

Information and Voting: Microfoundations of Accountability in Complex Electoral
Environments

by

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This dissertation has two main goals. The first is to test how environments with distinct political, historical and institutional characteristics affect voters' ability to obtain information about candidates in legislative elections. In broader terms, this is an exploration of the correlates of learning about politics. More specifically, the emphasis is on how institutional environments condition learning. Second, I investigate how information affects specific vote choices related to holding individual politicians as well as political parties accountable for their performances in office. The emphasis, then, falls on the importance of information in affecting concrete electoral decisions.

Overall, this dissertation is an investigation of the microfoundations of electoral accountability. Accountability is not possible without information. With this in mind, the focus is on how voters learn about candidates during elections and how such information affects electoral choices directly related to holding politicians accountable.

This study focuses on the 2002 Brazilian elections for the Chamber of Deputies mostly, but not exclusively, because Brazil offers great variation in electoral environments. Brazil is also an interesting case because pundits and laymen alike have constantly claimed that corruption and clientelism abound in Brazil. Hence, an exploration of the microfoundations of accountability may shed some light in the roots of such problems.

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1. Chapter 1: Introduction – Accountability, Information and Elections

1.1. Introduction

This dissertation has two main goals. The first is to test how environments with distinct political, historical and institutional characteristics affect voters' ability to obtain information about candidates in legislative elections. Hence, in more general terms this is an exploration of the correlates of learning about politics. More specifically, the emphasis is on how institutional environments, hereby understood as part of the opportunity structures that affect voters' choices, condition learning. Second, I investigate how information affects specific vote choices related to holding individual politicians as well as political parties accountable for their performances in office. The emphasis, then, falls on the importance of information in affecting concrete electoral decisions.

A central normative assumption is that voters must have at least some information about candidates in order to hold representatives accountable for their performance in office.

Following Przeworski, Manin and Stokes, accountability is understood here as voters' ability to punish their representatives for wrongdoing and to reward them for good performances (1999).

In order to do so, voters must have some minimal information about representatives.

Accountability, an inherently retrospective form of voting, is only possible when voters are minimally informed about their representatives' performance in office (Fiorina 1981). To do so, they must know something about the incumbent.

Furthermore, voters must also know something about challengers. That is, voters must be aware of the alternatives available during an election in order to be able to replace incompetent, dishonest incumbents. Information about incumbents and challengers, therefore, is fundamental for the existence of accountability in a political system.

In sum, this dissertation is an investigation of the microfoundations of electoral accountability. Accountability is not possible without information. With this in mind, the focus is on how voters learn about candidates during elections and how such information affects electoral choices directly related to the idea of holding politicians accountable.

This study focuses on the 2002 Brazilian elections for the Chamber of Deputies mostly, but not exclusively, because Brazil offers great variation in the electoral environments voters are embedded in. Brazil is also an interesting case because pundits and laymen alike have constantly argued that problems of corruption and clientelism abound in Brazil. Hence, an exploration of the microfoundations of accountability may shed some light in the roots of such problems.

Contrary to expectations, I find that Brazilian voters are able to learn about their candidates during the campaign even amidst complex electoral environments¹. However, voters tend to gain more of specific types of information. Voters do not learn about everything there is to know about candidates. I also find that distinct types of information differently affect vote choices, indicating that better informed voters do behave differently from less informed ones.²

In the next section, I explore the conceptual underpinnings of accountability. I then discuss how an exploration of the micro-level attributes of accountability is important to understand Latin American politics. The fourth section sets out some of the central questions that I will explore in the dissertation. The idea of Complex Electoral Environment (CEE) will be fully explored then. Section five explains why Brazil provides interesting opportunities to test these hypotheses and section six hints at some of the main hypotheses that will be tested. Finally section seven describes the research design.

¹ Complex electoral environment is a key concept in this study. I will discuss it extensively ahead.

² Both of these findings speak directly to central controversies in the study of voting behavior. The first one is directly related to the discussion about how environments affect learning and voting. The second to the debate about the role of information in influencing vote choice.

1.2. Micro-Level Requirements of Electoral Accountability³

Accountability is intrinsically related to the idea of representation. Political representation, in turn, is central to any definition of democracy. Nevertheless, what representation means is not a straightforward issue. Does representation refer to similarity in personal, demographic and economic characteristics between the selected set of representatives and the entire population – what Pitkin refers to as descriptive representation (1967)? Should a body of representatives be constituted by a representative sample of a larger population that mirrors all the distinct social groups, classes and interests? The answer is no. As Pitkin argues, similarity in demographic and economic characteristics does not guarantee that representatives will act in the interest of voters. Hence, the answer to the above question is that representation requires more than class, race, gender similarities between representatives and electors.

Hence, representation involves a different type of relationship between voters and representatives, based on ideas such as mandates, responsiveness, public interest and accountability. In order for representation to take place, politicians must hear voters' demands and voters must be able to punish and reward politicians for their actions in office. Pitkin refers to this form of representation as “acting for” (1967).

Acting for, as hinted above, may take place in several different ways. It may be understood as politicians' closely following the directions given by the electorate. However, Susan Stokes (2001), following Edmund Burke, has argued that the strict following of mandates may be counterproductive, even harmful, for the collectivity. Politicians may not be able to

³ The emphasis here is solely on the relation between voter and representative, what O'Donnell refers to as vertical accountability (1998). For a discussion of other relationships that involve accountability, such as between politicians and bureaucrats, see Rockman (1986). For a discussion of accountability between politicians in the executive and legislative branches in Latin America, see O'Donnell (1998).

accomplish their initial campaign promises due to changes in situations after the campaign. Sometimes politicians will not follow through with their initial plans and programs so that the public interest is not harmed. A politician may not be responsive to short-term popular demands in the name of being responsible regarding long-term goals. In doing so the incumbent, rather than severing representative links with voters, is acting for the voter.

Given information asymmetries between voters and representatives, it is unquestionably a hard task for voters to assess representatives' performance. The fact that politicians will try to convince voters that they did well while in office and sometimes will masquerade facts to their own advantage aggravates voters' inability to pass judgment (Ferejohn 1990, Kuklinski 2000).

Nonetheless, Pitkin argues that politicians must be able to explain to voters why they did not respond to popular demands in the short term. The dilemma, then, from the voters' perspective, is to evaluate whether the politician is acting in the voters' interest or if the politician is, instead, trying to take advantage of his/her power position to increase his/her personal gain. Moreover, voters have to undergo this calculus in environments with imperfect and incomplete information. Hence, voters have to cope with a very demanding task during elections.

Pitkin goes on to argue that even though politicians are unable to follow strictly the demands of the public all the time, they must do so sometimes. Politicians must also have good excuses for ignoring the public will when they shirk initial promises (Pitkin 1967). Eventually, voters will necessarily punish politicians that fail in justifying their actions and convincing voters that they acted on behalf of the public interest. This is exactly what distinguishes democracy from other forms of government: the population periodically evaluates politicians (Pitkin 1967, Przeworski, Stokes, and Manin 1999). If a politician has consistently ignored the demands of

his/her constituency or has been unable to justify his/her shirking, at some point in time the population will remove the incumbent from office. Even incumbents who masquerade facts, are not able to do so forever if there are other alternatives and competition in the political system.

Accountability is exactly related to removing from office inefficient, dishonest, incompetent politicians and it is central to understand the conception of representation as “acting for”. Accountability takes effect when politicians who don’t “act for” the general public are booted from office by voters. Accountability, therefore, is the mechanism through which representation is assured. In sum, without accountability, there is no representation.

Przeworski, Stokes and Manin argue that voters sanction politicians based on ex post assessments of incumbents’ performance in office (1999). That is, accountability involves a voting rationale based on retrospective evaluations of incumbents. The belief is that voters are minimally aware of what their representatives are doing in office and that politicians, in turn, believe that voters are paying attention. In fact, the mere prospect that a politician might be removed from office for wrongdoing is seen as enough to keep him/her from engaging in opportunistic behavior (Przeworski, Stokes and Manin 1999, Mayhew 1974). However, if voters are not looking, the latitude for wrongdoing increases. The argument is that voters must have minimal levels of information to be able to sanction politicians, to set them accountable.

But, there are also other voting rationales. These same authors argue that voters may adopt an ex ante approach, in which they rely on prospective evaluations of campaign promises instead of holding incumbents accountable for their past behavior (Przeworski, Stokes and Manin 1999). This is a choice that is not necessarily related to punishing incumbents for wrongdoing. In a more recent book compiled by Stokes (2001), several authors point out to other criteria voters engage in when judging their representatives. Voters can have an

intertemporal posture, where they will forgive incumbents who offer hardship in the short run in exchange for bonanza in the future. Voters may also have an exonerating posture, based on the belief that present hardship is attributable to previous administrations.

Even though the vote calculus may be based on distinct premises, there is a problem with the argument that representation, and therefore democracy, can fully exist without accountability. As Pitkin has argued, representation is risked if incumbents are constantly reelected without being judged for their past behavior. Voters' electoral choices require at least some kind of evaluation of incumbents, based on knowledge of incumbents' performance, and some information about challengers' proposals and records. My view is that voting is not a one-dimensional act. It involves evaluations of incumbents as well as of challengers; retrospective as well as prospective. It has become common knowledge that voters are incompletely and imperfectly informed about the political system (Stokes 1999), but some minimal informational requirements are necessary for voters to evaluate candidates for elected offices (Downs 1957, Fiorina 1981, Delli Carpini and Keeter 1991). If voters are ignorant of the options they have, i.e. unaware of challengers and poorly informed about incumbents, the amplitude for shirking is great.

What voters must know about candidates and incumbents, though, varies by institutional setting (Lupia and McCubbins 2000). Lupia and McCubbins argue that the characteristics of the party and electoral systems are fundamental ingredients in affecting the amount of knowledge voters have and the role information plays in electoral choices. If parties are not strong signaling devices about candidates' preferences, then they will not serve as useful shortcuts. If the electoral system generates too much complexity, with many parties and candidates competing, obtaining information may be harder than in simpler systems.

Following this argument, my view is that the incentives and constraints to learn and the role of information in elections varies by institutional environment. Hence, the discussion of the role of political information and how it matters for voting decisions must necessarily be bounded by space and time. It is conditional by the institutional setting voters are embedded in.

The Brazilian legislative elections, which is the focus of this study, has multiple parties, multiple seats in contest by electoral district and several candidates competing in each district. Furthermore, candidates' names and parties are not written in the ballot. Voters must enter the voting booth knowing the names and candidate identification numbers in order to vote. Certainly the Brazilian system generates a particular set of learning incentives and constraints for voters. These specific incentives and constraints will be discussed ahead, for now it suffices to claim that there are three minimal informational requirements that allow voters to hold representatives accountable in the Brazilian setting.

First, voters must be able to recognize their representatives. In order to judge their representatives, voters must know who the representatives are. This is especially so because voters must know the names and identification numbers of candidates when they cast a vote in the electronic ballot and there is more than one candidate per party competing in the elections. Therefore, knowing the party alone is not sufficient.

Second, voters must be able to evaluate the incumbent's performance in office, even if only in very generic terms, or identify which political party he/she belongs to. If not, there is no basis for judgment, because there is no way to credit or punish incumbents for their actions or that of their parties.⁴

⁴ Following the burgeoning literature on on-line processing (Lodge, McGraw e Stroh 1989, Lodge, Steenbergen e Brau 1995, Rahn, Krosnick e Breuning 1994), I do not expect voters to know any factual details about their representative's behavior, such as voting on specific roll calls, credit claiming for disbursement of federal largess or position taking on national issues. The goal is to verify if voters are minimally capable of recognizing

Third, voters must be able to differentiate between incumbents and challengers. If voters do not know what the alternatives available are, there is no basis for choice. Hence, voters must be able to recognize some of the candidates competing in the election. If any of these conditions are not met, it is improbable that voters will be able to hold politicians accountable. The diffusion of information about the political system is a cornerstone of electoral accountability (Santos 1998, Delli Carpini and Keeter 1996).

Notice that none of these tasks are extraordinarily demanding and none require detailed levels of information. The requirements mentioned above are all related to basic information about the actors of the political process. They can be seen as the necessary conditions for accountability in the Brazilian political system.⁵

In the US, as Lupia and McCubbins (1998, 2000) argue, ignorance about the names of incumbents might not be a sufficient indicator of voters' inability to make choices. Since only one representative is elected per district and most belong to one of either two parties, knowing his/her party might suffice. On the other hand, in Brazil, recalling the name you voted for in the previous election and knowing if a candidate is an incumbent or a challenger are central, if not the only ways, of setting incumbents accountable.

Hence, the quantity and type of information necessary to make decisions varies by institutional environment. This dissertation contributes to this debate by testing how different types of environments affect voters' gain of basic information about incumbents and challengers during elections. The information I focus on are simply the necessary requirements for making

Representatives and candidates and express some judgment about them. The idea is that voters store evaluations, not facts.

⁵ Adaptations of the minimal informational requirements are necessary for the study of other political systems. Nonetheless, it is possible to identify these requirements in every political system. It is also reasonable to claim that the necessary requirements for the Brazilian system apply to other elections where there is more than one candidate by party, where more than one representative is elected and where there are several parties.

an electoral choice. That is, it refers to knowing the different actors in the political system and having basic information about their political stands and past performance.

1.3. Contributions to the Study of Latin American Politics and Some Disclaimers

In addition to the broader debate about accountability and representation, this dissertation aims at making a contribution to the study of legislative politics in Latin America. This is an area of inquiry that has seen great improvements in the last decade. There are several studies about executive legislative relations and the role of the executive branch in the policymaking process (Mainwaring and Shugart 1997, Crisp 1997, Morgenstern 2001, Cox and Morgenstern 2001, Amorim Neto 2001, Siavelis 2001, Pereira 2000, Ames 2001). We also know more today about how political parties influence the functioning and organization of Latin American legislatures (Figueiredo e Limongi 1995, Mainwaring and Scully 1997, Mainwaring and Liñan 1997, Mainwaring 1999, Ames 2001, Nacif 2001, Jones 2001, Kulisheck and Crisp 2001, Carey 2001, Santos and Renno, forthcoming).

The role of federalism in affecting the lawmaking process (Samuels 2000, 2001) and representatives' careers (Samuels 2003) has also seen great development. In addition, there are several studies about how electoral rules affect Federal Deputies' performance in office (Ames 1995, 2001), career choices (Leoni, Pereira and Renno, forthcoming), and electoral success (Ames 1995, Samuels 2001a, 2003a, Pereira and Renno 2003). Finally, we know a great deal more about how distinct institutional settings influence the overall functioning of democracy and affect policy outcomes (Jones 1999, Cox 1995, Shugart and Carey 1992, Carey and Shugart 1995, Shugart 2001, Johnson and Crisp 2003).

However, we know very little about voters' behavior regarding legislative elections. Very few studies of voting behavior in Latin America focus exclusively on legislative elections and rely primordially on data collected directly from voters, such as survey data.⁶ Despite the central role voters' play in deciding elections and in defining standards of accountability, voters' preferences and knowledge about candidates are still missing links in the study of Latin American legislative process. A central motivation of this dissertation is to start to fill this gap.

In addition to its intrinsic importance, the study of voting behavior in Latin American legislative elections can also contribute to advance our understanding of broader theoretical issues. For instance, given that Latin American political parties are generally weaker than their American and European counterparts (Mainwaring and Scully 1997), there is more variation in the strength of party cues in Latin America than in the traditionally studied countries. Hence, how voters' learn about politics and candidates in environments where parties are weaker sources of information is a pressing question.⁷

Furthermore, in Latin America electoral districts tend to have magnitudes greater than one. That is, more than one representative is elected per district. In such environments, voters have to learn about and choose among various distinct alternatives, not just the restricted set of two, which usually is the case in single-member electoral districts. Therefore, the study of voting behavior in Latin American legislative elections also offers the opportunity of evaluating

⁶ There are studies about electoral volatility (Lawson and McCann 2003) and vote choice (Stokes 2001, Domingues and McCann 1996, Kaufman and Zuckerman 1998, Domingues and Poiré 1999), but most focus on executive branch elections and evaluations of incumbent parties. Those that study legislative elections, such as Moreno (1999), Cinta (1999), and Dominguez and McCann (1996) do so not for a specific theoretical interest in legislative elections *per se*. Cinta actually states that the study of a legislative election, instead of a presidential one, is a limitation of his study (175, 199). Furthermore, these studies focus on voting for party lists and not for candidates and do not take the impact of environmental variations in vote choice into account.

⁷ There are studies in the US that focus on elections where party cues are not so evident. However, these studies focus on direct legislative elections (Lupia 1992, 1994, Gerber and Lupia 1995) and not on candidate evaluation. When they do focus on candidate evaluation, the emphasis is on elections of nonpartisan posts, like superintendent of public instruction (Shaffner and Streb 2002).

the impact of a distinct set of electoral rules on voters' ability to learn about politics and to make electoral choices.

The fact that the number of candidates and parties competing exceeds two opens the opportunity for differently testing a central claim of the discussion about elections and democracy; i.e., that electoral competition increases voters' ability to hold representatives accountable. This issue has been best laid out in Mayhew's discussion about the fear of the vanishing marginals in the US. The idea is that lack of competition insulates incumbents from popular pressure and demands. Consequently, incumbents' responsiveness to constituents is hindered as well as constituents' interest in the elections and ability to obtain information about incumbents (Mayhew 1974a, Jacobson 1983). This argument, however, has been made only with the US case in mind, where increases in electoral competition only mean the entering into the electoral arena of a strong challenger. Given the low turnover rates in the United States, even such scenarios are rare.

In most of Latin America, and Brazil in particular, competition is usually between more than two candidates. The variation in electoral environments is much greater in Latin America and presents voters with very distinct sets of incentives and constraints. A generalizable theory about voters' ability to hold their representatives accountable in democratic regimes must incorporate the environmental heterogeneity that surrounds voters. Latin America offers great opportunities to compare the impact of distinct institutional settings in voting behavior, which has been pointed out by several authors as one of the new frontiers in the study of voting behavior (Kuklinski 2002, Lupia and McCubbins 1998, 2000).

In sum, the study of the relationship between electoral competition and accountability has only to gain with the analysis of contexts where there is more variation in the number of

serious contenders by locality, where incumbent advantage is not as pervasive as in the US, and where most parties do not have strong “brand names,” to use Lupia and McCubbins’ term (1998). Does the theoretically predicted positive and linear relationship between electoral competition and voters’ ability to hold representatives accountable apply to such systems?⁸

Finally, the literature about clientelism is rich in examples of how clientelistic ties between voters and politicians plague Latin American democracies (Archer 1990, Banck 1999, Fox 1974, Grindel 1977). Some authors have pointed out to the negative implications of clientelistic ties in mining citizenship rights and perpetuating a long tradition of corruption, income inequality and poverty in Latin America (Fox 1997, Chalmers, Martin and Piester 1997). An exploration of how voters’ learn about their candidates and what criteria they use when making voting decisions is a central factor in deciphering how voters hold representatives accountable. Do voters base their choices on party identification, ideology and concerns with national issues or are local level concerns, like casework and patronage, the main influence in vote choice? Do voters use the information they have about incumbents when making their electoral choices? Answers to these questions are important to characterize the bases of the ties between representatives and voters in Latin America and may offer insights about the problems of corruption, inequality and poverty that are chronic in Latin America.

This dissertation seeks responses to the above questions. More precisely, this is a study of how voters embedded in distinct institutional environments and social contexts learn about their representatives and candidates for lower house legislative offices, how such information is used to evaluate candidates, and how it affects voters’ final electoral choices.

⁸ Gerber and Lupia (1995) have argued that increases in competition are neither necessary nor sufficient for more responsive postelection policy outcomes in direct legislation elections. They evaluate competition by examining the presence and absence of a ballot measure opponent.

As opposed to other studies of Latin American legislative elections (Ames 1995, Samuels 2003a, Pereira and Renno 2003), I explore the factors that influence incumbents' electoral success and how distinct electoral contexts affect voters' choices from the voters' perspective. The emphasis is not on the electoral strategies politicians adopt, but on how voters cope with the task of choosing a representative. The focus is exclusively on mass politics. Therefore, the actors studied are voters. How candidates' campaign and how they use their resources to get their messages across to voters plays a marginal role here.

A last disclaimer: The emphasis of this study is not on how voters process the information they have access to. It is not about the cognitive mechanisms, the brain calculations employed in information processing. This is a study about how outside sources affect voters' collection of information about candidates and incumbents during elections. The main goal is to test how distinct political environments affect voters' access to information (Sniderman 2000, Kuklinski et al 2001) and how such environments affect voters' familiarity with candidates (Bartels 1988). To employ Lupia, McCubbins and Popkin's words (2000, 13), this is an investigation of how external elements of reason, which are "incentive-altering forces outside the body, such as social norms and political institutions," affect voters' collection of information.

1.4. Electoral Complexity

The main question that this dissertation addresses is how voters learn about politics during electoral campaigns in complex electoral environments (CEE)? By CEE I am referring to a context where at least some of the following are present: voters weakly identify with parties, multiple parties exist, more than one seat is in dispute by district, and many candidates run for

the same office. Obviously, there are gradations of electoral complexity, defined by the extent of concomitant occurrence of the above factors. Nonetheless, an environment with at least a few such characteristics does not correspond to Sniderman, Brady, and Tetlock's (1991) description of the political system in the United States, where voters are able to pick up effective cues during electoral campaigns because the "world of politics is so organized" (Sniderman et al. 1991, 29). In the United Kingdom, also an extensively studied country, electoral disputes are even less convoluted than in the US (King 1997).

More recently, Sniderman (2000) has actually proposed an interesting experiment with implications for the study of comparative politics:

"Transplant Americans to a political order where – whether because of the chaos of institutions or the enfeeblement of ideology – the structure of political choice sets is either more complex or more obscure than here (the US) and they will have still more difficulty in grasping the order of politics."

This dissertation tests Sniderman's proposition: Obviously, not by transplanting a big enough sample of Americans to a distinct political order. Instead, by verifying how voters' behavior varies under environments with distinct configurations in political orders where the structure of choice sets is more complex than in the US.

Several Latin American countries provide excellent opportunity to test the above hypothesis. Political parties in most of Latin America are weaker than their American and Western European counterparts (Stokes 1999, Mainwaring and Scully 1996), proportional representation is very common (i.e., more than one representative is elected per district) (Nicolau 1999) and democracy is incipient. The motivation of this research is to extend the studies of information diffusion during electoral campaigns and voters' use of heuristics to political systems with CEEs, such as those of Latin America.

A more specific theoretical puzzle that emerges from this discussion asks whether electoral complexity hinders voters' ability to set their representatives accountable. Can distinct environments impose cognitive limitations that restrict voters' ability to acquire information about candidates?

A central indicator of complex electoral environments is high levels of competition between more than two candidates. Conventional wisdom argues that more electoral competition linearly increases the visibility of candidates and the saliency of elections (Mayhew 1974a, Campbell et al. 1960, Rahn 1993), hence increasing voters' access to information (Zaller 1992). The existing literature, focusing primarily in the case of the US, argues that the relation between competition and voters ability to set representatives accountable is positive and linear. This dissertation tests the impact of electoral competition on voters' levels of information about candidates and incumbents in contexts where increases in competition are not just from one to two candidates, but where the number of serious contenders competing in a locality varies from one to ten.

Does the traditional hypothesis that there is a positive, linear relation between voters' familiarity with candidates and electoral competition hold when the number of candidates is greater than two and political parties do not provide strong cues about candidates? Since various countries around the world have adopted proportional representation electoral rules and where parties are more ephemeral than in the US, a generalizable theory about the impact of electoral competition on voters' ability to learn about candidates must consider the existing heterogeneity in environments where voters are embedded.

1.5. The Brazilian Case: Heterogeneity in Electoral Environments

The 2002 election for the Chamber of Deputies Brazil offers the perfect opportunity to test hypotheses about the effects of CEEs on voters' capacity to evaluate candidates. This is so not because Brazil is a most likely case for the existence of CEEs, but because electoral rules, party system, and local histories in Brazil allow for subnational variation in levels of electoral competition and party strength. Brazil has an electoral system that stimulates voting on candidates instead of party lists and where multiple seats are allocated by district (Open-list Proportional Representation - OLPR). In addition, the party system until the 2002 elections had very low entrance barriers, allowing for the existence of multiple political parties. Finally, electoral districts are at-large, corresponding to the boundaries of states. Just as an example, in Minas Gerais, a very important electoral district, 554 candidates from 27 different parties ran for 53 seats in the 2002 legislative elections.

Notwithstanding these astronomical figures, competition is less intense in specific regions of Minas Gerais. Two factors lead to local level variation in electoral complexity inside electoral districts. First, candidates tend to concentrate their votes in specific localities that they share with other candidates, creating a situation where the number of candidates campaigning varies by locality (Ames 1995). Candidates, then, concentrate their campaign efforts in "informal" districts, where only a few candidates are actually able to get their names and proposals across to voters. Second, there is also regional variation in levels of party organization. Parties in some municipalities and states are better organized than in others. Hence, I can study CEEs in a comparative perspective within the Brazilian case.

Whereas cues emanating from political parties and the number of viable candidates per district are relatively constant in the UK and US, this is not so in Brazil. The comparison of

localities with different levels of electoral competition as well as strength of party cues, holding constant other factors, can broaden the theoretical scope of the discussion about the impact of electoral environments on voters' ability to learn about politics and set their representatives accountable. Sub national variation in patterns of electoral competition and party strength found in Brazil assure heterogeneity in environmental complexity.

The study of Brazil helps illuminate the impact of open-list proportional representation on voter/representative relations. Studies that focus on the electoral strategies of incumbents have emphasized that those who win re-election tend to rely more often in constituency service than in involvement with national level issues (Ames 1995, Pereira and Renno 2003). This leads Pereira and Renno (2003) to claim that voters' judgments about their representatives are based on more pragmatic issues, such as transferring federal monies to specific municipalities, than on ideological ones, such as voting inside Congress. Accountability standards seem to be based on local level demands. Samuels has also claimed that campaign expenditures play a central role in affecting electoral success, weakening even further any form of accountability (2001a). These findings tend to focus on the limits of accountability imposed by an electoral system that the literature points out as possibly creating gaps between voters and representatives. However, if voters are still able to learn about candidates, even in complex electoral environments, this may shed new light on how the Brazilian electoral system works.

1.6. VI. A Model of Information Acquisition in Complex Electoral Environments

The central variables that compose an explanatory model of information acquisition in proportional representation elections are the number of candidates competing in a locality,

strength of party cues, access to distinct sources of information diffusion, both of an impersonal as well as a personal nature (Mutz 1998), and voters' individual predispositions and motivations. The general idea, which will be explored in more detail in future chapters, is that environments directly affect voters' information gain during campaigns as well as conditions the impact of individual level variables. The main characteristic of political environments discussed here is the number of candidates competing in a specific locality.

1.6.1. Number of Candidates

A central component of a CEE is the high intensity of electoral competition among multiple candidates. As I have said, the Brazilian political system allows for variation in electoral fragmentation by locality. Levels of competition are measured by a count of the number of candidates receiving votes in a specific locality. Molinar's (1991) number of parties (NP) index was adapted to the Brazilian OLPR elections to serve as indicator of the number of viable candidates competing in a locality. This index offers a way of evaluating how competing candidates share the votes of a locality. The difference between the traditional use of this index and the one applied in this research is that I will count the number of candidates, not parties, receiving votes in each neighborhood. Therefore, I use this index as a proxy for number of candidates.

Given that competition can be measured as a continuous variable (number of candidates competing in a locality) and not merely as a dichotomous one (presence or absence of a strong challenger, which is how it usually is conceptually devised in the US) this allows for more varied tests of the impact of electoral competition on voters levels of information about their candidates. For example, I can test if number of candidates has a non-monotonic impact in voters' levels of knowledge about candidates and incumbents. That is, instead of being linear and positive, as the

studies of the US indicate, in the presence of an elevated number of candidates, the relation between competition and accountability may be curvilinear.

1.6.2. Party Strength

The organizational capacity of political parties and their level of influence in local politics affect the complexity of the electoral environment. Party cues will clearly be a stronger aid to voters if parties are important political actors. Variation in the levels of party organization will be central contextual factors in influencing voters' ability to deal with the complexity of electoral competition. The hypothesis is that strong party cues increase voters' ability to learn about candidates, independent of the number of candidates competing in the system. It is also assumed that the strength of political parties should be reflected by voters' identification with parties. Therefore, where party identification is stronger, voters will rely more heavily in party cues. The relation between party identification, on one hand, and voters' levels of information, on the other, should be linear and positive.

1.6.3. The Electoral Impact of Civil Society Associations

Civil society associations may also serve as a source of information for voters. Where civil society associations are more active and influential, voters should have stronger parameters to judge politicians because they potentially have more information about the political system (Putnam 1993). If such associations tend to emphasize personalistic relationships with representatives, instead of demanding public benefits from politicians through institutional means, then voters' capacity to judge their representatives may be limited to personal gains instead of public goods (Gay 1994).

Neighborhood associations may also distance themselves from elections purposely, in order to maintain a neutral position and in that sense gain more independence from elected politicians. Such independence may pay off, because civil society associations avoid the risk of supporting a candidate that may lose the election, latter having to negotiate group demands with politicians they did not support in the elections. Hence, the impact of civil society associations in voters' ability to learn about candidates is also open to empirical investigation.

In addition to the traditional forms of civil society engagement customarily analyzed, such as participation in neighborhood associations, church groups, sports groups, labor unions and political parties, I will also investigate the impact of the Participatory Budget as an instance of civil society mobilization. The cities that serve as loci for this study have adopted a very creative mode of governing based on the direct participation of citizens in the formulation of the municipal investment budget, called the Participatory Budget (*Orçamento Participativo*) (Santos, 1998; Abers, 1998).

Baiocchi argues that this style of governing synergizes civil society by creating the opportunity structure for a more efficient influence of both organized civil society and individual citizens in the government's budgetary decisions (2000). In addition, the Participatory Budget also serves the purpose of educating citizens about the functioning of the government as well as increasing the transparency of the budgetary process (Santos, 1998). Hence, the Participatory Budget creates a public space for the discussion of both politics in general and, more specifically, the performance of incumbents. The OP increases the likelihood of information diffusion about the political system (Baiocchi, 2000).

1.6.4. Traditional Means of Information Diffusion

According to Beck, “contemporary political life is dominated by two types of intermediaries – personal networks and the mass media” (1991, 372). These final two sources of information should have distinct impacts in voters’ ability to learn about politics in CEEs. I expect personal networks – family and friends – to be more influential than the written and electronic media in affecting voters’ levels of knowledge about Federal Deputies. The reason for this is that candidates for Federal Deputy receive very little coverage from the media. Voters will probably learn more during the campaign from conversations with their friends, family and activists than from television news broadcasts and newspapers.

1.6.5. Ideology

Finally, individuals’ ideological predispositions should affect their familiarity with candidates. In multiparty systems like Brazil, the ideological orientation of parties serves as cue for the different partisan policy positions (Pappi 1996, 264). It is easier for voters to know if a party is in favor of or against the government or if it has a leftist or rightist inclination than knowing exactly what are the specific policy proposals of the parties.⁹ Hence, if voters feel ideologically close to a party’s position, this piece of information can be an important shortcut that instructs voters when making their electoral choice. There is no consensus on the electoral behavior literature in Brazil about voters’ ability to use ideological and partisan cues (Baker 2001, Almeida 2001, Soares 2000, Singer 1998, Meneghello 1994, Lamounier 1980).

In summary, the political determinants of voters’ ability to hold their representatives accountable are related factors that conceptually should be measured in distinct levels of

⁹ Canache, Mondak and Conroy (1994), in their study of the multiparty 1989 Honduran election, find that ideology is an important indicator of vote choice, more specifically for those who vote for leftist parties. Furthermore, they find that the aggregate opinion of the neighborhood of dwelling reinforces personal inclinations to cast a leftist vote.

analysis. In a more aggregate level, environmental aspects of the political system, such as electoral competition and pervasiveness of party cues cannot be ignored. In the individual level of analysis, voters' attention to distinct sources of information, personal political predispositions and prior levels of knowledge are the main explanatory factors. Therefore, a more complete analysis of learning about politics and vote choice is necessarily an investigation that incorporates distinct levels of analysis. A research design that incorporates variation within and between levels of analysis is the most appropriate way to tackle such issues.

1.7. Research Design

In order to test the hypotheses mentioned above, I participated in the design and collection of a unique data set that is part of a broader project coordinated by Barry Ames. The primary data source is a panel study of voters with measures collected in three points in time during the 2002 Brazilian elections. The units of analysis are individuals and aggregate as well as individual-level independent variables were included in models that explain voters' information about candidates and vote choice.

The selection of subjects follows the logic of a natural experiment (Babbie 1989). First, variation in the strength of party cues is maximized through the selection of two cities – Juiz de Fora and Caxias do Sul – similar in socio-economic and demographic terms, but very distinct when it comes to levels of political party organization. Second, variation in electoral competition is obtained by randomly selecting neighborhoods that were stratified by number of

viable candidates campaigning in each, controlling for population size and income.¹⁰ Subjects were then randomly selected inside neighborhoods with differing degrees of electoral competition and in cities with different levels of party organization. This strategy maximizes variation in the characteristics of the environments individuals are embedded in. It guarantees that voters are exposed to distinct stimuli.

