	16.374	5.846
	(11.317)	(4.104)	(14.321)	(5.044)
Viable Center Candidate	5.445	16.542**	33.046	19.764
	(10.396)	(5.919)	(20.637)	(17.118)
Center Incumbent x Viable Center Candidate	70.500***	30.883+	-16.596	6.327
	(13.930)	(17.566)	(20.216)	(18.342)
Homicide Rate Change (log)	-1.516	-0.449	-1.443	2.885***
	(3.327)	(0.802)	(1.989)	(0.374)
Centrist Incumbent x Homicide Rate Change (log)	0.050	1.174	-1.378	-3.221***
	(3.344)	(1.080)	(2.167)	(0.548)
Right Incumbent x Homicide Rate Change (log)	3.980	-0.473	0.640	1.489
	(3.042)	(1.187)	(2.170)	(1.027)
Viable Center Candidate x Homicide Rate Change (log)	0.188	0.436	1.816	-4.911***
	(2.931)	(0.944)	(1.859)	(1.063)
Center Incumbent x Viable Center Candidate x Homicide Rate Change (log)	1.479	-1.784	0.824	4.455**
	(2.886)	(1.730)	(2.068)	(1.419)
Population Change (log)	-0.912	-9.455*	-7.796	4.399
	(2.593)	(4.488)	(6.913)	(3.964)
Population Minimum Salary Change (%)	-0.313	-0.066	0.214	0.288
	(0.381)	(0.083)	(0.187)	(0.226)
GDP Capita Change (log)	-2.617	1.711	-9.628**	3.816
	(2.086)	(1.852)	(2.858)	(2.710)
Unemployment Rate Change	-2.875	1.461	-4.882	-5.027+
	(2.280)	(1.380)	(3.421)	(2.515)
Lost Incumbent Candidate Change			-43.867*	-43.525***
			(21.207)	(9.587)
Gained Incumbent Candidate Change	43.597***	19.458	27.988*	-3.182
	(9.317)	(9.510)	(13.274)	(16.501)
Center Incumbent Candidate Change	-15.693**	8.817**	5.957	7.712
	(4.721)	(2.817)	(6.294)	(4.595)
Center Coalition Parties Change	-0.290	-0.580	-0.386	-1.058+
	(0.496)	(0.374)	(0.749)	(0.572)
Total Left Candidates Change	-5.740+	1.400	6.526	5.086*
	(3.181)	(1.238)	(6.664)	(2.328)
Total Right Candidates Change	-15.142***	-2.065	-4.093	-14.239***
	(1.463)	(2.093)	(3.511)	(3.799)
Total Center Candidates Change	7.169*	4.617+	9.508*	6.800**
	(3.104)	(2.449)	(3.504)	(2.171)
Constant	-1.116	-12.196+	-3.387	-28.684+
	(11.064)	(6.797)	(15.242)	(15.350)
N	3905	4633	5560	5564
Adjusted R-Squared	0.803	0.565	0.696	0.711

Standard errors in parentheses, + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Table B.6: The Effect of Political Competition and Violence on Support for Center Parties

