

Can Politicians Police Themselves? Natural Experimental Evidence from Brazil's Audit Courts

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Abstract

To improve government accountability, policymakers and reformers have advocated the creation of auditing institutions that can monitor and punish lawbreaking elected officials. Yet these institutions differ greatly in their willingness to punish corrupt politicians, which is often attributed to variation in audit institutions' degree of independence from the political branches. In this analysis plan, we propose to test this hypothesis, by taking advantage of a natural experiment embedded in Brazil's State Audit Courts to study how variation in the political insulation of independent auditors affects political accountability. To do so, we propose examining whether auditors appointed by the executive or the legislative branches punish lawbreaking politicians at lower rates than bureaucrats insulated from political influence. Additionally, we will examine whether appointed auditors exhibit partisan bias in their decisions and whether this bias decays with time. Inferences will have strong internal validity as assignment of auditors to cases occurs by random lottery.

1 Introduction

Elections are the defining institution of democracy, yet disappointment with electoral competition's capacity to reliably produce the rule of law is widespread (Collier 2011; Fukuyama 2011). Similarly, Madisonian solutions, such as the separation of powers between independently elected executives and legislatures, have frequently failed to foster robust oversight of state functions (O'Donnell 1994; Morgenstern and Manzetti 2003). This disappointment has led scholars and policy makers to argue for the creation of institutional arrangements that can compensate for these failures to ensure that officials, particularly members of the executive branch, govern within the bounds of the law. Disillusionment with standard institutional solutions has led to increasing attention to the creation and functioning of *unelected* institutional bodies designed to oversee the state and sanction law breaking by the elected branches.

Among the most common non-elected institutional solutions proposed for constraining the state are "auditing agencies" or formally independent bodies tasked with monitoring government compliance with the law and, in many cases, sanctioning noncompliance. Multilateral agencies such as the World Bank and the Inter-American Development Bank argue that these agencies can be "an essential instrument for development, promoting good governance by improving public sector management" (Dye and Staphenurst 1998, pg. 10). Prominent theoretical analyses of good governance suggest that horizontal accountability necessitates "state agencies that are authorized and willing to oversee, control, redress, and if need be sanction unlawful actions by other state agencies" (O'Donnell 1998, pg. 19). Of course, the degree to which these agencies actually are able and willing to confront elected officials who break the law differs greatly across contexts (Santiso 2009). To explain this variation, scholars have emphasized—among other factors—the importance of institutional design (Diamond 2002; Moreno, Crisp, and Shugart 2003). Of particular importance are the rules governing how the unelected officials charged with monitoring the state are chosen, particularly the degree to which the process is shielded

from political considerations. Yet, in stark contrast to the vast literature on the institutional rules governing legislatures and executives, empirical assessments of the rules structuring audit agencies and related agencies of horizontal accountability are relatively few.¹

In this research plan, we propose to study how the rules governing auditor selection affects the outcome of audits and the extent to which these outcomes are politically biased. Specifically, we take advantage of two unique institutional features governing state-level auditing institutions in Brazil that create natural experimental leverage to test the link between selection rules and audit outcomes. First, state-level audit courts are composed of board members² who are selected by different procedures: (1) appointed by the executive with few restrictions, (2) appointed by the legislature with few restrictions, (3) appointed by the executive where the nominated member must be a career bureaucrat, and (4) professional "substitute" auditors who are not appointed by the electoral branches. In general and as we discuss in detail below, these selection rules create two sets of auditors: professional bureaucrats and professional politicians. Second, annual audits of government agencies and subnational governments are assigned by *random* lottery to each of the board members. These two institutional features create variation in the types of officials that are tasked with identifying and punishing malfeasance but remove the potential for confounding induced by strategic selection by the auditors of government actions to investigate. Thus, the research design allows for robust causal inferences on the relationship between official-type and decision-making in investigations of government lawbreaking.

Audit institutions such as Brazil's Audit Courts are quite heterogeneous organizations that vary both on how the information they generated is used and how they are structured (Santiso 2009; Speck 2011). Most generally, audit institutions are unelected public

1. Important exceptions include Mello, Pereira, and Figueiredo (2009), Santiso (2009), and Blume and Voigt (2011)

2. Following Mello, Pereira, and Figueiredo (2009) we translate *conselheiros* as board members.

agencies tasked with generating information about state activities that can be used for a variety of purposes by policymakers, bureaucrats, and the broader public. A primary function of this information is to provide actors—such as legislatures, public prosecutors, and voters—an evidentiary basis for punishing lawbreaking (Schedler 1999). Another common use for information generated by audit institutions is to identify inefficiencies and otherwise poor performance in policy implementation, which can be used by policymakers to reform government processes. In some cases, audit institutions can directly sanction lawbreakers, but generally these agencies are dependent on other actors such as public prosecutors and courts to punish misconduct. The heterogeneity in their goals and capacities is reflected in variation in institutional organization. While some audit institutions are organized around a chief auditor, others are headed by a collegial body or panel of board members, as is the case of Brazil’s Audit Courts.³ Another dimension of variation, which we propose to examine empirically, is the relationship between the audit institution and the political branches.

The degree to which audit institutions or any bureaucracy in a democracy fulfill their intended role is linked to their relationship with the elected branches and the relationship of the elected branches with each other (Moe 1984, 768-9). Of chief importance is institutional *independence*, i.e. the degree to which the selection and survival in office of the institution’s agents is controlled by elected officials (Wood and Waterman 1991). On one extreme of no independence, a chief auditor may be unilaterally appointed by the executive and serves at his or her pleasure. In this case, the chief executive might prefer to select an agent interested in ferreting out deviations of the bureaucracy from the executive’s preferred policies, but who also show little interest in the exposure of politically damaging law breaking by the executive himself or his allies. At the other extreme

3. Santiso (2009, p. 50) identifies three ideal types of audit institutions: the monocratic model, the court model, and the board model. According to his typology, audit institutions are differentiated by the decision-making structure, formal links to the political branches, and the rules of appointment for the top decision makers. He categorizes Brazil’s Audit Courts as falling under the court model because of ambiguity over its principal, quasi-judicial character, and the collective decision-making structure.

of high independence, auditors may be given life tenure by a committee of experts with no formal links to elected officials. Auditors picked under such an arrangement are presumably more willing to confront executive law breaking. Lack of independence does not imply that auditors cannot generate useful information and sanction wrongdoing, but standard delegative models do predict that their behavior will be aligned with the preferences of the electoral authorities that control their selection and persistence in office (Calvert, McCubbins, and Weingast 1989). Audit agencies are often beholden to legislative majorities, for example, and thus likely to be biased in favor of officials belonging to the majority party or coalition. Yet even these legislature-beholden audit agencies may be quite willing to expose malfeasance by the executive, particularly during periods of divided government. Of course, executive dominance of the legislature through partisan ties or patronage is not uncommon, so even nominal independence from the executive may be undermined by cross-branch collusion.

