Bureaucratic turnover across levels of government

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The incidence of patronage can vary widely across levels of government within a country. We show this in the context of Brazil, which has been the focus of most recent research on patronage. In particular, we find that bureaucratic turnover follows political cycles among municipal employees, but not among state or federal level employees. This is not driven by differences across levels of government in the composition of the workforce or in the labor regimes used. Thus, the most likely explanation is differences in institutional quality. That pattern of institutional development, with central instances of government more professionalized that local ones, mirrors historical experiences of civil service reform.

KEYWORDS
Bureaucratic turnover, civil service, decentralization.

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Rotación en la burocracia en distintos niveles de gobierno

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La incidencia del patronazgo puede variar mucho entre los distintos niveles de gobierno de un país. Lo demostramos en el contexto de Brasil, que ha sido el foco de la mayoría de las investigaciones recientes sobre patronazgo. En particular, encontramos que la rotación en la burocracia sigue los ciclos políticos en el caso de los empleados municipales, pero no entre los empleados de nivel estatal o federal. Esto no se debe a diferencias en la composición del empleo o en los regímenes laborales utilizados en los distintos niveles de gobierno . Por tanto, la explicación más probable es que se debe a diferencias en la calidad institucional. Este patrón de desarrollo institucional, con las instancias centrales de gobierno más profesionalizadas que las locales, se asemeja a experiencias históricas de reforma de la administración pública.

KEYWORDS
Burocracia, rotación laboral, servicio civil, descentralización.

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1 | INTRODUCTION

Limiting the role of politicians in the management of public employment is a central tenet of modern civil service regimes. This usually entails making professional merit the main criterion to hire (and fire) bureaucrats, rather than party loyalty or clientelistic quid pro quo. It also means that positions in the bureaucracy should be created and filled according to the technical needs of agencies, and not to the arrival or departure of elected officials. Unsurprisingly, politicians typically resist these ideas and the constraints they imply. Thus, there is usually a wedge between the formal dispositions of civil service regimes and the actual workings of public employment.

The gap between rules and practices is related to the level of institutional quality, which is not constant within a country. One typical source of heterogeneity in this respect is the level of government. National governments often have more resources and face greater scrutiny than local ones. Thus, institutional reforms tend to start at the national level and slowly penetrate the lower tiers of the public administration. This is illustrated by the history of civil service reform in the U.S., which starts at the federal level with the Pendleton Act of 1883 and slowly reaches the state and local governments through the next decades.

Still, we do not have direct evidence on how current practices around public employment differ across levels of government in a given country. Despite the recent emergence of a burgeoning literature on the extent and consequences of patronage in developing countries, the within-country variation of these issues has remained unexplored. This remains a pending task and an important step to understand what explains the heterogeneous degrees of success of institutional reforms.

In this paper, we present findings for Brazil that help to close this gap in the literature. Since much of the recent work on patronage has also studied the Brazilian context— specifically, Brazilian municipalities—our results naturally converse with the existing evidence. We use data from the national household survey PNAD-C to compute the share of new employees in the public sector at each level of government, with quarterly frequency. Our main finding is that the increase in the share of new employees after elections—which has been documented—occurs only at the municipal level. At higher levels of government (state and federal) there is no increase in bureaucratic turnover after elections.

In line with previous results, we find that the increase in the share of new personnel is entirely driven by temporary workers, while civil servants do not experience any spike in turnover after elections. We also explore heterogeneity across occupations, and find that the turnover increase is most pronounced at the top (managers) and bottom (clerical and elementary workers) of the hierarchy. In managerial positions, the fraction of new employees goes up by 30 percentage points.

Moreover, the effect is present in all sectors of activity. Previous work has focused especially in the educational and health sectors, establishing a link between turnover and a decrease in the quality of service delivery (Akhtari et al., 2020; Toral, 2021; Fagernäs and Pelkonen, 2020; Hanushek et al., 2016; Ronfeldt et al., 2013). However, we find that post-electoral turnover is even higher for public administration workers, where measuring the effects on performance is harder.

All these sources of heterogeneity (by type of contract, occupational hierarchy, sector of activity) are incapable of explaining the differences in turnover between levels of government, since the composition of public employment does not change that much between municipal and higher tiers of government. In particular, the ratio of temporary workers to civil servants is very similar across all levels (around one temporary worker for every two civil servants). This strongly suggests that the difference in post-electoral turnover are tied to differences in the institutional quality of local versus state and national governments.

As mentioned before, this paper complements a recent empirical literature that shows how public employment and politics are usually intertwined through patronage (Colonnelli et al., 2020; Brassiolo et al., 2020; Cahan, 2019). Another consistent result in this area of work is that patronage turns political turnover into bureaucratic turnover, which is detrimental to service delivery (Akhtari et al., 2020; Toral, 2021). Papers in this literature study one specific type of jurisdiction—usually, municipalities—and use close elections to make causal inference (e.g. by comparing places where there is political turnover with those where an incumbent is reelected). Our findings are largely consistent with that body of work, but our most significant contribution is to show that the increase in bureaucratic turnover after elections is not common to all levels of government, but concentrated in lower tiers.