In other words, this research compares the role of distinct covariates of political information and vote choice in two Brazilian mid-size cities that vary on the complexity of the electoral environment but are similar in socio-economic terms.¹¹ A most similar systems design was employed in the selection of the cities, which is the first step in defining the sampling frames. Cities were selected allowing for variation in a main explanatory factor, in this case variation in the complexity of the electoral context, holding constant extraneous sources of explanation, i.e. demographic and economic factors (Przeworski and Teune 1981).

The political system of Juiz de Fora in the state of Minas Gerais is organized around individual political leaders. Politics is carried out mostly on a personalistic base and parties are weakly institutionalized (Reis with Barboza Filho 1978). Interviews with members of different parties in Juiz de Fora during the summer of 2001 confirmed the organizational weakness of parties and the preponderance of personalized leaderships.

On the other hand, Caxias do Sul in Rio Grande do Sul has a long tradition of an institutionalized party system polarized by two clearly distinct ideological positions that are

¹⁰ Electoral data by voting section, which is the lowest level of voting records aggregation available in Brazil, was collected in both cities and then aggregated to the neighborhood level. Molinar's number of party index was then calculated for each neighborhood. I would like to thank the Center for Latin American Studies of the University of Pittsburgh for support of preliminary research in both cities during the summer of 2001.

¹¹ Educational levels, levels of wealth, size of voting population, and migration levels are similar in both cities. The cities are different in the size of their rural population, 10% in Caxias and 2% in Juiz de Fora, but the sample will only include urban populations, so this difference is not so important. Data on SES available from the Base de Informações Municipais, Instituto Brasileiro de Geografia e Estatística. See table 8 in the appendix for detailed data on demographic and SES characteristics of the cities.

intimately related with social class disputes (Trindade 1978, Cew 1978). Parties in Caxias are well structured and activism is quite strong. Interviews with activists in preliminary phases of this research indicated that four parties (PT, PDT, PMDB, PPB) have well-organized municipal offices and carry out meetings and events with certain regularity. The best example is the Workers' Party (PT) with two full-time secretaries and a full-time President, all paid by the party. Such an environment, with stronger party cues and a polarization between the Workers' Party and a coalition of the other parties, more clearly approximates Sniderman et al.'s definition of an organized political system, where cues are more evident and efficient.

A second stage in defining the sampling frame was the selection of neighborhoods. As I have pointed out above, candidates concentrate their votes in specific localities and tend to share such localities with other candidates. There are neighborhoods in which only one candidate gets most of the vote or the number of candidates that share the neighborhood votes is small. There are others where the vote is fragmented among several competitive candidates. Taking advantage of this situation, we selected a stratified sample of neighborhoods based on size and income. In neighborhoods where the vote for Federal Deputy is fragmented, it is possible that it is harder for voters to obtain information about all the various campaigns.

Once the neighborhoods were specified, census maps inside each neighborhood were randomly selected. Inside the areas defined by the census maps, households were selected using a selection interval and, finally, inside households a respondent was randomly selected using the last birthday criteria. A gender quota in the household level was established to assure equal representation of men and women.¹²

Twenty-two urban area neighborhoods in each city, selected according to their political competition characteristics controlling for SES variables, served as loci for the selection of

¹² See table 9 in the appendix for indicators of the data collection process.

survey respondents.¹³ In order to measure the aggregate opinion of the neighborhood, approximately 100 interviews were carried out in each.¹⁴ This permits the assessment of how the neighborhood contextual opinion affects access to political information (Huckfeldt & Sprague 1995).

1.8. Dissertation Outline

In addition to this introduction, the dissertation contains five other chapters. The next two chapters focus on the theoretical foundations of the hypotheses listed above and on how they are operationalized. The main hypotheses are derived from theories about how contextual and institutional factors provide cues for voters – a central component of what became known as the political heuristics school (Sniderman et al 1991, Lupia et al 2000, Kuklinski et al 2001, Lupia 1992, 1994, Lupia and Gerber 1995). I contribute to this discussion by analyzing the impact of complex electoral environments in affecting learning and voting.

A second strand of literature that influences this study focuses on the discussion about how access to information influences voters electoral choices (Bartels 1988, Zaller 1992, Huckfeldt and Sprague 1995, Mutz 1998, Alvarez 2001). The core of this debate is which source of information diffusion plays a more decisive role in instructing voters and affecting their electoral choices. Finally, I also borrow from the literature on how voters' individual

¹³ Data about the neighborhoods SES characteristics has been obtained in the Mayor's office of both cities. Data on political competition, measured by the results of the 1998 elections for the Chamber of Deputies was obtained in the Regional Electoral Courts in Porto Alegre and Belo Horizonte, the capitals of Rio Grande do Sul and Minas Gerais respectively, and in the Municipal Electoral Precincts of Caxias do Sul and Juiz de Fora.

¹⁴ Two of the larger neighborhoods in Caxias do Sul and Juiz de Fora had around 200 respondents selected in each in order to increase their proportionality in the sample.

predispositions, either of a partisan or ideological nature, filter the information received (Zaller 1992).

The subsequent two chapters provide empirical evidence of learning processes during the campaign and test models of familiarity with candidates and vote choice. Chapter 4 tests the main hypotheses of this study, focusing on the covariates of the voters' levels of information. Chapter 5 develops and tests models that explain vote choice for Federal Deputy. Chapter 6 concludes.

2. Chapter 2: Approaches to the Study of Information, Voters and Environments

2.1. Introduction

Voting behavior studies emphasize the impact of three main factors that affect voters' choices: individual predispositions, information, and environmental characteristics. All three factors were considered in the pioneering studies on voting behavior that took place in the United States in the 1940's and 1950's (Campbell et al. 1960, Lazarsfeld et al. 1944). An impressive literature, probably the most prolific in political science, has further developed theoretical expectations about how individual predispositions, information and environments relate to each other and affect voters' preferences.

The purpose of this chapter is to discuss the main approaches to the study of these three central concepts of voting behavior that will orient the analysis of the Brazilian case. First, I focus on the classical studies of voting behavior, which set the tone of the entire research agenda. I then proceed to more recent studies that focus on the role of information in elections. The emphasis here is on the disagreement of recent scholarship on the amount of information voters need to make choices.¹⁵ Some argue that voters do not need much information. Others dispute this claim, arguing that more information is always better. However, an important point that emerges from this literature – and one closely related to the second main theoretical issue discussed on this chapter – is that environments condition the amount and type of information voters have access to.

Finally, I discuss how environmental factors affect the acquisition of information and vote choice. I will then raise some problems of current studies that focus on environmental

¹⁵ Extensive literature reviews about the main discussions that spurred from the initial studies in voting behavior abound. For some very interesting ones see Alvarez and Brehm 2002, Sniderman, Brody and Tetlock 1991, Bartels 1993, Sullivan, Rahn and Rudolph 2002.

factors, which I intend to confront in my own analysis of the Brazilian case. The bottom line is that the main problem with current studies of information acquisition is the lack of comparative investigations of environmental impact in learning processes.

2.2. Classical Studies of Voting Behavior

Early studies of voting behavior defined the main questions and theoretical issues that still puzzle scholars and motivate an ever-growing debate about vote choices. The studies can be divided into three main strands of research: The Michigan School, centered on research headed by Converse, Campbell, Miller and Stokes; the Columbia School, which has Lazarsfeld, Berelson, Gaudet and McPhee as main researchers and the work of Anthony Downs, which is an interface between politics and economics. Each of these different strands of research emphasized distinct aspects of the triad predispositions-information-environments. But all attempted to deal with normative questions about citizens' competence to vote and hold representatives accountable for what they do in office.

Individual predispositions and information are the essence of the concept of voters' political sophistication, a key idea to understand the debate about the structure of mass beliefs and its influence in vote choice, a topic dear to the Michigan School (Converse 1964). In the *The American Voter*, the classic work by Campbell, Converse, Miller and Stokes (1960), the focus is on individual predispositions. The idea of constraint is central to explain citizens' political sophistication. A constrained belief system is one in which predispositions (values, beliefs, opinions) correlate with each other and are organized in a hierarchical manner. That is, there are

some core values that affect general opinions about issues, which then guide specific policy choices, in a hierarchical structure that moves down from more abstract, ideological concepts to concrete policy preferences (Campbell et al. 1960, Hurwitz and Peffley 1984). Sophistication is related to the organization and content of ideological preferences.

Michigan scholars come to very pessimistic conclusions about voters' belief systems and the ideological underpinnings of vote choice. In their view, voting is based only on vague impressions about candidates based on long lasting attachments to political parties and not on issue preferences. Voters do not know the issues of the day; much less have a stand on them or know candidates' positions. The emphasis is on how belief systems are organized. Information is just a component of individuals' personal predispositions.

On the other hand, the idea of sophistication in the view of Lazarsfeld and his colleagues at Columbia University is closely intertwined with voters' levels of information, not the mental structuring of individuals' predispositions. Opinion leaders are voters who hold more information about the campaign. They obtain information through the media, and because they are more aware about politics, they exercise influence over other voters. Lazarsfeld et al. referred to this process of information diffusion as the two-step flow of information (1944).

However, voters who are more prone to obtain information are also the ones who already have consolidated views about politics. Therefore, according to Lazarsfeld and colleagues, information obtained through the media during the campaign only activates and reinforces previous views about politics. Preference instability, i.e., opinion change, occurs mostly among voters who are inattentive to the media and have weak political links to organizations and parties. That is, independent (no party preference) and inattentive voters are the most prone to being persuaded. These voters were a minority and were the ones most prone to be influenced by

opinion leaders in the Erie county study. Hence, in the view of the Columbia School, information and previous predispositions interact in influencing vote choice.

In a totally distinct approach to the study of voting behavior, Downs applied concepts of economics to the study of vote choice (1956). He argued that the act of voting is irrational because the impact of each individual vote has a very limited influence in the outcome of the election and because obtaining information about the elections is extremely costly for voters. The “rational ignorance” argument, based on the idea that the costs of obtaining information outweigh the benefits, would later serve as the basis for approaches that relaxed assumptions about how much voters need to know about politics to cast a “rational,” reasoned vote¹⁶. Given that the costs of obtaining information are high, voters rely on simplification strategies to make decisions. One of these simplification strategies is to guide concrete electoral choices by partisan affinities, which are constructed over time based on past experiences with the parties, what Downs refers to as the party differential. Hence for Downs partisanship is more decisive than specific information about politics.

In all of these studies, some more explicitly than others, the idea that environments affect incoming information during the campaign is always present. Early studies focused extensively on the impact of factors related to the political environment, such as the context of campaigns and how previous, concrete experiences with the political system affect vote choice. The pioneering studies of voting behavior already advocated a clear idea that environments, mostly related to campaign events and current affairs of the period, affect voters’ views about candidates. Subsequent discussions about campaign effects (Holbrook 1994), about the role of personal networks and context (Huckfeldt and Sprague 1995), about informational environments

¹⁶ Rational and reasoned are used interchangeably following Lupia and McCubbins (1998). Both refer to choices that involve consideration of different alternatives and rely on available information.

(Rahn et al. 1994, Kuklinski et al. 2001) and about the conditioning impact of institutional determinants in the effectiveness of cue sources (Lupia and McCubbins 1998) all emphasize the role of environments.

It seems that none of the authors above would disagree that voters need to have some information to make their electoral choices and that the acquisition, retention and processing of information is affected by individual predispositions as well as by the context in which voters are imbedded. More specifically, individual predispositions affect how information will be used and how influential it will be in vote choice. Environments, on the other hand, condition the amount of information available for voters. Therefore, any model about how much voters know about politics and how they gain information about candidates during an election must incorporate voters' predispositions and the characteristics of the environments.

2.3. Shortcuts or Full Information: What do Voters Need?

What voters need to know, though, is a matter of debate. In fact, Niemi and Weisberg (2001) argue that how much information voters should have is a central controversy in the study of voting behavior.

There are basically two main competing views. One side argues that assumptions about the necessity of full information should be relaxed. These authors rely on some of Down's points about the costs of information and directly criticize Campbell et al.'s negative view about voters' levels of sophistication. This strand of research, which became known as the Heuristics School (Kuklinski et al. 2002), argues that voters only need minimal amounts of information to

make decisions.¹⁷ The main argument is that the political system offers a series of informational shortcuts and cues that instruct voters about candidates' positions and preferences. Because information is costly and the value of voting is low, voters have no incentives to become fully informed about politics. Hence, voters satisfice, they rely on summary evaluations to simplify their decision process. They take shortcuts to decide. As the argument goes, voters are able to make reasoned choices even with minimal information.

The normative appeal of this approach is undeniable. Nonetheless, some authors are critical of the idea that heuristics, cues, suffice to instruct voters. Basically, those who criticize the heuristics school claim that voters with lower levels of information do not vote or act in the same way as more fully informed voters. Consequently, information leads to different vote choice; usually one that is more moderate (Luskin et al. 2003) and based on issue preferences.

2.3.1. Heuristics

The heuristic school of voting behavior clearly incorporates the teachings of Anthony Downs about the costs of information gathering and innovates by incorporating lessons from cognitive psychology regarding the mental tasks related to information processing. A common trait of this literature is that explanations about vote choice require attention to the processes voters undertake when evaluating political candidates (Rahn 1993). This literature seems to agree that people use taxonomies, schemata, cues, stereotypes, and shortcuts to reduce uncertainty about the world (Sniderman et al. 1991, Popkin 1996, Rahn 1993, Mondak 1993, Huddy and Terkildsen 1993, Lau and Redlawsk 1997, Lupia and McCubbins 1998, Lupia,

¹⁷ I will not discuss here the view, also linked to the Heuristic schools, which argues that aggregation processes of public opinion repair individual level inconsistencies by canceling out individual errors and therefore, that aggregate analysis of voting behavior provide distinct insights about the structure of mass beliefs. The focus of my dissertation is on individual level behavior and not on collective performance. For a detailed discussion of the properties of aggregate level analysis of vote choice see Page and Shapiro (1992). Bartels (1993) and Luskin (2002) probably offer the best structured criticism of this approach.

McCubbins and Popkin 2000). In this way, voters make the most out of the limited information available and rely on their affect towards specific political groups as guides for vote choice.

Mondak offers a valuable summary of the main conjecture of the Heuristic School: “if the individual does not possess the motivation and the ability to engage in deliberative evaluation, then the use of cognitive efficiency mechanisms is likely” (Mondak, 1993; 188).

Sniderman, Glaser and Griffin (1990) were among the first to develop fully the idea that voters rely on strategies of minimizing the burden of obtaining information about elections and that voters use minimal quantities of information to make their decisions. Their main view is that voters rely on specific sources of information, like partisanship, when evaluating candidates. In the American system, where partisanship is correlated with other important aspects of the political system such as ideology and policy preference, relying on partisanship as a mechanism for choosing candidates is a form of summarizing various distinct types of information. One of their central points is that less informed voters are satisficers: They use only the bare essential amount of information to make a decision, instead of making choices “based on a comprehensive survey and elaboration of the full array of possible alternatives” (Sniderman et al. 1990, 131). To use Lupia’s words, voters do not need “encyclopedic knowledge” about politics in order to make choices that take into consideration different alternatives and the limited information available (1993).

Political parties are a central source of information. In political systems like the American, where the choice set is simple, partisanship is a good proxy for candidate policy preferences (Sniderman, Brody and Tetlock 1991, Sniderman 2000). Parties are a central source of informational shortcuts for voters because they serve as signaling devices of candidates’ preferences, issue positioning and ideology. Parties are sources of candidate stereotypes that

help voters organize their views about politics. In this way, partisanship is also an important organizing device that aids citizens in better understanding the political world.¹⁸

Popkin is another strong defender of the view that voters are capable of understanding and thinking critically about politics. “Citizens have premises, and they use those premises to make inferences from their observations of the world around them” (Popkin 1991, 7). Common citizens use information shortcuts and rules of thumb to obtain information about politics in order to minimize the costs of the process, not because they are simple-minded. The influence of Downs’ discussion of rational ignorance is blatant in Popkin’s view: When the costs of obtaining information are high, voters will rely on shortcuts that minimize effort. Popkin innovates by claiming that campaigns are central in affecting the cost of information. His point is that campaigns can change the salience of issues in two ways; by providing better connections between issues and offices in dispute and by increasing the perceived difference between rival candidates (Popkin 1991, 15). Hence, in some instances information is more readily available.¹⁹

Individuals tend to be ambiguous about their central values and do apply cognitive shortcuts in their decisions, but this does not mean that they ignore issues when choosing (Popkin 1991, 218). Citizens use timesaving strategies to get information. One example is to follow the suggestions of friends who have more access to information, as in the Columbia School’s two-step flow of information. Voters also rely on the personal characteristics of candidates as proxies for candidates’ political records, such as a reputation of competence,

¹⁸ It is clear here that the discussion about heuristics is intimately related to previous studies that started to incorporate aspects of cognitive psychology. I’m referring to works that apply schema theory to voting behavior (Feldman and Zaller 1984, Hamill, Lodge and Blake 1985).

¹⁹ Popkin’s point is in fact closely related to Fiorina’s (1990) discussion about the availability of information in current societies. In Fiorina’s view, information does not cost as much today as it probably did in the past, simply because it is more readily available.

honesty and hard work.²⁰ Therefore, personal traits are fundamental to make connections between issues and candidates.

In agreement with Sniderman et al.'s position, Popkin also argues that parties offer very strong cues about candidates and are an efficient mechanism of facilitating the evaluation and judgment of candidates. In this way, a main advance proposed by the Heuristics school is that it turns the Michigan School argument about political parties on its head. Parties are no longer seen as a residual category that supplants issues when voters make their electoral decisions. Instead, parties are signaling devices, providing summary information about candidates' issue preferences. Political parties are important actors in the system because they provide voters with simplified information.

The heuristic schools also shifts attention to the cognitive processes involved in acquiring, storing and using information. Rahn (1993), for example, contrasts two models of information processing; theory-driven models, which rely on the use of party stereotypes, and data-driven models that are issue oriented and more extensively rely on campaign information. In theory-driven models, information is largely confirmatory. What is against one's preferred party or candidate is ignored. In data-driven models, voters are more strongly influenced by information obtained through the campaign. The environment of the election conditions the use of the distinct processing strategies. Low motivation settings with high costs of obtaining information increase the likelihood of relying on a theory based model. On the other hand, information inconsistency between party stereotype and candidate information leads to a data based model. The model voters finally adopt is influenced by the context of the election.

Lodge, McGraw and Stroh (1989) refer to similar mental processes as memory-based strategies and on-line models of information retrieval. The basic distinction is that in memory-

²⁰ Rahn (1993) more fully explores aspects of candidate evaluation.

based models individuals make decisions based on facts collected in the past. On-line model, or impression-driven model, relies on the storage of previous judgments, previous evaluations of candidates and not the facts that lead to the evaluations. On-line models also defend the idea that individuals use current information to confirm prior evaluations. Voters' preferences bias the retrieval of information; positions voters favor are attributed to their most preferred candidates.

However, it must be clear that the on-line model is not an indication that issues and campaigns do not matter in voters' decision-making process (Lodge, Steenbergen and Brau, 1995). The on-line model combines the previous personal biases and old information with new information made available by the campaign. Even though the content of the message might be lost over time, it does not lose its impact on the voters' judgment of politicians and parties. Evaluations are constantly being updated by new information, and previous opinions influence the interpretation of new information. Consequently, voters are still responsive to the campaign and to candidates' position-taking in relation to issues, but this is mediated by the "running tally" of stored impressions.

Finally, Rahn, Krosnick and Breuning (1994) come to a similar conclusion in their discussion of rationalization processes. The authors ask whether survey respondents' answers to open-ended questions about candidates' like-dislikes reflect derivation processes based on memory retrieval or if these answers are in fact rationalizations of the likes-dislikes based on the respondents' previous identification with the candidate. If the former is true, then memory-based models are more accurate descriptions of voters' preference formation. If the latter is true, then on-line models are better descriptions of voters' decision-making process. Their findings support

the view that respondents' answers are rationalizations to prior evaluations of the candidates. Only late deciders tend to use derivation and memory-based models of decision-making.²¹

In sum, the debate about information processing indicates that voters tend to rely on on-line, theory-based approaches to the use of information, which leads more often than not to rationalizations of vote choice. That is, voters tend to store final, overall evaluations of candidates and these are biased by voters' previous experiences and stored information about politics. This is why endorsements are so important in elections. The reasoning is that voters who like specific groups or personalities will also like the candidates these groups and personalities endorse. This is the essence of the likeability heuristic proposed by Sniderman et al. (1990). Furthermore, voters tend to use information very selectively. Voters rationalize their vote choice in an a posteriori process of assuming candidates' positions without knowing details about such positions. Nonetheless, these assumptions are based on prior information and on the cemented biased views voters' hold about the political system.

Last but not least, a central and very forceful argument advanced by the Heuristics School is that voters who have lower levels of information vote in a similar way as those who have full information. Lau and Redlawsk attempt to identify if voters feel they voted correctly by simulating voting behavior first with limited information and then with full information (1997). Correct vote is defined as one "that is the same as the choice which would have been made under conditions of full information" (Lau and Redlawsk, 1997; 586). Through an interactive experiment, the authors evaluate voters' strategies of filtering information. First, they overwhelm their subjects with different kinds of information about mock candidates. Second, they force the

²¹ This finding is completely in odds with the findings of Lazarsfeld et al. (1944), who claim that late deciders are voters who neither base their choices on predispositions or on extensive memory-based processes based on campaign facts. Instead, late deciders are the ones least interested in politics and more prone to the influence of opinion leaders.

subjects to choose the most relevant information. Third, the subjects vote on their preferred candidate. Finally, subjects determine if they voted correctly after being given a full set of information about the candidates and being asked if they would still cast the same vote. If subjects still voted as they did before, then they would be classified as having voted correctly (Lau and Redlawsk, 1997; 589). The premise of this study is that voters themselves are the only ones who can actually judge if their vote was correct or not.

Having defined the dependent variable of their study in this way, Lau and Redlawsk go on to try to predict the accuracy of the vote based on the congruence between voters' values and beliefs and the characteristics attributed to the candidates. In fact, the congruence between individuals' values and candidate traits explains to a great extent voting correctly. Hence, knowledge of voters' beliefs and their evaluation of candidates are sufficient in determining if the individual voted correctly. In the experiment, 70% of the subjects voted correctly, both in their own view as well as by the authors' predictions based on voters' beliefs.

A core point of this research strand is that voters who rely in minimal amounts of information end up acting in the same way as voters who are fully informed. All authors discussed above argue that heuristics are sufficient to allow for instructed decisions and that early studies' normative assumption that voters need to be fully informed in order to carry through their democratic task is exaggerated. Voters do not need to be fully informed; they can very efficiently come to decisions using a restricted amount of information that offer cues and signals about candidates. We all use cues and shortcuts on our daily decisions. Why would it be different in politics? Furthermore, information processing is strongly affected by previous predispositions and memory processes are less common than the storing of final, considered evaluations. According to this stream of research, voters store evaluations, not facts.

2.3.2. Fully Informed Voters

Several authors have disagreed with the view posed by the Heuristic School that less information is equivalent to full information. Their main criticism is that voters who are fully informed, or approximately so, display distinct political preferences than voters who aren't fully informed (Luskin et al. 2002). Another point, defended by some authors, is that information reduces voters' uncertainty about candidates' policy positions, therefore aiding in voting choices (Alvarez 2001, Alvarez and Brehm 2002). Voters also tend to avoid voting for candidates they know less about (Bartels 1988). Hence, more information is always better than less.

Larry Bartels offers one of the first and most thorough criticisms of the Heuristics School's view that low information is irrelevant for the electoral process (1993). Bartels simulates the behavior of a "fully informed" electorate and compares actual voting behavior to this hypothetical baseline. One of his main arguments is that studies of the Heuristics School have failed to provide evidence that mass publics do in fact overcome knowledge limitations by using minimal amounts of information. Furthermore, in direct reference to Gerber and Lupias's work on direct legislation elections (1993), Bartels points out that voters who have encyclopedic information about politics vote quite differently from those who base their decisions on cue information.

Bartels concludes that uninformed voters perform better with minimal information than they would if they had no information at all. However, they perform differently from fully informed voters. Levels of information affect choices differently. As Bartels claims, "whatever the sources of aggregate discrepancies between actual vote choice and hypothetical 'fully informed' vote choices may be, however, they suggest very clearly that political ignorance has systematic and significant political consequences" (1993, 220).

Luskin, Fishkin and Jowell embrace Bartels' claims and test how individual political behavior varies depending on levels of information by using Deliberative polling experiments (2002). Deliberative Polls are experiments in which a representative sample of a population, in their study the British one, is brought together to spend a weekend learning and discussing politics. Before and after the experiment, subjects respond to questionnaires that contain items measuring their levels of information, opinions about specific issues and vote intentions. "A Deliberative Poll is designed to show what the public would think about the issues, if it thought more earnestly and had more information about them" (Luskin, Fishkin and Jowell 2002, 458).²²

Like Bartels, Luskin et al. find that changes in opinion before and after the experiment are impressive. Among other changes, in this specific experiment that focused on criminal punishment opinions regarding the harshness of sentences became more moderate with higher levels of information. Positive views on the respect of procedural rights of accused were also overall strengthened. Hence, after learning about the discussed issue in more detail, subjects' opinions changed. The authors also make sure that the change in opinions are due to informational gains (acquisition of more information), than to other factors, such as group influence. In a multivariate analysis of acquisition gain, controlling for group influence, they find that learning processes lead to changes in opinions.

On a more theoretical level, Luskin forwards some of the most acid criticism of the use of heuristics (2002). His first point is that informational shortcuts are information nonetheless and that they are not equally accessible to all citizens. Not all voters have access to heuristics and are able to meet some of the requirements imposed by informational shortcuts. For example, and in reference to Brady and Sniderman's (1985) likeability heuristic, voters might not have a defined opinion about an issue and might not know which groups he or she likes. Hence, the imposition

²² Italics in the original.

of attributes and policy stances to groups based on ones own preferences, which is the essence of the likeability heuristics, places high informational requirements on voters.

His point is that more information is always better. More sophisticated voters see policy and vote options more clearly, are able to make leaps from specific information to broader issues, and know group positions more accurately. In fact, Luskin goes on to argue that most studies focusing on information levels point out that very few voters are able to use shortcuts as they are defined by the Heuristic schools. Furthermore, only voters who are sophisticated and have a broader knowledge about political facts use informational shortcuts. These same publics are the ones who are able to make “correct” choices, and they are only a minority of the population.

Alvarez (2001) and Alvarez and Brehm (2002) have also provided intense defenses of the role of information in elections. Their view, more broadly expanded in Alvarez and Brehm (2002), is that information has two direct effects in voting behavior. First, it reduces uncertainty. Information gives voters more precision in their evaluation of politicians’ behavior and reduces ambiguity about issues. Second, information is central to persuasion and opinion change (Alvarez and Brehm 2002, 29). Voters must be presented with new information in order to be persuaded about some policy or have their opinions regarding a candidate altered. Building upon Zaller’s (1992) and Lazarsfeld et al.’s (1944) works, Alvarez and Brehm argue that information affects voting behavior by making some specific political predispositions more salient than others. That is, information activates and reinforces certain values and predispositions.

Delli Carpini and Keeter also stress the importance of information in elections (1996). They argue, both on theoretical as well as on empirical grounds, that information matters to the quality of public policy being enacted. Voters must know at least who the actors of the political

process are, what are the issues being discussed and what are the rules of the game and the institutional framework that orients how actors behave. Delli Carpini and Keeter also provide evidence that information about these facts tends to be strongly inter-correlated. That is that voters who know some of these points, tend to know all of them. The problem is, the distribution of knowledge throughout society is unequal (Delli Carpini and Keeter 1989, 154). Even though most citizens are generalists and they know a little bit about several distinct domains of public information, there are clear group differences in political knowledge.

The clear problem of unequal access to information arises when such inequality mirrors other inequalities. If voters are not equally capable of defending their own interests and if information allows them to do so, and if these same groups are already the least benefited by the political system, then the basic tenants of democracy are in check (Delli Carpini and Keeter 1989, 155). The authors find reinforcing forms of inequality in the American society: “men are more informed than women; whites are more informed than blacks; those with higher incomes are more informed than those with lower incomes; and older citizens are more informed than younger ones” (Delli Carpini and Keeter 1989, 157). What is even more worrisome, in their view, is the stability of the knowledge gaps over time. The same groups are always less informed.

It is clear from the above discussion that there is a controversy about how much information voters need to have in order to perform their main democratic responsibilities. All would agree that more information is better, but some argue that voters who know little still are able to make “correct” decisions. Others claim that information in the form of heuristics and cues is not widely distributed, and those who rely on it act differently from voters who have

more information. Convincing empirical evidence has been amassed on both sides, granting it almost impossible to come to a final conclusion about which side is right.

One must not lose sight of the fact that at least some information is necessary to allow voters to make their decisions and that even these minimal amounts of information are not universally available. A first question, then, is what affects the distribution of information amongst voters? Are there systematic differences in levels of information in the electorate? Another, altogether distinct question is what is the impact of information in vote choice? In other words, do voters who have different stocks of information behave differently? These are the central questions that orient the data analysis on chapters 4 and 5.

A central explanatory factor for the variance in information levels and the role of information in elections is the environment in which voters are embedded. Recent developments in this literature have indicated that answers to the questions above are conditional upon the characteristics of the environments voters are embedded in. Hence, in addition to individual predispositions, the environments voters are embedded in strongly affect learning processes and vote choice.

2.4. Environments and Information

Luskin (2002) and Kuklinski (1986 and 2002) are among some of the scholars who have defended a shift in the analytical focus of the discussion about information and elections from how much information voters need to have to how environments condition access to information and the role information plays in voters decision making. Explaining how voters obtain information and how information affects vote choice is as a central question in the study of voting behavior. In fact, studies that rely on survey data have attempted to model vote choice in

a two-step estimation process. First, scholars model the acquisition of information and then model vote choice using informational levels as a determinant of choice. I adopt this strategy in chapters 4 and 5.

The emphasis on explaining variation in informational levels and the impact of environments on information naturally gives the debate about political psychology a more comparative flavor. The study of environments and context is, by its nature, one of comparison of distinct aggregate attributes that influence individual behavior (Przeworski and Teune 1980). Therefore, the focus on political environments calls for a comparative approach to the study of political psychology. When talking about how distinct environments condition individual behavior, one is necessarily engaging in the comparative analysis of the influence of macro-structures in micro phenomenon.

The main point that will be discussed in this section is that current analyses focusing on the impact of the environment on voting behavior have not correctly incorporated the macro level in their analysis exactly because they do not engage in comparative studies of environments. I argue two points based on the literature. First, most studies fail to fully incorporate in their models the multilevel nature of the study of political environments and voting behavior. Second, most empirical studies fail to measure environments as a higher level of analysis, one that encompasses voters. By failing to model voters as subsets of political environments, the current literature is unable to estimate fully the impact of environments on individual behavior.

2.4.1. Environments or Contexts?

The impact of environments is assessed in different ways when it is incorporated in models that attempt to explain voters' preferences and levels of information. (Huckfeldt and

Sprague 1995, Delli Carpini and Keeter 1989, Nicholson 2003, Kuklinski et al. 2001, Rahn et al. 1994, Sniderman et al. 1991, Lupia and McCubbins 1998). Nonetheless, a common trait of these studies is that environments affect the availability of information and condition the complexity of the choice set presented to voters. The explicit idea is that individuals are nested in specific settings and that these settings generate incentives and constraints that mold individuals' learning and choosing abilities.

Delli Carpini and Keeter have argued that two external factors that mold voters' preferences are the informational and political environments (1989, 2009). Informational environments refer to the role of the traditional mechanism of information diffusion; television, radio, newspapers in propagating news about the political system. The emphasis is on how media coverage of current events aids voters in learning about politics. Political environments, on the other hand, refer to the mobilization of citizens around political issues and the role of parties and activists in distributing information about politics. They find that both affect citizens' levels of information.

In addition to the role of different mechanisms of information diffusion in distributing information, Delli Carpini and Keeter also point out to the role of systemic, institutional determinants of variation in individuals' informational levels. Such determinants refer to the ways in which the political system organizes the distribution of information and how historical disadvantages of certain groups affect their access to information. The emphasis is more on institutions and how they mold behavior and less on the specific mechanisms of information diffusion, i.e. media and personal networks.

Sniderman, Brady and Tetlock (1991) and Lupia and McCubbins (1998) have indicated that political institutions affect voters' levels of information and condition their learning

processes. Sniderman et al. argue that the complexities of the environment in which citizens are embedded are intimately related to voters' ability to obtain and use information. When the choices voters face are more clearly and simply structured by the institutional setting, then voters have more ease in dealing with the amount of information.