	1998	2002	2006	2010
Centrist Incumbent	-58.085***	-28.249+	-7.827	-18.442
	(15.233)	(15.340)	(16.763)	(17.131)
Right Incumbent	10.083	0.883	16.374	5.846
	(11.317)	(4.104)	(14.321)	(5.044)
Viable Center Candidate	5.445	16.542**	33.046	19.764
	(10.396)	(5.919)	(20.637)	(17.118)
Center Incumbent x Viable Center Candidate	70.500***	30.883+	-16.596	6.327
	(13.930)	(17.566)	(20.216)	(18.342)
Homicide Rate Change (log)	-1.516	-0.449	-1.443	2.885***
	(3.327)	(0.802)	(1.989)	(0.374)
Centrist Incumbent x Homicide Rate Change (log)	0.050	1.174	-1.378	-3.221***
	(3.344)	(1.080)	(2.167)	(0.548)
Right Incumbent x Homicide Rate Change (log)	3.980	-0.473	0.640	1.489
	(3.042)	(1.187)	(2.170)	(1.027)
Viable Center Candidate x Homicide Rate Change (log)	0.188	0.436	1.816	-4.911***
	(2.931)	(0.944)	(1.859)	(1.063)
Center Incumbent x Viable Center Candidate x Homicide Rate Change (log)	1.479	-1.784	0.824	4.455**
	(2.886)	(1.730)	(2.068)	(1.419)
Population Change (log)	-0.912	-9.455*	-7.796	4.399
	(2.593)	(4.488)	(6.913)	(3.964)
Population Minimum Salary Change (%)	-0.313	-0.066	0.214	0.288
	(0.381)	(0.083)	(0.187)	(0.226)
GDP Capita Change (log)	-2.617	1.711	-9.628**	3.816
	(2.086)	(1.852)	(2.858)	(2.710)
Unemployment Rate Change	-2.875	1.461	-4.882	-5.027+
	(2.280)	(1.380)	(3.421)	(2.515)
Lost Incumbent Candidate Change			-43.867*	-43.525***
			(21.207)	(9.587)
Gained Incumbent Candidate Change	43.597***	19.458	27.988*	-3.182
	(9.317)	(9.510)	(13.274)	(16.501)
Center Incumbent Candidate Change	-15.693**	8.817**	5.957	7.712
	(4.721)	(2.817)	(6.294)	(4.595)
Center Coalition Parties Change	-0.290	-0.580	-0.386	-1.058+
	(0.496)	(0.374)	(0.749)	(0.572)
Total Left Candidates Change	-5.740+	1.400	6.526	5.086*
	(3.181)	(1.238)	(6.664)	(2.328)
Total Right Candidates Change	-15.142***	-2.065	-4.093	-14.239***
	(1.463)	(2.093)	(3.511)	(3.799)
Total Center Candidates Change	7.169*	4.617+	9.508*	6.800**
	(3.104)	(2.449)	(3.504)	(2.171)
Constant	-1.116	-12.196+	-3.387	-28.684+
	(11.064)	(6.797)	(15.242)	(15.350)
N	3905	4633	5560	5564
Adjusted R-Squared	0.803	0.565	0.696	0.711

Standard errors in parentheses, + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Table B.7: The Effect of Political Competition and Violence on Support for Left Parties

	1998	2002	2006	2010
Left Incumbent	-38.177**	-5.570	-8.418	-16.051*
	(11.265)	(4.683)	(15.454)	(6.860)
Right Incumbent	1.912	11.492*	8.371+	10.595*
	(9.904)	(4.630)	(4.225)	(4.288)
Viable Left Candidate	3.027	34.667***	7.732	28.292***
	(7.202)	(6.682)	(9.672)	(5.214)
Left Incumbent x Viable Left Candidate			-0.054	-4.147
			(19.118)	(9.847)
Homicide Rate Change (log)	1.304	-0.385	0.210	0.233
	(1.133)	(0.920)	(0.671)	(0.338)
Left Incumbent x Homicide Rate Change (log)	-3.484*	-1.005	4.279	1.514**
	(1.411)	(1.350)	(3.369)	(0.455)
Right Incumbent x Homicide Rate Change (log)	-3.128+	0.298	1.546	-0.356
	(1.766)	(0.835)	(0.946)	(0.362)
Viable Left Candidate x Homicide Rate Change (log)	-0.400	0.471	-0.294	0.546
	(1.280)	(0.639)	(0.674)	(0.571)
Left Incumbent x Viable Left Candidate x Homicide Rate Change (log)	-2.228		-3.298	-1.775
	(3.710)		(3.637)	(1.062)
Population (log) Change	-0.556	7.188*	3.863	-4.674+
	(3.336)	(3.271)	(6.439)	(2.639)
Population Minimum Salary Change	-0.332	0.021	0.070	-0.408
	(0.215)	(0.050)	(0.160)	(0.241)
GDP Capita (log) Change	0.015	-1.416	1.675	-0.806
	(0.933)	(1.959)	(2.507)	(2.121)
Unemployment Rate Change	2.511	-0.932	4.226	3.360+
	(2.158)	(1.224)	(2.698)	(1.643)
Lost Incumbent Candidate Change	18.918	-33.365***	-44.408***	-46.197***
	(17.089)	(7.645)	(11.196)	(7.183)
Gained Incumbent Candidate Change			80.116***	33.087***
			(13.384)	(6.700)
Left Incumbent Candidate Change	1.476	15.353*	20.967+	12.562*
	(5.917)	(6.130)	(10.644)	(4.838)
Left Coalition Parties Change	3.038*	1.119*	0.834	1.215*
	(1.396)	(0.446)	(0.900)	(0.453)
Total Left Candidates Change	-1.854	1.461	-9.676*	-1.603
	(3.808)	(1.617)	(4.438)	(1.710)
Total Right Candidates Change	-2.050	-1.662	-1.667	0.275
	(1.218)	(1.229)	(1.615)	(2.842)
Total Center Candidates Change	8.962+	-5.002*	-4.754	2.243
	(4.614)	(1.996)	(3.713)	(1.760)
Constant	-15.212	-22.885***	-12.001	-11.399+
	(9.908)	(5.827)	(8.613)	(5.884)
N	3905	4633	5560	5564
Adjusted R-Squared	0.619	0.650	0.555	0.641