The size of the effect we estimate is also interesting in light of previous results. We observe a 5 p.p. increase in the share of new employees among municipal workers the quarter after elections; while Akhtari et al. (2020) find that party turnover increases the share of new personnel by 7 p.p. Put together, these numbers suggest that most of the overall rotation observed in municipal personnel after elections is due to political turnover.

This paper is also informative about the the process of civil service reform. Our results are consistent with a process of top-down reform in which the higher levels of government are ahead of lower ones in terms of separating public employment from political cycles. This matches the historical experience of the US, which Folke et al. (2011) briefly describe. There, the 1883 Pendleton Act —targeted at positions in the federal government— expanded slowly and it took about 40 years for it to cover 80% of employees. Moreover, the same authors point out that reform at the state and local level was more cumbersome and lagged the federal process by many decades. Moreira and Pérez (2021) provide additional evidence that the adoption of reforms in this area was cumbersome[1].

Finally, our results add to the literature on decentralization. A first wave of mostly theoretical papers addressed the issue of the design of decentralized systems of government, stressing the role of factors like access to information about local preferences, agency problems between levels of government, and inter-jurisdictional externalities and competition [2] (Besley and Case, 1995; Besley and Coate, 2003; Cai and Treisman, 2004; Lockwood, 2002). Recent research has looked at those issues empirically and has also raised some shortcomings in the implementation of political and administrative decentralization (Lipscomb and Mobarak, 2016; Galiani et al., 2008; Zhuravskaya, 2000; Labonne and Chase, 2009). Still, one aspect that has been largely ignored is how the quality of the bureaucracy affects the outcomes of decentralization, even though some authors acknowledge that "officials in local governments often lack requisite administrative skills and training" (Mookherjee, 2015). Our contribution highlights one specific channel for which decentralization might affect the quality of public service delivery: excessive turnover in local governments.

In the next section of this paper we discuss some relevant aspects of the federal system of government in Brazil and the labor regimes used in the public sector. Then, in Sections 3 and 4 we introduce the data and explain our empirical strategy. Section 5 presents our results and we discuss our conclusions in Section 6.

2 | CONTEXT

Brazil is a large and very decentralized country, divided into 26 states (plus a federal district), which are further subdivided into 5,570 municipalities. At all levels of government, execu-

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[1] In particular, Moreira and Pérez (2021) study the immediate impacts of the Pendleton Act on US customs, and their results highlight issues of implementation early on: while the reform reduced turnover, it also induced hiring in exempted positions and distorted the personnel structure.

[2] Mookherjee (2015) presents a good summary of this literature.

tive and legislative authorities are elected every four years. National and state authorities are elected concurrently, most recently in 2018; while municipal elections are displaced by two years. In all cases, elections take place during the month of October and the elected authorities assume office in the following January.

All levels of government participate in the delivery of public services. In many areas, responsibilities are not clearly separated, and there is a lot of sharing and overlapping of tasks (Kresch, 2020). Municipalities do have exclusive competence in urban planning, basic education, primary health care and local transport. Tax collection is mostly done by states (including the VAT) and the national government. Municipalities also collect some taxes, but are mostly funded by intergovernmental transfers (Ter-Minassian, 2012).

Regarding the distribution of personnel, 15% of public employees work for the national government, 32% work at the state level and 53% at municipal level. Wages in the public sector are higher than in the private sector at all levels of government, but there is some heterogeneity: state and federal employees enjoy higher wages than municipal ones, even after controlling for individual-specific heterogeneity (Baez et al., 2021).

Most public sector positions are required to be filled through competitive examinations (Concurso Publico). Individuals who are selected through this procedure become civil servants and enjoy very strong employment protection. However, there are also more flexible ways to make hires in the public sector. Examinations are not required for positions of trust and temporary appointments, or when there is an "exceptional need" to fill specific jobs. These exceptions are meant to be clearly defined and restricted, and their use should be properly justified. However, governance of these rules is imperfect. Individuals who are hired without public examinations work on contract under different labor regimes. From now on, we refer to the them as *temporary workers* as opposed to the *civil servants*.

According to comparative analysis, Brazil has one of the most professional and merit-based civil service systems in Latin America, with good marks regarding its recruiting practices (Iacoviello and Rodríguez-Gustá, 2006; Iacoviello and Chudnovsky, 2015). However, these assessments are only descriptive and they speak exclusively about the situation at the central level. In contrast with those positive conclusions, recent empirical results show that patronage is common in Brazilian municipalities.

3 | DATA

Our data comes from the Pesquisa Nacional por Amostra de Domicilios Contínua (PNAD-C). This is a quarterly household survey conducted by the Brazilian Institute of Statistics and Geography (IBGE) to produce information on the labor market, tied to demographic and educational characteristics. Each quarter, about 211,000 households are interviewed, covering approximately 16,000 census sectors from 3,500 municipalities. It has a rotating panel structure, in which each sampled household is followed over five consecutive quarters. Its sample is designed to be representative at the levels of states and municipalities where state capitals are seated.