Following the lead of Sniderman et al., Lupia and McCubbins (1998) have argued that the role of important sources of informational shortcuts, such as political parties, should vary depending on the institutional setting that structures the functioning of parties and electoral rules. For example, parties will be more effective in aiding voters in institutional settings that restrict the number of competing parties and that increase their relevance in the electoral process. Such is the case of electoral systems based on single-member plurality districts. An electoral system that stimulates parties to create a "brand name" distinguishing it from other parties clarifies the choices available for voters. Parties become efficient sources of cues when they actively organize the functioning of the political system. Conversely, where parties are weak, voters have more difficulty in learning about politics. In their words, "nonpartisan elections seem to us a classic example of an institutional environment that hinders reasoned choice" (Lupia and McCubbins 1998, 225).

Lupia and McCubbins also argue that electoral competition can create the conditions for learning (1998, 208). Competition creates the possibility of verification of politicians' claims and actions, increasing voters' ability to evaluate and judge politicians. However, competition is also conditioned by institutional characteristics of the political system and about the messages sent out by distinct competitors. In environments where competing messages are obscure or hard to identify and, therefore, are not effective in persuading voters, then more competitors will not aid voters in learning about politics.

Competition at the environmental level may also affect vote choice directly. As Mayhew argued, competition may decrease incumbency advantage in single-member districts (1974). When there is a strong challenger, voters may have more access to information, which increases their ability to better judge incumbents.

Probably Huckfeldt and Sprague (1990, 1995) and Huckfeldt with a series of distinct co-authors (Huckfeldt et al. 2002, Beck et al. 2003), who have more clearly explored the impact of contexts and environments in vote choice. An initial important distinction is between environments and contexts (Huckfeldt and Sprague 1990). Borrowing from Eulau's work (1980), Huckfeldt and Sprague propose the following definitions:

“... an environment is a structured setting that shares one or more common characteristics: spatial boundaries, political functions, institutions of governance, political organization and so forth. In contrast, a context is defined in terms of an environment's social composition and the resulting consequences of social composition for social interaction and the social transmission of information and influence” (1990, 25).

Hence, environments are the systematic characteristics of the political system of which Delli Carpini and Keeter (1989), Sniderman et al (1991) and Lupia and McCubbins (1998) talk. Environments are exogenous to voters' preferences, to their patterns of interaction and to the social composition of the spatially defined area. They are “extraindividual factors” (Huckfeldt and Sprague 1995, 10). Contexts, on the other hand, are a product of the interaction between citizens and are conditioned by the institutional boundaries that compose the environment. Contexts refer more specifically to the transmission of information through personal and impersonal means. Hence, when Delli Carpini and Keeter talk about political and informational environments, they are referring to what Huckfeldt and Sprague call contexts. Contexts refer to the personal networks, the patterns of interaction between citizens and include the role of the media in electoral campaigns. A central claim of this chapter is that in empirical studies,

distinguishing environments from contexts is essential in disentangling the impact of institutions in affecting voting behavior. This also requires that measures of the context should be different from measures of the environment.

2.4.2. The Study of Contexts and Environments

Most studies do not incorporate the environmental level of analysis, as it is described above, in their analyses even though they claim to do so. Environments involve factors that are exogenous to individuals, and very few studies have measured environments in such a way. Huckfeldt and Sprague are probably the exception. In their study published in 1990, they measure environments at the county level by the aggregate vote for the Democratic Party. In their 1995 study, Huckfeldt and Sprague use neighborhood measures of voter registration in previous elections and participation in primary elections (1995, 233). This is an advantage in comparison to other studies of environmental and contextual effects because it clearly incorporates the exogenous, more aggregate level nature of environments in the analysis.

However, Huckfeldt and Sprague's theoretical distinction between environment and context and the use of aggregate level data to measure environmental impact has been consistently overlooked by studies that claim to evaluate environmental impacts. Most studies also tend to focus on the information aspects of environments, and not on the political ones. Environments are commonly understood and measured as information contexts (Rahn et al. 1994). Hence, the predominant definition of environments is what Delli Carpini and Keeter called the informational environment.

For Rahn and her colleagues, the campaign environment is subsumed by the information made available to voters. On their study, based on experiments, they contrast the impact of exposure to political debates and to "infomercials" as different components of the informational

environment. The emphasis is on political communication settings and how their characteristics influence voters' candidate evaluation. Rahn and colleagues focus on the distinct impacts of these formats in voters' attention and the cognitive burden of processing the information made available. Infomercials raise less attention but offer information in a more simple way. Debates, on the other hand, raise more public attention, but are more complex and multidimensional, increasing the cognitive burden of information processing. In spite of their limited operationalization of environments, Rahn et al. defend the interesting point that the complexity of environments hinders voters' ability to learn about politics.

Kuklinski et al. (2001) follow a similar line of inquiry. For them, environments are also defined by the quantity of information available to voters. Political environments are "the totality of politically relevant communication to which citizens are exposed" (Kuklinski et al. 2001, 411). It includes, therefore, statements by candidates, interest groups, public officials and information given through the media. Their main goal is to investigate if voters assess difficult political issues in a more effective way under distinct configurations of the political environment.

Like Rahn et al. (1994), Kuklinski and his colleagues understand that environments can enhance motivation as well as the amount of information available. In Kuklinski's study, variation in environmental characteristics is also achieved through experiments, by controlling for the wording of questions presented to survey respondents. Some were presented with questions that provided cues about expert positions on issues. Others responded to questions that increased motivation to think responsibly about the issue, as if voters were themselves the "responsible public official". Others still were presented only with a simple question about issue trade-off, without any introductory qualifications.

Findings indicate that when the environment does not provide guidance, or only provides motivational incentives to act responsibly, individual levels of cognitive engagement shape decision-making more than variation in informational contexts (Kuklinski et al. 2001, 416). However, when voters are presented with an environment of highly diagnostic information, where they get information about the opinions of experts, they make choices so easily that motivation enhancers are not necessary. Further, less sophisticated voters are able to make trade-offs when presented with more information. In summary, environments facilitate voters' learning processes when they help provide simple, clear sources of cues. It is also interesting that when environments are more complex and convoluted, voters will rely more often on their personal predispositions and prior knowledge to "protect" themselves from the burden of updating their evaluations.

Both of the studies mentioned above come to the comforting conclusion that "the responsibility for improving democratic performance lies not with the citizens themselves but with the elites who shape, and have opportunity to alter, the political environment" (Kuklinski et al. 2001, 423). However, both rely on experiments to manipulate the characteristics of political systems, and neither use data on citizens that are actually embedded in environments with distinct political and institutional characteristics. Furthermore, neither study actually measures characteristics of the political environments; instead, they measure how distinct formats of information diffusion affect voters' judgments. In my view, these studies are referring simply to the role of information diffusion mechanisms. They do not focus on the interactions between citizens, which is in the essence of the idea of context, nor on the institutional characteristics of a locality, in essence what environments are.

Nicholson's study is similar in that "the opportunity for political learning depends on the amount and type of information available in the political environment" (2003, 403). Differently from the above studies however, his analysis of awareness of ballot propositions in direct legislation elections defines and measures the political environment as variation in the characteristics of the political system. Using time-series data, Nicholson assesses how awareness of ballot propositions, measured through surveys collected from 1956 to 2000, varies according to several factors. The environment in which voters make decisions about direct legislation is affected by the election type, midterm or presidential, by the amount of campaign spending, by the amount of media coverage of the proposition, the type of issue being voted, voter fatigue, measured by the number of propositions voted for in that specific election, and a count of days before the election that the question was asked. Clearly, this is an improvement regarding studies that focus exclusively on experiments, because it incorporates actual political factors that characterize the political environment.

Nonetheless, most empirical studies mentioned above, with the exception of Huckfeldt and Sprague (1990, 1995), are not able to measure how variations in the structural characteristics of the environments affect voters choices. This is so because none of them is comparative in nature. Nicholson approximates this goal by relying in variation over time, but he is still limited by focusing on only one case and on direct legislation where the structuring components of the elections, such as competition and partisan cues, are fixed.

2.5. Conclusion

From the discussion about heuristics and full information we learn that voters do not need “encyclopedia” knowledge about politics, but that they need to know some minimal aspects of the political systems. Even if voters rely on shortcuts and heuristics, they must know who the actors of the political system are and must also have some individual predispositions towards specific issues of the day. Hence, voters must have information, even if only elementary, about politics in order to make decisions. The literature has also moved in the direction of analyzing how distinct environments condition voters’ access to information and ability to cope with the amount of information available. The discussion has shifted from how much information is necessary to how environments condition the availability of information. Models moved from a simple specification where information is yet another independent explanation of vote choice to one where information itself is endogenous and is influenced both by personal predispositions as well as environments.

All authors focusing on the study of political environments and voting behavior agree that in systems where the complexity of electoral choices is more complex it is harder for voters to acquire and process information. Rahn et al. (1994) synthesize this argument when they claim that an excess of information can overload voters when that information is not summarized or filtered. Distinct authors agree that environments condition access to information and affect the processing of information. Environments can hinder voters’ ability to learn and can constrain political involvement. Furthermore, environments can also condition the amount of information necessary to make choices. It may be that in simpler environments, where the structure of choice sets is better organized; voters need less information to make electoral choices. Finally, Kuklinski et al. (2003) have argued that when environments are too complex, voters tend to rely

on their previous levels of information and experience with the political system to make decisions. That is, where environments do not provide efficient information simplifying mechanisms, the impact of environments in voters' decision becomes less relevant than personal predispositions.

However, only in a few occasions have environments truly been measured as external to individual behavior. Another, probably more damning problem of the existing literature on political environments is that most empirical studies, again with the exception of Huckfeldt and Sprague, do not analyze the impact of environments and individual predispositions in voters' levels of information as a problem involving multiple levels of analysis. Even though most studies rely exclusively on individual level data, their hypotheses are based on the assumption that specific variables are observed in different levels of analysis.

There is a clear, albeit not always enunciated, hierarchical assumption in the theoretical modeling of how environments and contexts affect individual behavior. Huckfeldt and Sprague clearly discuss this on their work, but they do not use appropriate statistical techniques to evaluate the hierarchical nature of their data. The discussion about environments assumes that voters are subsets of political environments. In this case, environments are the more aggregate, higher level of analysis whereas individuals are the more disaggregated, individual level of analysis. Furthermore, characteristics of the higher level directly and indirectly affect the lower level variables. Unquestionably, this calls forth for an approach that correctly incorporates distinct levels of analysis in the same broad model. All previous studies fail to do so, mostly so because techniques that allowed for the simultaneous estimation of different level variables surprisingly are not as widely used in political science studies as they should.

Because the solution of theoretical problems mentioned above involves the use of appropriate statistical techniques, it is important to highlight how the use of multilevel statistical models can contribute to solve some of the theoretical puzzles in the literature. Steenbergen and Jones (2002) have recently called attention to the substantive and statistical motivations for employing multilevel models in the analysis of political phenomenon. The goal of such methods is to “account for variance in a dependent variable that is measured at the lowest level of analysis by considering information from all levels of analysis” (Steenbergen and Jones 2002, 219). There are a few clear substantive reasons to rely on multilevel analysis. First, researchers can combine different levels of analysis in a “single comprehensive model”. Second, multilevel analysis allows for the exploration of causal heterogeneity. By specifying cross-level interactions, researchers can verify how higher-level factors differently condition the impact of lower level predictors. Finally, multilevel analysis permits more robust tests of the generalizability of the findings. It allows for tests of how results obtained under one setting differ from those obtained under distinct settings (Steenbergen and Jones 2002, 219).

There are also statistical issues in carrying out analysis with different levels of analysis that ordinary multivariate estimation techniques fail to consider. A main problem with using common multivariate techniques is that these ignore the impact of error variance in the higher levels of analysis.²³ If such variance is not taken into account, standard errors can be deflated and researchers can incur type I errors. Multilevel data is clustered data, and observations (and errors) are not truly independent. This violates a central assumption of estimation techniques such as ordinary least squares and analysis of variance. The correlation between errors generated by the hierarchical nature of data collected in multiple levels causes estimated standard errors to

²³ For technical and mathematical details of hierarchical models and mixed models, see Raudenbush and Byrk 2003, Verbeke and Molenberghs 2000, Singer 1998.

be low, leading predictors to have statistically significant impacts when they in fact do not²⁴ (Steenbergen and Jones 2002, 220). The main advantage of multilevel models is that they incorporate error variances, or random effects, of all levels of analysis in the same estimation procedure, hence minimizing type I errors or false positives.²⁵

Hence, multilevel models are a type of mixed regression, where both fixed and random effects are estimated. Such models do take into account the clustered nature of the data and provide adjustments for variance at distinct levels of analysis. Given that the investigation of the impact of political environments on voters' choices and levels of information is a study of multiple levels of analysis, it must take into consideration the random and fixed effects at all levels. Up until now, studies have mostly ignored the impact of random effects and have only estimated the fixed effects of higher-level variables or their surrogates. This is also partially due to the fact that the studies mentioned have not been successful in measuring environments as a higher level of analysis. Environments are measured as part of individual characteristics, which is incorrect by definition.

I address these limitations by incorporating into the analysis of voters' levels of information and vote choice variation in the political characteristics of environments. My study measures the political environment at the neighborhood level based on the level of political competition between candidates for the Brazilian lower house, in two cities where partisan structures are distinct. Using a count of viable contenders in each locality, based on the outcome of the 2002 election, I am able to quantify electoral competition in a political system that allows for high variation in the number of candidates competing in a specific locality. Such variation

²⁴ The technical discussion of mixed models, which is highly oriented to experimental studies, refers to this as false positives.

²⁵ Error terms from higher levels can be incorporated in the intercept of the lower level equations as well as in the slopes of the cross-level interaction terms.

allows for tests of more elaborate hypotheses about electoral competition at the environmental level and its effects on learning processes. In addition, one of the cities has a much stronger tradition of organized political parties, which should reflect at the individual level propensities to identify with parties. Hence, I am able to explore more fully how environmental variation in political structures influence voting behavior and voters' levels of information.

In sum, the current and growing literature on how environments provide cues for voters and condition the levels of information made available for voters have failed in correctly measuring environments as higher levels of analysis and in correctly estimating models that incorporate distinct levels of analysis. Consequently, current studies have not yet been able to assess comparatively how environments with distinct institutional and organizational traits condition voters' learning processes and vote choices. This study gains analytical power because in Brazil local level variation in organization and political structures is much greater than those found in the US. In addition, by relying on a research design that takes advantage of such variation, I am able to develop and test a model that incorporates environmental, contextual and individual level correlates of learning about politics and of vote choice. Given that I also have data from the same respondents measured in three points in time, the dynamic aspects of the electoral campaign and their effect on learning and vote choice can also be evaluated. Therefore, I can evaluate how environments affect not just informational levels cross-sectionally, but also over time, in the course of the campaign.

In the next chapter the model of information diffusion in complex electoral environments is discussed in more detail. It incorporates lessons from the literature discussed above and adapts it to the study of the Brazilian case. I test this model in chapter 4. In chapter 5 I return to the question of the role of information during elections, and I evaluate how information, alongside

environments, contexts and personal predispositions affects specific types of vote choice related to legislative elections in Brazil.

3. Chapter 3: A Model of Information Acquisition in Complex Electoral Environments

3.1. Introduction

A main controversy in the voting behavior literature concerns the amount of information voters need in order to make reasoned political choices. There is a growing consensus that voters do not need to be fully informed about politics. Only basic, minimal levels of information are necessary to guide vote choice. The problem is that even such minimal levels are not equally distributed among voters. There is variation to explain. There is a growing consensus that environments are partially responsible for variation in voters' levels of information.

Even though great progress has been made in theorizing about how environments condition learning processes, advances of a methodological nature are still called for. There are serious limitations in how environments are conceptualized. A flaw of previous studies is that environments are seen and measured as a distinct level of analysis. The goal of this chapter is to develop a model of information diffusion that more appropriately captures and evaluates the impact of environments in the analyses of voting behavior.

Previous models of information diffusion have very accurately assessed the impact of the most variegated sources of information in voters' levels of knowledge about politics. Great advances have been made in identifying the role played by distinct information sources in instructing voters about politics. The model proposed here incorporates this extremely rich heritage and builds upon it by proposing a new way of measuring and testing the impact of political environments. The model proposed here not only incorporates the role of individual predispositions, but also the direct and the conditioning role of environments.

The core hypothesis is that the impact of individual predispositions, such as identification with a political party or talking with others about politics, is conditioned by the complexity of the political environment in which voters are embedded. Huckfeldt and Sprague's (1991) distinction

between environment and context is very useful to increase the conceptual precision of these terms. Environments refer to the external characteristics of a political system, defined by the institutions that frame political participation. Environments are completely independent and exogenous of interactions between voters; they condition the interaction of voters. Hence, environments cannot be measured by the aggregation of individual attributes. It necessarily requires data that is measured in the aggregate level. I rely on election result data at the neighborhood level to measure electoral competition, a central trait of political environments. Political environments are molded by rules and by the historic development of political institutions, not by citizens' interaction in the present. The central aspect of political environments during elections is the competition between distinct candidates. Competition is affected by the rules of the electoral system and by local histories. In the case of Brazil, the number of candidates competing in a locality is the measure of competition that most closely approximates the idea of electoral complexity.

Contexts, on the other hand, are defined by the patterns of interaction between voters. Like environments, they are conceptualized as being external to citizens in that citizens are embedded in different contexts, but contexts are the product of the social interaction between citizens. Contexts are produced by the patterns of communication between voters, by their networking and by how ties between individuals are constructed. Hence, given that contexts are the product of social interaction, they can be measured as an aggregation of individual behavior. I operationalize the neighborhood interactive context by the mean neighborhood level of individuals' frequency of talking about politics. In this study, the impact of both environments and contexts in political information diffusion will be analyzed, alongside with indicators of voters individual predispositions (ability and motivation) to learn about candidates.

In the next section I discuss the correlates of learning about politics. I then discuss the adaptation of such a model to multiparty systems, drawing examples mostly, but not exclusively from the Brazilian case, and calling for a model that includes various sources of political cues. In the last section I define and operationalize the distinct hypotheses.

3.2. The Correlates of Information Acquisition

The effort of modeling the correlates of voters' informational levels must take into consideration two questions: 1) who has higher informational levels and 2) why do some citizens have higher levels of information than others. The model proposed here borrows from previous studies that have tackled these questions. Answering the first question is more clearly related to describing the social, economic and demographic attributes of voters who have higher levels of information. The second question moves the debate to what are the factors that cause voters who have similar social, demographic and economic attributes to have distinct levels of information. Therefore it moves the debate to variables that may differentiate voters on their personal predispositions and the environments they are embedded in. The main concern of the model of information diffusion proposed below is to answer the second question above, but it must control for differences generated by SES and demographic characteristics.

The discussion about who has more information is related to the costs of obtaining information (Alvarez and Brehm 2002, 45). Differences between individuals in informational levels and learning processes are clearly associated with the differing costs of obtaining information about politics. Certain personal attributes increase or decrease the costs of obtaining information. Education, age, gender, employment condition and marital status are related to

general informational costs. This simply means that some voters are more prone to being exposed to information. As the propensity to be exposed to information increases, its costs decrease (Fiorina 1990). Other voters have to struggle to obtain information; information is more expensive for them and they should have lower levels of information.

The discussion about informational gains and differences in informational levels as a cost-benefit problem can be linked to other approaches to political learning in an attempt to formulate a more encompassing theoretical model. It can clearly be related to the view of learning processes based on the ability-motivation-opportunity triad proposed by Luskin (1990). Luskin (1990) has argued that people learn about politics if they have the ability, motivation and opportunity to do so.

Ability refers to the cognitive skills voters have. Motivation refers to voters' interest in searching for information. Finally, opportunity refers to the availability of information and how it is presented to voters. Ability is inherently an individual level variable in that it refers basically to personal characteristics that reduce individual costs of obtaining information. Motivation is also related to individual factors that condition informational levels and also incorporates the idea of costs. For individuals who are less motivated to learn about politics, the chances of being exposed to political information are lower and hence the cost of obtaining information is higher. Finally, opportunity refers to the availability of information in the environment. Opportunities are exogenous to individuals and are defined by the characteristics of the setting in which they are embedded. This clearly means that environments play a role in affecting voters' levels of information.

As Rahn has argued, the cognitive burden of obtaining information increases the cost of information and consequently decreases voters' propensity to acquire information (1993).

Therefore, the triad ability-motivation-opportunity describes different instances that affect the cost of acquiring information. These same three factors orient the analysis of the data in this chapter, but they are operationalized a bit differently from how Luskin proposes.

Luskin (1990) includes in his model of variation in information levels, explanatory variables such as education, occupation, interest in politics and exposure to media. All of which are measured at the individual level. For Luskin, opportunity refers exclusively to access to information and is equated to attention to the media.

Delli Carpini and Keeter (1996) follow similar strategy on their study. They do not employ indicators of environments measured in different levels of aggregation. Their surrogates for environmental conditioning are labeled “structural” and include education, income and politically impinged occupations (Delli Carpini and Keeter 1996, 180). Hence, what for them are structural characteristics, for Luskin is more clearly related to ability. Delli Carpini and Keeter view attention to political news and interest in politics as linked to the motivational aspect of politics. For Luskin, only the latter is; the former is related to the opportunity of learning.

Clearly this triad is closely related to the questions of who has more information and why. But the studies above have difficulty in disentangling the best indicators for ability, motivation and opportunity, because they restrict their analyses to the individual level and because they incorrectly conceptualize the impact of environments.

In my view, ability refers to the personal socio-demographic and economic characteristics of voters: Education, occupation, and employment status being the central ones. Ability is clearly a descriptive factor in pointing out who might have more information. Motivation, on the other hand, is more clearly related to why some people learn more about politics. It provides a partial answer to the second question posed above. Attentiveness to media, exposure to

conversations about politics with activists, propensity to talk about politics, and closeness to a political party are all indicators of motivation to learn about public issues and politics. All of these are direct surrogates for interest in politics. Finally, the second part of the answer for why people with similar personal traits present different patterns of learning about politics is related to the opportunities available. Opportunity, on its turn, directly speaks to the structure of the environment in which voters are embedded. Different environments present voters with distinct learning incentives and constraints.

Ability, motivation and opportunity affect the cost-benefit calculus voters implement when searching for information. Because previous studies do not correctly incorporate environments in their models of informational levels and learning, they incorrectly define the triad ability-motivation-opportunity. In the next section I discuss how the proposed model will incorporate distinct levels of analysis and how the hypotheses designed with the United States case in mind may be adapted to a multiparty environment.

3.3. Multiparty Systems and Sources of Political Information

Multiparty systems generate distinct incentives and constraints for learning compared to two-party systems. Furthermore, single-member districts generate incentives and constraints for voters and politicians alike that are very different from proportional representation systems. All the studies discussed above are based on data collected in a two-party system with single-member electoral districts. It is important, therefore, to highlight how the hypotheses and concepts that orient the above studies travel to other institutional settings.

First, the diversity of cue sources in multiparty systems is greater than in two-party systems. It is naturally more demanding to know about the policy preferences and positions of the distinct political groups when there are more groups to learn about. Hence, the cognitive burden of acquiring and processing information might be higher in environments where there are more political actors. It might be even harder where parties are more ephemeral, hence unreliable sources of information. This is especially true in regimes that have only recently undergone democratization, as in most Latin American cases. Several other mechanisms of information diffusion might be more important sources of cues for voters.

The discussion that follows aims at pointing out the increased significance of incorporating all the distinct sources of information voters have access to in a model that explains voters' information acquisition in multiparty and more complex electoral systems. The main factors discussed are the role of ideology, political parties, the media, neighborhood activists, and engagement in civil society organizations. A correctly specified model must include the diversity of cue sources existent in new democracies.

3.3.1. Ideology, Partisanship and Media

According to Pappi, in a multiparty system the ideological orientation of parties serves as a way of minimizing the difficulty of comprehending all the different partisan positions (1996, 264). That is, it is easier to know if a party is in favor of or against the government or if it has a leftist or rightist orientation than precisely knowing the parties' positions in relation to specific policies. Canache, Mondak and Conroy, in their study of the multiparty 1989 Honduran election, measure ideology at the individual and aggregate levels, and both are important indicators of vote choice, even more so for those who vote for leftist parties (1990). The social transmission of information in the neighborhood and the personal inclination to adopt leftist positions are

fundamental in explaining vote in opposition parties. Przeworski and Soares (1971) come to similar conclusions in their analysis of vote choice based on class attachments in Chile. In fact, these two studies indicate that not only ideological preferences are important sources of cues about candidates, but also that the environment in which voters are embedded play a central role in conditioning the impact of class and ideology in vote choice.

A main concern of the literature on voting behavior in Brazil is exactly identifying how structured and compatible are ideological preferences and partisan loyalties. Throughout the various changes in party systems that happened since the end of World War II, a constant research topic is the evaluation of the ideological underpinnings of party preferences.

Electoral behavior studies in Brazil can be divided by their focus on different moments of the Brazilian history. In the first period, from 1945 to 1964, Brazil had three main national parties, and both Lavareda (1991) and Soares (1965) argue that Brazilian voters had consistently identified with one of these three parties. There was a strengthening of the ideological basis of partisanship and a growing coherence between the class-based support of parties and the policy proposals parties defended. Parties were gaining roots in society and representing the interests of distinct, identifiable social cleavages.

This growing consistency between ideology, partisanship and policy making was brutally interrupted by the 1964 military coup that removed from office the progressive, left-leaning administration of President Joao Goulart. The following period, 1964 to 1979, dominated by an artificially created two party system imposed by the military dictatorship, is marked by studies that highlight three aspects of voting behavior: social basis of vote choice, coherence between present and previous party identification, and the ideological basis of party identification.

Studies in this period are of special interest because they focused on specific cities. In fact, Caxias do Sul (Trindade 1975, 1978, 1980) and Juiz de Fora (Reis 1978), which are also studied in this dissertation, were both part of this research strand that aimed at comparing voting behavior in different Brazilian cities. This research program also included cities in the states of São Paulo (Lamounier 1975, 1978, 1980) and Rio de Janeiro (Lima, Jr. 1978).

In general, these authors were very optimistic about the continuation of class-based party identification. That is, voters from poorer areas of town tended to identify with the opposition party, mainly because of the weak performance of the governing party. Intellectuals also supported the opposition party, however, due to less pragmatic and more ideological reasons: the opposition party stood for the opening of the system to democratic competition. Hence, the idea of the Movimento Democrático Brasileiro (MDB), the opposition party, as the party of reform was quite consistent with the desire of the social groups that supported it.

Scholars also found a certain consistency of party preferences between previous and current party systems. There was a clear continuation in party identification between those who supported the Brazilian Workers Party (PTB) from 1945-1964 and those who supported the opposition party during the military dictatorship (MDB). The same could be said about supporters of the more conservative parties, União Democrática Nacional (UDN) in the previous period, and Aliança de Renovação Nacional (ARENA) during the dictatorship.

However, the optimism that emanated from these findings about the existence of strong party identification was shattered by findings related to the ideological underpinnings of party loyalty. Lamounier and Reis are the ones that most forcefully point out to voters' inconsistent understanding of the parties' specific policy proposals. Voters, especially those with lower educational levels, had difficulty in identifying what were the key policy differences that

distinguished the parties. Party affiliation was defined by vague impressions of how well the governing party was doing, instead of ideological preferences about how the political system should work. Hence, voting appeared to be influenced by retrospective evaluations of the incumbents, to use Fiorina's terminology (1981).

The subsequent period, from 1982 till the present, is marked by the reestablishment of a multiparty system. This period is initially defined by an explosion of civic and political participation, especially in the late 1980's, with the appearance of innumerable small parties. The consequence, indicated by the literature, is that party identification reached its low point and was consistently replaced by direct communication between individualized politicians and voters, based on strong media and propaganda effects (Meneghello, 1994; Rua, 1995, 1997; Lima, 1993; Baquero, 1997; Miguel, 1999).

Authors who focus on this period agree that the growing identification with parties during the previous two decades faded away due to the installment of a party system with low entrance barriers and with the proliferation of parties with no social or ideological basis. During this period, voters seem unable to relate parties with policy proposals, do not identify with any political party, and tend to base their votes exclusively on the retrospective evaluation of governments, what Baquero calls a pragmatic vote, instead of voting based on party proposals (1997). Hence, it can be said that the absence of ideological basis of voters' party preferences, already identified during the military dictatorship, was exacerbated in the beginning of the new democratic regime. In Brazil, voters tend to rely more clearly on retrospective evaluations of politicians instead of in prospective evaluations.

In addition, contingent events occurring prior to elections appear to be very influential in a candidate's victory prospects. The case of the Real Stabilization Plan prior to the 1994

elections that directly contributed to the victory of the Minister of Finance, Fernando Henrique Cardoso (Rua, 1995; Meneghello, 1994), is a paradigmatic example. This is evidence that campaign events and the specific personal characteristics of candidates play a major role in influencing vote choice. When partisan attachments and ideological preferences are feeble, more circumstantial, contingent, factors gain salience in voters' electoral choices.

The massive influence of Rede Globo, the main television station in the country, in influencing the results of presidential elections is customarily singled out as decisive in presidential elections (Lima, 1993; Staubhaar, Olsen and Nunes, 1993; Miguel, 1999).

Despite the apparent consensus about the limitations of ideological predispositions in influencing vote choice, such factors cannot be totally disregarded. In the mid to late 1990's the Brazilian party system has become more stable and voters are more clearly identifying with parties. Carlos Ranulfo, using aggregated electoral data, comes to the conclusion that a process of crystallization of party preferences is on its way (Forthcoming). Andrew Baker, focusing at the individual level, argues that presidential popularity during the second term of the Cardoso administration clearly fluctuates by individual according to more stable preferences (2001), Glaucio Soares (2000) in his analysis of the 1998 elections for governor of the Federal District, point out that policy preferences and ideology were central determinants of vote choice.

Andre Singer (1999) has probably made the most forceful case that voters are able to position themselves in an ideological continuum and that such placements are important determinants of vote choice. Singer also argues that ideological positioning is closely related to partisanship. Voters who lean more towards the left also tend to identify with left wing parties. Finally, self-placement in the left-right ideological continuum correlates, as expected, with certain core values.

However, Singer has been criticized, especially for methodological reasons. Almeida (2000) has argued that voters hold heterogeneous, sometimes contradictory views about the meaning of left and right ideological position. Even though voters may place themselves in such a continuum and this placement correlates with vote choice, voters don't really know what the left-right continuum means. Carreirao (2002) has explored this discussion in more detail by arguing that only highly educated voters can assign meaning to the distinct ideological positions. Furthermore, less educated voters rely less on ideological positions and more on retrospective evaluations of candidates as well as on views about the personal reputation of candidates that provide information about their past performance, such as honesty, administrative experience and efficiency. Hence, the impact of ideology in vote choice, just like partisanship, is open to empirical verification.

Finally, Balbachevsky (1992), in her discussion of the role of political activists as opinion leaders, calls attention to yet another factor that may influence vote choice in Brazil: the role of activists. She finds a strong correlation between party identification and participation in politics. Hence, activists, who are also important sources of political information, disseminate messages that instruct voters about parties' policy preferences and ideological positions. Balbachevsky argues that party affiliation is closely related to higher levels of interest in politics and to discussing politics. This relation is even stronger amongst less educated voters (Balbachevsky, 1992; 148). That is, voters that have some party preference are more participant, prone to talking about politics and influencing others. According to Balbachevsky, this is how the electoral bases of parties are constituted. Since the most prone to talk about politics and convince others are

those that have some kind of party preference, the information they will help disseminate is biased towards the parties they prefer.²⁶

Given the growing party identification with the Workers' Party (PT) in Brazil, as Singer points out, and the potential congruency between ideological and class cleavages with identification with the PT, one can expect that party identification should provide cues about politics. Contact with party activists, as Balbachovsky points out, is especially important. In a similar fashion, those who can self-place in a left-right ideological continuum should also hold more information about politics and should know more about candidates. Nonetheless, in an environment where parties and ideology are not the main sources of information about candidates, the media and personal forms of information diffusion are a central instrument for instructing voters about politics.

3.3.2. Civil Society Organizations

The role of opinion leaders, discussed by Lazarsfeld et. al (1944) in the US and applied by Balbachovsky in Brazil, provides an interesting linking point with the discussion about the electoral impact of voluntary associations. It might as well be that the leaders of these voluntary organizations function as opinion leaders, and that they catalyze party and ideological preferences among the electorate. In fact, Huckfeldt and Sprague (1995) as well as Beck et al. (2002) do point to the role of organizational contexts in affecting vote choice.