Standard errors in parentheses, + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Table B.8: Violence and Support for Right Parties, Panel Models

	Fixed Effects	**Political Competition**	**Arellano-Bond**
Homicide Rate (log)	0.867+	0.302	-0.165
	(0.474)	(0.483)	(0.317)
Right Incumbent	-11.356**	-13.050**	-31.635***
	(3.785)	(4.240)	(6.608)
Left Incumbent		-5.896	-14.138***
		(3.633)	(1.769)
Viable Right Candidate	24.027***	23.309***	36.417***
	(4.194)	(4.223)	(3.707)
Right Incumbent x Viable Right Candidate	17.037+	16.664+	10.729
	(9.181)	(8.789)	(6.541)
Homicide Rate (log) x Right Incumbent	0.209	0.711	-2.021*
	(0.560)	(0.609)	(0.804)
Homicide Rate (log) x Left Incumbent		2.204+	1.702***
		(1.264)	(0.459)
Viable Right Candidate x Homicide Rate (log)	-2.572**	-2.443**	0.092
	(0.850)	(0.852)	(0.501)
Viable Right Candidate x Right Incumbent	-4.874***	-4.661***	
x Homicide Rate (log)	(1.288)	(1.202)	
Population Size (log)	-0.710	-0.058	1.981
	(2.098)	(2.035)	(1.270)
Poverty Reduction	0.108+	0.133*	0.180***
	(0.054)	(0.058)	(0.054)
GDP per Capita (log)	-0.036	0.292	-0.662
	(0.787)	(0.791)	(0.711)
Unemployment Rate	-0.508	-0.302	-0.791
	(1.006)	(1.028)	(0.531)
Lost Incumbent Candidate	0.040	0.179	
	(7.096)	(7.004)	
Gained Incumbent Candidate	0.577	6.073	
	(7.218)	(8.326)	
Incumbent Candidate	-0.861	-0.539	10.234*
	(4.612)	(4.350)	(4.279)
Left Candidates	1.254	1.048	8.136***
	(1.219)	(1.197)	(0.666)
Right Candidates	0.399	0.783	-11.959***
	(1.357)	(1.386)	(1.302)
Center Candidates	-2.865**	-2.627*	-3.118**
	(1.021)	(1.063)	(1.185)
Coalition Parties	1.333**	1.268**	3.966***
	(0.473)	(0.449)	(0.222)
Inflation Rate (log)	0.525	0.268	
	(0.933)	(0.905)	
Within R-Squared	0.7276	0.7327	
Between R-Squared	0.8533	0.8314	
Overall R-Squared	0.7811	0.772	
N	25,120	25,120	9,776