Our analysis focuses on public employees. These are directly identified, as the survey asks about the sector (public or private) of employment. Moreover, the PNAD-C also asks about the level of government (federal, state, or municipal) in which public sector employees work [3]. Respondents are also asked whether they work under the civil service regime (whether they are *estatutarios*). We classify all public employees who are not under the civil service regime as temporary workers[4].

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[3] This is one of the very few surveys in the region that collects that information.

[4] In practice, these are individuals who, in the survey, report having a temporary contract or a contract under

Finally, we use the survey information on type of occupation and sector of activity. We classify public employees into five occupational groups, according to the categories of the Worldwide Bureaucracy Indicators (WWBI): managers, professionals, technicians, clerical workers, and elementary workers (World Bank, 2012). Regarding sector of activity, we classify them into: public administration, defense and security, education, health, and others.

The composition of public employment is similar across levels of government (see Table A.1 in the Appendix). Civil servants represent about two thirds of the workforce in all cases. That figure is in line with what has been reported for municipal workers in previous research that uses administrative data (Akhtari et al., 2020; Colonnelli et al., 2020). The distribution of occupation categories is also very similar, the main difference being the comparative abundance of elementary workers and scarcity of managers in the municipalities. Regarding the sectors of activity, there are some differences that reflect the responsibilities of each level of government. The share of workers in health and education increases as we move towards lower tiers of government, and the opposite happens for defense and security. However, all sectors are well represented in each government level.

We use all the waves of the PNAD-C from the first quarter of 2012 to the fourth quarter of 2019. There are two full electoral cycles in that time window. Municipal elections were held in October 2012 and 2016; while state and federal elections took place in October 2014 and 2018. In all cases, the new authorities assume office in January of the following year.

For each quarter and level of government, we compute the fraction of employees who are new hires, which is our measure of bureaucratic turnover. This is calculated as the percentage of the relevant employees who, in a given quarter, report having a tenure of three months or less in their job. Figure 1 shows the evolution of that variable for each level of government, and anticipates our main result. The share of new employees oscillates between 2% and 4% throughout the sample period for federal (first panel) and state (second panel) bureaucrats. The figure is less stable and generally larger for municipal bureaucrats, showing that the baseline level of turnover is higher for municipalities than for higher tiers.

Most importantly, there is a very pronounced spike in the percentage of new municipal employees in the first quarter of the year after the elections, which is when the new authorities assume office. The effect extends to the next quarter, albeit somewhat diminished. At the state and federal levels turnover shows no change around elections.

4 | EMPIRICAL STRATEGY

We now turn to assess the relationship between elections and bureaucratic turnover in a regression framework. For this, we estimate the following equation:

$$
new\_employees_{st} = \alpha + \sum_{q=1}^{4} \beta_q \, Quarter_q + \sum_{q=1}^{4} \lambda_q \, Quarter_q * EW_t + \\
\gamma EW_t + State_s + trend_t + \epsilon_{st}
\tag{1}
$$

The outcome is the percentage of new employees in state s and time t (which is in calendar quarters). $Quarter_q$ is a set of dummy variables capturing quarter-of-the-year fixed effects. EW is a dummy that indicates quarters in an electoral window; specifically, it takes value 1 for the two quarters before and the two quarters after the relevant election.

the general labor regime (*CLT*).

FIGURE 1   Percentage of public sector employees who are new, by level of government
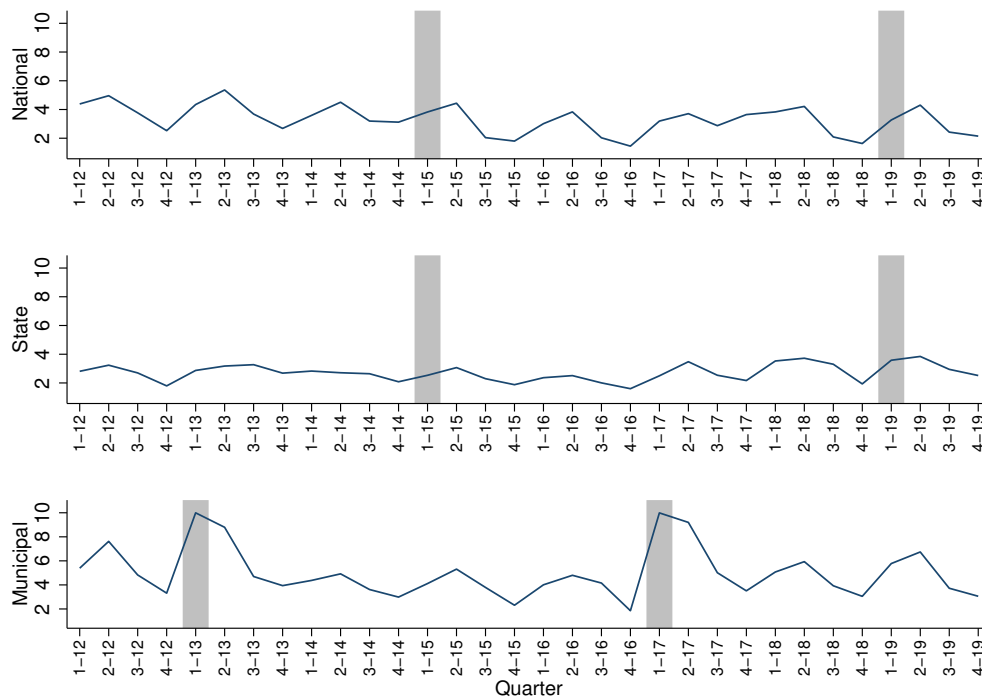
Notes: Figure shows the quarterly evolution of the percentage of new public sector employees. This is calculated as the fraction of individuals who report tenure of three months or less over the total of relevant employees.The gray shaded areas show the quarter in which the elected authorities assume office.