Our proposed research design enables us to test the empirical relevance of the predictions that arise from delegative models of separation of powers when applied to agencies of horizontal accountability. Randomization of cases to board members and a dependent variable that is comparable across units gives us an unusually strong opportunity to test our proposed hypotheses. Furthermore, in contrast to the existing empirical literature which has relied on cross-national comparisons (Blume and Voigt 2011) and cross-sectional observational studies (Schelker and Eichenberger 2010) potentially confounded by unmeasured factors, we can compare the behavior of different types of officials in a common institutional setting. These design features allow us to observe the degree to which politicians on the Audit Court behave similarly to bureaucrats, appointed or unappointed, when judging other politicians and thus assess how much political incentives distort political accountability. The answers we obtain will have important implications for institutional design, for if politicians behave very differently from bureaucrats when tasked with ferreting out corruption and law breaking, the case for insulation of audi-

tors from the elected branches may be considerably strengthened. If, on the other hand, politicians do not exhibit bias towards other politicians, then this would suggest that concerns over political influence via the appointment process are exaggerated or overcome by other institutional factors.

While it is somewhat unusual for officials in a single organization to be chosen by distinct principals,⁴ the individual selection mechanisms are similar to the procedures used to staff the national audit agencies across the world (Speck 2011, . 152-153). In Peru, for example, the head of the national audit agency (*Contralor General*) is appointed by the president, with confirmation by the legislature. In Mexico, in contrast, the chief auditor (*Auditor Superior de la Federación*) is appointed by the national legislature with no role for the executive in the selection process. Technical and professional requirements also vary substantially. In Portugal, for example, members of the audit court (*Juízes Conselheiros*) must pass a public civil service exam in order to be eligible for nomination. In Uruguay, ministers (*ministros*) of the audit court only must meet minimal citizenship and age requirements.

This proposed research design proceeds as follows. First, we provide institutional background on Brazil's state Audit Courts and the annual auditing process of municipalities' government accounts. In the next section, we provide a theoretical framework inspired by models of judicial decision making and institutional delegation. Relying on this framework, we delineate several testable hypotheses. In the subsequent sections, we detail our proposed research design, present basic characteristics of our data, and show evidence that our design is valid. Finally, we conclude with an analysis plan that maps our theoretical hypotheses to our proposed empirical analysis.

4. Speck (2011) using data on Latin American supreme audit institutions shows that around 35% of agencies have a shared selection process.

2 Audit Courts in Brazil

Audit institutions in Brazil follow the Audit Court (AC) model, where the court acts as a quasi-judicial authority with an independent budget and staff, but headed by ministers or board members (*conselheiros*) nominated by the political branches. Both federal and state constitutions mandate that the ACs aid the national and state legislatures in overseeing public sector spending and programs by providing independent and professional assessments of compliance with the law. While some of these courts date to the late 19th century, the 1988 constitution significantly strengthened their role in overseeing state agencies by giving them the authority to investigate virtually all public expenditures (article 71). The new constitution also altered the rules governing selection of the board members at both federal and state ACs by substantially decreasing the executive's role in appointing members to the court (articles 73 and 75).

A chief advantage in studying the Brazil's state ACs is that they are collegiate bodies composed of board members who are selected under different decision rules that imply varying levels of dependence on the elected branches.⁵ The legal framework in the 1988 constitution grants the state legislature the authority to nominate four out of seven board members on the court, as well as mandating that two board members be professional auditors or public prosecutors.⁶ In general, to fill the "bureaucrat" slots on the court, the governor must choose, alternately, a career auditor or a public prosecutor off of a list of three nominees presented by the AC.⁷ In addition to the two bureaucrat ap-

5. All board members must meet general requirements: older than 35 and less than 65 years of age; moral standing and "unblemished" reputation; legal, accounting, economic and financial or public administration knowledge; and more than 10 years of experience in a profession related to auditing. Despite these legal provisions, it is often the case that the importance or meaning of reputation, specialized knowledge and experience is interpreted liberally and thus these restrictions are of little practical importance. We can find instances of former journalists, physicians, and dentist serving in ACs, as well as several board members with criminal charge or under judicial investigation.

6. Prior to 1988, only the executive could nominate board members and were virtually unconstrained in who they could select.

7. Typically, this list (known as the *lista tríplice*) is formed by AC's board members following rules of seniority and merit. As a result, high performing and long tenured bureaucrats should be favored in the selection process. However, it is possible that internal politics in some instances play some role in the composition of the list. Furthermore, the timing of appointments is not strictly regulated and governors

pointments, the executive can only choose one board member unconstrained by technical requirements.⁸ Independence of the board members is further reinforced by the rule that they cannot be removed by the political branches and remain in office until a mandatory retirement age of 70.

Every appointed board member has to be vetted through a public hearing and win confirmation in the state legislature. Approval is by simple majority, the same process necessary to elect the president of the assembly. In Brazil, governors typically build multi-party coalitions by appointing party members to key executive positions, effectively building a majority in the local legislature. Consequently, board members are normally candidates aligned with the governor and the largest party in the assembly, representing the strongest member of the political coalition at the time of appointment. While minorities can propose candidates for the slots appointed by the legislature, those candidates still need to pass the bar of a simple majority. Minority victories only occur in rare cases of coordination failure between parties in the governing coalition. In addition, since legislative minorities do not have the filibuster option in Brazil, they have little power in the nomination process.