robust standard errors in parentheses, * p<0.05, ** p<0.01, *** p<0.001

Table B.9: Violence and Support for Center Parties, Panel Models

	Fixed Effects	Political Competition	Arellano-Bond
Homicide Rate (log)	-2.258	-5.151	2.853**
	(2.051)	(3.029)	(0.916)
Center Incumbent	-4.616	-2.733+	66.115***
	(5.431)	(6.613)	(8.754)
Right Incumbent		1.688	27.067***
		(5.872)	(5.187)
Viable Center Candidate	12.869*	13.823	59.333***
	(5.925)	(6.851)	(5.075)
Center Incumbent x Viable Center Candidate	1.339	0.494	-103.620***
	(6.554)	(7.379)	(7.862)
Homicide Rate (log) x Center Incumbent	2.211	4.883	-3.833**
	(2.443)	(3.546)	(1.360)
Homicide Rate (log) x Right Incumbent		4.929*	-0.039
		(2.334)	(0.822)
Viable Center Candidate x Homicide Rate (log)	1.578	3.312	-3.038***
	(2.683)	(2.782)	(0.923)
Viable Center Candidate x Center Incumbent	-1.816	-3.485	4.069**
x Homicide Rate (log)	(2.616)	(2.828)	(1.391)
Population Size (log)	-3.684	-3.307	1.069
	(3.862)	(3.952)	(1.485)
Poverty Reduction	0.001	0.029	0.185**
	(0.087)	(0.102)	(0.064)
GDP per Capita (log)	1.195	1.653	1.198
	(1.597)	(1.355)	(0.864)
Unemployment Rate	-0.950	-0.802	8.650***
	(1.061)	(1.045)	(1.165)
Lost Incumbent Candidate	-35.461***	-33.112***	
	(5.316)	(5.174)	
Gained Incumbent	31.619***	32.311***	7.310
	(6.038)	(5.537)	(4.225)
Incumbent Candidate	4.568	4.259	5.713**
	(4.887)	(4.730)	(1.757)
Left Candidates	-0.959	-1.046	-6.903***
	(2.365)	(2.278)	(1.448)
Right Candidates	-6.169***	-6.299***	8.200**
	(1.576)	(1.470)	(2.843)
Center Candidates	4.201*	4.311*	-0.807
	(1.618)	(1.639)	(2.098)
Coalition Parties	1.728***	1.685***	5.043***
	(0.311)	(0.332)	(0.564)
Inflation Rate (log)	0.241	-0.025	
	(1.264)	(1.359)	
Within R-Squared	0.6658	0.6697	
Between R-Squared	0.5668	0.5717	
Overall R-Squared	0.6199	0.6222	
N	25,120	25,120	9,776

robust standard errors in parentheses, * p<0.05, ** p<0.01, *** p<0.001

Table B.10: Violence and Support for Left Parties, Panel Models

	Fixed Effects	Political Competition	Arellano-Bond
Homicide Rate (log)	-0.859	-1.361	-2.268**
	(0.862)	(0.953)	(0.735)
Left Incumbent Party	9.052	9.572	52.967***
	(8.252)	(8.411)	(6.736)
Right Incumbent		0.867	-6.516***
		(3.775)	(1.878)
Viable Left Candidate	10.896***	10.897***	79.853***
	(2.719)	(2.594)	(5.055)
Left Incumbent x Viable Left Candidate	-7.827	-8.093	-51.788***
	(9.719)	(9.879)	(4.750)
Homicide Rate (log) x Left Incumbent	-0.648	-0.139	2.545
	(1.906)	(1.860)	(4.783)
Homicide Rate (log) x Right Incumbent		1.428	4.429***
		(1.881)	(1.073)
Viable Left Candidate x Homicide Rate (log)	2.062+	2.371*	2.148*
	(1.070)	(0.925)	(0.846)
Viable Left Candidate x Left Incumbent	-2.575	-2.885	-3.924
x Homicide Rate (log)	(2.554)	(2.432)	(4.862)
Population Size (log)	-4.029	-4.068	-4.793*
	(2.560)	(2.438)	(1.911)
Poverty Reduction	-0.012	-0.008	-0.371***
	(0.084)	(0.085)	(0.084)
GDP per Capita (log)	-0.644	-0.548	-1.801
	(1.284)	(1.179)	(1.104)
Unemployment Rate	2.093+	2.075+	-18.406***
	(1.035)	(1.032)	(1.615)
Lost Incumbent Candidate	-31.331***	-31.596***	-83.904***
	(8.312)	(8.376)	(6.416)
Gained Incumbent	42.614***	43.556***	
	(5.484)	(5.423)	
Incumbent Candidate	17.169***	17.373***	-5.278*
	(3.486)	(3.497)	(2.277)
Left Candidates	0.900	0.998	13.103***
	(1.587)	(1.561)	(1.130)
Right Candidates	1.321	1.307	-8.681***
	(0.857)	(0.827)	(2.568)
Center Candidates	-2.500*	-2.515*	19.147***
	(1.152)	(1.176)	(1.587)
Coalition Parties	1.482**	1.482**	0.200
	(0.449)	(0.451)	(0.446)
Inflation Rate (log)	-0.419	-0.452	
	(1.276)	(1.263)	
Within R-Squared	0.6146	0.6154	
Between R-Squared	0.3439	0.3512	
Overall R-Squared	0.4964	0.5001	
N	25,120	25,120	9,776