This captures the effect of being around elections. Finally, $State_s$ and $trend_t$ are state fixed effects and a linear trend in time. We estimate the equation separately for employees of each level of government.

Note that the PNAD-C does not identify the municipality of all observations. It only informs if the household is in the capital municipality of the state or not. Consequently, we cannot construct our dependent variable at the municipality level (or rather, we could do it only for state capitals). Thus, we collapse the information at the state level. That is why when we compute the percentage of new municipal employees, we do it at the state level. The regressions for municipal and state employees are ran using Equation 1 exactly as it is, and clustering standard errors at the state level. In the case of federal employees, things are somewhat different. We collapse the information at the quarter level (instead of the state-quarter level), meaning that we compute the percentage of new federal employees in the whole country. Thus, in the regressions we drop the state fixed effects, and calculate robust standard errors.[5]

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[5]We believe this approach is best suited to capture the fact that these workers respond to authorities with national jurisdiction. However, there are federal employees in all states, so we can perform the analysis at the state level, as in Equation 1. It does not affect the main result.

5 | RESULTS

Our main results are presented in Figure 2. What we plot in the graph is the effect of being in the electoral window for each quarter (with respect to the same quarter in a non-electoral year). That is, for each quarter q, we plot $\lambda_q + \gamma$.[6] The gray shadow shows the quarter when the elected authorities take office.

The coefficients for the municipal level employees show a very clear pattern of politically-driven changes in public employment. Before the election (Jul-Sept), bureaucratic turnover shows no difference with respect to its baseline level. In the quarter of the election (Oct-Dec), there isn't much of an effect either; if anything, there is a slight drop in the share of new employees. However, when the new authorities assume office (the quarter after the election), the percentage of new employees jumps by 5 percentage points. The subsequent quarter, a smaller effect (3 p.p.) still exists. This means that there is an unusually large number of new municipal employees at the start of mayoral terms. Note that most previous literature has focused on the causal effect of political turnover by comparing municipalities where the authorities (the mayor or the party) change and municipalities where they do not; while we do not make that comparison. However, both sets of results are very consistent.

FIGURE 2   Change in the percentage of new employees around elections, by level of government
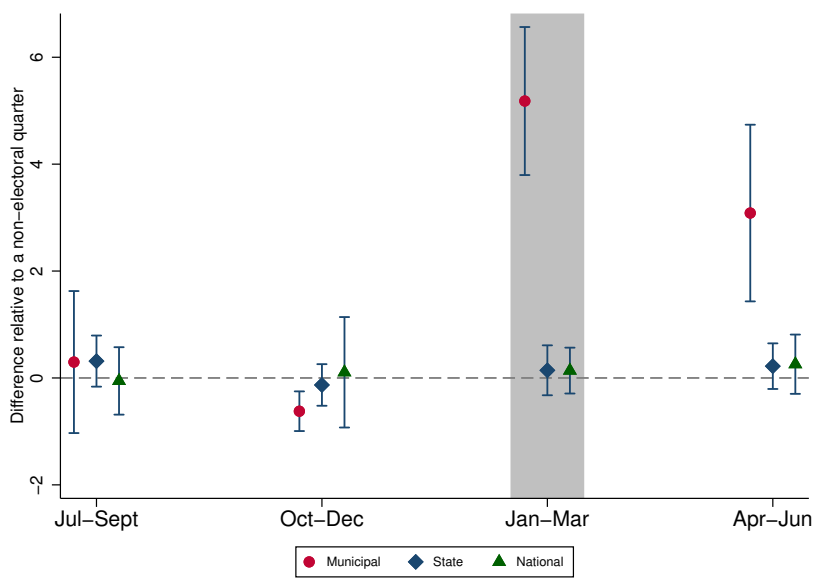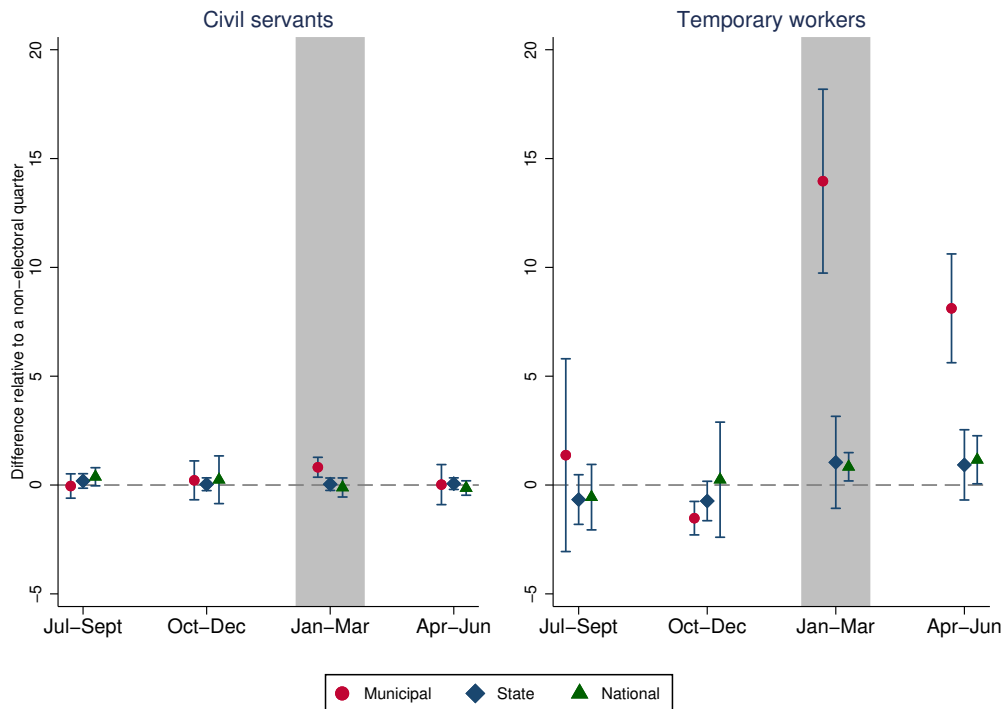