The investigation about the electoral impact of civil society organizations borrows from studies of how civic associations enhance the political activism of citizens. Verba, Scholzman

²⁶ Ames' (1998) finding that local level party organizations were important actors in assuring Fernando Collor's victory in the 1989 presidential elections corroborates Balbachovsky's conclusions. In what he called a reverse coattails effect, the support of local party structures and leaders was fundamental for the victory of Collor. Therefore, party structures at the local level do influence election outcomes, even if party identification among voters is weak.

and Brady (1995) focus on how involvement in certain kinds of associations, such as church groups and neighborhood associations, influences individuals' propensity to participate in politics. They come to the conclusion that engagement in civil society organizations increase individuals' likelihood of contributing money and time to political campaigns and to specific issue-oriented organizations. Baumgartner and Walker, on the same vein, argue that when group members acknowledge the political interests of the organizations they engage in, they are more likely to vote and to engage in political action (1988, 926).

In the case of Brazil, two studies about the electoral role of civic associations must be discussed. Gay (1994), studying two neighborhood associations in slums (favelas) of Rio de Janeiro, and Fontes (1996), analyzing two cases in Recife, identify distinct patterns of interaction between leaders of neighborhood associations, politicians and voters.

According to Gay, the two neighborhoods he studied were organized in radically distinct fashions. One presented a pattern of relationship based on clientelistic relationships with politicians; where votes were exchanged for concrete, pork-barrel goods for the slum (favela). The basis of the connection was the personalistic attachment of local neighborhood leaders to specific politicians. On the other hand, the other neighborhood association studied had a more institutionalized relationship with the government and politicians. The leaders of this second association refused to support a single candidate and promoted debates and visits of several distinct candidates to the favela. The neighborhood leaders in this last case were not brokers, they were voters' informants.

Fontes constructs a similar argument, however using aggregate-level data about the number of participants in organizations, their internal structure and the competition with other local level associations. Like Gay, he also points out to two types of activities carried out by

neighborhood associations; one oriented towards channeling demands to the government regarding improvements that benefit the entire neighborhood (*participacao reinvidicatoria*) and another of assisting individual neighborhood dwellers in obtaining private benefits, such as construction material to remodel their homes (*participacao assistencialista*) (Fontes 1996, 45). In both cases, neighborhood leaders adopt distinct patterns of interaction with elected office-holders and with the neighborhood dwellers (voters). There are clear links between *participacao assistencialista* and traditional clientelistic networks based on the exchange of goods for political support. *Participacao reinvidicatoria*, on the other hand, has a pedagogical impact on voters, because it indicates the formal mechanisms of pursuing local level improvements (Fontes 1996, 46).

Furthermore, Fontes argues that participation in associations is very limited, depending mostly on the action of a few community leaders that are responsible for contacting politicians (1996, 52). These leaders become increasingly professionalized, in the sense that they are the ones with the closest contacts with politicians and more knowledgeable about the best ways of obtaining resources from the government. Politicians see these leaders, because of their local influence, as important actors during elections. Hence, there is a bond between local, neighborhood association leaders and politicians (Fontes 1996, 56). In neighborhoods where there is more competition with other local leaders, then the clientelistic relationship between local leaders and political machines becomes less probable. Competition among different leaders and politicians inside neighborhoods is fundamental for the definition of the style the association will adopt.

Both of these studies are important because they point out to the role of neighborhood associations in creating the opportunities for the dissemination of political information through

society. However, the information transmitted is contingent upon the relationship between politicians and local level leaders. Party affiliation and ideology is one of the filters through which the linkages between these actors are established. Another is through the exchange of benefits, in a more clientelistic fashion. Neighborhood associations can function both as innovative means of increasing knowledge about the functioning of the government and the performance of politicians and parties as well as to enhance further the continuation of clientelistic relations based on the exchange of pork barrel policies and casework for votes. In this sense, the impact of neighborhood associations in affecting learning processes and voters' information levels is also open to empirical investigation.

Hence, a model of information diffusion in Brazil must take into account the full set of cue sources voters have access to. These include not just the traditionally analyzed ones, such as partisanship and ideology, but also media, personal networks, contact with activists and participation in organizations.

3.4. Variables and Hypotheses²⁷

My model includes variables that tap the three dimensions pointed out by Luskin as essential components of informational gains: ability – motivation – opportunity. I start by stating the role of opportunity structures in affecting vote choice, then move to factors related to personal predispositions, first by focusing on motivation, then on ability. The goal of the model is to identify both those with higher levels of information about politics and the factors that increase voters' levels of information.

²⁷ See Table 10 on the appendix for the operationalization of all variables included in the analysis of chapters 4 and 5.

3.4.1. Structural Opportunities in Complex Electoral Environments: Party Structures and Ideology at the Municipal Level

The environmental level of the analysis aims at capturing the impacts of electoral competition and strength of political parties in voters' levels of information about candidates and incumbents. The main idea is that the institutional characteristics of environments both condition the role of information diffusion mechanisms as well as directly affecting voters' ability to learn.

A first characteristic of the environment is the strength of party organizations. This variable pertains to the highest level of analysis; inter-municipal differences. The two cities included in this study were chosen exactly because they provide variation in how political parties structure political participation. In Juiz de Fora, where parties are weak and personalistic leaders tend to focus on cultivating a personal vote, voters will learn about candidates in a different way than they do in Caxias do Sul, where parties are stronger sources of information. According to Lupia and McCubbins (1998), where parties are weaker, voters will have more difficulty in learning about politics from political parties and will probably rely on other sources of information.

In Caxias do Sul, where parties are stronger and the Workers' Party (PT) has governed at the local level for two consecutive mandates, party cues should be more effective sources of information. In Caxias do Sul, the ideological polarization between PT and a coalition of parties that are against it is also much stronger than in Juiz de Fora. Hence, ideological cues, which are seen as being stronger sources of information for voters in multi-party systems, should also lead voters to learn more about politics. Therefore, in Caxias voters who identify with parties and who have an ideological preference will probably have more information about candidates than

those with the same characteristics in Juiz de Fora. In statistical terms, the magnitude of the impact of party identification and ideology should be higher in Caxias do Sul than in Juiz de Fora.

- Hypothesis 1: The impact of partisanship and ideology on levels of information should be stronger where parties are better structured and ideological divides are more clear-cut. As a result, these variables should have a stronger impact in Caxias do Sul.

3.4.2. Complex Electoral Environments: Electoral Competition at the Neighborhood Level

The number of candidates competing in a specific neighborhood is the best indicator of electoral competition between distinct political actors. Competition and electoral accountability are intimately linked. Without competition, accountability is at risk. There is not enough incentive for voters to learn about candidates and parties and candidates do not feel pressured to disseminate information about them. But this hypothesis has not been tested appropriately in the literature on voting behavior, mostly because there is not enough variation in levels of competition in the United States, where most studies have been carried out.

The situation is different in Brazil. Ames (1995) has shown that candidates for Federal Deputy have distinct patterns of vote distribution inside Brazil's at-large districts. This creates a situation where the number of candidates competing by locality varies. The same inter-municipal pattern of vote distribution is replicated inside municipalities. Candidates tend to fare better in some neighborhoods than in others, indicating that their campaigning is more successful in some places than others. This also means that the number of candidates campaigning in different neighborhoods varies.

This form of measuring competition allows for more flexibility in formulating hypotheses about the impact of competition in affecting voters' levels of information. The traditional hypothesis is:

- Hypothesis 2: Electoral competition linearly and positively affects voters' levels of information and learning processes.

The essence of this hypothesis is the idea that more competition is always better for democracy and that voters always profit from increases in competition. However, it is possible to imagine other impacts of electoral competition on voters' ability to learn about candidates and incumbents, as Gerber and Lupia (1993) and Lau and Redlawski (2001) point out in their studies. In environments where too many candidates are competing for office, it could be that voters face a situation of information overload. This could dramatically increase the cognitive burden of learning about candidates and could end up reducing voters overall levels of information and motivation to learn. Previous research has already shown that voters choose to learn, that obtaining information is an active process, and that the incentives to obtain information about politics are reduced (Lupia and McCubbins 1998). Environments where the electoral complexity is too high may exacerbate this situation and further reduce voters' involvement with the campaign process. Therefore, it is possible to test a hypothesis of a negative impact of electoral competition on voters' levels of information.

- Alternative Hypothesis 2: Number of Candidates has a negative impact in voters' levels of information.

A Sub-Hypothesis is that the impact of number of candidates on information levels is not constant. In other words, the relation is non-linear. This means that when the number of candidates competing in a neighborhood reaches a certain threshold, increments in number of

candidates no longer make much difference. This hypotheses has been raised by Cox (1996), using aggregate level data. To test for it, a squared term for the number of candidates is added to the model.

A question that necessarily comes to mind is what makes a neighborhood more or less competitive. This is a key issue to understand the independent impact competition at the neighborhood level has on voters' ability to learn. First, it must be said that competition at the neighborhood level is defined based on candidates' electoral strategies and resources. Candidates will try to maximize their electoral chances by competing on places where they think they will receive votes. This is in the essence of Barry Ames' discussion on patterns of vote distribution (1995). Interviews with some politicians in Juiz de Fora lead me to believe that candidates get this information mostly from their campaign activists and sometimes from public opinion polls, even though such polls are very rare in elections for the Chamber of Deputies. The point is that candidates have very poor information about how much votes they think they will get in a specific neighborhood.

A second factor influencing politicians' campaign strategy is the amount of resources, i.e. money, they have. Candidates that are better funded tend to spread out their campaign to all neighborhoods in town. The less fortunate ones stick to specific neighborhoods. This pattern of campaign investment generates a situation where the number of candidates competing in a neighborhood varies.

It must be clear, though, that even though these patterns are influenced by candidates' expectations about voters' electoral preferences, such expectations are not precise. In fact, in the second wave of interviews, only 21% of the voters in both cities already knew in whom they would vote. In short, there is a strong random component in the distribution of the number of

candidates competing in neighborhoods. Candidates who have the resources to campaign throughout the entire city do so. Others maximize their chances by concentrating their efforts in localities where they think they will do better.

3.4.3. Neighborhood Contexts: Talking about Politics

A final aggregate level indicator refers to the characteristics of the context in which voters are embedded. Again, context is a product of the social interaction between citizens. It is related to patterns of sociability in a community that, even though born out from individual action, also has a collective nature. Some contexts are more prone to political information than others. Contexts where voters engage more often in conversations about politics will probably offer more opportunities for the diffusion of information about candidates. In this study, context was measured as the mean neighborhood level of political conversation about politics. This variable was created by first calculating an additive index of individual responses to survey items about patterns of discussing politics with friends, family and neighbors. The neighborhood mean was then calculated and is the indicator of neighborhood context tested here.

- Hypothesis 3: In contexts where voters engage more often in political deliberation, individual levels of information will be higher.

This hypothesis is a test of the effectiveness of political deliberation in increasing levels of information. Voters embedded in a context where talking about politics is common should have more opportunities to obtain information about candidates.

A final hypothesis refers to the conditioning effect of environments and contexts on the impact of motivation to learn in voters levels of information. A central aspect of the discussion about how electoral competition affects voters' motivation to learn is not just by directly providing more information, but also by conditioning voters' interest in the election. Hence, it is

necessary to verify if environments and contexts condition the impact of individual level variables such as partisanship, ideology, media attentiveness, engagement in civic associations, etc.

- Hypothesis 4: The impact of individual level traits related to motivation to learn is conditional upon values of competition and mean neighborhood conversation.

The direction of the conditioning impact of environments is a matter of empirical verification. One possibility is that as the number of candidates increase, voters become more motivated to learn. Therefore, voters who are embedded in competitive environments should have more information than voters living in environments with little competition. In more competitive environments, individual level differences should not matter much in discriminating between individuals. In other words, individual level variables such as education, gender, political awareness should be weaker discriminators of levels of political information among voters when competition is more intense. This is derived directly from Mayhew's (1974) and Zaller's (1992) discussions about electoral competition and information.

It is also possible that as the environmental complexity increases, attachment to political parties, endorsements, and ideology become more effective mechanisms of summarizing information about candidates. In this case, as the number of candidates increase, the complexity of the electoral system also increases and it becomes harder for voters to learn. In such environments, voters will be more tempted to rely on summary information about candidates offered by political parties or other sources of heuristics. The practical consequence is that individual level variables like having a party identification or an ideological position will more strongly affect voters' ability to learn.

The remaining hypotheses tested are all measured at the individual level. A first set of individual level indicators refers to personal predispositions that may affect the motivation to gain information.

3.4.4. Individual Predispositions: Motivation to Learn

As Zaller has pointed out, personal predispositions serve as filters for incoming information and condition learning processes (1992). For example, more politically aware voters probably have more access to information, but are less prone to be influenced by new incoming information. Hence, some personal predispositions increase voters' ability to obtain more information and to incorporate it more appropriately.

Voters' motivations to learn are clearly related to attentiveness to politics. Party identification and ideological predispositions are indicators of how familiar voters are with politics. These variables are measured as dummies; either the voter has a party identification or not and is able or not to self-place in a left-right ideological continuum. Both increase voters' access to information as well as affect voters' evaluation of new information. Voters' that are initially knowledgeable about politics are harder to persuade if they receive new facts. They tend to have a biased view of politics and these biases influence in the acquisition of new information (Zaller 1992).

- Hypotheses 5: Voters who identify with a party and have a declared ideological preference will have higher levels of information. However, changes in information levels over time will not be as dramatic for these voters because they already start out with a high amount of information and their previous knowledge of politics further limits the impact of new information. Hence, as a campaign

proceeds, voters who identify with parties and hold ideological positions will not necessarily gain more information than other voters.

3.4.5. Exposure to Information Diffusion Mechanisms: Interest in Obtaining Information

Another set of hypotheses measured at the individual level refers to the role of mechanisms of information diffusion in affecting voters' levels of information about candidates. Exposure is here seen as an indicator of interest in politics and is also an indicator of voters' motivation to learn. Usually, motivation is measured as interest in politics based on voters declared interest (Luskin 1990). Given that declared interest is a subjective evaluation of an attitude, it may not translate into actual concrete behavior. Hence, it is better to measure interest through objective measures of behavior, such as media exposition, conversing about politics and participation in forms of collective action.

The role of the media and personal networks is part of a central discussion in the voting behavior literature about personal and impersonal mechanisms of information diffusion (Mutz 1996). Personal mechanisms were first discussed in Berelson et al.'s (1954) pioneer study in Erie County, Ohio. The now famous two-step flow of information is a theoretical construct of how information is transmitted in society. Information about politics is obtained by opinion leaders from the media and then transferred to voters in what became known as the two-step flow of information. Huckfeldt and Sprague (1995), clearly influenced by the Columbia School, focused on how patterns of conversation between voters inside specific contexts affect the distribution of information and ultimately, vote choice.

Impersonal mechanisms are those in which there is no intermediation of the information by other voters. Information is obtained directly from the source (Mutz 1996). The media plays

an important role in this process by transmitting the information directly to the voter. It is through the media that candidates either speak directly to voters, referred to as soundbites, or their actions are brought to the attention of voters. The media may play a role of agenda-setter, defining the themes being discussed, and may frame stories in specific ways, focusing on specific facts or aspects of an event. Finally, these things lead to alteration in voters' perceptions of current issues. Priming, which refers to how voters' perceptions and values are stimulated by the message, clearly affects vote choice (Iyengar and Kiewit 1987). Hence, the media activates voters' values and opinions and can define political facts in specific ways, giving it twists that might not be the most straightforward and obvious ones. Even if the media plays a minimal role in changing voters' opinions about candidates, it is a central source of new information that might increase voters' levels of information about candidates. Impersonal mechanisms of information diffusion have gained a central role in current campaigns and, consequently, in studies of voting behavior.

In the case of the 2002 Brazilian elections, I measured personal and impersonal mechanisms of information diffusion through voters' declared exposure to alternative sources of information. Measures of exposure to impersonal means of information diffusion include frequency of watching television, reading newspapers and watching political ads. All of these factors should have a positive impact in learning about politics. However, they should be less efficient than personal mechanisms of information diffusion given the small media coverage races for Federal Deputy receive.

Measures of personal mechanisms of information diffusion include talking about politics with friends, family and neighbors, and exposure to persuasion attempts by other voters and activists. Exposure to attempts of persuasion is a crucial element in the equation that explains

increases in levels of information (Lupia and McCubbins 1998). Persuasion is based on the dissemination of new information that may change a voter's perception about the campaign and ultimate vote choice. Hence, persuasion also has a pedagogical role during campaigns. Exposure to personal means of information diffusion should increase voters' levels of information about politics and should have a stronger impact than the media.

- Hypothesis 6: Exposure to personal and impersonal mechanisms of information diffusion increases voters' levels of information about candidates. However, as the campaign gains momentum and information becomes more readily available for all, less attentive voters also gain information.

A sub-hypothesis spurs from the debate of information diffusion mechanisms that is very particular to the Brazilian case. In Brazil, voters are exposed to the Free Electoral Airtime (Horario Eleitoral Gratuito – HEG), time allocated to all candidates for all offices in all radio and television stations during the 45 days leading to the first round of the elections. Any other form of televised political ad by a candidate is prohibited. This assures that candidates have at least some access to television advertising during the campaign. It aims at leveling the playing field by avoiding the possibility that better funded candidates have more access. The goal is to curb the impact of money.

In the HEG, time is allotted according to the size of the party in Congress and to the different races. Programs run for 30 minutes in prime time and 30 minutes at noon. Of these, 20 minutes are reserved for the majority races – President, Governor and Senator – and 10 minutes for proportional representation elections – Federal and State Deputies. Ads for presidential and gubernatorial/senate candidates alternate days. Thus, presidential candidates divide 20 minutes of HEG on Monday, Wednesday and Friday. Gubernatorial and senate candidates divide their 20

minutes on Tuesday, Thursday and Saturday. Candidates for State have their 10 minutes during the state level programs. Ads from candidates for Federal Deputy have 10 minutes in the same day presidential ads are in the air.

Given the huge number of candidates for State and Federal Deputy, each candidate has very little television time. Each candidate probably gets no more than a few minutes. On the other hand, the number of candidates for president, governor and senate is smaller, so these candidates have more time and their proposals are actually discussed in some detail.

- Sub-Hypothesis 6: The HEG, despite its limited capacity for instructing voters with detailed information regarding the candidates for Federal Deputy, will help instruct voters about who are the candidates competing. Hence, it will have a positive impact in informational gain during the campaign.

3.4.6. Engagement in Civil Society Organizations: Interest in Public Issues

Civil society organizations are rarely studied as mechanisms of information diffusion per se, despite the fact that several distinct authors have pointed to the central role played by such organizations in fostering accountability and in mediating citizens' demands (Seligson 1999, Booth and Richards 1998, Santos 1998, Santos 1993, Putnam 1993). A pressing question, then, is how do civil society organizations foster accountability? One possibility, customarily stressed by the literature, is that civil society organizations pressure politicians. Such power comes from the fact that organizations, with their endorsements and sometimes, donations, affect the electoral success of politicians. The focus then is on the relationship between organized interests in civil society and elected representatives (Gay 1998). However, for organizations of civil society to offer credible threats to politicians, they must have deep community roots. That is,

they must be able to affect voters' views about politics. In this case, civil society organizations must transmit information to their members about politicians and candidates.

Engagement in civil society organizations creates yet another instance for citizens to obtain information about politics. Participation in civil society organizations offers citizens the chance of engaging in conversations about politics and to exchange information with other citizens. In addition, it also offers the opportunity for opinion leaders, who usually are active members of such organizations, to transmit their views and information to voters. Finally, engagement in civil society organizations is yet another indicator of voters' motivation to learn about politics and public issues. Voters who participate in such organizations are usually more interested in politics and public issues. I measured participation in civil society organizations as an additive index of involvement in church groups, neighborhood associations, sports groups and labor unions.

- Hypothesis 7: Participation in civil society organizations should increase voters' levels of information about candidates and incumbents.

3.4.7. Ability to Learn: SES and Demographics

Finally, it is important to control for the impact of personal demographic and socio-economic characteristics of respondents. Such variables are related to voters' ability to learn. Voters with higher levels of education, with higher income and greater awareness about politics, i.e., voters who know more general facts about politics, should be able to understand campaigns better and be able to incorporate more information. The set of usual suspects was included in the model to avoid spurious findings and to specify the model correctly. The variables included are: education (15 point scale), income (dummy differentiating between high and low wages), age and age squared to control for a non-monotonic impact of age (voters learn more up until a

certain age, then learning decreases), gender, race, marital status (married or not) and employment status (employed or not). All of these variables are related to voters' ability to obtain information. Race and gender are included to seek biases in the distribution of information based on types of inequalities Brazilians face.²⁸

It is also important to control for specific research design characteristics that may introduce biases in the analysis. Even though panel studies are extremely useful to capture individual level changes, they generate the possibility of panel conditioning bias due to the repeated interviews with the same respondent and selection bias due to respondents' dropping out of the research (Bartels 1999). Measures of information are especially prone to non-response bias caused by attrition, where voters' who respond a questionnaire are distinct from those who drop out (Brehm 1993). In order to control for panel conditioning and selection bias, fresh cross-sections were interviewed in each wave and included in the final sample. Dummy variables for these cross-sections of respondents control for potential differences between those who participated in the study since the first wave and those who entered the sample only in posterior waves.

²⁸ Brazil faces a serious problem of racial discrimination and there are strong indications of gender and class discrimination as well (Andrews 1996, Lovell 2000). It is important to verify if such forms of discrimination affect voters' political information (Delli Carpini and Keeter 1996).

4. Chapter 4: Explaining Variation in Political Information across Time and Space

4.1. Introduction

This chapter finally addresses the central puzzle of the dissertation: how do voters learn about candidates during electoral campaigns in environments with varying degrees of complexity. As was argued in previous chapters, the question touches upon central normative aspects of democratic governance and core debates about voting behavior. At its heart is the relationship between electoral competition and accountability. Given the multi-level nature of the research design, I am able to test more precise hypotheses about the impact of electoral competition, operationalized as the number of candidates competing in a specific locality, on voters' levels of information. Furthermore, other characteristics of the contexts in which voters are embedded can also be operationalized. This offers the possibility of more reliably and precisely characterizing the hierarchical nature of learning processes: Citizens with specific individual characteristics and predispositions are embedded in contexts and environments with distinct traits, which provide a set of incentives, opportunities and constraints to learning.

Information levels are measured in two ways. First, I analyze voters' ability to name candidates that are competing in the 2002 elections. This is a very simple measure of the bare essential information voters must have in order to be able to vote in Brazil.

In Brazilian elections, for sheer lack of space, names of candidates are not written in the ballot.²⁹ Hence, voters must go to the voting booth knowing the name of the candidate they want to vote for and the candidate's identification number. It is the identification number of the candidate that the voter will have to type into the electronic ballot.³⁰ Simply put, if the voters do

²⁹ Remember, around 500 candidates competed in 2002 in Minas Gerais.

³⁰ Figure 3 in the appendix contains a picture of the electronic ballot.

not know the names of candidates and their respective identification number, they will not be able to vote.

It must be clear though, that there is some information available for voters in the polling place. When voters enter the polling place, they find lists of all candidates running for office organized by party and then by the identification number of the candidate. These lists are never ending because they include the names and identification number of all candidates running for all offices. If a voter does not know the name or identification number of his candidate, it becomes very difficult to navigate in the maze of names and numbers presented in the voting place. Given that there are so many candidates, voters are instructed during the Free Electoral Airtime by candidates as well as by the Superior Electoral Court to make a note of their candidates' identification number and take it to the voting booth in order to vote correctly.

When using the electronic ballot, voters have to type in the identification number of their candidates. Once they have done that, a picture and the name of the candidate, along with the candidate's party and identification number appears on the screen. The voter then confirms her vote.

The voting process itself is not an easy task to carry out because in addition to the huge number of candidates competing for Federal Deputy, elections in Brazil are concurrent. That is, in the 2002 elections, voters voted for 5 different offices: state deputy, governor, federal deputy, senator and president. The voter first chooses candidates for legislative office. Hence, voters first vote for state and federal deputy, then for the senate, governor, and finally for President.³¹ In the electronic ballot, voters have the choice of not voting for a candidate. They do so by pressing the "Null Vote" or "Blank Vote" buttons. Once a vote has been cast for a specific

³¹ In the 2002 elections two thirds of the senate seats were in dispute. Three senators are elected by district in Brazil, so voters had to vote for two senate seats.

office, the options for the next office pop up. However, it must be clear that the names of candidates, their identification numbers and parties are not listed in the ballot. Voters must know the names and corresponding identification number of candidates as they enter the booth.

In addition, any kind of political propaganda is prohibited in voting areas in the day of the election. Boca de Urna or “election day campaigns” is strictly prohibited. For instance, voters must not go to the polling area wearing t-shirts of their candidates. Any distribution of campaign materials in voting areas is prohibited. Political parties are allowed to send their members to oversee the functioning of the voting process. Hence, one can see party members walking around voting areas checking if there are any indications of fraud or of illegal political advertising. But, no party members are allowed to persuade voters.

Hence, voters have limited access to information about candidates in the polling place. Theoretically, the voter must know at least the name of the candidate and the identification number when they come to the voting booth. Finding out about names and numbers in the voting place is possible, given that the lists are available, but such lists are not easy to understand.³² The opportunities for learning about candidates in the polling area are reduced.

Given this setting, voters must have minimal information about candidates in order to vote and to hold representatives accountable. This first indicator of information, a simple count of the number of candidates a voter can name, was measured in all three waves, so it allows for an analysis of the factors related to changes in individual levels of information during the campaign. In each of the 3 waves, respondents were asked to name up to three candidates for

³² In the 2002 elections I was drafted to work in a polling place. This gave me the chance of observing all of the voting process in the first and second rounds of the election. Overall, voters already come to the voting place knowing in whom they will vote. Most carry their notes with the names and identification number of their candidates written on them. I saw very few voters perusing the lists of candidates. In a very unsystematic way, I timed how long some voters took to cast their votes for all offices. The voters who took the longest stayed in the voting booth for about 15 minutes, but most would take no more than 3 minutes.

Federal Deputy in the 2002 elections.³³ These responses were added in each wave, creating a count of information about candidates' names in the 2002 elections. This is the most basic piece of information voters must have in order to make an electoral decision. If voters cannot name a single candidate, they certainly will have a hard time choosing a candidate and also will have difficulty evaluating any candidate.

In the combined sample for both cities, in the first wave of interviews, early in the campaign, 47% of the respondents could not state a single name. This amount drops to 33% in the second wave of interviews and 20% in the last wave, immediately after the election. These proportions are very similar in each city. In the first wave 50% can't say the name or identification number of a candidate in Juiz de Fora and 44% in Caxias do Sul. As the campaign proceeds these values fall to 31% in Juiz de Fora and 35% in Caxias and, finally, 20% in Juiz de Fora and 21% in Caxias. Hence, voters in both cities are quite similar in this regard. These simple aggregate statistics also indicate very roughly that there is a learning process going on during the electoral campaign. As the election approaches, fewer voters do not know the names of candidates.

The second indicator of information level moves beyond the first, essential information requirement and adds a fuller set of political facts voters must know in order to judge representatives and evaluate candidates. This is an index composed of items on knowledge about current candidates as well as incumbents measured in the final wave of the panel. It aims at uncovering the full blown impact of the campaign in voters' information about various distinct facets of candidates. This variable is a more nuanced measure of voters' levels of information.

³³ Respondents could state either the name or the identification number of candidates; both responses were accepted as correct. I checked all names and numbers mentioned by respondents in official lists of candidates. Incorrect responses were equated with "do not know" responses and "do not remember" responses.

It is a composite index that combines information about incumbents, about the previous elections and about candidates in the 2002 election. I refer to this variable as the Information Index.

The Information Index speaks directly to the central claim of this study, which is that voters should have at least minimal information both about incumbents as well as challengers in order to hold representatives accountable. Hence, an evaluation about how much voters know about legislative elections must incorporate information about the current campaign and the past election. In order for voters to evaluate their representatives, the current election should activate memories of how voters voted in the previous election and about the performance of incumbents. Furthermore, voters must also have some information about the current election, like knowing the names of a few candidates and having a bit more of information about the candidate they end up voting for. Comparison between challengers and incumbents can only occur if voters have minimal information about both of these actors. Only an encompassing index can capture these nuances.

The index is composed by responses to the following questions:

- 1) Who did you vote for in the 1998 election for the Chamber of Deputies?
- 2) Did the candidate you vote for Federal Deputy in 1998 win office?
- 3) If yes, were you satisfied with his/her performance in office?
- 4) Do you know the name of a candidate for Federal Deputy that competed in the elections of October 6, 2002?
- 5) Name 3 candidates. (Each counted as a separate correct answer.)
- 6) For those who could name a candidate, whom did you vote for in the elections for the Chamber of Deputies in October 6th?
- 7) Did the candidate you vote for get elected?

8) What is the political party of the candidate you voted for?

9) The candidate you voted for was running for reelection or was he/she running for the first time?³⁴

The goal of the index is to uncover the quantity of domain specific information voters have on legislative elections. It does not require voters to know specific facts about the voting record of incumbents inside the Chamber of Deputies or the amount of federal grants a Federal Deputy transferred to the municipality or even if the candidate has a reputation of being honest, it simply asks for the most basic information necessary to hold a representative accountable. Given the characteristics of the Brazilian system, the Information Index includes factors that are absolutely necessary for voters to know in order to make a choice between distinct alternatives. If voters don't have this basic information, they will hardly have any other.

The first three items in the Information Index refer to voting in the previous election. If voters are not able to recall in whom they voted for in the past election, then, they simply have no basis for evaluation. The voters' ability to evaluate an incumbent and to compare challengers and incumbents is drastically reduced when voters do not recall in whom they voted for in the previous election. It is also central to hold an incumbent accountable knowledge about the electoral success of the candidate, if she was elected or not. It is hard to visualize a situation in which a voter who does not recall in whom they voted and does not know if the candidate they voted for was elected or not being able to judge an incumbent.

Notice that in item 3 we only asked the respondent about his final assessment of their representative. In accordance with one of the main findings of the Heuristics School, voters keep

³⁴ Cronbach's Alpha of .84. Item 3 was originally coded as a 4-point scale ranging from very satisfied to very dissatisfied with the incumbents' performance. It was recoded into respondents who could give a valid answer and those who did not know how to answer the item. This item, then, differentiates between those who are able to employ some evaluative criteria and those who aren't.

a running tally of incumbent and candidate evaluations and not necessarily the detailed facts that lead them to such judgment. The literature refers to this as on-line processing. In Brazil, if voters are able to evaluate an incumbent, this is the final outcome of a process based on more detailed information about the representative. In the essence of the evaluation is information. Again, the item was coded 1 for those who could offer an evaluation of the incumbent and 0 otherwise, hence it simply indicates if the voter was able or not to pass judgment on an incumbent.

Only about 25% of respondents on both cities are able to recall in whom they voted for in the previous election, know if this candidate was elected and are able to make a judgment about the incumbent they voted for. In Juiz de Fora this number raises to about 30% and in Caxias it falls to around 22%. This indicates that the campaign does not activate memories from the previous election in most voters.

The following two items in the index focus on voters' ability to identify candidates in the current election. If voters do not know the names of candidates running in the current election, they do not know the options available. Having a clear idea of the options available and being able to contrast them with vote in the previous election is central to holding incumbents accountable.³⁵

Finally, items 6 through 9 refer to the voters' actual choice in the 2002 election. These items indicate how much voters know about the candidates they voted for. A first obvious factor is if voters recall the name and number of the candidate they voted for. A second central factor is if the voter knows if the candidate was elected or not. These two are sine qua non conditions for voters to be able to hold elected representatives accountable in future elections. If voters do

³⁵ These items are the ones analyzed individually over time because they were asked in all three waves of interviews. I presented their descriptive information above.

not have this information about the current elections, they simply will not be able to evaluate the performance of their candidate if she was elected.

In Complex Electoral Environments it is naturally harder for voters to find out if the candidate they voted for was elected, given that more than one representative is elected by district. Nonetheless, if voters do not recall in whom they voted for and do not know if their candidate won a seat, the chances voters will be able to hold representatives accountable diminishes. 52% of the entire sample is able to state the name or number of the candidate they voted for immediately after the election and 42% know if this candidate was elected. The difference recalling the names of candidates in both cities is quite similar. In Juiz de Fora 54% of the voters remember in who they voted for right after the election, in Caxias 48% do so. But there is a big distinction between the cities in information about the electoral success of the candidate. In Caxias only 32% of the respondents know the candidate they voted for was elected: In Juiz de Fora 52% do so.

The last two items refer to more detailed information about candidates. Even though, knowledge of the candidates' party, item 8, is not a dramatically instructive piece of information in Brazilian politics, it at least indicates if voters are minimally aware of the more general political preferences of the candidate. As was claimed in previous chapters, parties in Brazil are no longer as weak as they were in the early 1990's. Parties do signal some of their members' ideological preferences. Parties are becoming more and more identified with specific policy positions and ways of governing. Even though parties in Brazil are not as strong signaling devices as they are in the US and Western Europe, knowing the candidates' party indicates the voter has at least some idea of the candidate's general stances while in office.

Item 9 is also a piece of information that indicates if the voter is aware of the past of the candidate she voted for. The aim of this item is to identify if the voter knows if the candidate she is voting for is an incumbent. Accountability basically refers to holding incumbents responsible for their performance. Therefore, knowing if a candidate is an incumbent or not is an important indicator of the voter's information about the candidate she chose.