robust standard errors in parentheses, * p<0.05, ** p<0.01, *** p<0.001

APPENDIX C

CHAPTER 3 ROBUSTNESS CHECKS AND ALTERNATIVE MODELS

As discussed in the research design section of the chapter, I tested the robustness of my results by substituting per capita spending on security policies for the percentage of the budget devoted to these policies. As I show in Table 3.9 and 3.10, the change in operationalization does not affect spending on education spending. The empirical analysis continues to show that left parties do not spend more on education than their counterparts in right parties. However, it does modify the findings regarding the impact of ideology on law enforcement and education spending. More specifically, it shows that right governors do not spend more per capita on law enforcement than their leftist counterparts, regardless of their electoral competition. However, governors from right parties spend more on the judiciary when they face right competitors.

The differing findings are most likely due to changes in state budgets over time. Between 1991 and 2014, the average per capita state budget grew in real terms from R$597 to R$1175. Right governors were in office primarily in the 1990s when state budgets were lower. In addition, they tended to control the poorest states in northern and northeastern Brazil where small increases in per capita security spending required major changes in their budgetary allocations. Given these factors, it is unsurprising that using per capita expenditures shows that

right governor do not spend more on security than their leftist counterparts do since they entered the government under different financial conditions.

Table C.1: Per Capita Police and Judiciary Spending

	Policing Model 1	Policing Model 2	Policing Model 3	Judiciary Model 1	Judiciary Model 2	Judiciary Model 3
Security Budget (t-1)	0.80***	0.45***	0.46***			
	(0.05)	(0.12)	(0.12)			
Judiciary Budget (t-1)				0.44***	0.12	0.12
				(0.13)	(0.11)	(0.11)
Right Governor	-4.44	-5.74	-8.07	-14.17	-3.52	-9.10
	(3.97)	(5.06)	(6.68)	(8.98)	(9.15)	(11.85)
Center Governor	3.08	2.02	0.29	-2.60	-0.17	-3.95
	(2.38)	(2.65)	(2.82)	(3.98)	(4.44)	(5.95)
Right Competitor			1.09			-0.08
			(3.80)			(6.44)
Left Competitor			2.71			5.58
			(3.15)			(4.52)
Right Governor			2.93			10.77*
x Right Competitor			(6.65)			(5.43)
Right Governor			4.69			-0.29
x Left Competitor			(9.44)			(12.06)
Reelection Run		2.66*	2.58+		-0.82	-0.67
		(1.33)	(1.43)		(1.78)	(1.71)
Political Office		1.15	1.04		-0.67	-1.00
		(1.92)	(1.77)		(1.64)	(1.83)
Close Election		-1.57	-0.96		-6.38+	-5.85+
		(2.36)	(2.17)		(3.75)	(3.49)
Election Year		-20.13*	1.52		-24.51***	-23.42*
		(9.48)	(5.59)		(6.66)	(10.30)
Homicides		-0.00	-0.00		0.00	0.00
		(0.00)	(0.00)		(0.00)	(0.00)
Homicide Rate		0.02	0.04		-0.15	-0.10
		(0.17)	(0.15)		(0.19)	(0.18)
Inequality		12.00	12.21		71.74	73.99
		(21.85)	(23.13)		(59.19)	(67.15)
Population		-0.00	-0.00		-0.00**	-0.00*
		(0.00)	(0.00)		(0.00)	(0.00)
Population Density		0.16	0.17		-0.36	-0.29
		(0.47)	(0.49)		(0.41)	(0.40)
Per Capita Budget		0.03***	0.03***		0.01	0.01
		(0.01)	(0.01)		(0.01)	(0.01)
Debt Repayment (%)		-0.02	-0.02		0.01	0.01
		(0.01)	(0.01)		(0.02)	(0.02)
Ex-Territory		-4.83	-6.34		13.44+	10.77
		(24.23)	(23.89)		(8.00)	(11.84)
Constant	19.26***	23.61	22.80	39.01***	88.89*	85.12+
	(4.81)	(36.52)	(34.68)	(11.19)	(44.98)	(45.57)
N	558	473	473	569	487	487