Notes: The figure shows the difference in the percentage of new public sector employees for each quarter around elections with respect to the same quarter in a non-electoral year, by level of government. In terms of Equation (1), we plot the sum of coefficients $\lambda_q + \gamma$ for each quarter q. The gray shaded area shows the quarter in which the elected authorities assume office. The coefficients come from separate regressions for municipal, state and national employees. Regressions at the municipal and state level include quarter and state fixed effects, and standard errors are clustered at the state level. Total number of observations is 864. Regression at the national level includes quarter fixed effects and robust standard errors, with a total of 32 observations. Confidence intervals at 95% level are shown in bars. See Table A.2 for details on the estimated coefficients.

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[6]Except for the third quarter (Jul-Sept). In our regressions, we leave the third quarter as the omitted category. Thus, γ captures the effect of being in an electoral window for that quarter, and that is what we graph in that case.

On the other hand, and perhaps more surprisingly, all the coefficients for employment at the federal and state level are 0.[7] That is, political cycles at those levels of government do not affect the rate of bureaucratic turnover. These are good news, considering the existing evidence that disrupting the bureaucracy has negative effects on service delivery. This first set of results indicates that in higher levels of government public employment is more insulated from politics, which is usually a sign of institutional quality.

FIGURE 3   Change in the percentage of new employees around elections, by level of government and type of labor regime
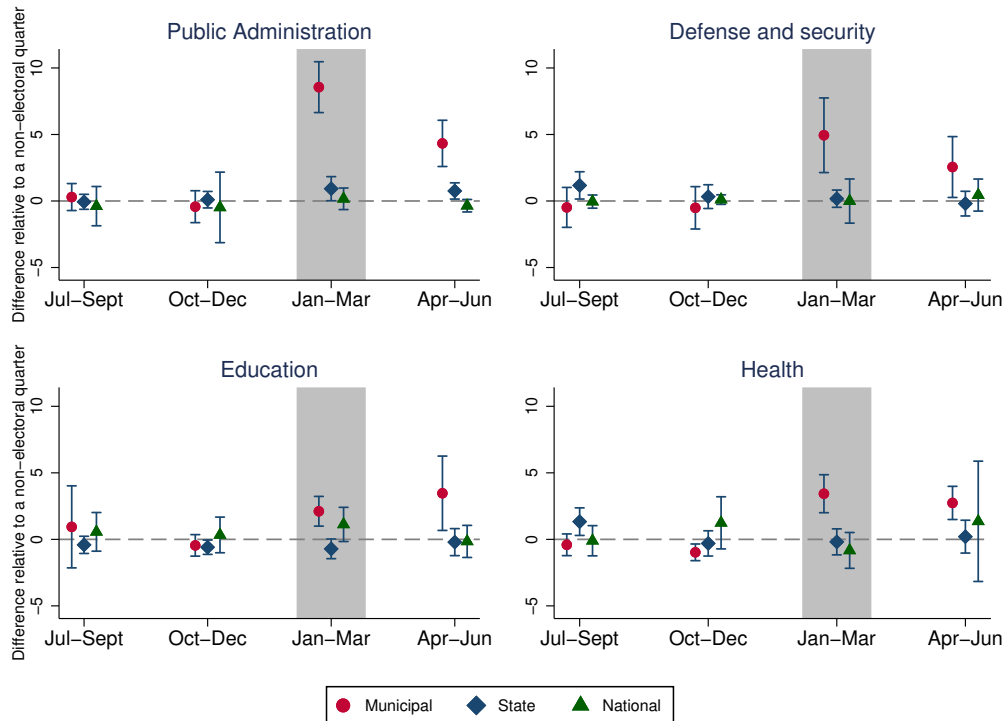