In the combined sample, 30% of the respondents claimed they voted for an incumbent and 72% knew the party of the candidate they voted for. There is no difference between the cities regarding the latter, but there is a quite dramatic one in relation to the former. In Juiz de Fora 41% against 17% in Caxias stated they voted for an incumbent. The reasons for this difference will be explored in more detail in Chapter 5. It suffices to say now that the main incumbent of Caxias did not run for reelection in 2002, instead supported a challenger. Hence, most votes in Caxias were for a challenger endorsed by an incumbent Federal Deputy who was running for governor in 2002. What is interesting is that voters were able to identify if their candidates were running for reelection and the parties of their candidates. The campaign appears to minimally instruct voters about the current election.

When the entire Information Index is considered, only 15% of all respondents are unable to correctly answer at least one of the questions and this percentage is identical in both cities. 38% of all respondents answer correctly between 4 and 7 questions. Only a minority are able to answer all of the items (4%) and only a small percentage provide only one or two correct answers (18%). The distribution of correct responses then is normally distributed, with most respondents being able to answer at least half of the questions.

The central goal of this chapter is to explain individual level variation in voters' information about candidates and incumbent Federal Deputies. The next section focuses on a

brief theoretical discussion about learning processes as it applies to political information. Following it, I discuss the results of the analysis and offer some concluding remarks.

4.2. A Brief Theory of Political Learning

Learning, in the political science literature, has been described both as the process of acquisition of information or informational gain over time (Luskin et al. 2002) as well as by more formal models based on Bayes' Theorem, which focuses on updating prior information (Bartels 1993, Alvarez 2001). Both forms of understanding learning processes are complementary, providing helpful insights about how changes in voters' levels of information take place.

Luskin, Fishkin and Jowell (2002) argue that learning is better understood as informational gain over time. That is, people learn when they acquire factual information. Learning is the result of acquiring new information and incorporating it into the set of information already stored in long-term memory. It is an act of thought and of consideration of new events and facts. Hence, learning involves first being exposed to new information and, second, the incorporation of this information into the stock of data voters has about the political system.

However, measuring informational gain is not as obvious as it might seem in the first place. The obvious approach is to measure information gain as the result of subtracting the amount of information a person has in a prior time period (Time 1) from the amount this same person has in a posterior time period (Time 2). Learning is the change in a person's informational level measured in subsequent time points.

In spite of the obvious nature of this claim, Luskin, Fishkin and Jowell argue that measuring learning as an informational difference between two time periods causes a serious underestimation of the acquisition of new information (2002, 480). Based on previous research on psychology, education and communication, the authors claim that people who learn the most are those who start out at already high levels of information: “the information-rich get information-richer” (Luskin et al. 2002, 480). This is so because information-rich individuals have a better grounding to understand and incorporate new information. The new information “makes more sense” for those who can frame it in a broader context and relate it to other information. To do that, individuals must already know something about politics. So, those who gain the most information might appear as gaining the least because of their initial high levels of information.

To deal with this problem, Luskin et al. (2002) suggest that only the posterior measure of informational level should be evaluated. That is, the Time 2 information level should be seen as the most appropriate indicator of learning. The absolute value of information at Time 2 gives a less biased view of how much information individuals have at the end of the information acquisition process. Luskin et al. (2002) also incorporate in their discussion corrections for guessing, which are related to the precision of the information voters hold and acquire. Voters may very easily guess or infer certain facts based on their prior stock of information about the political world. To correct for guessing, Luskin and colleagues code incorrect responses in the same category as “don’t know” responses.

The Information Index I analyze aims at capturing the full impact of the campaign in the levels of information voters have once the campaign is over. Hence, it follows Luskin et al.’s view of how information gain should be measured.

Another view about learning is espoused by authors who rely on Bayes Theorem to model learning processes. These authors adopt a different strategy to evaluate citizens' imprecision. Alvarez offers a more fine-grained theoretical account of the role of the accuracy of information in learning models (1997, 42). Alvarez relies on a Bayesian learning model to explain how new information is incorporated into the existing stock of information voters hold. The main idea is that voters update their prior information by incorporating new facts. Hence, learning is the combination of new information with old information that results in the updating of political assessments. According to Alvarez, "Bayes' theorem states that the posterior distribution (of information) is proportional to the product of the prior distribution and the distribution of newly encountered information" (1997, 43). Hence, Alvarez includes in the calculus of learning the idea that prior knowledge is weighted by new information.

Furthermore, by means of mathematical manipulations, he argues that the precision of the prior knowledge as well as of the new information are important in changing voters' perceptions. When prior information is very imprecise, voters will be more prone to change, no matter the precision of the new information. When prior information is more precise, then only very precise new information will lead to changes. Hence, belief updating, or policy preference instability, occurs only when voters are exposed to new information, but it depends upon the precision of prior beliefs and of the new information.

One of the dependent variables I analyze is measured over time. It was asked in the first wave of the election, in the very early moments of the campaign, and in all future waves. Responses in the first wave are a strong indicator of the prior knowledge voters bring into the campaign. Responses in future waves indicate an updating of this prior information. By relying on this measure, I can evaluate to what extent priors are updated, what factors influence prior,

initial information and the updating of information. Finally, I can also evaluate what variables affect the levels of information posterior to the election.

A central concept in Alvarez' theory is the accuracy of voters' information. One of his major concerns is with voters' ambivalence towards issues. Voters will change their opinion more easily if they are ambivalent towards an issue. This means that new information will thrive in affecting changes when a voter is uncertain about his/her prior beliefs.

Such concern is justifiable when it comes to preferences over specific policies or broader ideological questions, but less damning when it comes to simple factual measures of information. Knowing candidates' names is the type of question for which there are correct and incorrect responses, not gradations of uncertainty, which is in the essence of Alvarez' view of voters' uncertainty regarding perceptions of candidates' issue positions. Factual information about candidates is distinct from opinions on issues or views about candidates' issue positioning, which by nature give margin to doubts and to inaccuracies because candidate positioning quite often is unclear (Alvarez 2001). The treatment I offer for accuracy or uncertainty is to equate incorrect responses about candidates' names with a "don't know" response.³⁶ Both of these types of responses were combined and opposed to correct responses.

Finally, the dependent variables analyzed here are domain specific, in that they refer to a very precise aspect of the political system, and not chronic, generalized measures of information (Alvarez and Brehm 2002, 36). Recall that voters do not need to have full information about politics in order to make electoral decisions (Lupia 1993), but they must have at least minimal quantities of information in order to fully carry out their democratic responsibilities. I also focus on a soft type of information, in that it does not involve detailed facts about specific policy

³⁶ I compared each response to the question about candidates' names with lists of the actual candidates who ran for Federal Deputy in both states. A common mistake was to mention a name of a candidate for State Deputy instead of for Federal Deputy. This was equated to an incorrect response.

proposals or issues, focusing instead on the actors of the political system (Alvarez and Brehm 2002, 40).

Political information in this study simply refers to basic summary facts about candidates. In this way it measures the essential cues, heuristics voters must have in order to vote in Brazilian congressional elections. The main questions I will address are, how do environments affect the availability of the minimal informational requirements for holding representatives accountable and what are the factors that lead to variation in information between individuals and within individuals over time.

4.3. A Hierarchical Test of the Information Diffusion Model

The analysis that follows is carried out quite distinctly from previous studies of political information gain. I apply a growth curve model to test the correlates of changes in levels of information (Singer 1998). This analysis directly models the passage of time, by including an indicator of the distinct moments in time voters were interviewed. Growth models estimate the impact of distinct independent variables in incremental changes in an individual's trait over time. In this study, the trait studied is voters' information about Federal Deputies in Brazil. The model is estimated by directly including in the equation a variable that captures the distinct moments in which respondents' traits were measured (Time). This variable is entered alongside other independent variables and interacts with them.

Growth models permit three types of inferences: First, indicate the impact of each independent variable at the initial time point. This is captured by the coefficients of the "main

effects” of each independent variable.³⁷ Second, it indicates how the grand mean of the dependent variable changes over time, captured by the coefficient for the “main effect” of the Time variable. Third, growth models offer information about how the impact of each independent variable on levels of information varies over each point in time. This is captured by the coefficients of the interaction terms, which indicates how the coefficients for the “main effects” change over time and if the change is statistically significant.

A clear advantage of modeling political learning as an individual growth curve is that unequal baseline effects are incorporated in the equation. It does so without compromising the estimation of changes in information over time. This is a great advance in comparison to the estimation approaches adopted by Luskin et al. (2002) and Alvarez (1997).

In addition to modeling learning processes as growth curves, the model I test also takes into consideration the hierarchical nature of the data: Voters embedded in specific contexts and distinct institutional environments. In fact, studying learning processes incorporating distinct levels of analysis is also an advance in comparison to previous studies. It allows for a more precise evaluation of how much each level of analysis contributes to variation in voters’ information about politics, how the impact of each individual level variable is conditioned by environments and contexts and how variables in each of the distinct levels directly impact learning processes. Previous models were only able to evaluate the latter. They could not incorporate the idea of causal heterogeneity, i.e., the variegated impact of the same individual level variable in distinct contexts.

³⁷ It is important to code the first time measure as zero (0). In equations that include interaction terms, “main effects” are interpreted as the effect of each component of the interaction term when the other component is held at zero. In the case of growth curves, when the first value in the Time measure is coded as zero and Time is interacted with other independent variables, then the “main effects” of the independent variables on the dependent variable are the effects of such variables in the initial time point, i.e. the first wave of the panel. For a discussion of interaction terms see Jacard and Turrissi (2003). Singer offers the most detailed discussion of growth curves applied to the social sciences (1998).

The model proposed is also more precise because it does not assume that environmental level variables fully account for variation in the impact of individual level variables. Estimation of hierarchical models allows for the inclusion of stochastic terms in each of the levels, hence avoiding strong assumptions about full determination of lower level variables by higher-level ones. The inclusion of error components at the different levels of analysis also decreases the chances of committing a type I error, a false positive. Error terms in regular linear regression ignore the nested nature of data that incorporate distinct levels of analysis. Procedures that estimate random and fixed effects integrate all levels of analysis when estimating variance components (Steenbergen and Jones 2002, Singer 1998, Verbeke and Moenberghs 2000, Raudenbush and Bryk 2003).

4.3.1. The Contribution of Each Level of Analysis

A first necessary step is to verify how much variance in the dependent variable is attributable to the distinct levels of analysis (Steenbergen and Jones 2002, Singer 1998). The process is similar to an Anova test, but it more appropriately estimates the variance at different levels of analysis by factoring into the equation the sample size of the different levels and by parceling the impact of the distinct levels of analysis.

Table 1 contains the percentage of variation (intraclass correlations) of each dependent variable attributable to the distinct levels of analysis. It is obvious that most of the variation occurs within or between individuals and that the environment at the neighborhood level is responsible for minimal parts of variation. This is not all that surprising given that the sample size at the neighborhood level is only 44, where as at the individual level it is of 6733. What is

actually surprising is that the environmental level actually explains as much variation in individual levels of information as it does given sample size.³⁸

TABLE 1: INTRACLASS CORRELATIONS FOR KNOWLEDGE OF CANDIDATES NAMES AND INFORMATION INDEX: BOTH CITIES, 2002.

| Variables | Within Individuals- Over Time | Across Individuals | Across Neighborhoods |
|------------------------------|----------------------------------|-----------------------|-------------------------|
| Knows Candidates Names: 2002 | .58 | .37 | .05 |
| Information Index | - | .93 | .07 |
| N | 14368 | 6733 | 44 |

Tables 2 and 3 indicate that the neighborhood level has similar influence in both dependent variables in the two cities. In spite of the two distinct historical trajectories of both cities, Caxias do Sul having stronger interest representation institutions such as neighborhood associations, this does not lead to differences in the role of the environment in influencing levels of information. It must be said, though, that in Juiz de Fora, the role of the environment at the neighborhood level is a bit lower in relation to the information index. This may signal that environments might be weaker explanatory devices there than in Caxias do Sul.

TABLE 2: INTRACLASS CORRELATIONS FOR KNOWLEDGE OF CANDIDATES NAMES AND INFORMATION INDEX: CAXIAS DO SUL, 2002.

| Variables | Within Individuals – Over Time | Between Individuals | Neighborhood Level |
|------------------------------|-----------------------------------|------------------------|-----------------------|
| Knows Candidates Names: 2002 | .61 | .36 | .02 |
| Information Index | - | .94 | .06 |
| N | 7094 | 3440 | 22 |

TABLE 3: INTRACLASS CORRELATIONS FOR KNOWLEDGE OF CANDIDATES NAMES AND INFORMATION INDEX: JUIZ DE FORA, 2002.

| Variables | Within Individuals – Over Time | Between Individuals | Neighborhood Level |
|------------------------------|-----------------------------------|------------------------|-----------------------|
| Knows Candidates Names: 2002 | .57 | .40 | .02 |
| Information Index | - | .97 | .03 |
| N | 7274 | 3293 | 22 |

³⁸ The Information Index is only measured in the last wave of interviews, hence it has no variation over time.

4.3.2. The Multivariate Analysis – Testing the distinct hypotheses

From the table above, it becomes clear that most of the variance in the two dependent variables occurs between individuals or within individuals over time. We should expect, then, a weaker impact of neighborhood level factors in affecting learning processes. These processes appear to be mostly affected by individuals' predispositions.

The next step is to evaluate what individual level characteristics as well as contextual and environmental ones affect learning. For this, I test how each of the two dependent variables is affected by the model of information diffusion in complex electoral environments described in the previous chapter. I used Raudenbush et. al's Hierarchical Linear Model 5 (HLM 5) to estimate fixed and random effects. HLM 5 allows for tests of causal heterogeneity by evaluating how the impact of each individual level variable varies at different values of the environmental and contextual variables. It also relaxes causality assumptions by including stochastic terms in the equations that explain lower level variables. Therefore, it more fully accounts for the random components of the equation.

HLM 5 employs maximum likelihood estimation for both the fixed and random-effects in three-level models, such as the one presented in table 4. For two-level models, the case of the estimated equation presented in table 5, HLM estimates the variance-covariance components by means of maximum likelihood and the fixed effects through generalized least squares; this procedure is known as "restricted maximum likelihood". By default, the program assumes that the errors of prediction are normally distributed. Therefore, HLM uses a normal sampling model and an identity link function.

This assumption is problematic for my purposes, because both of the dependent variables analyzed here are counts and therefore are skewed towards having zero values. However, HLM

5 allows for estimation of nonlinear models appropriate for skewed count data, following extensions of the generalized linear model. For count data, HLM 5 uses a Poisson sampling model and a log link function. Given the potential presence of overdispersion, I also estimated the dispersion parameter for level 1, α^2 (Long 1997). Finally, because I include in the analysis both the cross-section of replacements in waves 2 and 3 as well as the respondents initially interviewed but who dropped out in future waves, there is a problem of unequal exposure. The model is also estimated accounting for each observation's unequal exposure.

Finally, because this study is based on comparing voters in two municipalities with distinct environmental characteristics, I partitioned the sample by city to verify if the impact of the individual level variables is different in the distinct cities. This is part of test for causal heterogeneity.

4.3.3. Explaining Information Acquisition over Time

The equation for the dependent variable measured over time has three levels of analysis. The first one is the impact of the passage of time on levels of information. It refers to variation within individuals over time. Hence, the temporal dimension is included in the analysis. This is done by incorporating a variable representing each of the waves (Time), coded zero in the first wave to facilitate the interpretation of the two and three-way cross-level interaction terms.

The second level of analysis includes the individual level variables related to the personal predisposition and ability of voters to learn. The third level of analysis is composed by the environmental level characteristics that generate the opportunity structure for learning.³⁹

³⁹ I did not impute any of the values in the dependent and independent variables. Most independent variables are coded as dummy variables indicating the presence or absence of a specific characteristic. Missing values were coded as zero in the dummy variables or equated with value 0 when the variable is a count. The dependent variables are counts, so “do not know” responses were equated to not having information about candidates. See the appendix for a description of all variables in the analysis. I adopted identical strategy in chapter 5. The only variables that

The “main effect” of the individual and contextual variables indicates the impact of these variables when the time measure is zero, that is; it indicates the impact of these variables in the initial moment of the campaign. This is approximately equivalent to the influence of the model on the prior levels of information. The coefficients for the two-way interaction between each independent variable and the time variable indicate how the impact of each independent variable changes over time. It is a measure of the growth curve of information, that is, of how the impact of each independent variable in informational levels changes as the campaign proceeds. The two-way interaction terms between contextual variables and individual level variables indicates how the impact of individual characteristics on initial levels of information varies in environments with different characteristics. Finally, the coefficients for the three-way interaction terms indicate how the change in impact of the individual level variables during the distinct moments of the campaign varies across distinct values of the environmental/contextual variables.⁴⁰ In summary, the model below incorporates the idea of causal heterogeneity and permits the assessment of the dynamic nature of learning during electoral campaigns.

The essence of learning, understood in a Bayesian form as updating of priors, (Alvarez 1997) or as information gains (Luskin, Fishkin and Jowell 2002), is that there are increases in levels of information from an initial point in time to a subsequent one. Only in a panel study can individual level changes be assessed. The following discussion takes full advantage of this specific characteristic of the research design. First I will discuss how initial levels of information about candidates competing in 2002 are affected by the distinct variables. I will focus both on the main effects of the environmental, contextual and individual level variables as well as in the modified impact of individual ability and motivation over environmental characteristics. Finally,

have missing data, which were dropped from the analysis, were age and education. The number of missing points in these variables is small, adding to about 100 cases randomly distributed throughout all neighborhoods.

⁴⁰ For the full equation, see figure 4 in the appendix.

the discussion will shift to how changes over time in information levels are affected by individual and contextual level variables.

TABLE 4: FIXED EFFECTS OF POISSON REGRESSION WITH UNEQUAL EXPOSURE FOR INFORMATION ABOUT CANDIDATES NAMES: BRAZIL, 2002.

| Variables | Full Sample | Juiz de Fora | Caxias do Sul |
|--|-------------|--------------|---------------|
| INTERCEPT | -2.45*** | -2.13*** | -2.85*** |
| ELECTORAL COMPETITION | -0.23* | -0.22 | -1.53** |
| ELECTORAL COMPETITION ² | 0.02* | 0.01 | 0.17** |
| MEAN NEIGHBORHOOD POLITICAL CONVERSATION(MNPC) | 1.52*** | 0.85*** | 0.58 |
| PARTY IDENTIFICATION | 0.29*** | 0.26*** | 0.35*** |
| ELECTORAL COMPETITION*PARTY ID | 0.15 | 0.73 | -0.07 |
| ELECTORAL COMPETITION ² *PARTY ID | -0.01 | -0.05 | 0.03 |
| MNPC*PARTY ID | -0.35 | -0.19 | 0.14 |
| IDEOLOGY | 0.33*** | 0.34*** | 0.33** |
| ELECTORAL COMPETITION*IDEOLOGY | -0.24 | -0.90 | 1.32** |
| ELECTORAL COMPETITION ² *IDEOLOGY | 0.02 | 0.06 | -0.19** |
| MNPC*IDEOLOGY | 0.62 | 0.59 | 1.32 |
| AWARENESS | 0.24*** | 0.23*** | 0.26*** |
| ELECTORAL COMPETITION*AWARENESS | 0.08* | -0.10 | 0.05 |
| ELECTORAL COMPETITION ² *AWARENESS | -0.00 | 0.01 | 0.00 |
| MNPC*AWARENESS | -0.13 | -0.11 | -0.17 |
| CIVIL SOCIETY ACTIVISM | 0.11*** | 0.10** | 0.13** |
| ELECTORAL COMPETITION*ACTIVISM | 0.01 | -0.30 | 0.16 |
| ELECTORAL COMPETITION ² *ACTIVISM | -0.00 | 0.02 | -0.02 |
| MNPC*ACTIVISM | 0.20 | 0.17 | 0.12 |
| POLITICAL CONVERSATION | 0.06* | 0.08** | 0.03 |
| ELECTORAL COMPETITION*CONVERSATION | -0.10 | -0.04 | -0.32 |
| ELECTORAL COMPETITION ² *CONVERSATION | 0.01* | 0.00 | 0.03 |
| MNPC*CONVERSATION | -0.01 | -0.22 | 0.29 |
| MEDIA | 0.03*** | 0.04*** | 0.02** |
| ELECTORAL COMPETITION*MEDIA | 0.03* | 0.08 | 0.10* |
| ELECTORAL COMPETITION ² *MEDIA | -0.00* | -0.01 | -0.01* |
| MNPC*MEDIA | -0.01 | -0.04 | 0.12 |
| POLITICAL PERSUASION | -0.00 | -0.09 | 0.09 |
| ELECTORAL COMPETITION*PERSUASION | 0.10 | -0.11 | 0.63 |
| ELECTORAL COMPETITION ² *PERSUASION | -0.01 | 0.00 | -0.08 |
| MNPC*PERSUASION | -0.10 | -0.18 | 1.03 |
| FREE ELECTORAL AIRTIME | 0.00 | -0.02 | -0.16 |
| ELECTORAL COMPETITION*FREE AIRTIME | 0.00 | -0.09 | 0.56 |
| ELECTORAL COMPETITION ² *FREE AIRTIME | -0.00 | 0.01 | -0.07 |
| MNPC*FREE AIRTIME | -0.08 | -0.04 | 0.12 |
| EDUCATION | 0.04*** | 0.01 | 0.07*** |
| ELECTORAL COMPETITION*EDUCATION | -0.04* | -0.09 | -0.01 |
| ELECTORAL COMPETITION ² *EDUCATION | 0.00 | 0.01 | -0.00 |
| MNPC*EDUCATION | -0.03* | -0.09 | -0.04 |
| AGE | 0.01*** | 0.01** | 0.02*** |
| AGE ² | -0.00*** | -0.00** | -0.00** |
| WHITE | 0.06** | 0.06** | 0.06 |
| MALE | 0.06*** | 0.06** | 0.12*** |
| MARRIED | 0.05* | 0.03 | 0.05 |
| EMPLOYED | 0.07*** | 0.07** | 0.08** |

Table 4 continued.

| | | | |
|---|----------|----------|----------|
| INCOME | 0.05* | 0.03 | 0.06* |
| PROBLEM INTERVIEWER | -0.00 | -0.42*** | 0.35** |
| QUESTIONNAIRES ENTERED ONCE | -0.07** | -0.08** | - |
| REPLACEMENTS WAVE B | 0.49*** | 0.55** | 0.45** |
| REPLACEMENTS WAVE C | 1.19*** | 1.17*** | 1.20*** |
| TIME | 0.98*** | 0.88*** | 1.13*** |
| ELECTORAL COMPETITION*TIME | 0.09 | 0.05 | 0.61*** |
| ELECTORAL COMPETITION ² *TIME | -0.01* | -0.01 | -0.07*** |
| MNPC*TIME | -0.35** | -0.19 | 0.00 |
| PARTY ID*TIME | -0.13*** | -0.12** | -0.15*** |
| ELECTORAL COMPETITION*PARTY ID*TIME | -0.07 | -0.26 | -0.11 |
| ELECTORAL COMPETITION ² *PARTY ID*TIME | 0.01 | 0.02 | 0.01 |
| MNPC*PARTY ID*TIME | 0.26 | 0.13 | 0.15 |
| IDEOLOGY*TIME | -0.16*** | -0.15*** | -0.15** |
| ELECTORAL COMPETITION*IDEOLOGY*TIME | 0.09 | 0.53 | -0.96*** |
| ELECTORAL COMPETITION ² *IDEOLOGY*TIME | -0.01 | -0.04 | 0.13*** |
| MNPC*IDEOLOGY*TIME | -0.19 | -0.15 | -0.66 |
| AWARENESS*TIME | -0.03*** | -0.03** | -0.05** |
| ELECTORAL COMPETITION*AWARENESS*TIME | -0.02 | 0.01 | -0.01 |
| ELECTORAL COMPETITION ² *AWARENESS*TIME | 0.00 | -0.00 | 0.00 |
| MNPC*AWARENESS*TIME | 0.02 | 0.04 | -0.00 |
| ACTIVISM*TIME | -0.05*** | -0.05** | -0.05** |
| ELECTORAL COMPETITION*ACTIVISM*TIME | -0.00 | 0.11 | -0.08 |
| ELECTORAL COMPETITION ² *ACTIVISM*TIME | 0.00 | -0.01 | 0.01 |
| MNPC*ACTIVISM*TIME | -0.16* | -0.10 | -0.21 |
| CONVERSATION*TIME | -0.01 | -0.01 | -0.00 |
| ELECTORAL COMPETITION*CONVERSATION*TIME | 0.04 | -0.02 | 0.22 |
| ELECTORAL COMPETITION ² *CONVERSATION*TIME | -0.00 | 0.00 | -0.03 |
| MNPC*CONVERSATION*TIME | 0.05 | 0.09 | 0.01 |
| MEDIA*TIME | -0.01*** | -0.02*** | -0.01 |
| ELECTORAL COMPETITION*MEDIA*TIME | -0.01** | -0.04 | -0.04 |
| ELECTORAL COMPETITION ² *MEDIA*TIME | 0.00* | 0.00 | 0.01 |
| MNPC*MEDIA*TIME | 0.00 | 0.01 | -0.05 |
| PERSUASION*TIME | 0.04 | 0.08** | -0.00 |
| ELECTORAL COMPETITION*PERSUASION*TIME | -0.05 | -0.02 | -0.41* |
| ELECTORAL COMPETITION ² *PERSUASION*TIME | 0.01 | 0.00 | 0.05* |
| MNPC*PERSUASION*TIME | 0.01 | 0.09 | -0.62 |
| FREE AIRTIME*TIME | 0.13** | 0.08*** | 0.17*** |
| ELECTORAL COMPETITION*FREE AIRTIME*TIME | 0.09*** | 0.20 | -0.15 |
| ELECTORAL COMPETITION ² *FREE AIRTIME*TIME | -0.02 | -0.01 | 0.02 |
| MNPC*FREE AIRTIME*TIME | 0.00 | 0.01 | -0.14 |
| EDUCATION*TIME | -0.09 | 0.01 | -0.01 |
| ELECTORAL COMPETITION*EDUCATION*TIME | 0.03** | 0.06 | 0.01 |
| ELECTORAL COMPETITION ² *EDUCATION*TIME | -0.00* | -0.00 | -0.00 |
| MNPC*EDUCATION*TIME | 0.04 | 0.05 | 0.01 |
| N LEVEL 1 – Number of Interviews | 14373 | 7274 | 7099 |
| N LEVEL 2 – Number of Respondents | 6731 | 3292 | 3439 |
| N LEVEL 3 – Number of Neighborhoods | 44 | 22 | 22 |

* = sign. < 0.10; ** = sign. < 0.05; *** = sign. 0.01

The first part of the table contains the fixed effects of each variable and the modified impact of individual level variables at different values of number of candidates and Mean Neighborhood Political Conversation (NPC) when time equals zero.⁴¹

First, focus on the fixed effect of the individual level variables. This effect indicates the impact of each individual level variable when time is held at zero and the neighborhood level variables are held at their mean.⁴² The statistically significant impact of most of these variables indicates that voters' personal characteristics lead to differences in voters' levels of information early in the electoral campaign. Obviously, attentiveness to distinct sources of information is extremely important in differentiating voters. Those who pay attention to the media, who talk about politics with friends and family, who engage in civil society organizations, who identify with a political party and who hold some ideological position start the campaign at higher levels of information: Voters with these characteristics know more about candidates than other voters.

I also find that the variables related to voters' ability to learn, such as educational level, age, employment status and other socio-demographic characteristics also influence initial levels of information as expected. Having higher educational levels, higher income, being employed, and having a family all increase the likelihood of knowing candidates' names. Age has the expected impact of increasing until a certain level and then decreasing at older ages. These variables also point out to the existence of biases in the distribution of information between males and females and between whites and non-whites. Males and white citizens have more information about politics than females and non-whites.

⁴¹ Table 11 on the Appendix contains the Pearson Correlations for the relationships between all independent variables. Correlations are all lower than .4, most being close to 0. There are no indications of serious collinearity problems.

⁴² The independent variables are all mean centered, except for the time variable which is coded 0 for the first wave, 1 for wave two and 2 for the last wave.

Environments voters are embedded in hardly condition the impact of individual characteristics. None of the cross-level interaction terms are statistically significant in the early stages of the campaign. This indicates that the impact of individual level variables does not change in environments with distinct characteristics. Hence, environments do not seem to condition voters' motivation to learn. Furthermore, the impact of the individual level variables is almost identical in both cities, which indicates that they play similar roles independent of the characteristics of the broader institutional environment in each city.

However, environments do have a direct impact in levels of knowledge. Number of candidates has a negative, non-monotonic impact in information. This impact is identical in all 3 samples, but it is not statistically significant in Juiz de Fora, where the number of candidates is higher and politics is conducted in a more personalistic fashion. This indicates that when variation in number of candidates is restricted to higher numbers of candidates, varying from about 6 to around 10, increments in numbers of candidates do not affect information levels. On the other hand, at lower levels of number of candidates (Caxias do Sul) and when variation is broader (entire sample), then number of candidates do have an impact in information.

The second part of the table focuses on changes in levels of information during the campaign. The first result worth mentioning is the statistically significant increase in levels of information over the campaign indicated by the Time variable. The conditional mean of information increases as the campaign proceeds. Hence, Brazilian voters are able to learn, in spite of environmental and individual characteristics.

The second finding that deserves attention is the decreasing impact of the individual level variables indicating voters' motivation to learn. As the campaign proceeds, voters who do not participate in politics and collective organizations and who are not attentive to the media appear

to catch up with voters who carry out such activities. Since these coefficients must be interpreted in comparison to the “main effects” discussed above, the impact of the individual level variables is still overall positive, but it decreases as the campaign goes on.⁴³ The only difference regards watching the Free Electoral Airtime. In this case, those who watch politicians’ ads, gain information as the campaign proceeds.

The impact of number of candidates also varies as the campaign proceeds. The negative impact of this variable weakens as the campaign advances, especially in Caxias, where the magnitude of the decrease is higher than in Juiz de Fora and the results are statistically significant. Furthermore, the curvature also changes. The curves appear to move in the direction of becoming more linear. But again, these results are only statistically significant in Caxias, where the environment is simpler than in Juiz de Fora. In Juiz de Fora, on the other hand, number of candidates does not seem to affect changes in information levels.

Perhaps a visual interpretation will help illuminate the relationship between number of candidates and information. The following graphs indicate the impact of number of candidates on the predicted values of knows candidates’ names, holding all other variables at zero.⁴⁴ The first graph indicates the impact of number of candidates in the entire sample, where this variable ranges from 1.75 to 9.77, with a mean of 5.27. The impact of number of candidates is negative, non-linear and identical in all three time points. However, the distance between the lines,

⁴³ To find the impact of each variable in each wave one simply has to add the initial value of the coefficient, indicated by the main effect, with the value of the coefficient of the interaction term between time and the independent variables. For example, the main effect of the Party ID variable in the full sample is 0.29. This is the impact of party ID when time is equal to zero and the neighborhood level variables are held at their mean. The coefficient of Party ID interacted with time, which indicates how the effect to party ID changes during the campaign is -0.13. So, the impact of party ID on the second wave of interviews falls to $0.29 + (-0.13) = 0.16$. The effect is still positive, but weaker than in the first wave of interviews.

⁴⁴ Recall that all independent variables are mean centered, so by holding them at zero I’m actually holding them at their mean.

indicated by the black lines, show that at each wave, voters have more information, denoting learning in spite of electoral competition.

