

525

2019

Lost in Transition? The Persistence of Dictatorship Mayors

Felipe González, Pablo Muñoz y Mounu Prem.

Lost in Transition?

The Persistence of Dictatorship Mayors*

Felipe González Pablo Muñoz Mounu Prem[†]

Dictatorships can affect the functioning of new democracies but the mechanisms are poorly understood. We study the Pinochet dictatorship in Chile using new data and provide two findings. First, mayors appointed by Pinochet obtained a nine percentage point vote premium in the first local election in democracy. This premium is explained by an incumbency advantage and by an increase in local spending during the transition. Second, dictatorship mayors increased the vote share of right-wing political parties in democracy. We conclude that the dictatorship won “hearts and minds” before the transition and successfully maintained part of their political power.

Keywords: politicians, dictatorship, democracy

*September 2019. We would like to thank seminar participants at the Annual Economic History and Cliometrics Lab Conference, the Rosario-Andes Taller Applied, and the USACH-Oxford Conference on Electoral Manipulation and Corruption. We are grateful to the Center for Effective Global Action, the Economic History Association, Fondecyt (Project 11170258), and the Stanford Center for International Development for financial support. Luis Serrano, Luisa Oyuela, and Cristine Von Dessauer provided outstanding research assistance.

[†]González: PUC-Chile, Instituto de Economía; contact email: fagonza4@uc.cl. Muñoz: University of California Berkeley, Department of Economics. Prem: Universidad del Rosario, Department of Economics.

I INTRODUCTION

Dictatorships can affect the functioning of young democracies (O’Donnell and Schmitter, 1986; Linz and Stepan, 1996; Albertus and Menaldo, 2018). After a democratization there is rarely a full renovation of institutions and elites, and this can have profound impacts in a variety of economic and political outcomes (Martínez Bravo et al., 2018a). Yet the mechanisms behind this persistence remain poorly understood. We focus on the role played by appointed dictatorship mayors and local spending in urban projects. Before a political transition, a dictatorship can attempt to “win hearts and minds” (Berman et al., 2011) to maintain at least some of its political power.¹ The persistence influence of a dictatorship can prevent desired institutional changes.

We study the Pinochet regime in Chile (1973-1990) and provide two main findings. First, Pinochet mayors obtained a nine percentage point vote premium in the first local elections in democracy. This premium is partially explained by an incumbency advantage (Lee, 2008) but also by an increase in local spending during the transition. Second, we use quasi-experimental variation in transitory rules of the first local election to estimate the impact of appointed mayors in the following two decades of democracy. We find that these mayors increased the vote share for right-wing political parties, coalition aligned with the former dictatorship.

The Pinochet regime is a hallmark authoritarian regime in the twentieth century. The seventeen-year dictatorship was characterized by many of the key features of autocracies during this period, including state-led repression (Bautista et al., 2019), media censorship (Yang, 2019), and concentrated power in a single person (Geddes et al., 2018), in this case the Army General Augusto Pinochet. In addition, Chile’s democrati-

¹Although the role of local spending in shaping political preferences in democracies or even dictatorships has been studied (e.g. Levitt and Snyder 1997; Manacorda et al. 2011; Voigtländer and Voth 2018), the extent to which it can be used to transfer political power across political regimes is an open question.

zation by election is also a common form of transition to democracy (Treisman, 2019). And last but not least, vast amounts of recorded but previously unexplored quantitative information is available and allow us to improve our understanding of the functioning of a dictatorship. We take advantage of these features to study dictatorship mayors and their persistence in the new democratic era.

To study the persistence of Pinochet's mayors across political regimes we constructed two new datasets. The first one reveals the names of all dictatorship mayors appointed by Pinochet. The temporal dynamics in the appearance of new names in a municipality suggest that appointments were unrelated to performance. Local events that were likely to reveal mayors' performance such as protests, natural disasters, and poor budget management were unrelated to their removal from local governments. The second data measures the amount of monetary resources invested at the local level during the Pinochet years. These records reveal a sharp increase in spending after the announcement of a political transition. We combine the list of dictatorship mayors with the list of candidates in the first local election in democracy to study the influence of local spending on voting support for dictatorship mayors

The core of the paper is divided in two parts. The first part shows that dictatorship mayors obtained a vote premium of approximately nine percentage points in the first local election in democracy. When exploring potential explanations behind this result we find evidence for two mechanisms. One, the vote premium is partially explained by an incumbency advantage. The subset of dictatorship mayors who ran in municipalities where they were seating incumbents obtained a vote premium of approximately 12 percentage points, more than six percentage points than non-incumbent dictatorship mayors. Two, the premium was higher in places where the dictatorship spent more monetary resources in urban projects before the transition to democracy. In particular, a one standard deviation increase in local spending during the transition period – i.e. October 1988 to March 1990 – increased their vote share by three percentage points. All

in all, we conclude that the evidence is consistent with the dictatorship attempting to “win hearts and minds” before the transition to democracy.