When the court lacks regular board members due to absences or retirement, unappointed bureaucrats (*Conselheiros-Substitutos* or *Auditores-Substitutos*) temporarily fill vacancies. Substitute auditors are career bureaucrats hired by a competitive and open selection procedure. Generally, substitutes are auditors who regularly prepare the evidence that form the basis of board members' overall judgments. While serving as a substitute, an auditor enjoys the same prerogatives and salary as a regular board member. A substitute can serve until the member returns or, in case of retirement or death, a new one is appointed. In some few cases, Audit Courts hire auditors directly to serve as a substitute.

have been known to delay appointing bureaucrats to the AC. These delays and related controversies have led to appointments being frequently contested in court.

8. Of course, in some instances governors might appoint highly qualified bureaucrats to their "unconstrained" slots, even though are not required to do so. In our analyses below, we focus on the appointment mechanism as opposed to the actual qualification so of the appointees since judgments about professional qualifications are likely to be subjective.

As are summarized in table 1, these rules thus creates four types of board members: *Executive Appointed*, *Legislature Appointed*, *Appointed Bureaucrat*, and *Unappointed Bureaucrat*.

Type	Appointed by	Restrictions	Num. Positions
Executive Appointed	Governor, with legislative approval	Minimal	1
Legislature Appointed	Legislature	Minimal	4
Appointed Bureaucrat	Governor, with legislative approval	Selected from a list of 3 public prosecutors	1
	Governor, with legislative approval	Selected from a list of 3 professional auditors	1
Unappointed Bureaucrat	Not appointed	Only professional auditors	NA

Table 1: Appointment Procedures for State Audit Court Board Members. Unappointed Bureaucrats are substitutes that fill vacancies on the court.

The ACs operate at the federal, state, and local levels. The federal AC (*Tribunal de Contas da União* or TCU) is responsible for investigating federal activities, including federal transfers to subnational governments and the operation of state-owned enterprises (SOEs). All 27 states have an analogous institution, designed to monitor each state government and all 5570 of Brazil’s municipalities.⁹ These State Audit Courts (*Tribunal de Contas do Estado* or TCE) all have a similar overall structure, but vary substantially with respect to budget and staff size (Mello, Pereira, and Figueiredo 2009).

The role played by politicians in the appointment of board members—who will ultimately judge the accounts of other politicians—is a common source of criticism both in the press and in academic circles. A common charge is that board members are selected through political influence irrespective of technical capacity. The perquisites of office—among them high salaries with tenure—is commonly treated as a reward for politicians approaching the end of their career, especially state deputies belonging to the legislative

9. Generally, each state has a state-level court that audits both the accounts of the state government and the municipal governments within the state. However, in six cases (Bahia, Ceará, Goiás, Pará, Rio de Janeiro, and São Paulo), there is one agency in charge of auditing the state government alongside another court that audits municipalities located in that state. Finally, the cities of Rio de Janeiro and São Paulo are the only municipalities that have a tribunal solely dedicated to audit a single municipality.

majority. According to a report prepared by the NGO Transparency Brazil (Paiva and Sakai 2014), based on an examination of all Audit Courts in the country, 60% of board members were elected politicians before being appointed to an Audit Court. Another 17% are relatives of politicians and 20% faced or were convicted of criminal charges. Alston et al. 2005 claim that the greatest limitation of the Brazilian Audit Court model is the appointment procedure for selecting board members. Similar criticisms are made by Santiso (2009) and Speck (2011). Paiva and Sakai (2014) goes as far as to say that Audit Courts are designed not to work, arguing that politicians are appointed to neutralize the oversight role of the institution.¹⁰

Despite these criticisms, Pereira and Melo (2016) show that the information provided by court audits negatively affect the probability of municipal incumbent re-election when corruption is revealed, indicating that the activities of the courts are not as meaningless as some critics argue. Related research by Mello, Pereira, and Figueiredo (2009) shows that broader institutional factors, particularly volatility and political competition, affect the overall performance of the state courts. Specifically, states with higher levels of programmatic political competition are more likely to have professional auditors appointed to the board, as well as reject the annual accounts of the governor. Our research design allows us to directly tests some of the mechanisms postulated by these authors, but we treat the broader institutional setting as fixed given that our comparisons are within states as opposed to across states.

One of the chief means by which ACs oversee state agencies is by annual audits (*prestação de contas*) of federal, state, and local governments. The ACs produce an over-

10. It is not difficult to find examples of former-politicians serving as board members involved in corruption scandals with charges of influence peddling, money laundering and receiving kickbacks. Robson Marinho, a long serving board member in the São Paulo Audit Court, for example, was removed from office in 2014 by judicial decision after being convicted for receiving bribes to favor a multinational company with SOE contracts. Similarly, the President of the Maranhão Audit Court faced accusations that he used his position to pressure mayors to support his son's 2014 run for a seat in the state legislature. In a more extreme case, the board member Luiz Eustáquio Tolêdo was convicted of murdering his wife in 1989 but kept his position in the Alagoas Audit Court. He served a six years sentence in the semi-open regime, what allowed him to work during the day.

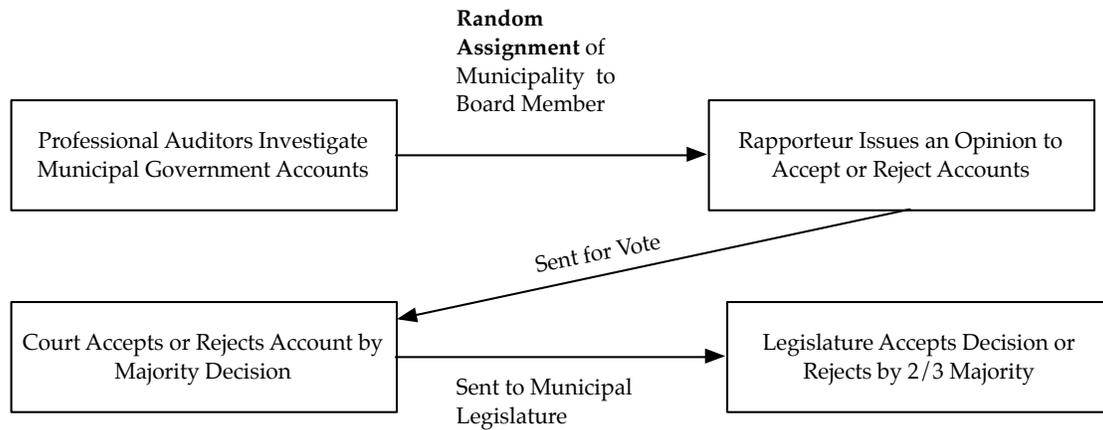


Figure 1: The Municipality Accounts Auditing Process. This figure is a simplified representation of the accounts process and details can vary by state.