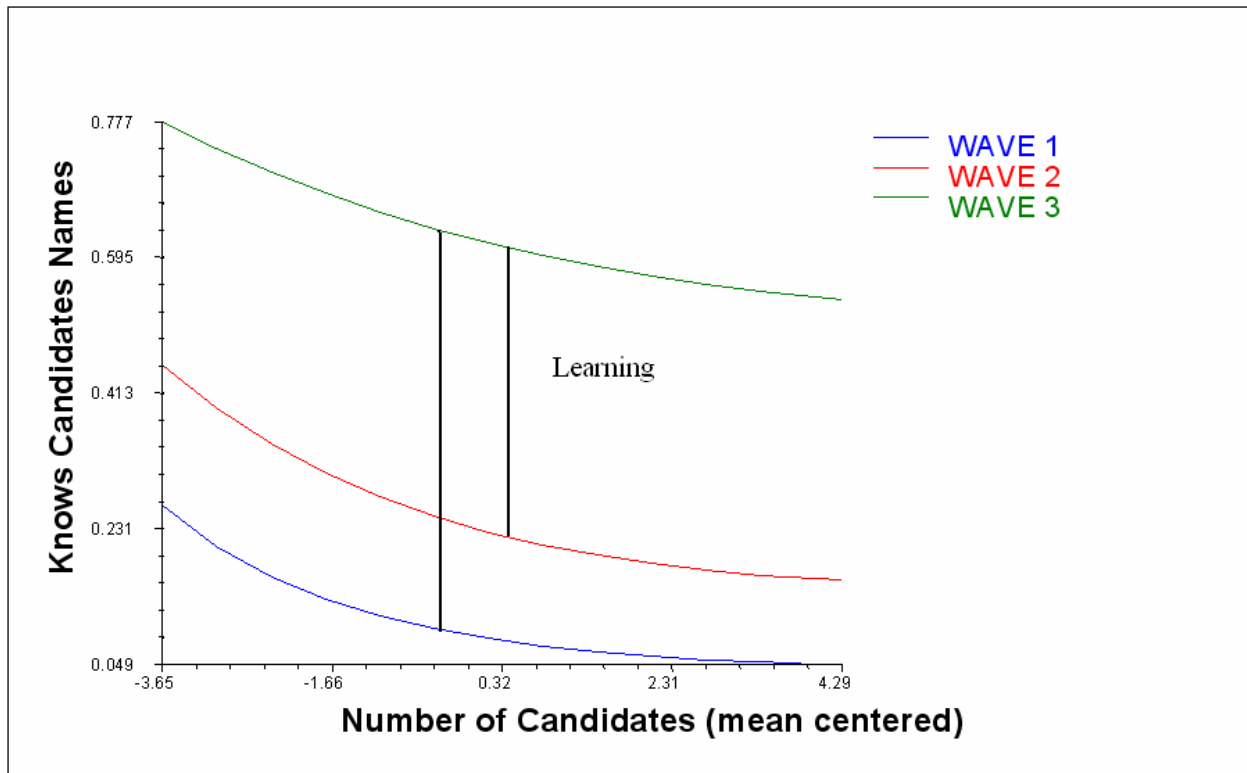


FIGURE 1: PREDICTED VALUES OF KNOWLEDGE ABOUT CANDIDATES NAMES AT DIFFERENT VALUES OF NUMBER OF CANDIDATES AND DIFFERENT TIME PERIODS. ENTIRE SAMPLE: 2002.⁴⁵

The second graph focuses on Caxias do Sul. The first point that needs to be emphasized is that the curve changes drastically as the campaign proceeds. In the early moments of the campaign, voters' levels of information drop dramatically as the numbers of candidates increases. This steep drop is attenuated in the third, final wave. The impact is still negative, but not as accentuated as in prior waves. The second important point regards the change in levels of information when number of candidates is at its lowest. In Caxias, the mean is 3.43, the minimum value of competition is 1.75 and the highest is 6.17. Hence, when number of

⁴⁵ Upper most line represents impact of number of candidates on information on the last wave of interviews. Intermediary line represents impact of number of candidates on information on second wave of interviews. The bottom line represents impact of number of candidates on information on the first wave of interviews.

candidates is at its lowest value, a situation in which a single candidate dominates most votes of the locality, voters' levels of information decrease as the campaign proceeds.

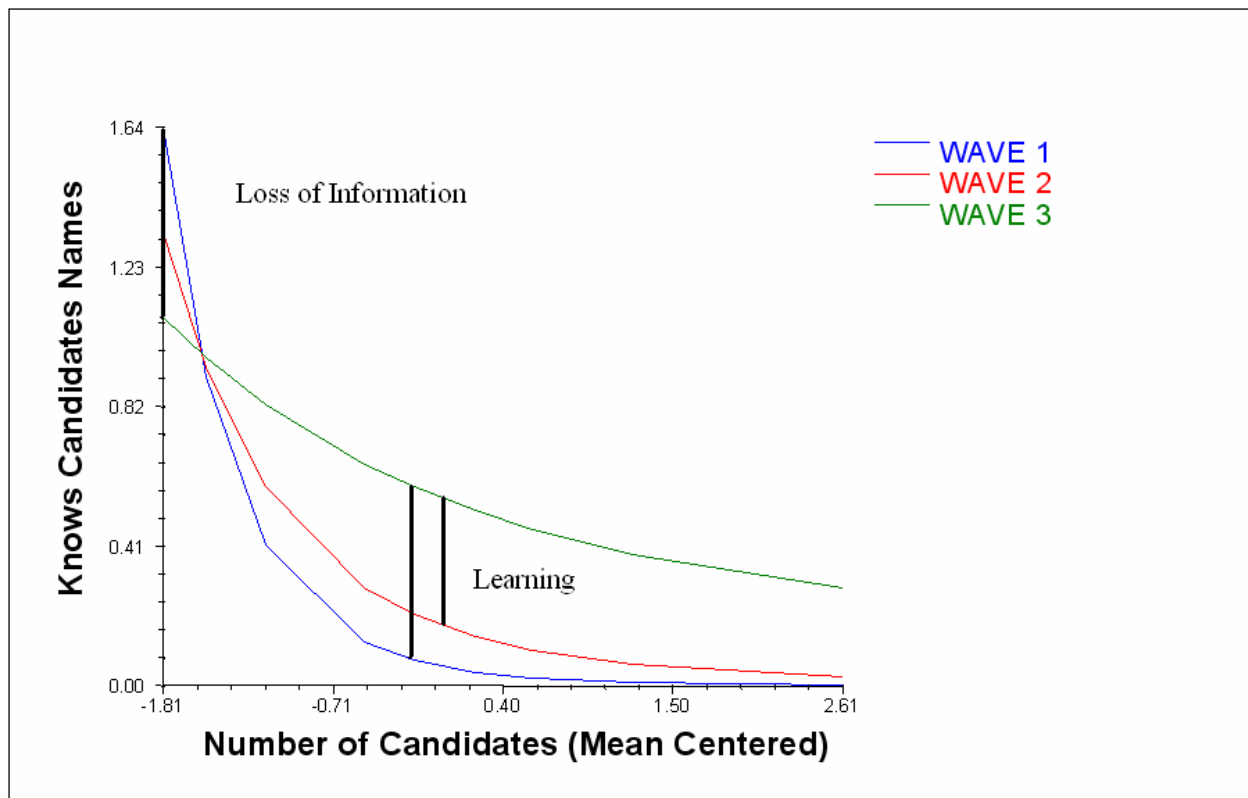


FIGURE 2. PREDICTED VALUES OF INFORMATION ABOUT CANDIDATES NAMES AT DIFFERENT VALUES OF NUMBER OF CANDIDATES AND DIFFERENT TIME PERIODS. CAXIAS DO SUL: 2002.⁴⁶

In early moments of the campaign, voters in neighborhoods where competition is weak already know at least one candidate. However, as the campaign proceeds, these voters do not to learn about other candidates. They stick to their initial candidate. This is the only occasion in the analysis where levels of information slightly decrease as the campaign advances. Hence, where competition is very low and the political system is very structured, voters have little incentive to learn about candidates other than the one with whom they are familiar.

⁴⁶ The first line starting on the vertical axis of the figure indicates the impact of number of candidates on information in the first wave of interviews. The second line starting on the vertical axis indicates the impact of number of candidates on information in the second wave of interviews. The third line indicates the impact of number of candidates on information in the third wave of interviews.

4.3.4. Information Index

The focus now shifts to the last wave of the panel and to the analysis of the Information Index, the more complete and detailed measure of voters levels of information about candidates for Federal Deputy. Hence, results represent the final full impact of the entire campaign in a more complete measure of voters' levels of information. The model is identical to that tested in the case of the simpler variable, Information about Candidates' Names.

To recapitulate, the information index is composed by 9 items that measure information of both current candidates in the 2002 elections as well as of the activation of memory processes regarding the 1998 elections. It includes items about naming candidates for the 2002 elections, vote decision in 2002, information about the chosen candidate's party, in addition to information about vote in 1998 and incumbents. All of this information focuses on identifying the main political actors involved in the campaign, providing a minimal basis for evaluating them.

The first point that must be stressed is that the results in table 5 confirm those in the analysis of the simpler variable. The individual level motivation variables have identical impact in both cities. Even though their impact decreases as the election proceeds, these variables still distinguish voters in the final wave. Furthermore, the same independent variables are significant in both cities and the direction of the impact is identical. In both cities citizens have higher levels of information when they identify with a party and have an ideological preference, when they are more politically aware, when they are members of civil society organizations, when they engage more often in political deliberation, and when they are exposed to the media, including the Free Electoral Airtime. In other words, even though changes in these variables are negative over the campaign, indicating that other voters catch up regarding the amount of information

they have, voters who are more motivated to learn still have higher levels of information in the end of the campaign. The information rich do get information richer.

The environmental indicator of electoral competition based on number of candidates does not appear to have any direct impact in voters' informational levels. In addition, number of candidates does not appear to condition the impact of other factors in instructing voters about candidates and incumbents. That is, not just the coefficient for electoral competition and electoral competition squared fail to reject the null hypotheses, but the change in impact of most of the individual level motivation variables across values of numbers of candidates is also statistically insignificant. This confirms the expectations that voters are able to learn during the campaign, in spite of variation in the number of candidates. Even though the number of candidates does affect the amount of information voters have in the early stages of the campaign, its impact changes during the electoral races and in the final wave, competition between several candidates no longer matters. Voters learn, in spite of electoral complexity measured by increasing number of candidates.

TABLE 5: FIXED EFFECTS OF POISSON REGRESSION WITH UNEQUAL EXPOSURE FOR INFORMATION INDEX: BRAZIL, 2002.

| Variables | Full Sample | Juiz de Fora | Caxias do Sul |
|---|-------------|--------------|---------------|
| INTERCEPT | 1.42*** | 1.54*** | 1.29*** |
| ELECTORAL COMPETITION | -0.02 | -0.31 | -0.34 |
| ELECTORAL COMPETITION ² | 0.00 | 0.02 | 0.03 |
| MEAN NEIGHBORHOOD POLITICAL CONVERSATION (MNPC) | 0.75*** | 0.42** | 0.43 |
| PARTY ID | 0.07*** | 0.05** | 0.08** |
| ELECTORAL COMPETITION*PARTY ID | 0.04 | 0.30 | 0.18 |
| ELECTORAL COMPETITION ² *PARTY ID | -0.00 | -0.02 | -0.02 |
| MNPC*PARTY ID | 0.03 | 0.14 | 0.27 |
| IDEOLOGY | 0.15*** | 0.12*** | 0.17*** |
| ELECTORAL COMPETITION*IDEOLOGY | -0.08 | -0.08 | -0.34* |
| ELECTORAL COMPETITION ² *IDEOLOGY | 0.01 | 0.01 | 0.04* |
| MNPC*IDEOLOGY | -0.10 | -0.08 | -0.26 |
| POLITICAL AWARENESS | 0.16*** | 0.18*** | 0.13*** |
| ELECTORAL COMPETITION*AWARENESS | 0.02 | -0.05 | 0.07 |
| ELECTORAL COMPETITION ² *AWARENESS | -0.00 | 0.00 | -0.01 |
| MNPC*AWARENESS | -0.02 | 0.03 | -0.01 |
| CIVIL SOCIETY ACTIVISM | 0.01 | 0.01 | 0.02 |
| ELECTORAL COMPETITION*ACTIVISM | -0.01 | -0.22 | 0.04 |

| | | | |
|--|----------|----------|----------|
| Table 5 continued. | | | |
| ELECTORAL COMPETITION ² *ACTIVISM | 0.00 | 0.01 | -0.00 |
| MNPC*ACTIVISM | -0.05 | -0.07 | -0.14 |
| POLITICAL CONVERSATION | 0.08*** | 0.06*** | 0.08*** |
| ELECTORAL COMPETITION*CONVERSATION | -0.02 | 0.06 | 0.14 |
| ELECTORAL COMPETITION ² *CONVERSATION | 0.00 | -0.00 | -0.02 |
| MNPC*CONVERSATION | -0.06 | -0.09 | 0.13 |
| MEDIA | 0.01*** | 0.01** | 0.01*** |
| ELECTORAL COMPETITION*MEDIA | -0.00 | 0.01 | 0.01 |
| ELECTORAL COMPETITION ² *MEDIA | 0.00 | -0.00 | -0.00 |
| MNPC*MEDIA | -0.00 | -0.01 | 0.01 |
| POLITICAL PERSUASION | 0.04*** | 0.04** | 0.03* |
| ELECTORAL COMPETITION*PERSUASION | 0.02 | -0.01 | -0.3 |
| ELECTORAL COMPETITION ² *PERSUASION | -0.00 | 0.00 | 0.01 |
| MNPC*PERSUASION | -0.08 | -0.13 | 0.13 |
| FREE ELECTORAL AIRTIME | 0.11*** | 0.10* | 0.48*** |
| ELECTORAL COMPETITION*FEA | -0.04 | 0.18 | 0.2 |
| ELECTORAL COMPETITION ² *FEA | 0.00 | -0.01 | -0.02 |
| MNPC*FEA | -0.02 | 0.01 | -0.06 |
| EDUCATION | 0.01*** | 0.01** | 0.02*** |
| ELECTORAL COMPETITION*EDUCATION | 0.01* | 0.04 | -0.03 |
| ELECTORAL COMPETITION ² *EDUCATION | -0.00* | -0.00 | 0.00 |
| MNPC*EDUCATION | -0.02 | -0.02 | -0.07* |
| AGE | 0.02*** | 0.02*** | 0.03*** |
| AGE ² | -0.00*** | -0.00*** | -0.00*** |
| WHITE | 0.04** | 0.03 | 0.08** |
| MALE | -0.03 | -0.04* | -0.01 |
| MARRIED | 0.04* | 0.04* | -0.01 |
| EMPLOYED | 0.02 | 0.02 | 0.01 |
| INCOME | 0.00 | -0.00 | 0.01 |
| PROBLEM INTERVIEWER | -0.28** | -0.56*** | 0.37** |
| REPLACEMENT C | 0.27*** | 0.26*** | 0.28*** |
| N LEVEL 1 – Individuals | 6731 | 3292 | 3439 |
| N LEVEL 2 – Neighborhoods | 44 | 22 | 22 |

4.4. Conclusion

Contextual and environmental variables should not be ignored in the study of political information. However, the impact of these two levels of analysis is not as uniform or straightforward as previous studies assumed. Both change over time and space.

In Caxias, where communal life is stronger and institutions of organized interests are more active, in other words, where signaling devices are more visible, environments matter slightly more as indicated by the intraclass correlations. In Juiz de Fora, the neighborhood level

accounts for very little variation in levels of information. Hence, environments are not so decisive in influencing voters' levels of information in Juiz de Fora. In sum, the impact of environments is not constant in all situations; it is dependent upon the organizing structures of the political order.

Indicators of individual level motivation play a major role in information acquisition processes, independent of political environments. As tables 4 and 5 showed, voters have more information about candidates and incumbents when they pay more attention to the media, when they talk about politics with friends, family and neighbors, when they have ideological preferences, feel close to a political party, engage in civic associations and are exposed to attempts of political persuasion by others. Furthermore, the impact of these variables is identical in both cities, independent of the characteristics of political competition. In very few instances does the number of candidates competing in a neighborhood alter voters' motivation to learn.

However, the number of candidates competing in a neighborhood does have a direct impact in levels of information. Even though the impact of number of candidates is negative and non-linear in both cities, it is only statistically significant in Caxias and only in Caxias it changes dramatically as the campaign proceeds. It appears that increases in number of candidates are more influential in better-structured environments. Competition only plays a significant role in affecting growth curves of informational levels in Caxias do Sul, where competition by neighborhood occurs between 1.7 and 6 candidates and where parties are better organized. That is, changes in informational levels are more sensitive to electoral competition in political orders that are better structured.

Where parties are weaker organizations and competition is higher, between 5 and 10 candidates competing per locality, as in Juiz de Fora, changes in competition do not significantly

affect learning about politics. Furthermore, as the campaign proceeds, voters appear to learn about politics in spite of number of candidates. In each subsequent wave of interviews, voters' levels of information were constantly higher. Competition is no longer statistically significant – voters learn even in complex environments – when a more complete measure of information is analyzed (only in the third wave).

Finally, the only occasion where voters did not learn during the campaign was in a very ordered environment with minimal levels of competition. Where one candidate dominates most votes, voters do not learn. In such environments, the lack of competition decreases voters' exposition to information. Where number of candidates is too small, then voters' ability to learn is in danger. As number of candidates increase, its impact is remains negative, but voters manage to gain information in the different moments of the campaign.

The final message, then, is that the number of candidates more clearly affects informational levels and gains in simpler political environments. In more complex orders, voters compensate for the increased burden of obtaining information about politics by paying attention to the media and by consulting with other voters. In other words, in more complex orders, voters deflect the potentially confounding impact of environments by relying more often in individualized strategies of obtaining political information. Voters learn, in spite of complex electoral environments.

5. Chapter 5: Information, Vote Choice and Accountability: An Empirical Test

5.1. Introduction

As I argued before, accountability is related to voters' capacity to learn about candidates. Accountability is consummated in the voting booth when the voter chooses between alternative electoral options. Voters express their views about the directions of public policy, and punish or reward officeholders for their actions while in office. How does information affect specific types of vote choice that are directly related to holding representatives accountable? The focus of this chapter is on the way voters' electoral choices are affected by information, environments and personal predispositions.

There are several distinct ways to assess voters' electoral calculus of accountability. This chapter focuses on two types of vote choices that express distinct forms of holding those in office responsible for their actions. The first is the decision of voting for an incumbent or a challenger. Holding representatives accountable is conditional upon voters' ability to weigh incumbents against challengers. There simply is no possibility of holding representatives accountable if there aren't alternatives to choose from; if there isn't the possibility for alternation in power. The presence of challengers is what assures that elections are contested and that voters have a choice. Therefore, it is important to verify the determinants of choosing an incumbent in face of a challenger. If voters evaluate incumbents based on their performance in office, this is strong evidence that voters are holding their representatives accountable.

A second type of vote choice is related to holding political parties, not individual politicians, accountable. Voting for different parties in different races in the same election, what is called split-ticket voting, has been pointed out as a sign of weak political parties (Mainwaring and Scully 1995). It is an indication that instead of voting based on party reputations or platforms, voters decide based on candidate reputations. The inverse, then, voting for candidates

of the same party, or straight-ticket voting, can be understood as voting based on partisan reputations and attachments. Voters who cast straight-ticket votes are probably holding parties responsible for policy outcomes, not individual politicians.

The common view about Brazil is that parties are weak, with no solid social roots or programmatic differences (Mainwaring 1995, 1999). Instead, politics is centered on state-level machines organized by regional political bosses (Abrucio 1998, Samuels 2001). According to this view, state governors and individual leaders are the key players in the Brazilian political system, not parties. Nonetheless, partisanship amongst voters and the structuring of political parties in Brazil has increased after the re-democratization of the mid-1980s. This is visible both in the functioning of parties inside congress (Figueiredo and Limongi 1995) as well as among the electorate (Singer 2001, Carreirão 2003). Carlos Ranulfo, using election outcome data, has argued that a process of crystallization of party identification amongst the electorate is in place (forthcoming). Hence, it is important to ask which factors lead voters to cast a straight-ticket vote.

In the analysis of both dependent variables, the models tested take into consideration the impact of environments, voters' individual predispositions and information about candidates. The models discussed are specified in very similar ways, but they are not identical. Therefore, I will discuss them in turns. The next section centers on the choice between incumbents and challengers. I will first discuss the theoretical implications of this choice for the idea of accountability; I then discuss the main hypotheses, and, finally, present the results. I will then move on to discuss straight-ticket voting, repeating the same structure of the section on voting for an incumbent. In the next sections the goal is to indicate how each of these variables relates to the idea of accountability and to model its variation based on voters' information levels,

personal predispositions and environmental traits. I use the same data set described earlier for the analysis. Given that both dependent variables indicate declared vote choices, only the third wave of interviews is analyzed.

The central question I attempt to answer in this chapter speaks very closely to what Nie and Weisberg (1999) consider one of the core controversies in current voting behavior studies: Do voters who have more information vote differently from those who have less? Do distinct types of information differently affect vote choice? The focus of this chapter is on the explanatory power of political information on voters electoral choices related to holding politicians and political parties accountable. In the previous chapter I discussed the factors that increase voters' levels of information about their candidates for Federal Deputy. In this chapter the emphasis falls on the impact of information on vote choice. As was discussed in the introduction, a recent strand of literature about voting behavior claims that voters do not need to be fully informed about politics in order to make choices. However, the type of information voters should have and what are its effects on vote choices is still a matter open to empirical verification. I test both how domain specific information about candidates as well as how more general, encyclopedic information about politics affect vote choice.

In addition, I also assess how number of candidates at the neighborhood level and voters' party identification affect choice in Brazilian legislative elections. Secondary questions in this chapter are: Does party identification play a role in affecting vote choice for Federal Deputy? How does competition between various candidates affect electoral decisions?

5.2. Reelection for the Chamber of Deputies from the Voter's Perspective

The discussion about incumbent Federal Deputies' reelection strategies is a well-established debate in the study of Latin American politics that dates back to Barry Ames' pioneering work in the mid-90s. Both Ames' initial studies, as well as recent ones (Pereira and Renno 2003), have found evidence that elections for Federal Deputy are strongly influenced by local level factors. Pereira and Renno (2003) do find that incumbents choice of running for reelection is affected by his/her performance in the Chamber of Deputies, including presenting national level legislation and holding power positions in the hierarchy of the Chamber.⁴⁷ However, such actions have very limited effects in the actual outcome of the election. Strategies of allocating pork-barrel policies to specific localities and of concentrating or dispersing votes in distinct municipalities are more efficient reelection strategies than claiming credit for participating in debates of national level issues. Finally, Samuels has also convincingly argued that incumbents heavily rely on campaign expenditures (2001) and that levels of competition, indicated by the presence of a strong pool of challengers, effectively decrease the likelihood of incumbents' electoral success.

According to this literature, concerns with local issues supersede national ones in Brazilian legislative elections. Voters appear to reward incumbents who invest time and resources in bringing federal monies back to their electoral strongholds, not those who engage in holding important power positions in the hierarchy of the Chamber or who propose legislation with a national scope. Pereira and Renno (2003) argue that this is an indication that the main criteria voters use to punish or reward incumbents is their performance concerning municipal

⁴⁷ Leoni, Pereira and Renno (2004) confirm these results by pointing out to the importance of certain indicators of performance in the Chamber in incumbents' career choices.

level problems and issues. Voters appear to hold incumbents accountable exclusively for what they have done for the municipality. National issues play a minor role. Pereira and Renno (2003) go on to argue that accountability in Brazil is restricted to incumbents' performance in bringing improvements to the municipality.

Nonetheless, this debate has relied solely on data related to incumbents' performance in office and election return data. It completely ignores the voters' perspective, in that individual level data have yet to be analyzed. I start to fill this gap in the literature by focusing on voters' views on elections for the Chamber of Deputies. The first dependent variable analyzed explores the determinants of voting for an incumbent in opposition to voting for a challenger using the data set described earlier. In this way, the goal is to provide insights about the factors that influence vote choice for Federal Deputy.

Specialists agree that the Brazilian electoral system may lead to a more opaque relationship between voter and representative. By this I refer to the fact that electoral rules in Brazil may hinder voters' capacity to acknowledge more clearly their representatives in the Chamber of Deputies. Given that several candidates are elected and that they are not formally bound to a municipality but to the entire state, voters might not be able to pinpoint their representative exactly. This is especially problematic for voters whose candidate was not elected. In such cases, voters may find it even harder to identify their representative.⁴⁸ Moreover, there are no studies that explore voters' choices regarding Federal Deputies after the inauguration of the 1988 Constitution. Evidence that voters are able to hold representatives accountable is scant in Brazil.

⁴⁸ This problem is not as grave in single-member districts. Even though a voters' candidate might not win, the voters still knows who the single representative for that district is. In proportional representation systems with at-large districts, voters may end up having more than one representative or none from the municipality they live in.

Because more than one representative is elected by district, I do not focus on analyzing vote for a specific incumbent in a district. Instead, the goal is to evaluate how voters who vote for a Federal Deputy running for reelection, the definition of incumbent I use here, differ from voters who choose a candidate that does not hold office in the Chamber of Deputies, a challenger. The dependent variable is dichotomous, with one category representing voting for a challenger and the other voting for an incumbent. Given that the focus is on the actual vote choice, I only use data from the third wave of interviews, equivalent to a post-electoral survey.⁴⁹ Since I have independent variables measured at different levels of analysis, I use Generalized Non-Linear Hierarchical Model with a Bernoulli distribution of the dependent variable to explore the factors that increase the likelihood of voting for an incumbent.⁵⁰

Deciding between an incumbent and a challenger is a central mechanism through which voters hold those in office responsible for their actions. If voters are satisfied with incumbents, they should reelect them. If not, then voting for a challenger should be the most appropriate option. If some variables discussed below present the expected results, this may provide indication that voters are able to minimally evaluate their representatives and, hence, set them accountable. Below I show that there are clear patterns to voters' choices in Brazilian legislative elections, despite the apparent complexity of the system. Such patterns indicate that voters are able to judge representatives according to their past performance.

⁴⁹ The third wave of interviews is composed in its majority by respondents who had already answered the two previous waves. But it also incorporates voters who answered only one of the previous waves, most of them having participated in the second wave of interviews but a few who participated only in the first wave. Finally, a fresh cross-section of respondents interviewed only in the third wave is also included in the analysis. This is done to restrict problems of panel conditioning and selection bias.

⁵⁰ I did not detect problems of over or under dispersion in the analysis that follows.

5.2.1. A Model of Voting for Incumbents

The Brazilian system offers interesting opportunities to test hypotheses about the impact of information in voters' choices. Given the complexity of the system –multi-member districts, multiple parties, and an elevated number of candidates – it becomes imperative to know the most common informational shortcuts voters use when making their electoral choices. Do voters who have specific types of information behave differently from other voters in environments with different levels of complexity? Does information lead voters to make different choices? I provide answers to these questions by including in the model that explains voting for incumbents two variables that are directly related to voters' levels of information about candidates for Federal Deputy.

Two of the central variables in the model are dummies that indicate if the respondent knows a challenger (KNOWS CHALLENGERS) or knows an incumbent (KNOWS INCUMBENTS) who is candidate for Federal Deputy. A first expectation about information about candidates is that voters who know candidates' names will behave differently from those who do not. If these variables have a statistically significant impact in vote choice, this is evidence that there are differences in electoral choice caused by variation in information levels. Second, voters who know challengers' names should be less inclined to vote for incumbents. Those who know names of challengers will necessarily have more information about distinct candidates, decreasing the likelihood of voting for an incumbent.

There are a few interesting facts about the relationship between these two variables. First, they are very weakly and negatively correlated, -0.078. This means that voters tend to know either challengers or incumbents, rarely both. In fact, of the entire sample only 11% know both challengers and incumbents. Thirteen percent know only challengers and 37% know only

incumbents. Of those who know challengers, 43% also know an incumbent. On the other hand, of those who know an incumbent, only 21% also know a challenger. This means that those who are aware of challengers are more likely to also be aware of incumbents, the opposite not being true. Overall, then, voters who are aware of challengers (KNOWS CHALLENGERS) appear to be better informed about candidates than voters who know incumbents.

I also include in the analysis a measure of generalized knowledge about politics (POLITICAL AWARENESS), which is based on respondents' correct answers to a political quiz about general facts on Brazilian politics. This provides the opportunity to test how generalized information about the political system, very closely associated to the idea of encyclopedic knowledge of politics, affects vote choice (Lupia and McCubbins 1998). The expectation is that political awareness, because of its more general character, may not affect vote choices as strongly as domain specific information, such as knowing the names of incumbents and challengers.

Another variable included in the model refers directly to voters' evaluations of incumbents. This is a central hypothesis to test if voters are able to hold representatives accountable. If accountability is to take place, those who positively evaluate incumbents should vote for an incumbent. Those who are unhappy with incumbents' performance should not vote for an incumbent. Respondents were asked if they were satisfied with the performance of the candidate they voted for Federal Deputy in the previous election. My expectation is that those who were satisfied with their representative will vote for an incumbent again. This is a central aspect of accountability, because it is in the essence of punishing incumbents for wrong doing. Therefore, the variable SATISFIED WITH INCUMBENT should have a positive impact in vote for an incumbent.

Given that we know very little about how Brazilian voters make their choices for Federal Deputy and given that there is a widespread creed that such choices are simply based on clientelistic exchanges of favors or are simply done at random, with no clear pattern, it is important to verify if voters employ any criteria in choosing candidates. A decisive factor for supporting an incumbent is to be satisfied with incumbents' performance in office.

The model also includes other factors that may affect voting for an incumbent. The first refers to electoral competition between several distinct candidates at the neighborhood level (NUMBER OF CANDIDATES). There are two alternative expectations regarding the role of the number of candidates in vote choice. First, the more competition there is, the harder it is for incumbents to get reelected. If voters have more choices, this increases their ability to choose from different alternatives. This hypotheses stems directly from Mayhew's (1974) view about the role of electoral competition in single-member districts and Samuels' (2001) claim that incumbents are threatened by a large pool of qualified challengers in Brazil.

Another view about electoral competition, one that takes into account the number of candidates, focuses on the potential for information overload generated by the presence of several candidates (Redlawsk and Lau 2001; Rahn 1993). The idea is that the more candidates there are, the more complex the environment, the harder it is for voters to deal with all the information about the different candidates. The consequence is that voters become more tempted to refrain from learning about all the candidates and the consequence is an increase in incumbency advantage. The hypothesis derived from this debate is that as the number of candidates increase, the more tempted voters will be to vote for incumbents. Voters satisfice by

voting on incumbents as electoral complexity increases.⁵¹ This idea points out to the possibility that the fragmentation of vote in a specific locality between several candidates benefits incumbents.

In addition to these factors, risk acceptant behavior (RISK ACCEPTANT) may also affect voting for an incumbent. Risk acceptance is a main factor in explaining voting behavior in Mexico (Domingues and McCann 1996, Cinta 1999, Morgenstern and Zechmeister 2001). The classical view about this issue was proposed by Domingues and McCann in their discussion of the two-step decision process: First, voters decide if they will engage in the risky choice of voting for an opposition party instead of voting for the incumbent party that ruled Mexico for over 70 years. The idea is that risk acceptant voters will be more prone to vote for a challenger because they are more willing to accept the risk of electing a candidate they do not know all that well. The second step is then to decide which of the opposition parties to support. In the essence of their claim is the idea that risk acceptant behavior is contingent upon information levels.

Morgenstern and Zeichmester (2001) revise this idea and argue that the propensity of accepting risks is an individual predisposition from lack of information about challengers.⁵² In these authors view, individuals who are risk acceptant behave differently from other voters. In the Mexican case, risk acceptant voters are more prone to vote against the dominating PRI. If we generalize this claim to other electoral systems, it can be said that risk acceptant voters are, in general, more prone to support challengers. Therefore, this hypothesis is related to the decision

⁵¹ Number of candidates was measured in the same way as in the previous chapter. I also included in the model a squared term for number of candidates to test for possible non-linear effects of this variable. The rationale is that over a certain number of candidates, the effect is no longer significant.

⁵² Dominguez and McCann (1996), who originally devised this hypothesis, claimed that voters preferred the PRI because they knew little about opposition parties. This was especially true in the early 1980's, when opposition parties were relatively new, unknown forces in Mexico's political system dominated for 70 years by the PRI. However, today, voters know more about opposition parties. Morgenstern and Zeichmester claim that risk acceptance is a personal characteristic more than a consequence of lack of information. Based on their view, I enter risk acceptance alongside information levels in the right hand side of the equation.

of voting for incumbents and challengers anywhere, not just in Mexico. I test it in the Brazilian elections for Federal Deputy.

A set of dummy variables included in the model also deserves greater attention because it touches upon a central aspect of legislative elections in Brazil – the declared reasons for voting for a candidate. These include personal, local and national reasons for vote choice. These three factors are indicators of the distinct motivations that guide voting for Federal Deputy. The first two are more clearly associated with casework and pork-barrel politics. These are usually seen by the literature as less desirable reasons for voting for representatives (Ames 1995), in that they are based on the exchange of particularized goods and not on ideology or partisanship. Personal and municipal motivations are associated with distributive policies, which concentrate benefits and diffuse costs (Lowi 1964). It is also related to clientelism, where incumbent politicians, who have access to the distribution of public resources, use their power of allocating such resources to gain votes in elections. Clientelism is based on the idea of asymmetry in power between incumbents and voters, where incumbents assure their continuation in power by taking advantage of such asymmetry (Fox 1997; Gay 1994). Hence, pork-barrel, understood as a clientelistic mechanism, restricts accountability to the exchange of particularized goods and strengthens the asymmetry in power between elected politicians and voters.

This claim, in my view, is especially valid for the case of voting based on casework or personal reasons. In such case, the relation between voter and Federal Deputy is particularized to the extreme, bonding the individual voter to the representative in a dyadic relation based on asymmetries of power, the classic definition of clientelism (Fox 1997). However, voting based on municipal issues, usually pejoratively associated with pork-barrel politics, may not be so detrimental to the functioning of politics in Brazil. Undoubtedly, such policies do concentrate

benefits and diffuse costs (Lowi 1964). But because they serve the purpose of bringing improvements to specific municipalities, this provides essential services and infra-structure improvements for municipalities. Local improvements are fundamental for improving voters' everyday lives in a country like Brazil, which has widespread poverty and extremely high levels of income inequality. Hence, transfers of federal monies to specific localities can attenuate situations of extreme poverty and underdevelopment. Pereira and Renno (2003) infer, based on aggregate data, that the foundations of accountability in Brazil are related to incumbents' performance in local politics. I test such claims using individual level data. If voting for incumbents is positively affected by local factors, then Pereira and Renno's (2003) argument will be confirmed at the individual level.