Notes: The figure shows the difference in the percentage of new public sector employees for each quarter around elections with respect to the same quarter in a non-electoral year, by level of government and type of labor regime. In terms of Equation (1), we plot the sum of coefficients $\lambda_q + \gamma$ for each quarter q. The gray shaded areas show the quarter in which the elected authorities assume office. Civil servants are those who report working under the civil service regime (*estatutarios*). Those who report not being included in the civil service regime are classified as temporary workers. The coefficients come from separate regressions for municipal, state and national employees. Regressions at the municipal and state level include quarter and state fixed effects, and standard errors are clustered at the state level. Regression at the national level includes quarter fixed effects and robust standard errors. Confidence intervals at 95% level are shown in bars.

The pattern observed in municipal employment around elections is entirely driven by workers under temporary contracts, as Figure 3 shows. The share of temporary workers who are new increases by 13.96 percentage points in the quarter after the elections. In contrast, there is no effect at all among civil servants. This is consistent with patronage, since temporary contracts are the type of hires over which elected officials enjoy greater discretion. Interestingly, at the state and federal level, there is no increase in turnover even for that type of contracts. This underlines the fact that the difference in turnover patterns

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[7]Table A.2 in the Appendix presents the results.

between municipalities and higher tiers of government is not explained by differences in the type of labor regimes employed—in fact, notice in Table A.1 that the share of temporary contracts over the full staff is similar in all the levels of government—but by a difference in how temporary contracts are used around elections. This is a significant and policy relevant result, as it seems to suggest a better governance of temporary contracts at the state and federal level than at the municipal one.[8]

FIGURE 4   Change in the percentage of new employees around elections, by level of government and sector of activity

Notes: The figure shows the difference in the percentage of new public sector employees for each quarter around elections with respect to the same quarter in a non-electoral year, by level of government and sector of activity. In terms of Equation (1), we plot the sum of coefficients $\lambda_q + \gamma$ for each quarter q. The gray shaded areas show the quarter in which the elected authorities assume office. The coefficients come from separate regressions for municipal, state and national employees. Regressions at the municipal and state level include quarter and state fixed effects, and standard errors are clustered at the state level. Regression at the national level includes quarter fixed effects and robust standard errors. Confidence intervals at 95% level are shown in bars.

The previous literature has devoted a lot of attention to bureaucratic turnover in the sectors of education and health, at least partly because these are areas where it is relatively easier to obtain measures of performance that can be linked to personnel change. We find that turnover in sectors of front-line service—education, health, defense and security—increases significantly after elections. However, the effect is much stronger among public

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[8]Reinforcing the notion that our results reflect differences in institutional quality, we also find that post-electoral turnover is driven by non-capital municipalities, while capital cities have more stable bureaucracies (see Figure A.1 in the Appendix). Capital municipalities are exposed to stronger accountability mechanisms than non-capitals, since they are home to state-level agencies of control and typically have denser media markets. The link between geographical isolation and quality of government is explored in Campante and Do (2014).

administration workers. There, the share of new personnel goes up by 8.5 percentage points in the quarter after elections; a figure more than double than that for education (2.11) and health (3.43). This underlines the disruptive effect that personnel change may have on the administrative work of municipalities, which can go unnoticed to academic research given the difficulty in measuring performance in administrative positions.

In line with the previous sets of results, there is within-sector differences in the effects by level of government. Namely, at the state and federal level, there is no increase in turnover for any sector; while there is for every sector at the municipal level.