all recommendation to accept, accept with reservations, or reject the "accounts" of government entities with respect to compliance with the law.¹¹ In this proposal, we focus on state ACs' adjudication of municipal accounts, which entails an examination of each municipality's execution of the budget, fiscal management, legality of contracts, procurement policies, fulfillment of mandated spending requirements, and related matters. This process is carried out in phases, where the first stage is a technical examination of each municipality's accounts by the professional auditing staff and the second stage is a deliberative process involving representatives of the public prosecutor's office and AC board members. The overall process is illustrated in figure 1.¹² The recommendation of the technical staff and accompanying materials are given to a selected AC board member known as the "rapporteur" who adjudicates the case. After the rapporteur receives a technical report, the official under investigation is allowed to present a defense, and the board member can call for further investigation. Then, a public prosecutor is heard, and the rap-

11. ACs are not restricted to mandatory legal and financial compliance audits, as they can also act as advisory organizations, report on governmental performance, and initiate special audits to investigate suspected irregularities, usually requested by legislatures, public prosecutors, opposition politicians and trade unions.

12. The details of the accounts process vary by state. In some states, the rapporteur is randomly assigned before the auditors investigate the municipal accounts. Additionally, the Public Prosecutor advises the rapporteur in arriving at a decision. In some states, the final decision of the court is made by a panel of judges (known as a *câmara*) rather than the full court.

porteur generates an opinion for adjudication by the court (or a subset of the court) on whether the municipality's accounts should be rejected, as well as any associated punishments. The court then decides by majority decision whether to uphold the rapporteur's opinion¹³ and notifies the municipal legislature about the result (known as *parecer pr vio de contas*). The final decision whether to accept the findings of the court, however, rests with the municipal legislature as it can overturn the court's report via a 2/3 majority vote.

The final outcome of the audit process is an overall recommendation of approval, approval with accompanying recommendations for improved compliance with the law (approval with reservations), and rejection. Rejection of accounts, according to Mello, Pereira, and Figueiredo (2009, 1228), is the "most severe sanctions that the [Audit Court] can inflict on a mayor..." Depending on the findings, the court may set a fine, mandate reimbursements for financial losses due to irregularities, and even recommend civil and criminal prosecution. However, because the state ACs are not formally part of the judicial system, enforcement of these rulings are left to the public prosecutors and the courts. Enforcement can be blocked or delayed in the courts due to plaintiffs' extensive right to appeal, the complexity of statutes that govern public expenditures, and the courts' huge backlog of cases. Recently, however, the consequences of rejected accounts have become substantially more severe. As the result of the passage of a "Clean Slate" (*Ficha Limpa*) law, rejection of accounts is sufficient grounds to ban a politician from running for office for 8 years. In 2014, for instance, the Public Prosecutor's office sued to prevent almost 500 candidates from running for office, with the majority of challenges attributed to a rejection of accounts.¹⁴

13. Empirically, it is quite rare for the court to overturn the recommendation of the rapporteur.

14. Press Release by the Federal Prosecutor's Office. Accessed on September 15, 2014:
http://noticias.pgr.mpf.mp.br/noticias/noticias-do-site/copy_of_eleitoral/eleicoes-2014-mpf-impugna-mais-de-4-mil-candidatos-sendo-500-pela-lei-da-ficha-limpa

3 Theoretical Framework and Hypotheses

To provide a theoretical framework for our design, we borrow from the literature on decision-making under uncertainty as applied to judicial decision-making (Austen-Smith and Banks 1996; Iaryczower and Shum 2012; Alesina and La Ferrara 2014). Specifically, we conceptualize the decision-making process of the Audit Court board members as one of Bayesian updating after receiving a private, noisy, signal about the true state of the audited government. The governments under scrutiny, according to this framework, are of two types: law breakers and law followers. When board members act as a rapporteur and adjudicate the accounts of a government, they seek to reject the accounts of law breakers and accept the accounts of law followers, but they are uncertain about which type the government under review truly is. The signal received by the board member is probabilistically drawn from one of two distributions and, as a result, the board member can never be certain his decision is the correct one. Given the inherent uncertainty in making this determination, board members decide on an optimal decision rule for rejecting or accepting the accounts of the audited government that depends on three parameters: the prior probability of the government being a law breaker, the signal received through the auditing process, and the bias of the board member. We conceptualize the bias of board members as the importance (or weight) they place on avoiding rejecting the accounts of a government that is actually a law follower (Type 1 error) versus accepting the accounts of a government that is actually a law breaker (Type 2 error). This bias parameter may vary by board member and categories of cases, especially the partisan identity of the office holder under investigation.¹⁵ The prior probability is an exogenous probability that the government under investigation is the law breaking type and can vary by government, such that an office holder with a long history of corruption might have a higher ex-ante

15. This bias can arise from a variety of sources, including political calculation, differences in training, socialization, and less concrete factors such as the personality of the judge. For a formalization of how bias can be incorporated into a model of this type, see Iaryczower and Shum (2012) and Alesina and La Ferrara (2014).

probability of being corrupt than another office holder with a clean record.