Another hypothesis refers to the role of political parties. Most scholars who study political parties in Brazil claim that partisanship plays a minor role in Brazilian legislative elections. The argument is that the open-list proportional representation system creates incentives for a personal vote as well as for intra-party competition, weakening the grip of political parties over its members (Shugart and Carey 1995, Samuels 2000). Given that the final party list is defined a posteriori, based on each candidate's final vote, and fund-raising is mostly in the hands of candidates, the incentives for candidates to cultivate personal reputations and not party reputations are high (Shugart and Carey 1998). The general idea is that parties matter very little in electoral systems like the Brazilian one.

However, there are institutional minutiae that might lead to a heightened influence of parties in elections. Certain rules minimize intra-party competition. The electoral quotient, the minimum number of votes necessary for receiving a seat, is defined by the total votes aggregated by party. This creates incentives for candidates to cooperate with fellow party members,

diminishing intra-party competition.⁵³ In addition, the D'Hondt formula is employed to allocate vote remainders, favoring larger parties. Both of these rules stimulate party reputations. One other factor is that in the 2002 elections for the first time incumbents did not have their reelection bid assured. Before 2002, incumbents had the right to run for reelection, which was called the *candidato nato* (natural candidate) rule. This rule was no longer valid in 2002, increasing the discretionary power of parties when nominating candidates.

There is also documented evidence that partisanship affects vote choice for president, as was discussed in Chapter 3. Hence, it is important to include partisanship in a model that explains vote for Federal Deputy. The main question in this case is if partisanship will matter at all. Conventional wisdom in Brazil argues that party identification should not make any difference in Brazilian legislative elections. However, such hypothesis has not been tested yet.

I expect partisanship to make a difference in Brazilian legislative elections by increasing the likelihood of voting for an incumbent. Partisanship increases voters' ability to understand politics and to take sides on it. Partisans will do what ever is in their power to keep incumbents from their parties in office. In order to maximize their parties' influence in power, voters who have some party preference will predominantly opt to support incumbents. Hence, partisanship should increase the likelihood of voting for an incumbent. Voters who do not sympathize with parties are more open to choosing from different alternatives and may feel freer to choose amongst the pool of challengers.

⁵³ It is true that when political parties engage in coalitions, it is the total vote of the coalition that matters when calculating seat allocation. This certainly diminishes parties' influence over the results of the election (Nicolau 1999). However, the decision to join a coalition is still in the hands of the political parties. So, in last stance, parties do influence election outcomes.

5.2.2. Results

Table 5 presents the results for the analysis of voting for an incumbent testing the above expectations and controlling for several other factors affecting vote choice.⁵⁴ The data confirm most of the theoretical expectations discussed above.⁵⁵

TABLE 6: FIXED EFFECTS FOR LOGIT REGRESSION OF VOTING FOR INCUMBENT: BRAZIL 2002.

| Variables | Full Sample | Juiz de Fora | Caxias do Sul |
|-----------------------------------|-----------------|-----------------|-----------------|
| Intercept | 0.87*** | 2.78*** | -0.36*** |
| Number of Candidates | 0.96*** (2.61) | -0.79 (0.45) | 0.24 (1.27) |
| Number of Candidates ² | -0.04*** (0.96) | 0.05 (1.05) | -0.01 (0.99) |
| Knows Challengers | -1.76*** (0.83) | -4.21*** (0.01) | -1.04*** (0.35) |
| Knows Incumbents | 0.88*** (2.41) | 0.56*** (1.75) | 1.04*** (2.82) |
| Awareness | -0.06 (0.94) | -0.21* (0.81) | -0.04 (0.96) |
| Risk Acceptant | 0.04 (1.04) | -0.14 (0.86) | 0.11* (1.11) |
| Satisfied with Incumbent | 0.01 (1.01) | 0.94*** (2.56) | -0.42** (0.65) |
| Reason for Vote – Local | 0.07 (1.07) | 1.21*** (3.35) | -0.70** (0.49) |
| Reason for Vote – National | -0.12 (0.88) | -0.45 (0.63) | -0.16 (0.85) |
| Partisanship | 0.27*** (1.31) | 0.35* (1.41) | 0.36* (1.43) |
| Male | 0.10 (1.10) | 0.24 (1.27) | 0.20 (1.22) |
| Married | 0.03 (1.03) | -0.38 (0.68) | 0.12 (1.12) |
| Employed | 0.08 (1.08) | 0.10 (1.10) | 0.02 (1.02) |
| White | 0.10 (1.10) | 0.13 (1.13) | -0.04 (0.96) |
| Income | -0.07 (0.93) | -0.11 (0.89) | -0.12 (0.88) |
| Age | -0.00 (1.00) | 0.01 (1.01) | -0.01 (0.99) |
| Education | -0.02 (0.98) | 0.11* (1.11) | -0.05 (0.95) |
| Replacement C | 0.18 (1.19) | 0.38 (1.46) | 0.23 (1.25) |
| Problem Interviewer | 0.25 (1.28) | 0.98 (2.66) | 0.02 (1.02) |
| N Level 1 | 2541 | 1358 | 1183 |
| N Level 2 | 44 | 22 | 22 |

* = sign. <.05, ** = sign. <.01, *** = sign. <.001
(Odds Ratios in Parentheses)

First, information matters and different types of information matter differently. Voters who are more aware of challengers do not vote for incumbents (KNOWS CHALLENGERS). On the other hand, those who know incumbents vote for incumbents (KNOWS INCUMBENTS). Recall that those who know challengers are also more likely to knowing incumbents too. Hence,

⁵⁴ I control for the usual suspects: gender, age, race, income, education, marital status and employment status. I also control for the influence of the research design, including dummies for replacement respondents who entered the sample only in the third wave and for problematic interviewers.

⁵⁵ The correlations between the independent variables for this chapter are presented in Table 12 of the appendix. Correlations are overall low, indicating that collinearity is not a problem.

such voters have broader information about the election. If a voter knows at least some challengers, he/she is less prone to support an incumbent. This means that more information about candidates increases voters' ability to punish incumbents. Knowledge about more electoral options leads to more control over incumbents, an idea essential to accountability.

Political Awareness, on its turn, only affects vote choice in Juiz de Fora, and even so, just barely. Generalized information about politics – encyclopedic knowledge about politics – in fact plays a very limited role in elections. As we saw above, what matters is domain specific information focusing on the actors of the political system.

However, simply being conscious about the menu of electoral options is not enough to hold incumbents accountable. In order to punish an incumbent, the voter must be dissatisfied with his/her performance in office. The impact of voters' satisfaction with incumbents varies from one city to the other, but is statistically significant in both. In Caxias, the impact of being satisfied with incumbents presents results apparently contradictory to theoretical expectations. There is, though, a circumstantial campaign event that explains these confounding effects. Nonetheless, the important thing is that voters do evaluate candidates based on the performance of incumbents, which is a strong sign that voters are able to hold representatives accountable for their performance in office.

In Caxias do Sul, the main incumbent of the city, Germano Rigotto, did not run for reelection in 2002. Instead he successfully ran for governor, beating the incumbent administration of the Workers' Party. The other incumbent of the city, Ana Corso, was not as popular as Rigotto. In fact, she was elected a substitute deputy in 1998 and only exercised the mandate of Federal Deputy for brief periods of time.⁵⁶ On the other hand, Ivo Sartori, an

⁵⁶ In Brazil, candidates for Federal Deputy are elected either as main officeholders (titulares) or as substitutes (suplentes). Several substitutes take office because main officeholders occupy positions in the bureaucracy. This

ambitious state deputy who has been an active politician in the city, including running for Mayor in 2000, decided to run for federal deputy and received Rigotto's endorsement. Because Sartori was running for Federal Deputy for the first time, in spite of being an insider of Caxias' politics, he was coded as a challenger. Sartori is a clear example of what Samuels (2001) refers to as a strong challenger. He has been active in city and state politics for a very long time and was endorsed by a very popular politician in the city.

Sartori ended up elected in 2002, and Ana Corso again only obtained enough votes to be elected a substitute. In Caxias, a positive evaluation of an incumbent leads to a decrease in votes to incumbents, as can be seen by the negative sign of the "Satisfied with Incumbent" variable. This occurs because the main winner in the city was a challenger who was strongly endorsed by a previous incumbent. On the other hand, the candidate that was running for reelection, Ana Corso, was electorally more vulnerable than the challenger and ended up getting fewer votes than the challenger. Those who were satisfied with an incumbent, mostly Rigotto voters, ended up voting for a challenger. Hence, satisfaction with an incumbent helped elect a challenger supported by the most popular incumbent in the locality.⁵⁷ Even though this result seems contrary to theoretical expectation, in fact it shows that the endorsement of a popular incumbent who was then running for a higher office was fundamental for the success of a challenger.

In Juiz de Fora, where there was no drastic change in the electoral scenario from 1998 to 2002, it is clear that voters satisfied with the performance of their elected representative tended

was the case of Ana Corso, who took over office after a seat was vacated because a titular left for a position in the executive branch. It is important to mention, though, that the titular may return to office at his/her will. In this case, the substitute leaves office and waits for another opportunity.

⁵⁷ The situation of Caxias do Sul is similar to that of an open-seat contest in single-member districts like those of the U.S. In such cases, attribution of responsibility is less clear. Endorsements and partisanship should be stronger cues for voters in such settings than incumbency.

to vote for an incumbent. This is the finding one expects if voters are minimally able to hold their representatives accountable.

The impact of the dummy variables related to voters' reasons for voting for Federal Deputy also presents interesting results. First, national level issues have no statistically significant impact in affecting the likelihood of voting for incumbents. The incumbent vote is more clearly affected by local level factors and voters' personal reasons (the excluded category represented by the intercept). However, these impacts are different in each city. In Juiz de Fora, personal and local level factors have a statistically significant and positive impact in voting for incumbent Federal Deputies. In this city, incumbents benefit from policies that concentrate benefits and diffuse costs, as Pereira and Renno (2003) predicted.

In Caxias do Sul, incumbents do not benefit from local and personal factors. The impact of this variable decreases the likelihood of voting for incumbents. Recall that Caxias differs from Juiz de Fora in that the main incumbent did not run for reelection and endorsed a challenger. So, the inverted signs in Caxias should be analyzed with caution. In fact, they indicate that the vote for the main challenger is also affected by personal and municipal reasons for vote. In sum, voting in the elections for Federal Deputy is related exclusively to personalistic and municipal motivations. In Juiz de Fora, personal and municipal motivations benefit incumbents. In Caxias, such motivations benefit the main challenger who was endorsed by an incumbent. In sum, voters expect incumbents to invest in transferring funds to the municipality and to help voters in dealing with personal issues.

Other findings that deserve to be highlighted refer to the role of number of candidates and partisanship. First, electoral competition between several different candidates only affects vote choice in the combined sample, when the variation in number of candidates is higher. The

effect, though, is just the opposite of what Mayhew's theory about the U.S. predicts and Samuels' claims in relation to Brazil. The more competition, the more inclined voters are to vote for an incumbent. Incumbency advantage plays a more important role in complex environments. Voters satisfy by voting in incumbents in environments where they have to deal with more information about candidates. But this impact smooths off as levels of competition increase, as indicated by the negative impact of the squared term for number of candidates. Another interesting finding regards partisanship. Voters that feel closer to parties tend to vote for incumbents. Hence, political parties matter in affecting voters' choices for Federal Deputy in Brazil.

5.3. Straight-Ticket Voting

The second dependent variable analyzed refers to voting for candidates from the same party for different offices in the same election. In the case of this study, I focus on voting for Federal Deputy and for President in the 2002 elections. Voters who split their vote choose a candidate for Federal Deputy that is from a different coalition from their candidate for president.

Mainwaring and Scully (1995) have pointed out that split-ticket voting is a sign of weak political parties. It is an indication that parties are not deeply rooted in society and that they do not closely represent the interests of cross-cutting social cleavages. Split-ticket voting also has a negative impact on the strengthening of political parties, because instead of centering the political debate on programmatic proposals forwarded by political organizations, split-ticket voting is evidence of candidate-centered appeals. If Mainwaring and Scully's assessment of split-ticket voting is correct, then data from the two cities studied here confirm Mainwaring's

claim that Brazil is an example of political party underdevelopment. Thirty percent of the voters in Caxias do Sul cast a straight-ticket and even fewer, 24%, did so in Juiz de Fora. This amounts to 27% in the combined sample.

How does Brazil compare to other countries in this respect? In the United States, Lewis-Beck and Nadeau (2004) report that 78% of the respondents in the American National Election Studies (ANES) of 1992 and 80% in the 1996 ANES are straight ticket voters. However, there are major institutional differences in the party and electoral systems in Brazil and the United States that certainly underlie these distinct patterns. A more appropriate comparison would be Brazil versus other multi-party systems. However, studies on the topic outside the United States are scant.

In spite of the lack of evidence, split-ticket voting might be more common in multi-party systems for the simple reason that in such systems voters have more political parties to choose from. It might simply be harder to vote for the same party in different races when there is a multiplicity of options, not just two as is the case in the US. This is especially true when there is more than one party in the same side of the ideological spectrum, which is the case of Brazil. Hence, understanding the foundations of split-ticket voting is an important issue for all systems where the executive and legislative branches have independent mandates.

The literature focusing on the US provides some theoretical insights about the impact of split-ticket voting in the political system and what leads voters to split their vote. Although split-ticket voting is much less widespread in the US than in Brazil, those who study the topic in the US have a less critical view of the causes of split-ticket voting than Mainwaring and Scully (1995). There are several distinct points of view about this topic. Some argue that voters intentionally choose candidates from different parties for the House of Representatives and for

President to increase inter-branch accountability (Fiorina 1992, Lewis-Beck and Nadeau 2004)⁵⁸.

This view claims that split-ticket voting is in fact a positive trait of a political system, which decreases politicians' discretion by dividing power between different political parties.

Another view, espoused by Jacobsen (1990), is based on the idea that split-ticket voting is caused by the distinct dynamics that orient presidential and house elections. House elections are guided by local level dynamics and by incumbents' investment in the electoral district.

Presidential elections, on the other hand, are affected by national issues, such as defense and foreign policy. According to Jacobsen, the Democratic Party always had stronger links with local level politics through very active and engaged activists and grassroots projects. On the other hand, the Republican Party has specialized on national level issues, which leads them to win presidential elections more successfully. In Jacobsen's view, split-ticket voting is the result of the characteristics of partisan competition. It is neither good nor bad for the system; it is explained by historic factors and partisan specialization in governing.

A point of view that is overlooked by this previous literature is that when split-ticket voting leads to divided government, this may hinder voters' capacity to hold incumbents accountable by increasing incumbents' possibilities of shirking. In situations of divided government, blame-shifting is much easier than during unified government. Divided government, when different parties control the different branches of government, increases politicians' latitude to mislead voters and shift blame. Even though divided government may increase accountability without necessarily leading to gridlock, as Mayhew (1991) argues, it may blur responsibilities about the policy-making process. The potential for blame-shifting is definitely higher in divided governments than in unified governments.

⁵⁸ The literature about split-ticket voting in the United States is quite impressive. See Lewis-Beck and Nadeau (2004) for a review of this literature.

Obviously, blame-shifting distorts representation because representatives purposely shirk from their own responsibilities when blaming others. This is a clear attempt to mislead voters deliberately. Political misleading, in fact, is a common practice among politicians (Ferejohn 1990), but it probably is more common when the blame can be shifted to an adversary and divided government offers the perfect opportunity to do so.

Therefore, the impact of split-ticket voting on the functioning of the political system is not straightforward. A clearer indication of its role in the political system may be identified by uncovering the characteristics of voters who cast a straight-ticket. Systematic differences between voters who engage in straight-ticket voting and those who cast a split-ticket vote may indicate what this electoral choice represents for the political system.

5.3.1. A Model of Straight-Ticket voting in Brazil

In Brazil, it is very common that parties engage in electoral coalitions with other parties, as is the case with most multi-party systems. Coalitions are usually formed by parties on the same side of the ideological spectrum. This forcefully poses a measurement issue; in multi-party democracies, should split-ticket voting be based on party voting or coalition voting?

Given that in Brazil electoral quotas in the elections for Federal Deputy are defined at the coalition level, not the party level, and also given that most coalitions tend to be formed by parties on the same side of the ideological spectrum, split-ticket voting should be based on coalition membership. Furthermore, in the 2002 elections, a ruling of the Superior Electoral Court declared that parties were prohibited to engage in different coalitions in different states, common practice in the past.⁵⁹ Parties had to repeat in all states the coalition with the same parties they engaged in at the national level or run independently in the states where the national

⁵⁹ This measure was very criticized because it was imposed by the courts and not by a Congressional decision. Its objective, though, was clearly to nationalize local level elections for Federal Deputy and to strengthen party voting.

level coalition could not be repeated due to regional grievances between parties. There were states in which parties decided to run independently from the national coalition due to local problems. This was permitted by law, but parties could not engage in coalitions with different parties at the national and state level.

Certainly, a goal of this proposal is to increase the likelihood of straight-ticket voting. The Superior Electoral Court aimed at centering the debate in races for the Chamber of Deputies on national issues related to partisan policy proposals instead of in local level demands for the transfer of monies to specific municipalities. Another concern was with increasing the likelihood of a coat-tails effect and consequently increasing the chances that the newly elected president would have a solid basis of support in the Chamber. Governability has always been a problem in Brazil, and assuring that presidents have support in Congress has been in the core of most political reforms the country faced in the recent past.

In fact, the concern with creating a stronger basis of support for the president in Congress was central in the reforms that made presidential and congressional elections concomitant in the 1988 constitution. The 1989 victory of Fernando Collor, a president with no partisan support in Congress, and his impeachment in 1993 exacerbated the concern with stimulating straight-ticket voting. Perez-Linan has argued that the lack of a protective legislative shield – the support of a qualified majority in Congress – was in the essence of Collor's failure in dealing with Congress during the impeachment process (2002).

Another view about the problems created by split-ticket voting spurs from Ames' discussion about the deadlock of democracy in Brazil (2001). The core of his view is the idea that multiple parties generate excessive veto points, hindering governments' ability to efficiently construct stable governing majorities. In Ames' view, majorities in Congress are not stable.

They are grounded in situations similar to those of conditional party government developed to explain partisan politics in the US (Aldrich 1995), where policy making is only possible when there is preference congruence between majorities of representatives. In the Brazilian case, the absence of preference congruence is supplanted by wheeling and dealing. The Brazilian system is designed in a way that facilitates gridlock and increases the costs of governing (Ames 2001).

This view is not consensual though. Other authors point to the fact that in spite of the high number of parties, parties are still important actors in the Brazilian legislative arena. Furthermore, the flow of legislative production in Congress is not so slow and inefficient, especially during the Cardoso administration (Figueiredo and Limongi 1995, 1999, Amorim Neto and Santos 2000, Pereira 2000, Santos and Renno forthcoming, Pereira, Power and Renno Forthcoming, Amorim Neto, Cox, McCubbins 2003). A central aspect in some of these pieces is that rules inside Congress centralize the decision-making process in the hands of party leaders from the governing coalition by granting them agenda power and gate keeping posts. Hence, the centralization of power inside Congress mitigates the centripetal impact of multiple parties in the policy-making process.

In spite of this debate, all of these authors agree that the construction of a stable majority is important for governance at the national level in Brazil. This view points to the central role Congress plays in the current Brazilian policy process and to the increasing influence of political parties in affecting the functioning of Congress. In fact, Johnson and Crisp (2003) have argued that Congresses throughout Latin America have gained power in the 1990s.

The important point of this debate is the idea that the larger the coalition supporting the president in Congress, the easier it will be for the President to govern. Given that Brazil is constantly facing processes of constitutional reform that require qualified majorities in Congress,

having a stable governing coalition becomes imperative to efficiently approve reforms. Straight-ticket voting, hence, could increase presidents' ability to govern, by facilitating the construction of a broader base of support in Congress.

From the perspective of increasing governance, straight-ticket voting is a desirable trait of the political system. From the perspective of increasing accountability, the literature about straight-ticket vote indicates that it may weaken the checks and balances between the branches of government. On the other hand, straight-ticket voting may represent holding parties accountable for their performance in office and not individual politicians. Furthermore, in situations of unified government, which are dependent upon straight-ticket voting, it is much harder to shift blame and to mislead voters. Straight-ticket vote may, in this sense, strengthen accountability and it does so by shifting it from individuals to political parties.

Uncovering what are the determinants of straight-ticket voting may provide some evidence of its implications for the political system. Finally, divided government is a central characteristic of Brazilian politics. Probably only Fernando Cardoso had a solid, stable support coalition in congress (Pereira et. al forthcoming, Amorim Neto et al. 2004). It becomes important, then, to uncover the individual and contextual level factors that lead to straight-ticket voting. Such factors may shed light in the role straight-ticket voting plays in Brazil.

The main variables tested in the model below are information about incumbents and challengers, general political awareness, partisanship, number of candidates competing at the neighborhood level, mean neighborhood political conversation, positive attitudes towards specific politicians and reasons to vote for Federal Deputy, if national, local or personal. A possible hypothesis is that those who cast a straight-ticket vote are more aware of national issues, feel closer to political parties, and vote for their representatives in Congress based on national

level issues. If this is so, then straight-ticket voting is a vote choice of those who focus more on setting political parties accountable for their performance on national issues than on individual candidates and their investment in transferring funds to specific localities.

The impact of environmental and contextual variables, respectively number of candidates and mean neighborhood political conversation, has never been tested in models that explain straight-ticket voting. I expect that as competition between several candidates for Federal Deputy increases at the neighborhood level, the harder it is for voters to cast a straight-ticket. The logic of this argument is that the more options available, the greater the likelihood they will be from different parties and also the greater the opportunities for a voter to choose a candidate for Federal Deputy that is from a different coalition from his/her candidate for President.

Mean neighborhood political conversation, on the other hand, should lead to increases in straight-ticket voting. The idea is that such conversations lead to an increase in the level of information in the system about candidates. As was said before, more information should increase the overall level of attention towards politics and hence the likelihood that partisan and national issues gain salience in voters views.

The fact is there are no previous studies of straight-ticket voting in Latin American using survey data. All of the possible conjectures about its causes are thus open to empirical investigation.

I also include in the model voters' attentiveness to the Free Electoral Airtime. Schmitt, Carneiro and Kuschnir (1999) have argued that the Free Electoral Airtime increases the influence of political parties in voters' choices. If this is so, then those who are exposed to candidates' and parties' ads in the media will be more likely to cast a straight-ticket.

Finally, straight-ticket voting, as Lewis-Beck and Nadeau (2004) argue, may also be motivated by candidates' personal characteristics. That is, voters end up voting for candidates of the same party, not out of any special sympathy for the party, but because both candidates, for a coincidence, are from the same party. In such a case, straight-ticket voting is nothing but an unintentional consequence of candidate-centered voting. I control for this possibility by including in the equation variables that indicate positive evaluations of presidential candidate Lula da Silva and Jose Serra as well as candidates for Federal Deputy in both cities; Ana Corso and Jose Ivo Sartori in Caxias do Sul/ Paulo Delgado and Custodio Mattos in Juiz de Fora.

5.3.2. Results

Table 7 indicates that most of the expectations discussed above are confirmed by the data. Voters who are more politically aware, who are better informed about candidates for Federal Deputy and who feel closer to political parties are more likely to cast straight-ticket votes in all the three different samples analyzed.

TABLE 7: FIXED EFFECTS FOR LOGIT REGRESSION OF STRAIGHT-TICKET VOTING: BRAZIL 2002.

| Variables | Full Sample | Juiz de Fora | Caxias do Sul |
|--|----------------|-----------------|----------------|
| Intercept | -1.48*** | -1.74*** | -1.30*** |
| Number of Candidates | -0.16 (0.85) | -0.17 (0.84) | -1.05* (0.35) |
| Number of Candidates ² | 0.00 (1.00) | 0.00 (1.00) | 0.13 (1.13) |
| Neighborhood Political Conversation | 1.05** (2.85) | 1.36** (3.89) | 0.53 (1.69) |
| Knows Challengers | 0.54*** (1.71) | 0.51*** (1.61) | 0.54*** (1.71) |
| Knows Incumbents | 0.42*** (1.52) | 0.37*** (1.66) | 0.50*** (1.64) |
| Awareness | 0.15*** (1.16) | 0.13** (1.13) | 0.15** (1.16) |
| Reason for Vote – Local | 2.07*** (7.92) | 1.99*** (7.31) | 2.19*** (8.93) |
| Reason for Vote – National | 2.17*** (8.75) | 2.43*** (11.3) | 1.90*** (6.68) |
| Partisanship | 0.39*** (1.47) | 0.39*** (1.47) | 0.30** (1.34) |
| Free Electoral Airtime | 0.14 (1.15) | 0.11 (1.11) | 0.19 (1.21) |
| Positive Evaluation – Lula da Silva | 0.11 (1.11) | -0.02 (0.98) | -0.12 (0.88) |
| Positive Evaluation – José Serra | 0.40** (1.49) | 0.25 (1.28) | 0.54*** (1.71) |
| Positive Evaluation – Ana Corso | -- | -- | 0.49*** (1.63) |
| Positive Evaluation – Jose Ivo Sartori | -- | -- | 0.06 (1.06) |
| Positive Evaluation – Paulo Delgado | -- | 0.90*** (2.45) | -- |
| Positive Evaluation – Custodio Mattos | -- | -0.57*** (0.56) | -- |
| Male | -0.19** (0.83) | -0.27* (0.76) | -0.07 (0.93) |
| Married | -0.13 (0.87) | -0.02 (0.98) | -0.18 (0.83) |
| Employed | 0.02 (1.02) | -0.17 (0.84) | -0.04 (0.96) |
| White | 0.12 (1.13) | 0.12 (1.12) | 0.15 (1.16) |
| Income | 0.21* (1.23) | 0.18 (1.19) | 0.20 (1.22) |
| Education | 0.02 (1.02) | 0.04 (1.04) | 0.01 (1.01) |
| Age | 0.00 (1.00) | -0.00 (1.00) | 0.01* (1.01) |
| Replacement C | 0.32** (1.37) | 0.36* (1.43) | 0.27* (1.31) |
| Problem Interviewer | -0.42 (0.65) | -0.40 (0.67) | -0.18 (0.83) |
| N Level 1 | 5080 | 2568 | 2512 |
| N Level 2 | 44 | 22 | 22 |

* = sign. <.05, ** = sign. <.01, *** = sign. <.001
(Odds Ratios in Parentheses)

It is interesting to notice the impact of the variables that indicate voters' reasons for voting for Federal Deputy. Both those who vote for Federal Deputy based on national and local level issues are more prone to cast a straight-ticket vote. The excluded dummy, on this case,

voting based on personal reasons due to casework, is represented by the intercept. The impact of personal reasons for voting for federal deputy is negative on straight-ticket voting, whereas voting based on local and national issues is positively related to straight-ticket voting. Hence, those who vote for Federal Deputy based on local, municipal level factors and national level factors are quite distinct from voters who base their votes on personal reasons. On the other hand, at least when it comes to voting for the same party in legislative and executive elections, voting based on local and national level factors have similar impacts.

It is also interesting to note that electoral competition between several distinct candidates at the neighborhood does not have an effect in voters' choice of casting a straight-ticket in the full sample and in Juiz de Fora, but it does in Caxias and has the expected negative impact. This resonates with the findings of the previous chapter, where increases in the number of candidates only matters when the maximum number of candidates goes up to 5 or 6. After that, which is the case of Juiz de Fora, changes no longer matter.

Neighborhood political conversation, on its turn, also has the expected result, but only in the combined sample and Juiz de Fora. In Caxias, political interaction at the neighborhood level does not really matter for casting a straight-ticket.

Finally, straight-ticket voting also seems to be motivated by voters' candidate preference. The data indicates that voters' who support Ana Corso in Caxias do Sul and Paulo Delgado in Juiz de Fora, both members of the Workers' Party, are more prone to cast a straight-ticket vote. However, those who support Lula da Silva, the Workers' Party candidate for president are not necessarily inclined to cast a straight-ticket vote. This is an indication that most of Lula voters do not vote for a candidate from his party for Federal Deputy. On the other hand, voters who choose a Worker's Party candidate for Federal Deputy necessarily vote for Lula for President.

This indicates that not all Lula supporters vote for the Workers' Party in legislative elections, but most who vote for a Workers' Party candidate for Federal Deputy choose Lula as their candidate for President. People who vote for Lula do not necessarily vote for a candidate for Federal Deputy from his coalition. This is so because Lula has received enormous support in 2002, not just from Workers' Party sympathizers.

José Serra, the candidate from the governing party was not as popular as Lula. Serra supporters were more likely not just to vote for him, but also for a candidate of his coalition. Serra supporters are fewer than Lula supporters; hence true Serra supporters include a more concise group of voters that are also more likely to support candidates for Federal Deputy of his coalition.

5.4. Conclusion

Voters can hold politicians or political parties accountable for their performances in office. In Brazil, voters place more emphasis on holding individual candidates accountable instead of parties. This is clear by the high level of split-ticket voting; only a third of the voters vote for candidates of the same party for different offices. This does not mean, however, that voters are not holding individual politicians accountable. It simply means that instead of exercising control over parties, voters prefer to judge politicians.

It is also important to keep in mind that incumbents do not automatically receive voters' support. A similar diagnosis of vanishing marginals made by Mayhew in relation to the case of the United States certainly does not apply to Brazil (1974).⁶⁰ In Caxias do Sul in 2002, for example, the main incumbent of the city did not run for reelection. Instead he supported a

⁶⁰ According to Samuels (2001), the problem in Brazil is just the opposite, extremely high turnover rates. For a competing view see Leoni, Pereira and Renno (2004).

challenger who was an ambitious State Deputy. The result was that 57% of the voters in the Caxias sample voted for a challenger. In Juiz de Fora, since all incumbents attempted reelection, 84% of the sample in that city voted for an incumbent. However, the most important finding is that voters do seem to apply consistent criteria when judging incumbents. Voters' satisfaction with incumbents plays a role in affecting voting decisions, as well as information about candidates. The Caxias do Sul case is especially interesting because a popular incumbent who did not run for reelection was able to help a challenger win the election. In the same city, an incumbent who was not as highly evaluated was not successful in receiving votes.

Incumbents also seem to be evaluated predominantly for their efforts of investing in the municipality. In both cities, around 40% of voters focus on municipal level factors when justifying their vote for Federal Deputy.⁶¹ Around 20% of the respondents justify their choices based on national level issues and only around 5% base their decisions on having received a personal favor. Each of these motivations were coded as dummy variables and entered in the equations that explain voting for an incumbent. National motivations are never significant. Only personal and municipal factors influence voting for an incumbent.

It is also interesting to note that partisanship affects voting in Brazilian legislative elections. Voters who identify with a political party behave differently from those who do not. This is indication that parties do matter when voters make their electoral choices, even when evaluating individual candidates.

A final question is how do the criteria voters use to evaluate parties differ from that used to evaluate individual candidates? Are the variables that affect casting a straight-ticket vote similar to those that affect voting for an incumbent? This is a difficult comparison to make because the specification of these models is not identical. Nonetheless, some comparisons are

⁶¹ This amount reaches 60% if those who refrain from pointing out any reason are excluded from the sample.

possible. For instance, voters' motivations to choose a candidate for Federal Deputy have quite distinct impacts in judging individual politicians and parties. National level motivations increase the likelihood of casting a straight-ticket vote. Municipal level factors are the main influence in incumbents' evaluations. Therefore, voters' motivations to choose a candidate for Federal Deputy clearly affect straight-ticket voting differently from voting for an incumbent. On the other hand, there is evidence that both partisanship and information strongly affect voters' choices when they are setting both individual candidates as well as political parties accountable.

The central conclusion, though, is that there are clear patterns in voters' electoral decisions in spite of the political system's complex characteristics.

6. Chapter 6: Conclusion

The normative backdrop of this dissertation is the idea of accountability, of voters being able to evaluate their representatives based on their performance in office and oust incompetent, dishonest politicians from politics. Accountability is by definition related to voters' retrospective evaluation of politicians and the punishment of incumbents who do not fare well. It must be clear that this is not the only way voters come to terms with making their electoral decisions. Several authors have shown that voters employ a diverse array of strategies when casting a vote.⁶² Some voters look forward and focus on candidates' promises, other voters believe that the hardships of the present are not the responsibility of incumbents and decide to support them. Others blame factors beyond the control of politicians for the adversities of the present. In sum, there are many ways politicians can evade blame legitimately, without necessarily deceiving the voter. All of these are choices where ties between voters and representatives are not severed, where the politician is not engaging in behavior that harms the voter, without justifying this behavior to voters.