FIGURE 5 Change in the percentage of new employees around elections, by level of government and occupational category
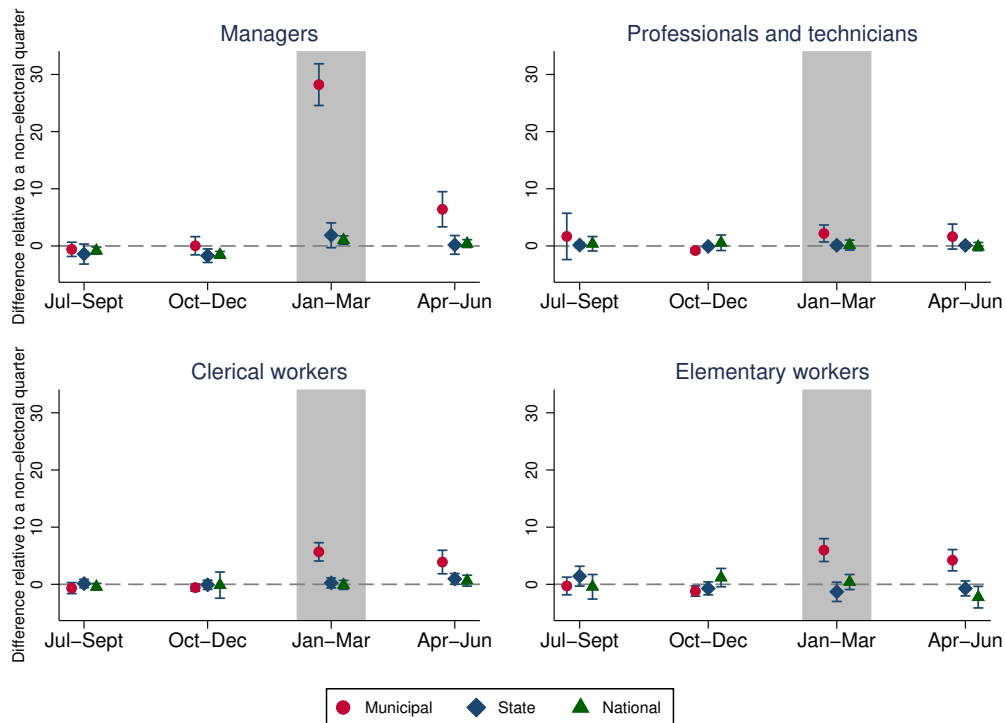
Notes: The figure shows the difference in the percentage of new public sector employees for each quarter around elections with respect to the same quarter in a non-electoral year, by level of government and occupational category. In terms of Equation (1), we plot the sum of coefficients $\lambda_q + \gamma$ for each quarter q. Employees are classified in occupational groups following the categories in the Worldwide Bureaucracy Indicators (WWBI). The gray shaded areas show the quarter in which the elected authorities assume office. The coefficients come from separate regressions for municipal, state and national employees. Regressions at the municipal and state level include quarter and state fixed effects, and standard errors are clustered at the state level. Regression at the national level includes quarter fixed effects and robust standard errors. Confidence intervals at 95% level are shown in bars.

Finally, we estimate the effect by type of occupation. For this, we classify jobs into five occupational groups, following the Worldwide Bureaucracy Indicators: managers, professionals, technicians, clerical, and elementary. The results are presented in Figure 5, where we ultimately grouped professionals and technicians together. Managers are clearly the occupational group that varies most after elections: in the quarter a mayoral term starts, the share of managers who are new goes up by 30 percentage points. There is also a sizeable effect among clerical and elementary workers, with increases of almost 6 percentage points

of new employees in each case. While there is an argument to hire trusted or politically close individuals in some managerial positions, that argument does not extend readily to lower-rank positions; thus, the pattern we observe is mostly consistent with patronage as a driving force of bureaucratic turnover. The occupational group more isolated from politically-motivated turnover is that of professionals and technicians. Among them, the increase in the share of new employees is small (although significant) at 2 percentage points in the average municipality.

Once again, the most interesting feature of the results is the lack of effect at the state and federal levels for any occupational group, even managers.

6 | CONCLUSIONS

A strong relationship between political cycles and bureaucratic turnover has been established in empirical work on patronage, often using Brazil as a case of study. Here, we show that that relationship only holds at the municipal level of governments. In higher tiers, public employment seems to be more insulated from politics. Importantly, this is not due to differences in the sector composition of the workforce or in the type of labor regimes employed in municipalities vis-a-vis higher levels of government. The most likely explanation is that there is a better governance of public employment regulations at the state and federal levels. Understanding what specific features account for this better governance remains an important task and would be a valuable contribution to this literature.

One important result is that while the share of workers under temporary contract is similar across levels of government, the patterns of turnover for those workers are not. This is interesting because the excessive use of temporary and exceptional contracts has usually been hypothesized as a symptom and cause of patronage. Yet, we observe that the use of temporary contracts does not necessarily lead to patronage. Nonetheless, increasing the share of public employees who are civil servants among public employees seems like a sure way to curtail patronage, as the turnover of civil servants is well insulated from political cycles.

A pattern of progressive professionalization of the civil service starting at the highest level of government and moving towards more decentralized units has been documented, namely in the context of the US. Under that light, the results in this paper can be interpreted as reflecting an intermediate stage in that transformation, and allow an optimistic outlook regarding the future evolution of the civil service.

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A | APPENDIX: TABLES AND FIGURES