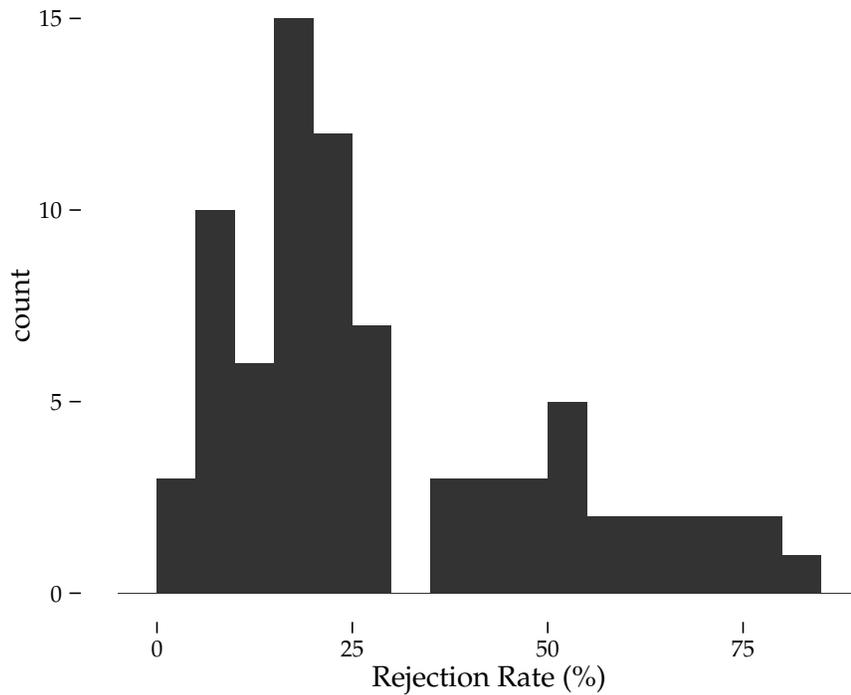


Figure 2: Variation in Rejection Rates. Histogram shows the distribution of rejection rates of municipality accounts across 81 board members in State Audit Courts in 6 states over 10 ten years. Board members who adjudicate fewer than 50 cases are omitted.

Under this model, for any given signal and prior probability of guilt, the board member's bias will determine the outcome. If he is extremely averse to mistakenly punishing innocent politicians, then almost no evidence could induce him to reject the government's accounts. Conversely, a board member heavily prioritizing the punishment of all guilty law breakers will necessarily punish many innocent officials. While we do not observe such extreme cases in our data, we do document large variation in rejection rates across different board members (data described below) as shown in figure 2, which might be indicative of a large variation in bias. As shown in the figure, some board members reject the accounts of fewer than 5% of municipalities that are assigned to them, yet others reject over 70%. Empirically, however, different rejection rates are not conclusive evidence of variation in bias, as such a pattern of evidence could be consistent with hetero-

geneity in the types of cases investigated by each board member. Observing a former politician appointed to the Audit Court who rejects relatively few accounts, for example, is consistent with the board member having a pro-government bias *or* deferentially auditing governments with low prior probabilities of being corrupt. Thus, lower rejection rates by politically-affiliated board members are not necessarily indicative of the effect of the appointment procedure. In other words, without further assumptions, differential rejection rates are consistent with multiple mechanisms and need not be caused by pro-government bias.

The randomization of governments or agencies for adjudication solves the inferential dilemma posed above. Because of random assignment, the proportions of law breaking agencies or governments reviewed by each board member will be equal, in expectation. Thus, any differential rate of rejection—according to the model—is due to differences in bias across decision-makers. From the perspective of institutional design, what matters is how this bias covaries with the selection procedure used to appoint board members. Standard models of delegation (e.g. Calvert, McCubbins, and Weingast (1989)) predict that the actors with authority to select agents will do so to advance their political interests. In practice, this means that the governor or legislature will nominate board members with biases that further their goals, under the constraint that the nominees must win consent from a majority of the legislature.

What are the goals of governors and legislative leaders? With respect to adjudicating the accounts of municipalities, governors and legislators will wish to shield allied mayors from scrutiny and thus will not want their accounts to suffer rejection unless evidence of law breaking is pronounced. As is well established in the literature on Brazilian politics, mayors are important political actors who act as vote brokers and political operatives for gubernatorial and, in particular, legislative candidates (Mainwaring 1999, 151; Bezerra 1999; Novaes 2014). Candidates to state and national office invest considerable resources in cultivating mayors, as mayors often have the extensive—often clientelistic—

relationships with voters that are relied upon for votes on election day. Given the importance of currying favor with local politicians for the political careers of state-level politicians, the legislature and governor will, when unconstrained, likely nominate board members who require a high standard of proof in order to reject the accounts of a mayor. This yields our first hypothesis:

Hypothesis 1 *Municipal accounts adjudicated by governor or legislature-appointed board members will be rejected at lower rates than when adjudicated by board members subject to technical pre-qualifications.*

While we expect "political" board members to be more favorable towards local governments than bureaucrat board members, not all mayors will be treated equally. Although party attachments are more fluid in Brazil than some other established democracies, substantial evidence indicates that cross-level partisan ties are important for range of outcomes including elections (Avelino, Biderman, and Barone 2012) and government transfers (Brollo and Nannicini 2012). As a result, we expect governors and legislatures to appoint officials who are sensitive to the interest of local co-partisans. State-level politicians will seek to forestall the negative electoral and financial consequences of account rejection for co-partisan officials by appointing board members with biases that further their partisan aims. Specifically, Governor Appointed board members should be more reluctant to reject the yearly accounts of municipalities governed by mayors belonging to the party of the governor that appointed him than non-co-partisan mayors. A similar logic should pertain to Legislature Appointed board members, who should be particularly sensitive to the interests of the largest party of the state legislature.¹⁶ While we first group Executive Appointed and Legislative Appointed members together, we also test for differences in political bias across the two types.

16. In practice, state legislatures are often organized around a governing coalition that encompasses multiple parties. While in principle we could expand our focus to include smaller parties in the ruling coalition, in practice the largest party is particularly influential in selecting board members. Furthermore, governing coalitions tend to change dynamically over time and thus identifying precisely which parties are part of the governing coalition at any particular point in time can be error prone.