However, there clearly are situations where voters are harmed by politicians, where the public interest is not served, and politicians still manage to escape punishment. There are cases where voters are deceived by corrupt politicians. These types of relationship have been in the essence of clientelism, where politicians keep their power by controlling specific cohorts of voters and from time to time distributing personal favors in exchange for the voter's support. As Fox has argued, clientelism is based on an unequal distribution of power between individuals (1997). Disempowered voters exchange votes for crumbs, and dishonest politicians thrive. Usually, politicians who rely on clientelistic practices are the same that seek rent from the state for their own interest and in detriment of the majority. Such politicians prosper based on voters' subordinate condition and the belief that voters lack the power to punish incumbents for wrong-

⁶² See the many excellent articles in Susan Stokes' book (2001).

doing. In sum, this type of politician survives due to the lack of accountability. Unfortunately, corruption and clientelism are widespread in Latin American politics, and the lack of accountability is certainly on the roots of these problems.

Given that a majority of the population in Latin America is poor, with low living conditions and low levels of education and health, it is very easy for politicians to make a career based on clientelism. In spite of the deepening of democracy in several Latin American countries and strong reactions to traditional political practices (Chalmers et al 1997, Baiocchi 2003), some politicians still feed from the overarching inequality that corrodes the social fabric of Latin America.

Specific examples abound. Just to mention a major one: A former President (similar to the speaker) of the Brazilian Senate, Jader Barbalho, was involved in a huge corruption scandal during his most recent term as senator. He was forced to step down from the Senate in 2000 and was sent to jail for a few hours. His pictures with hand-cuffs on circulated the country, piles and piles of evidence against him were amassed, and still he won a seat in the Chamber of Deputies in the 2002 election. And this is the case of a big fish, less known cases of unpunished wrongdoing in elections abound.

Clearly, the existence of these cases is the result of pure lack of accountability; voters' inability to punish an officeholder for opportunistic behavior. It is clear that punishing incumbents is not the only way voters can and should make vote choices, but in countries with widespread corruption and abuse of power, holding those in office responsible for their actions is a requirement for the strengthening of democracy. As Pitkin has argued, if a politician is able to evade punishment for wrongdoing and is not able to justify his/her actions to the voters and still survives in office, representation is no more. Without representation, democracy ceases to be.

This dissertation attempted to explore the micro-foundations of accountability in Latin America. I argued that for voters to be able to hold their representatives accountable for what they do in office, they must have minimal amounts of information about candidates. Voters must be aware of who the contenders are and some of their basic characteristics in order to compare with incumbents. In order to evaluate incumbents, voters must also be able to evaluate them minimally, and information is in the essence of this evaluative process.

Hence, information is in the root of accountability. I tested a model of information acquisition during campaigns to identify the factors that increase voters' levels of information about candidates for Federal Deputy. I also argued that accountability is only consummated in the voting booth, when the voter makes her/his choice. Therefore, it is also important to evaluate how information, alongside other factors, affects vote choices. The second data analysis chapter explored the impact of information in voting for incumbents and in casting a straight-ticket vote, both directly related to holding politicians and political parties accountable.

The theoretical discussion that oriented the data analysis comes from the huge literature on voting behavior. Several of the concepts developed in the study of the United States were adapted to the Brazilian case and tested using a unique data set collected during the 2002 elections. A main controversy related to this literature, which I addressed in my study, regards the role of information in elections. The literature on voting behavior has come to an impasse about how much information voters must have in order to vote. This controversy has inspired a huge discussion that spans for over half a century. The key question is do voters need to be fully informed about politics or do they simply need to have minimal information about specific aspects of the political system? The literature has moved in the direction of supporting the latter. However, even such simple information is not widespread. There is variation between voters in

the minimal levels of information. Therefore, identifying the factors that explain such variation is important if one is concerned with how instructed voters are about politics.

Related to this is the question of how environments affect voters' levels of information and vote choices. This is a debate that has developed more recently in the literature about voting behavior but has gained much attention. The general view is that voters may not know enough about politics because the conditions made available to them by the political and informational environments are not prone to increasing levels of information. Clearly, a debate about environmental impact in vote choices requires variation in environments: requires the comparison of distinct environments.

Unfortunately, most studies on the topic have failed to engage in a comparative study of electoral environments. Most studies focus in only one case, the United States, where variation in environmental characteristics related to electoral competition and strength of partisanship is much lower than in Latin America. These studies have also failed in conceptualizing environments as a different level of analysis and of measuring it as such. This has lead to an overestimation of the impact of environments in vote choice.

Finally, another topic related the debate about information is the role it plays in actual vote choices. Do different types of information differently affect voting? What is more influential in voting, domain specific information or general information? These questions were also addressed in this dissertation.

I was able to explore all of the above issues using a data set that measures variation over time and across space. The research design maximized variation in electoral environments and measured voters' opinions on issues, partisanship, vote intention and information levels in three moments during the 2002 campaign. The study included two cities with very distinct political

characteristics, albeit similar in socio-economic and demographic terms, and neighborhoods inside these cities with distinct numbers of candidates competing in each. The data set captured both the dynamic process of change during a campaign as well as the cross-sectional comparison between environments. The design truly offers the possibility of a comparative study of the impact of political environments in changes in levels of information and vote choice.

These data allowed me to test several distinct hypotheses about how voters learn about candidates for Federal Deputy and how information affects vote choices. Brazil is seen as a classic example of party underdevelopment and of weak ideological divides. Cues coming from parties and based on ideology should have a lower impact in information gain and voting than in other places. With this in mind, I developed a model that incorporates all the distinct sources of information voters might have during elections. These include participation in civil society organizations, media attention, talking about politics, watching politicians' ads, all of these being indicators of voters' motivation to learn about candidates. The model also included neighborhood measures of the extent of political deliberation and the number of candidates competing in that neighborhood as a proxy for electoral competition. Finally, using interaction terms, the model also evaluated how individual level factors, linked to motivation to learn about politics, are affected by neighborhood characteristics. I never discarded the possibility of causal heterogeneity.

The results indicate that individual level characteristics are the main causes of variation in voters' levels of information in both cities studied. Voters who are engaged in civil society activism, who pay attention to the media, who talk about politics, who are exposed to attempts of persuasion, who have some form of party identification and an ideological preference are all better informed about candidates. It is true that voters without these characteristics do catch up

during the campaign. The impact of individual level variables decreases as the campaign proceeds. However, in the final wave, voters who are more motivated to learn still know more than those who are less motivated. The “information rich” do get “information richer”.

The impact of environments in learning is less straightforward. Environments provide the opportunities to learn. It was argued that in environments where the number of candidates competing is very high, it is harder for voters to learn because the cognitive complexity of the setting is enhanced. Therefore, environments not just provide incentives for learning, they can also generate constraints. This contradicts initial views about the role of competition in elections. Zaller (1992) and Mayhew before him (1974) have argued that the more competition leads to the more informed voters. This is only true for systems where increases in competition are limited to the addition of a single strong challenger to the race. In environments where competition occurs between more than two candidates, then increments in the number of candidates may hinder voters’ ability to learn about the different alternatives.

Such a hypothesis is directly related to Lupia and McCubbins’ (1998) and Sniderman’s (2000) claim that the role of cues in voters’ ability to learn about candidates changes according to the characteristics of political institutions that surround voters. Environments, in the form they are used here and following Huckfeldt and Sprague’s work (1990), is a direct result of the institutional framework of a locality. Levels of competition in Brazil are so high and variegated because electoral rules allow politicians to concentrate their efforts in specific localities inside the electoral district. Electoral rules stimulate a concentration of campaigning in different environments, which leads to variation in the number of candidates competing in a specific locality. In addition, political parties are not equally weak throughout Brazil. Hence, there are cities like Caxias do Sul where there is a strong partisan divide based on ideological and class

disagreements. The research design mentioned above took advantage of this and allowed me to engage in a comparative study of electoral environments.

First, I found that the impact of number of candidates is not identical in both cities and in all three waves. In Juiz de Fora, where variation in the number of candidates ranges from around 6 to about 10 candidates competing in a neighborhood, increments in the number of candidates do not alter voters' levels of information. Furthermore, as the campaign proceeds, voters know more about candidates. When competition is restricted to a high number of candidates, environments do not seem to decisively intervene in voters learning processes.

In Caxias do Sul the impact is totally distinct. Where variation is restricted to about 2 candidates to around 5 candidates, increments in number of candidates do decrease voters' ability to learn. Higher numbers of candidates do appear to decrease voters levels of information, as Lau and Redlawsk (2001) argued. However, the impact of this variable is not uniform in all three waves of interviews in Caxias do Sul. As the campaign proceeds, voters embedded in environments with very low levels of competition, where one candidate dominates most votes, do not learn about other candidates. Levels of information decrease as the campaign proceeds in environments with extremely low numbers of candidates competing. In the third wave of interviews in neighborhoods where only one candidate received most votes, voters actually knew less about other candidates than when they were first interviewed, early in the campaign. This was the only occasion in which levels of information did not increase over the campaign. Curiously, this specific instance supports Mayhew's expectation about the vanishing marginals; when one candidate dominates most votes of a locality, voters learn less about incumbent and challengers, and accountability is in risk.

Hence, environments that are polarized, where political parties are strong, and where electoral competition is very low do not generate incentives for learning. Voters stick to their most preferred candidate and do not even bother learning about other alternatives. In my view, this is an impediment for judging the incumbent. It is as if voters had no opportunities to learn. Again, the assumption is that if there is no learning, if there is no informational gain about candidates, accountability is at risk.

This assumption is actually backed by evidence in the analysis of the impact of information in vote choices. Information does affect choice. Voters who are more aware about challengers are less likely to support incumbents. Voters who are better informed choose differently from those who are less informed.

In addition, when it comes to choosing their candidates for Federal Deputy, voters seem to be able use distinct criteria to make electoral choices. There are clear patterns to how voters choose their candidates for Federal Deputy. Voters take into consideration incumbents' previous behavior. Partisanship also impacts voters' choices for Federal Deputy.

The same is also true in the case of those who vote for candidates of the same party. Better informed, more partisan voters are more likely to cast a straight-ticket vote. In spite of the complexity of the electoral environment, there is a rational for choosing a candidate for the Chamber of Deputies. Such vote is not a random decision voters engage in. It involves reasoning and consideration.

There are implications of these findings for reform proposals of the Brazilian political system. Restricting the number of candidates too much, in environments where competition is more polarized and political parties are stronger, like the case of Caxias do Sul, is detrimental for voters' ability to learn during the campaign. Recall that the only occasion in which voters' levels

of information were lower after the election in comparison to the beginning was where one candidate dominated most of the local votes. This is the only situation in which voters did not gain information during the campaign. In fact, it might be that it is lack of competition between various candidates that still allows for the electoral survival of corrupt, clientelistic politicians. Voters might feel compelled to support these types of politicians for pure lack of options. The dilemma the Mexican voter faces, better the devil you know than the saint you do not, might be in the root of the survival of corrupt, clientelistic incumbents in Brazil. The issue then would be to discover how impervious the electoral strongholds of these politicians are, but this would be the subject of future studies.

However, one must not lose sight also that increments in the number of candidates competing in a neighborhood in a single moment of the campaign leads to decreases in levels of information, especially in Caxias do Sul. Furthermore, as was discussed in Chapter 5, as the number of candidates increase, voters appear to be more likely to vote for incumbents. This is an indication that instead of stimulating learning about challengers, higher number of candidates appears to increase the cognitive complexity of the election, leading voters to satisfy and choose the easiest alternative, vote for an incumbent.

A combination between reducing competition and still allowing for the existence of more than two candidates seems to be the appropriate solution for this problem. Therefore, changing the system from proportional representation, to single-member districts could actually lead to more negative externalities than anything else. The cutting of districts would be such a problematic issue that it could give gerrymandering a new meaning! It also seems that dramatically reducing the number of parties, to say two, could also lead to problems. It is only in Caxias do Sul, where parties are strong and ideological divides cross-cutting that voter's loose

information when competition is restricted to two candidates. As Mayhew argued, a problem of vanishing marginals, of excessive domination by a single candidate, reduces voters' ability to learn and to hold politicians accountable. It seems that the trick is to strike a balance by reducing the number of candidates, without necessarily altering the multi-party nature of Brazilian.

An alternative, simpler, option is to reduce the number of candidates parties are allowed to nominate. In Brazil, parties can nominate up to one and half the number of candidates in relation to seats available. This means that in the state of Minas Gerais, which has 53 seats, parties can nominate up to 79 candidates for Federal Deputy. Given that there are 27 parties registered in the state, it becomes easy to understand why there were 554 candidates for Federal Deputy in the 2002 elections in Minas Gerais. Two things can be done: increase the entrance barrier for parties, so that the number falls to a more manageable size, and restrict the number of candidates each party can nominate. The second change is actually very easy to implement. It only requires a simple majority in Congress. The more stringent entrance barriers were already defined and will become effective in the 2006 elections.

The goal of a successful reform of the Brazilian political system, from the standpoint of increasing accountability, is one that maximizes voters' ability to learn about candidates in the elections for the Chamber of Deputies. Reducing the complexity of the system is a step in that direction. As was seen, not just electoral complexity hinders learning, other factors increase voters ability to learn. Strengthening partisanship, stimulating participation in civil society organizations and increasing access to diversified news sources are also factors that should increase voters' motivation to learn. All of these factors lead to increased knowledge about politics. A country that so desperately needs accountability will only benefit if voters' motivation to learn about politics is stimulated and environmental complexity reduced.

A final word: The study of voters' levels of political information and its impact in electoral choices in Latin America is completely open to investigation. This dissertation only started to scratch the surface of this debate and more research is certainly called for. Certain areas are strong candidates for future studies. First, almost nothing is known about voters' levels of information about other topics related to politics, such as how much voters know about issues, about candidates' stances on issues, on governmental policies, and so many other facets of politics. A full exploration of what type of information voters have about the political system in Latin America is certainly necessary.

Second, this dissertation pointed very briefly to a very disturbing facet of the patterns of distribution of information in Brazil; there is a clear racial and gender gap in informational levels. White men are more likely to be better informed than African-Brazilians and women. Such patterns of informational biases can lead to an aggravation of the current situation of groups that are already discriminated against in Brazil. Delli Carpini and Keeter (1996) and Mondak and Anderson (2004) document this same phenomenon in the United States. Similar investigations are necessary in Brazil, where problems of racial discrimination are rampant. The implications of unequal distributions of political information can play a reinforcing role in the already underprivileged and subordinate life condition of so many Brazilians, with devastating effects for the strengthening of democracy in the country.

The study of political information in Latin America is uncharted territory. This dissertation attempted to start to explore this territory. It provided some insights about what increases voters' levels of information and how information affects specific vote choices in the race for Federal Deputy. There are clear patterns in learning about politics and in vote choices related to holding individual politicians and political parties accountable. Some of these findings

indicate that variables like partisanship and ideology play a significant role in Brazilian legislative elections, contrary to the expectations of pundits and laymen alike. It also shows that environmental conditions should not be ignored. Learning and voting are not only a consequence of individual preferences and behavior but are also affected by the environments in which voters are embedded.

APPENDIX

**TABLE 8: DEMOGRAPHIC AND SES VARIABLES FOR JUIZ DE FORA AND
CAXIAS DO SUL: BRAZIL, 2000.**

| Variable | JUIZ DE FORA | CAXIAS DO SUL |
|--|--------------------|--------------------|
| Population | 456796 | 360419 |
| Literate Population over 10 years of Age | 367844 | 290772 |
| Hospitals | 17 | 4 |
| Enrolled in Elementary School | 79836 | 57410 |
| Enrolled in High School | 26705 | 15268 |
| Voters | 312474 | 229614 |
| Number of Business Enterprises | 16132 | 17991 |
| Employed Personnel | 106787 | 115328 |
| Banks | 35 | 41 |
| Municipal Tax Revenue | R\$ 48,059,511.73 | R\$ 30,423,079.32 |
| Budgetary Expenditures | R\$ 203,254,396.05 | R\$ 121,228,964.84 |
| Federal Transfers | R\$ 11,077,834.08 | R\$ 9,794,409.82 |
| Federal Educational Fund | R\$ 15,410,838.80 | R\$ 18,337,538.68 |
| Wages paid by Local Businesses | R\$ 527,387,654.00 | R\$ 753,334,828.00 |
| Deaths - external causes | 273 | 231 |
| Deaths - younger than 1 year old | 217 | 123 |
| Deaths | 4080 | 2014 |

Source: IBGE, Brazilian Census 2000.

TABLE 9: DATA CHARACTERISTICS.**Juiz de Fora, MG**

| Wave | Interviews | Replacements | Attrition |
|-------------|------------|--------------|-----------|
| March/April | 2447 | | |
| August | 2299 | 410 | 23% |
| October | 2594 | 479 | 15% |

Caxias do Sul, RS

| Wave | Interviews | Replacements | Attrition |
|-------------|------------|--------------|-----------|
| March/April | 2433 | | |
| August | 2208 | 484 | 29% |
| October | 2528 | 577 | 24% |

Sample Size: 14509

Attrition:

31% in Juiz de Fora 1689 Subjects Responded 3 waves

44% in Caxias do Sul 1359 Subjects Responded 3 waves

38% Combined Sample 3048 Subjects Responded 3 waves

TABLE 10: VARIABLES AND OPERATIONALIZATION

| VARIABLES | Description |
|---|--|
| Opportunities | |
| Number of Candidates | Juan Molinar's Count of Number of Candidates in Neighborhood |
| Number of Candidates ² | Juan Molinar's Count of Number of Candidates in Neighborhood Squared |
| Mean Neighborhood Political Conversation (MNPC) | Neighborhood Mean of the Index of Political Conversation |
| Individual Motivation | Description |
| Partisanship | 2 = Identifies Strongly with a Political Party; 1 = Identifies Weakly with a Political Party; 0 = Does not Identify with Political Party |

| | |
|------------------------|---|
| Ideology | 1 = Self-places in a Left-Right Ideological Continuum; 0 = Does not self-place in a Left-Right Ideological Continuum |
| Awareness | Index composed by responses to political knowledge questions. Items include knowledge about the office of an important local politician, of the Vice-President's name, the political party of President Cardoso, countries that belong to the Mercosur, name of a Senator from the state and name of the President of the Chamber of Deputies. Min: 0. Max: 7. Cronbach's Alpha: 0.67 |
| Civil Society Activism | Index composed by responses to items on participation in organizations of the civil society. Includes participation in Neighborhood associations, Sport Clubs, Church Groups, Labor Unions, and meetings of the Participatory Budget. Min: 0. Max: 6. Asked only on the first wave of interviews and carried forward. |
| Political Conversation | Index composed by responses to items on habits of talking about politics with neighbors, friends, at work, and with family members. Min: 0. Max: 1 Cronbach's Alpha: .59 |
| Media | Index composed by responses to items on frequency of watching the top two most watched television news broadcasts by the respondent in a week and the frequency of reading the top two newspapers most read by the respondent in a week. Min: 0. Max: 26. |
| Persuasion | Index composed by responses to items about exposure to attempts of persuasion by other citizens, party activists and members of the neighborhood association. Min: 0. Max: 3 |
| Free Electoral Airtime | Dummy variable for having watched the Free Electoral Airtime programs for Federal Deputy. |
| Individual Ability | Description |
| Education | Response to item on last school year attended. Ranges from 0, illiterate, to 15, completed graduate school. |
| Age and Age2 | Age of respondent based on response on year of birth. Squared Value of Age. |

| | |
|-----------------------------|---|
| White | Response to self-description of item on skin color. 1= White, 0 = Non-White. |
| Income | Coded 1 if Respondent earns \$1000 or more and 0 if respondent earns less than \$1000. Divided based on the income value of the top third percentile. |
| Married | Receives value 1 if respondent is formally or informally married. |
| Employed | 1 if respondent is employed, 0 otherwise. |
| Design Controls | Description |
| Problem Interviewer | Some interviewers were caught falsifying questionnaires. The falsified questionnaires were discarded. The questionnaires by these interviewers that were not falsified were controlled for. The variable receives value 1 if it was done by an interviewer caught falsifying. |
| Questionnaires Entered Once | 1 if questionnaires were only checked once, 0 otherwise. |
| Replacements Wave B | 1 if the respondent was part of a fresh cross-section interviewed in wave 2, 0 otherwise. |
| Replacements Wave C | 1 if the respondent was part of a fresh cross-section interviewed in wave 3, 0 otherwise. |
| Knows Challengers | Receives values from 0 to 3. 0 means the respondent does not know the name any challenger. Values from 1 to 3 indicate the number of challengers the voter can state. |
| Knows Incumbents | Identical to above variable, only that indicates knowing names of incumbent Federal Deputies. I cross-checked lists of candidates who ran for office and of lists of current Federal Deputies with the names mentioned by the respondent. |

| | |
|---|--|
| Risk Acceptant | Dummy variable indicating if voter is more risk acceptant. The questionnaire item asked the respondent which of the following two options they agreed more with: better a bird in the hand than two in the bush, or those who don't take chances, don't make gains (quem não arrisca não petisca). Those who agreed more with the latter were considered risk acceptant individuals. |
| Satisfied with Incumbent | Respondents were asked how satisfied they were with incumbents. Response alternatives included very satisfied, satisfied, dissatisfied and very dissatisfied. Those who said they were satisfied or very satisfied were coded 1, all others coded 0. |
| Reason for Vote | Respondents were asked the main reason for choosing their candidate for Federal Deputy. Response alternatives included "because he/she will help my city", "he/she will present projects with a national scope" and "because he/she has helped me before". A dummy variable was created for each response. |
| Positive Evaluations of Politicians: Lula da Silva and José Serra, both presidential candidates: Ana Corso and José Ivo Sartori, candidates for Federal Deputy in Caxias: Paulo Delgado and Custodio Mattos, candidates for Federal Deputy in Juiz de Fora. | These responses were based on feeling thermometers. Those who felt strongly towards a candidate were coded 1, all the other responses were coded 0. Strong feelings were those who ranked 8 or higher on a scale from 0 to 10 where 10 indicates liking the candidate very much and 0 not liking him/her at all. |

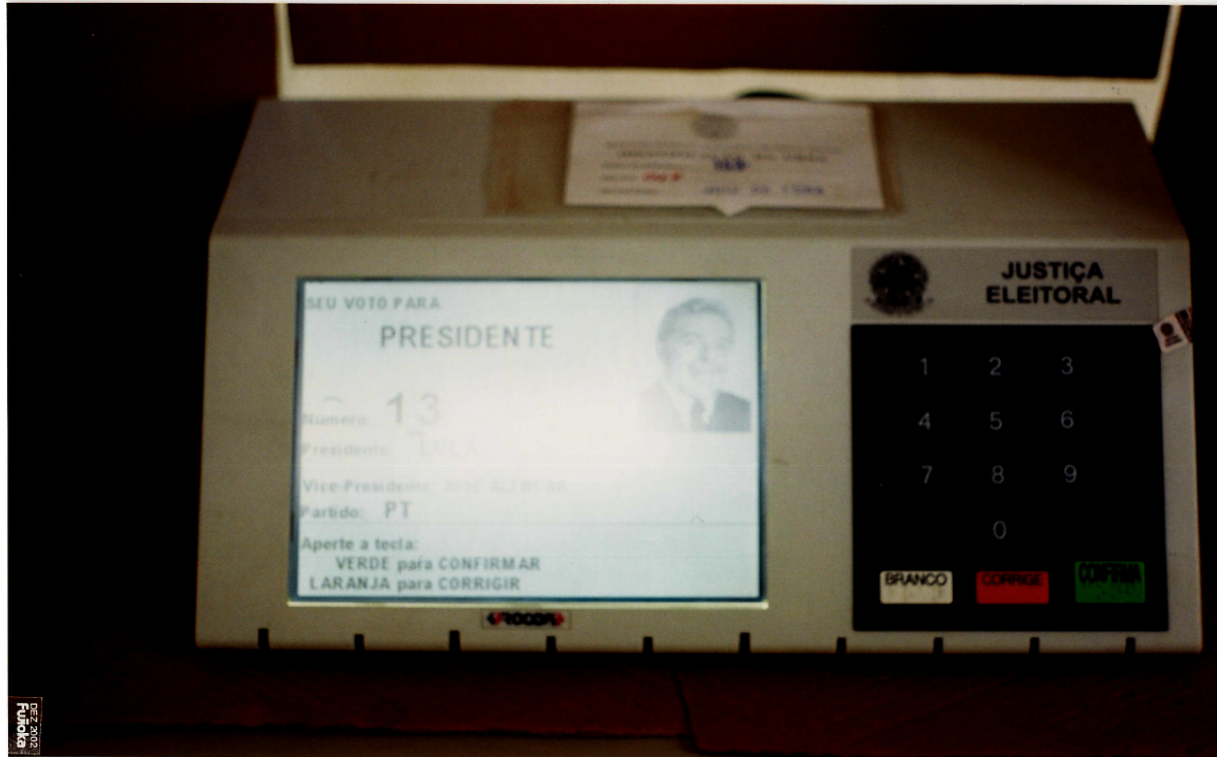


Figure 3: Electronic Ballot Used in Brazilian Elections

INDIVIDUAL GROWTH CURVE MODEL

Level-1 Model

$$E(Y|B) = \text{EXPOSURE} * L$$

$$V(Y|B) = \text{EXPOSURE} * L$$

$$\log[L] = P0 + P1*(\text{TIME})$$

Level-2 Model

$$P0 = B00 + B01*(\text{MOTIVATION}) + B02*(\text{ABILITY}) + R0$$

$$P1 = B10 + B11*(\text{MOTIVATION}) + B12*(\text{ABILITY}) + R1$$

Level-3 Model

$$B00 = G000 + G001(\text{ENVIRONMENTAL OPPORTUNITIES}) + U00$$

$$B01 = G010 + G011(\text{ENVIRONMENTAL OPPORTUNITIES}) + U10$$

....

Combined Model

$$\begin{aligned} \log[L] = & G000 + G010(\text{MOTIVATION}) + G001(\text{ENVIRONMENT}) + \\ & \underline{G011(\text{ENVIRONMENT})*(\text{MOTIVATION})} + \\ & \underline{G100(\text{TIME})} + \underline{G110(\text{TIME})*(\text{MOTIVATION})} + \\ & \underline{G101(\text{TIME})*(\text{ENVIRONMENT})} + \\ & \underline{G111(\text{TIME})*(\text{MOTIVATION})*(\text{ENVIRONMENT})} + \underline{R0 + R1 + U00 +} \\ & \underline{U10} \end{aligned}$$

Figure 4: Equation of Information Acquisition Model

TABLE 11: CORRELATIONS OF INDEPENDENT VARIABLES IN CHAPTER 4

| | PO LIT ICA L AW AR EN ESS | PE RM AN EN TL Y EM PL OY ED | AC TIV ISM | PO LIT ICA L CO NV ER SA TION | ME DIA | PE RS UA SIO N | IDE OL OG Y | FR EE EL EC TO RA L AIR TI ME | INC OM E | AG E | ED UC ATI ON | PA RT Y ID |
|------------------------|--|---|-------------------|---|--------------|----------------------------|----------------------|--|-------------------|-------------------|-----------------------|---------------------|
| POLITICAL AWARENESS | 1 | .173 (**) | .072 (**) | .306 (**) | .393 (**) | .111 (**) | .293 (**) | .123 (**) | .284 (**) | .058 (**) | .412 (**) | .164 (**) |
| PERMANENTLY EMPLOYED | .173 (**) | 1 | .045 (**) | .219 (**) | .079 (**) | - .030 (**) | .103 (**) | - .039 (**) | .141 (**) | - .215 (**) | .263 (**) | .060 (**) |
| ACTIVISM | .072 (**) | .045 (**) | 1 | .171 (**) | .100 (**) | .088 (**) | .069 (**) | .047 (**) | - .010 (**) | .058 (**) | - .018 (*) | .120 (**) |
| POLITICAL CONVERSATION | .306 (**) | .219 (**) | .171 (**) | 1 | .277 (**) | .157 (**) | .255 (**) | .083 (**) | .153 (**) | - .207 (**) | .337 (**) | .186 (**) |
| MEDIA | .393 (**) | .079 (**) | .100 (**) | .277 (**) | 1 | .115 (**) | .214 (**) | .146 (**) | .210 (**) | .075 (**) | .284 (**) | .140 (**) |
| PERSUASION | .111 (**) | - .030 (**) | .088 (**) | .157 (**) | .115 (**) | 1 | .098 (**) | .123 (**) | .004 (**) | .012 (**) | .084 (**) | .079 (**) |
| IDEOLOGY | .293 (**) | .103 (**) | .069 (**) | .255 (**) | .214 (**) | .098 (**) | 1 | .073 (**) | .115 (**) | - .059 (**) | .212 (**) | .212 (**) |
| FREE ELECTORAL AIRTIME | .123 (**) | - .039 (**) | .047 (**) | .083 (**) | .146 (**) | .123 (**) | .073 (**) | 1 | - .005 (**) | .034 (**) | .032 (**) | .087 (**) |
| INCOME | .284 (**) | .141 (**) | - .010 (**) | .153 (**) | .210 (**) | .004 (**) | .115 (**) | - .005 (**) | 1 | - .039 (**) | .387 (**) | .011 (**) |
| AGE | .058 (**) | - .215 (**) | .058 (**) | - .207 (**) | .075 (**) | .012 (**) | - .059 (**) | .034 (**) | - .039 (**) | 1 | - .409 (**) | - .067 (**) |
| EDUCATION | .412 (**) | .263 (**) | - .018 (*) | .337 (**) | .284 (**) | .084 (**) | .212 (**) | .032 (**) | .387 (**) | - .409 (**) | 1 | .098 (**) |
| PARTY ID | .164 (**) | .060 (**) | .120 (**) | .186 (**) | .140 (**) | .079 (**) | .212 (**) | .087 (**) | .011 (**) | - .067 (**) | .098 (**) | 1 |

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

TABLE 12: CORRELATIONS OF INDEPENDENT VARIABLES IN CHAPTER 5

| | Risk acceptant | Politi cal aware ness | Reaso n for vote local | Reaso n for vote nation al | Reaso n for vote self | Satisf ied with incum bent | Party id | Perm anentl y emplo yed | Inco me | Age | Educa tion | Know s challe nger | Know s incum bent |
|----------------------------------|-------------------|--------------------------------|---------------------------------|--|--------------------------------|--|---------------|-------------------------------------|--------------|---------------|---------------|-----------------------------|----------------------------|
| Risk acceptant | 1 | .029(*) | -.045(**) | .051(**) | .012 | .014 | .066(**) | .036(**) | .045(**) | -.190(**) | .166(**) | -.020 | .054(**) |
| Political awareness | .029(*) | 1 | .058(**) | .172(**) | -.013 | .275(**) | .152(**) | .158(**) | .292(**) | .047(**) | .425(**) | .270(**) | .384(**) |
| Reason for vote – local | -.045(**) | .058(**) | 1 | -.439(**) | -.146(**) | .074(**) | -.020 | -.002 | -.004 | .072(**) | -.041(**) | .089(**) | .109(**) |
| Reason for vote – national | .051(**) | .172(**) | -.439(**) | 1 | -.087(**) | .127(**) | .111(**) | .080(**) | .087(**) | -.053(**) | .193(**) | .115(**) | .158(**) |
| Reason for vote – self | .012 | -.013 | -.146(**) | -.087(**) | 1 | .017 | .000 | -.018 | -.007 | .018 | -.002 | -.007 | .046(**) |
| Satisfied with incumbent | .014 | .275(**) | .074(**) | .127(**) | .017 | 1 | .117(**) | .076(**) | .102(**) | .124(**) | .127(**) | .091(**) | .295(**) |
| Party id | .066(**) | .152(**) | -.020 | .111(**) | .000 | .117(**) | 1 | .053(**) | .021 | -.092(**) | .114(**) | .042(**) | .127(**) |
| Permanently employed | .036(**) | .158(**) | -.002 | .080(**) | -.018 | .076(**) | .053(**) | 1 | .128(**) | -.218(**) | .248(**) | .114(**) | .060(**) |
| Income | .045(**) | .292(**) | -.004 | .087(**) | -.007 | .102(**) | .021 | .128(**) | 1 | -.029(*) | .382(**) | .158(**) | .136(**) |
| Age | -.190(**) | .047(**) | .072(**) | -.053(**) | .018 | .124(**) | -.092(**) | -.218(**) | -.029(*) | 1 | -.404(**) | .012 | -.003 |
| Education | .166(**) | .425(**) | -.041(**) | .193(**) | -.002 | .127(**) | .114(**) | .248(**) | .382(**) | -.404(**) | 1 | .156(**) | .288(**) |
| Knows challenger | -.020 | .270(**) | .089(**) | .115(**) | -.007 | .091(**) | .042(**) | .114(**) | .158(**) | .012 | .156(**) | 1 | -.078(**) |
| Knows incumbent | .054(**) | .384(**) | .109(**) | .158(**) | .046(**) | .295(**) | .127(**) | .060(**) | .136(**) | -.003 | .288(**) | -.078(**) | 1 |

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

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