FIGURE A.1 Change in the percentage of new employees around elections. Capital vs non-capital municipalities
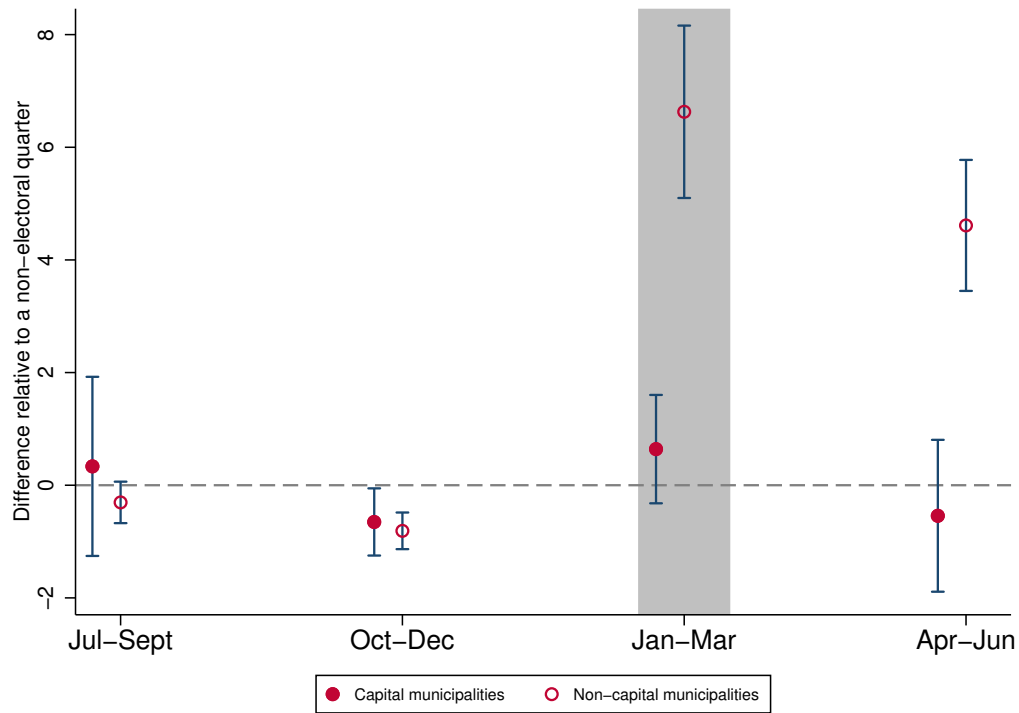
Notes: The figure shows the difference in the percentage of new municipal employees for each quarter around elections with respect to the same quarter in a non-electoral year, by type of municipality (capital and non-capital). In terms of Equation (1), we plot the sum of coefficients $\lambda_q + \gamma$ for each quarter q. The gray shaded area shows the quarter in which the elected authorities assume office. Regressions include quarter and state fixed effects, and standard errors are clustered at the state level. Confidence intervals at 95% level are shown in bars.

TABLE A.1 Composition of public sector employment by level of government

	National	State	Municipal
Labor regime			
Civil servants	65.8	71.3	66.0
Temporary workers	34.2	28.7	34.0
Type of occupation			
Managers	6.3	4.2	4.7
Professionals	34.7	39.2	28.4
Technicians	23.9	20.5	19.1
Clerical	31.3	29.4	28.8
Elementary	3.8	6.6	19.0
Sector of activity			
Public Administration	26.1	26.2	39.3
Defense and security	23.4	21.2	4.0
Education	18.1	33.0	34.9
Health	8.0	11.6	18.5
Others	24.4	7.9	3.3

Notes: The table shows the composition of public sector employment in the fourth quarter of 2019 for the three levels of government. Civil servants are those who report working under the civil service regime (*estatutarios*). Those who report not being included in the civil service regime are classified as temporary workers. Employees are classified in occupational groups following the categories in the Worldwide Bureaucracy Indicators (WWBI). The sample for the period represents 42,363 Public Sector employees in the National government, 90,268 at the State level, and 161,994 at the Municipal level.

TABLE A.2　Electoral cycle - Public Sector

	Share of new employees		
	Municipal	State	Federal
	(1)	(2)	(3)
Oct-Dec	-0.979***	-0.530***	-0.389
	(0.105)	(0.106)	(0.453)
Jan-Mar	0.633**	0.232	0.791**
	(0.251)	(0.229)	(0.327)
Apr-Jun	1.740***	0.541**	1.534***
	(0.323)	(0.247)	(0.315)
Electoral year	0.297	0.315	-0.056
	(0.678)	(0.244)	(0.322)
Oct-Dec x electoral year	-0.920	-0.447	0.162
	(0.583)	(0.277)	(0.611)
Jan-Mar x electoral year	4.883***	-0.172	0.193
	(1.233)	(0.399)	(0.388)
Apr-Jun x electoral year	2.788*	-0.095	0.313
	(1.465)	(0.374)	(0.430)
Linear time trend	-0.008	0.012	-0.040***
	(0.021)	(0.010)	(0.009)
Electoral year + Oct-Dec x electoral year	-0.622	-0.131	0.106
	(0.189)	(0.199)	(0.527)
Electoral year + Jan-Mar x electoral year	5.181***	0.143	0.138
	(0.707)	(0.238)	(0.219)
Electoral year + Apr-Jun x electoral year	3.085***	0.221	0.257
	(0.843)	(0.218)	(0.283)
Mean dependent variable	4.996	2.723	3.310
State FE	YES	YES	NO
Observations	864	864	32

Notes: The table shows the coefficients for Equation (1), running separate regressions by level of government. The dependent variable is the percentage of new public sector employees, calculated as the fraction of individuals who report tenure of three months or less over the total of relevant employees. The omitted category is the third quarter (Jun-Sep). The first three rows are quarter-of-the-year dummies. Electoral year is a dummy variable equal to 1 the two quarters before and the two quarters after an election. Column (1) and (2) include state fixed effects and standard errors clustered at the state level are shown in parenthesis. Column (3) includes robust standard errors in parenthesis.*** $p<0.01$, ** $p<0.05$, *$p<0.1$.