Hypothesis 2a *Municipal accounts will be rejected at lower rates when adjudicated by a governor-appointed or legislature-appointed board member selected by a governor or legislature lead by the same party as the mayor than when adjudicated by board member appointed by a political branch led by a different party.*

Hypothesis 2b *Municipal accounts will be rejected at lower rates when adjudicated by a governor-appointed board member selected by a governor of the same party as the mayor than when adjudicated by board member appointed by a governor from a different party.*

Hypothesis 2c *Municipal accounts will be rejected at lower rates when adjudicated by a legislature-appointed board member selected by a legislature led by the same party as the mayor than when adjudicated by board member appointed by a legislature led by a different party.*

While the legal requirements for the two bureaucrat positions should substantially diminish the capacity of the legislature and executive to appoint board members heavily biased towards their interests, it is still the case that the political branches have some discretion in which senior auditor or public prosecutor they appoint. As such, it is plausible that the governor and legislature would seek to appoint the most lenient of the potential bureaucrat board members. As explained above, however, a large proportion of cases in Brazilian states are adjudicated by Unappointed Bureaucrats (substitute board members) who are members of the technical staff of the auditing institution and are not appointed by the political branches. As such, it is plausible that non-appointed bureaucrat board members are even less sensitive to the interests of political actors than appointed bureaucrat board members. Under a similar logic, appointed bureaucrats should be more sympathetic to mayors who are co-partisans of the governor that appointed them than with mayors from other parties.

Hypothesis 3a *Municipal accounts adjudicated by Appointed Bureaucrat board members will be rejected at lower rates than when adjudicated by Unappointed Bureaucrat board members (substitute board members).*

Hypothesis 3b *Municipal accounts will be rejected at a lower rate when adjudicated by a Executive Appointed Bureaucrat board member chosen by a governor of the mayor's party than when adjudicated by a bureaucrat board member not appointed by a co-partisan governor.*

An important aspect of Brazilian Auditing Courts that may interact with the different appointment rules is the fact that board members have life tenure, at least until the mandatory retirement age of 70. Given the potentially long period in which the board member may serve, it is plausible that their biases could change with time. One possible source for such change is the internalization of norms prevailing within the institution, such that politically oriented appointees could increasingly behave like the more technically-oriented board members with long histories working in the audit court or the public prosecutors office. Another reason for change is the fact that the political coalitions and cleavages at the moment of the board member's appointment are unlikely to endure. Particularly in states where politics is very personalistic, party politics can be quite volatile, such that parties can be transformed once governors leave office or other events reorient the axis of political competition. Given such volatility, the partisanship of appointed board members is likely to diminish or be more difficult to measure using observables such as party labels, especially once the governor and legislative leaders who appointed him leave office.

Hypothesis 4a *The difference in rejection rates between bureaucrat and political board members will decrease the longer the political board member remains in office.*

Hypothesis 4b *The bias of a political board member towards mayors who are co-partisans of the governor or lead party of the legislature who selected him will diminish in subsequent gubernatorial and legislative terms.*

4 Research Design and Data

The common institutional rule across Brazil’s Audit Courts that the annual audits of government accounts are assigned by random lottery to board members forms the basis of our empirical strategy for testing the hypotheses discussed in section 3.¹⁷ The use of randomization makes our proposed empirical analysis relatively straightforward, as we do not have to rely on selection-on-observables assumptions or the validity of a parametric statistical model to estimate the causal effects of interest. Taking advantage of the randomization, however, requires obtaining data on the outcome of annual audits of municipalities, municipality electoral outcomes, and characteristics of the board members who adjudicate the cases.

To test our hypotheses, we collected ten years (2000-2009) of municipal audit and board member data from six Brazilian states: Bahia, Maranhão, Minas Gerais, Pernambuco, Rio de Janeiro, and Rio Grande do Sul.¹⁸ These states are among the largest states in Brazil, containing about 40% of the country’s population and 41% of its municipalities, and are heterogeneous with respect to economic and political characteristics. Maranhão, for example, has a GDP per capita of about \$3,500 USD, while Rio Grande do Sul’s is almost three times higher at about \$11,000 USD. Politically, the states in our sample are also quite diverse: Maranhão is well known for its oligarchic politics, while electoral politics in Minas Gerais and Rio Grande do Sul are highly competitive and structured around a stable left-right ideological divide. Given this economic and political diversity, our findings are likely to be broadly applicable to Audit Courts throughout much of Brazil.

17. The principle of random assignment is reflected in the internal rules of the ACs in our sample. For example, article 140 of the internal by-laws (*regimento interno*) of the Maranhão AC stipulates that distribution of audits to board members will obey the principle of “openness, alternation, and assignment by lottery”. Similar clauses can be found in the internal bylaws of the Bahia AC (Article 17), the Minas Gerais AC (chapter 4), the Pernambuco AC (chapter 5), the Rio de Janeiro AC (chapter 2, subsection 3), and the Rio Grande do Sul AC (article 47).

18. These particular states were chosen out of a combination of considerations; specifically data availability, size of the state, and regional diversity. Size of the state was important because statistical power to detect treatment effects depends on the number of municipalities, which are generally more numerous in populous states. Audit data was collected via web scraping of the ACs’ public databases of cases.

To classify board members we consulted a variety of sources, including news accounts and legislative debates. Preliminary information were obtained through Audit Courts’ and state legislatures’ websites, consulting official documentation available online. To double check the data, we made formal requests to state Audit Courts using their library system (when available) and Brazil’s Freedom of Information Law, as well as sources from newspapers and magazines, official gazettes, and cross-referenced party affiliation data with records from Brazil’s National Electoral Tribunal. Finally, in two cases, we talked directly to board members to confirm our data. Specifically, for each board member, we collected information on year of appointment, branch of government that nominated him or her, prior party affiliation (when former politicians), governor’s party at time of appointment, largest party in the state assembly when appointed, and if the board member is a substitute, a bureaucrat or politician.

Variable	<i>Full Sample</i>	<i>Bahia</i>	<i>Maranhão</i>	<i>Minas Gerais</i>	<i>Pernambuco</i>	<i>Rio de Janeiro</i>	<i>Rio Grande do Sul</i>
# of Municipalities	2,299	417	218	845	184	92	559
# of Cases	22,594	4,170	2,170	8,544	1,830	920	4,960
% of Cases Rejected	25.2	26	71.8	20.8	46.4	14.2	8.3
% with Missing Outcomes	3.8	0.3	13.4	4.4	3.3	1.9	2.8
% with Missing Treatment Data	3	2.4	3.8	4.4	0.3	1.8	2.2
# of Board Members	92	12	11	17	23	9	20
# Governor Appointed	19	5	3	3	3	2	3
# Legislature Appointed	37	4	4	7	9	6	7
# Appointed Bureaucrat	13	1	1	4	2	1	4
# Unappointed Bureaucrat	23	2	3	3	9	0	6

Table 2: Descriptive Statistics. This table shows descriptive statistics on municipal audits (top panel) and board member characteristics (bottom panel) for six states for the years 2000-2009.