+ 0.10 * 0.05 ** 0.01 ***.001, robust standard errors in parentheses

Table C.2: Per Capita Education Spending

	Education Model 1	Education Model 2	Education Model 3
Education Budget (t-1)	0.45***	0.36***	0.35***
	(0.07)	(0.07)	(0.07)
Left Governor	-0.45	-0.30	0.48
	(0.37)	(0.53)	(0.85)
Center Governor	-0.24	-0.27	-0.46
	(0.51)	(0.60)	(0.57)
Right Competitor			0.92
			(0.77)
Left Competitor			0.86
			(0.83)
Left Governor			-1.22+
x Right Competitor			(0.65)
Left Governor			-0.88
x Left Competitor			(1.10)
Reelection Run		0.09	0.03
		(0.24)	(0.25)
Political Office		0.08	-0.03
		(0.40)	(0.38)
Close Election		0.18	0.25
		(0.31)	(0.36)
Election Year		0.76	0.99
		(1.02)	(1.08)
Homicides		0.00	0.00
		(0.00)	(0.00)
Homicide Rate		-0.05*	-0.05*
		(0.02)	(0.02)
Inequality		-10.93*	-10.52**
		(4.27)	(3.99)
Population		0.00	0.00
		(0.00)	(0.00)
Population Density		0.00	-0.00
		(0.03)	(0.03)
Per Capita Budget		-0.00	-0.00
		(0.00)	(0.00)
Debt Repayment (%)		-0.01**	-0.01**
		(0.00)	(0.00)
Ex-Territory		1.05	1.16
		(1.30)	(1.70)
Constant	9.69***	20.90***	20.62***
	(1.19)	(4.94)	(4.96)
N	578	498	498

+ 0.10 * 0.05 ** 0.01 ***.001, robust standard errors in parentheses

APPENDIX D

POLITICS AND VIOLENCE IN SMALL MUNICIPALITIES

Table D.1: Effect of Politics on Violence in Small Municipalities, 1997-2014

	Fixed Effects		**Multi-Level**		**Arellano-Bond**	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Homicide Rate (t-1)					0.017**	0.019**
					(0.006)	(0.006)
Homicide Rate (t-2)					0.009	0.010+
					(0.006)	(0.006)
Homicide Rate (t-3)					0.014*	0.015**
					(0.005)	(0.005)
Right Governor	-0.207*	-0.205*	-0.197*		-0.072+	-0.069+
	(0.089)	(0.090)	(0.091)		(0.042)	(0.042)
Center Governor	-0.037	-0.037	-0.036		0.024	0.028
	(0.054)	(0.054)	(0.056)		(0.032)	(0.032)
Personal Share	0.092	-0.002	0.010	-0.026	0.105	-0.098
	(0.118)	(0.173)	(0.124)	(0.179)	(0.147)	(0.205)
Personal Share x		0.001		0.001		0.002
Per Capita Security		(0.001)		(0.001)		(0.001)
Security Spending	0.003*	0.003*	0.003**	0.003*	0.002*	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Same Party	-0.028*	-0.028	-0.041*	-0.041*	-0.045*	-0.045*
	(0.014)	(0.014)	(0.016)	(0.016)	(0.023)	(0.023)
Reelection	0.004	0.003	0.005	0.004	0.033	0.034
	(0.031)	(0.031)	(0.029)	(0.029)	(0.022)	(0.022)
Education Spending	-0.001	-0.001	-0.001	-0.0011	-0.0005	-0.0005
	(0.0006)	(0.001)	(0.0006)	(0.0006)	(0.0004)	(0.0004)
Infant Death Rate	0.002**	0.002**	0.004***	0.004***	0.001**	0.001**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.0004)	(0.0004)
Population (log)	0.067	0.052	0.70***	0.70***	-0.484**	-0.480**
	(0.108)	(0.105)	(0.048)	(0.049)	(0.162)	(0.162)
Population Density	0.004**	0.004**	0.0006*	0.0006*	0.003	0.003
	(0.002)	(0.002)	(0.0003)	(0.0003)	(0.003)	(0.003)
State Unemployment Rate	0.063***	0.063***	0.062***	0.060	0.007	0.007
	(0.016)	(0.016)	(0.016)	(0.016)***	(0.008)	(0.008)
Constant	0.357	0.523	-4.827***	-4.799***	5.097***	5.089***
	(1.12)	(1.09)	(0.465)	(0.463)	(1.397)	(1.401)
N	67,727	67,727	67,727	67,727	62,404	62,404
Within R-Squared	0.0397	0.0397				
Approximate Level 1 R-Squared			0.1086	0.1087		

Robust standard errors in parentheses, + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

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