Our dataset contains over 22,000 cases which encompasses over 2,000 municipalities (see table 2).¹⁹ The average rate of rejection of municipal government accounts by the

19. In a small proportion of cases, a second recommendation was issued after appeal by the mayor being audited. In those cases, we only use the initial recommendation of the rapporteur.

ACs is about 25%, but this overall average masks considerable state by state variation. In Rio Grande do Sul, the rejection rate is only about 8%, while in Maranhão the rejection rate exceeds 70%. Data on case outcomes and treatment status is missing in a relatively small percentage of cases, though the outcome missingness rate is considerably higher in Maranhão.²⁰

The distribution and number of board member types can be found in the bottom panel of table 2. We obtained biographical data on 92 different board members and categorized them into five distinct types. The most numerous type is “Legislature Appointed”, representing 40% of all board members. Each board member adjudicated an average of 228 cases. The substitute board members, which we call “Bureaucrat Unappointed”, are relatively numerous but 6 out of the 23 substitutes observed in our sample adjudicated fewer than 25 cases.

4.1 Specification and Inference

We treat the natural experiment created by randomization of audits to board members as a block randomized design. A separate randomization occurs in each state in each year and consequently each state-year pairing constitutes an experimental block.²¹ Consequently, our basic specification is as follows:

$$y_i = \beta_0 + \tau T_i + \sum_{k=1}^{K-1} \gamma_k B_{ki} + u_i \quad (1)$$

where y_i is dummy variable for whether the accounts of the municipality are rejected, β_0 is an intercept, τ is the treatment effect, T_i is a treatment indicator, B_{ki} is block fixed

20. The missing data for Maranhão is concentrated in the year 2009, which suggests missingness is due to delays in adjudication.

21. The randomization procedure is slightly different in the states of Rio de Janeiro and Rio Grande do Sul. The rules governing assignment of municipalities to board members stipulate that no board member will act as a rapporteur multiple years in a row for any given municipality. As a result of this rule, all municipalities assigned the same rapporteur in the previous year will be assigned to the remaining board members with equal probability. To account for this fact, we create separate strata for municipalities with the same rapporteur in the previous year for municipalities in these states.

effect for the k th block, γ_k is the block effect, and u_i is the disturbance term.

In an experiment where a treatment is assigned to units with equal probability in all blocks, the difference-in-means estimator or equivalent OLS estimator is unbiased for the average treatment effect. In experiments, however, where the probability of assignment differs from block to block, the regression estimator will not be an unbiased estimator of the ATE as it will more heavily weight strata where the treatment and control ratio are more equal, in addition to sample size. In our data, the probability of being assigned to a board member-type (e.g. governor appointed or appointed bureaucrat) varies across blocks due to alterations in the composition of the court or board member leaves of absence. Consequently, to estimate the ATE, we weight the data by the inverse probability of treatment,²² which undoes the OLS-driven weighting. For more on this issue, see Gerber and Green (2012, Ch. 4). Standard errors are heteroscedasticity-consistent.

Hypotheses 4a and 4b are predictions about how the effect of assignment to types of board members on rejection rates varies with characteristics of the board members. As such, to test these hypotheses we will use variations on the following basic specification:

$$y_i = \beta_0 + \tau T_i + \delta(T_i \cdot X_i) + \beta_1 X_i + \sum_{k=1}^{K-1} \gamma_k B_{ki} + u_i \quad (2)$$

where X_i is the moderator variable and δ captures how the effect of T_i varies with the covariate.

4.2 Covariate Balance

An implication of random assignment is that pre-treatment municipality characteristics should not be systematically correlated with the type of board member that adjudicates the accounts of the municipality. To check whether this is the case, we estimate equation 1 employing three treatment variables: 'Bureaucrat', 'Governor Appointed', and 'Legis-

22. We estimate the probability of treatment by the proportion of units assigned to each treatment condition in each block.

Covariate	Bureaucrat	Governor Appointed	Legislature Appointed
Accounts Rejected, Previous Year	0.011 (0.006)	-0.006 (0.009)	-0.012 (0.007)
Accounts Rejected, 2 Years Prior	0.003 (0.007)	-0.017 (0.01)	-0.005 (0.007)
Appointed Bureaucrat, Previous Year	0.005 (0.007)	0.003 (0.01)	-0.004 (0.007)
Legislature Appointed, Previous Year	-0.013* (0.006)	0.002 (0.009)	0.009 (0.007)
Governor Appointed, Previous Year	0.009 (0.005)	-0.005 (0.007)	-0.005 (0.005)
Governor and Mayor Party Alignment	0.015* (0.006)	-0.012 (0.008)	-0.011 (0.006)
Governor Vote %	-0.103 (0.152)	0.141 (0.224)	0.081 (0.163)
Income Per Capita (2000)	0.178 (0.907)	-0.008 (1.466)	0.147 (1.005)
Log Electorate (2000)	0.009 (0.013)	-0.02 (0.021)	0.004 (0.015)

*significant at the 5% level. Standard errors in parentheses.

Table 3: Covariate Balance. This table shows the estimated effect of three independent variables on nine pre-treatment covariates. Standard errors are in parentheses.

lature Appointed'. In the first column of table 3, for example, we compare municipalities assigned to Bureaucrat board members (appointed or unappointed) to municipalities assigned to other types of board members (Governor Appointed or Legislature Appointed). We check balance on a range of covariates, including lagged values of the outcome variable, lagged values of the treatment variables, and political and socio-economic characteristics.

The results of our balance tests can be found in table 3. In total, we perform 27 hypothesis tests and overall find that treatment and control units are relatively balanced across the three treatment variables. We find no significant differences on lagged values of the outcome variable, nor do we find any statistically detectable differences on socio-economic variables. As one might expect given the number of hypothesis tests conducted, we do find two covariates that are significantly different (at the 5% level). The Bureaucrat treatment variable (first column) predicts lagged assignment to a Legislature Appointed board member and partisan alignment between the governor and mayor. The coefficients,

however, are substantively small. To ensure that this imbalance does not confound our results, we will adjust for these variables as a robustness check.

5 Analysis Plan

Our proposed analysis for testing the hypotheses in section 3 is summarized in table 4. Several of the hypotheses require estimating treatment effects only on a subsample of the data, which is described in the "Sample" column. Furthermore, the hypotheses imply testing different contrasts, which are outlined in the "Treatment" and "Control" columns.

Hypothesis 1 Hypothesis 1 is our main prediction: board members whose position was restricted to career bureaucrats will reject the accounts of mayors at higher rates than board members that are more freely chosen by the political branches. If our estimate of τ from equation 1 is positive, this indicates that governors and legislatures choose board members who are biased towards the interests of politicians.

Hypothesis 2a-c Hypotheses 2a-c predicts that "political" (non-bureaucrat) board members will be biased towards mayors that are politically aligned with the governor or legislative party that appointed them. In order to test this prediction, we must restrict the sample to municipalities that are governed by mayors belonging to parties that held the executive branch or played a leading role in the legislative assembly and successfully appointed a board member. Mayors belonging to smaller parties who never captured the executive branch or became the largest party in the legislature, by definition would have 0 probability of having their accounts reviewed by a board member appointed by a co-partisan. As a consequence, these municipalities need to be removed from the sample. The main independent variable will be a variable indicating whether the mayor and the assigned Board Member is a "partisan match", i.e. the board member was appointed by a governor or by a legislature lead by the same party.

Hypothesis	Sample	Treatment Group	Control Group	Prediction
1	Full dataset	Bureaucrat (appointed and unappointed)	Governor and Legislature Appointed	$\hat{\tau} > 0$
2a	Municipalities with a mayor belonging to a party that elected a governor or legislative plurality	Appointed by Governor or Legislative Party of Mayor's Party	Appointed by Governor or Legislative Party of a Different Party	$\hat{\tau} < 0$
2b	Municipalities with a mayor belonging to a party that elected a governor	Appointed by Governor of Mayor's Party	Appointed by Governor of a Different Party	$\hat{\tau} < 0$
2c	Municipalities with a mayor belonging to a party that elected a legislative plurality	Appointed by Legislature Lead by Mayor's Party	Appointed by Legislature Lead by Different Party	$\hat{\tau} < 0$
3a	Municipalities adjudicated by Appointed or Unappointed Bureaucrats	Unappointed Bureaucrat	Appointed Bureaucrat	$\hat{\tau} < 0$
3b	Municipalities with mayor belonging to a party that elected a governor	Bureaucrat Appointed by Governor of Mayor's Party	Bureaucrat Appointed by Governor of a Different Party	$\hat{\tau} < 0$
4a	Full Dataset	Bureaucrat (appointed and unappointed)	Governor and Legislature Appointed	$\hat{\delta} < 0$
4b	Municipalities with a mayor belonging to a party that elected governor or legislative plurality	Appointed by Governor or Legislative Party of Mayor's Party	Appointed by Governor or Legislative Party of a Different Party	$\hat{\delta} > 0$

Table 4: Proposed Analysis Plan.

Hypothesis 2a tests for bias irrespective of the political branch that appointed the board member. For this test, we will pool municipalities with mayors belonging to a party that appointed a board member through control of the executive branch or the legislative branch. Hypothesis 2b and 2c will test this hypotheses separately for Governor Appointed and Legislature Appointed board members.

Hypothesis 3 Hypothesis 3a and 3b predicts that even when a governor's choice set is heavily restricted to career bureaucrats, appointed board members should still be more

biased towards politicians than non-appointed politicians. To test hypothesis 3a, we compare the decisions of appointed bureaucrats to unappointed bureaucrats (substitutes). To make this comparison, we restrict our sample to municipalities whose accounts are adjudicated by either appointed bureaucrats or unappointed bureaucrats. For hypothesis 3b, we check for the presence of partisan bias by appointed bureaucrats. Specifically, we examine whether appointed bureaucrats punish mayors less frequently when the mayor belongs to the party of the governor that appointed him.

Hypothesis 4a-b Hypotheses 4a and 4b suggest that the contrast between Bureaucrat Board Members and Legislature or Executive Appointed Board Members—presuming it exists in the first place— will diminish over time either due to norm internalization or changes in party politics. To test these hypotheses, we will check for heterogeneous treatment effects using regressions of the form of equation 2. Specifically, for hypothesis 4a, we will create a dummy variable *tenure* indicating for each board member whether or not their length of tenure is higher or lower than the sample median. Using this moderator variable, we will test whether or not the difference, on average, between the two types of board members is smaller amongst board members with longer tenure than those with shorter tenure, i.e. $\hat{\delta} < 0$. As a robustness check, we will replace *tenure* by the continuous variable measuring tenure length and similarly test for heterogeneous effects.

Hypotheses 4b can be tested similarly. For each municipality with accounts adjudicated by Governor Appointed board members, we will create a dummy variable indicating whether the audit occurs while the governor that appointed the board member is still in office. For Legislature Appointed board members, the indicator variable will indicate whether the largest party in the legislature at the time of the audit is the same party that lead the state assembly when the board member was appointed. Testing this hypothesis requires us to restrict the sample to municipalities with mayors belonging to parties that lead the executive or legislative branches.

Robustness Checks To evaluate the sensitivity of our findings, we will implement the following robustness tests for all our main findings:

- Augment specifications 1 and 2 with pre-treatment covariates. As a base specification for covariate adjustment, we will control for any covariate that shows an imbalance larger than 20% of a standard deviation. In addition, we will include specifications with important covariates, specifically the pre-treatment values of the outcome variable, party of mayor, and lagged values of the treatment variable.
- Perform multiple imputation to strengthen robustness to non-ignorable missing data.
- Iteratively drop each state to ensure overall conclusion is not being driven by one state AC.

State Specific Findings In addition to the full sample results, we intend to test hypotheses 1 and 2a in each state separately.²³ These state-by-state estimates will shed light on the degree of heterogeneity in our findings and may be suggestive of the correlates of the effects we observe.

23. While we could test the other hypotheses in each state, we suspect that power to detect effects would be quite low when not pooling all states together.

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