The second part explores the influence of dictatorship mayors in democracy, both in the economic and the political arena. Transitory electoral rules in the first local election in democracy provide plausible quasi-experimental variation in the probability that Pinochet mayors get elected in a subset of municipalities. Using this variation we find that dictatorship mayors were associated with a 6-8 percentage points higher vote share for right-wing candidates in local and presidential elections. Importantly, the presence of these mayors is unrelated to political outcomes before 1973. The right-wing coalition was aligned with the Pinochet dictatorship and hence we interpret these findings as mayors helping to maintain the political power of the previous regime.

This paper contributes to a literature documenting the legacies of dictatorships and more generally the functioning of young democracies with an authoritarian past. Although several authors have emphasized the link between authoritarian regimes and subsequent democracies (O’Donnell and Schmitter, 1986; Huntington, 1991; Linz and Stepan, 1996), empirical studies have only appeared recently. There is evidence that local officials inherited from a dictatorship affected clientelistic spending and facilitated elite capture in Indonesia (Martínez Bravo, 2014; Martínez Bravo et al., 2018a). In contrast to the Indonesian case, in Chile the transition to democracy was less abrupt and consequently appointed mayors – and the elite more generally – had time to prepare for the upcoming democracy (González and Prem, 2019). In this regard, our paper contributes to a literature documenting the strategies used by elites to maintain their power (Robinson and Hadiz, 2004; Honna, 2010; Albertus and Menaldo, 2014, 2018; González et al., 2019). In addition, by empirically studying the fate of mayors appointed by a dictatorship we also contribute to a literature studying elite persistence (Acemoglu and Robinson, 2008; Albertus, 2019).

We also contribute to a literature that studies appointments to local governments. Research in democracies is vast – see Dal Bó and Finan (2018) for a review – but there is less evidence from autocracies. Many authoritarian regimes use local elections, but some do not.² When dictators select mayors the drivers of appointments are unknown. There is, however, evidence of patronage among public officials different from mayors in the British Empire and current democracies (Xu, 2018; Colonnelli et al., 2019). A related literature shows that elected officials respond more to their constituents than appointed ones due to electoral incentives (Besley and Coate, 2003; Levin and Tadelis, 2010; Choi et al., 2010; Hessami, 2018). We contribute to this literature in two ways. First, we show descriptive evidence suggesting that appointments of dictatorship mayors did not respond to events that were likely to reveal performance. Second we show that “once appointed” (then elected) mayors perform similarly to “never appointed” ones but increase the vote share of their parties. The increase in votes is consistent with a literature studying political dynasties in dictatorships (Brownlee, 2007) and democracies (Dal Bó et al., 2009), but across-regime evidence is more limited.

Finally, we contribute to the literature studying how local spending can affect voting patterns. Previous research has shown that local spending can boost political support because when efficient it signals economic competence, and when targeted it spreads support through social networks (Berman et al., 2011; Voigtländer and Voth, 2018; Fafchamps and Labonne, 2019). Elections can provide political incentives to complete urban projects and voters reward incumbents for doing so (Marx, 2018).³ We contribute to this literature by showing how an authoritarian regime might use local

²Examples of authoritarian regimes *with* local elections include Brazil (1964-1985), Indonesia (1968-1998), Pakistan (1977-1988), and China (1980s-1990s), among others. Examples of these regimes *without* elections include Chile (1973-1990). Martínez Bravo et al. (2018b) argues that the existence of local elections in authoritarian regimes can be explained by information asymmetries.

³Related work has also shown how targeted income transfers or even random income shocks can increase support for the incumbent government (Manacorda et al., 2011; Labonne, 2013; Bagues and Esteve-Volart, 2016). There is also a vast literature estimating the local non-political effects of infrastructure projects (e.g. Michaels 2008; Faber 2014; Hornbeck and Donaldson 2016; Donaldson 2018).

spending to maintain their political power after a democratization.

II HISTORICAL BACKGROUND

The last local election before the Pinochet dictatorship (1973-1990) was held in April 1971 under the government of socialist Salvador Allende (1970-1973). In this election the coalition of left-wing parties known as Popular Unity, which supported Allende in the 1970 presidential election, obtained more than 50% of the votes.⁴ After the 1973 coup d'état, a military *junta* ruled the country and suspended the constitution, removed all democratically elected mayors, and appointed a new body of mayors that were “to be trusted” (Decree Law N. 25). Fifteen years later Augusto Pinochet would lose a referendum and the transition to democracy would begin. The new democratically elected government took office in March 1990 and local elections were held in June 1992 to decide the new body of mayors. Figure 1-A presents a timeline of the main events.

Mayors in dictatorship

There is a vast literature studying the Pinochet regime (e.g. Huneeus 2006; Cavallo et al. 2011). Yet we know much less about local governments and appointed mayors. Perhaps the most detailed account of the importance of local governments during this period comes from Valdivia et al. (2012). The authors argue that from the beginning of the 1980s municipalities became key for the implementation of the regime’s policy platform, particularly social policies.⁵ The regime attempted to effectively change the

⁴In terms of political parties, the winner of that election was the Christian Democrats (political center) with 26% of the votes, followed closely by the Socialist Party (left-wing) with 23%, and then by the National Party (right-wing) with 18% of the votes.

⁵Examples of these social programs include the Minimum Employment Program implemented in 1975 (PEM) and the Occupation Program for Head of Households (POJH) implemented in 1982.

policy-deliberation process from traditional institutions like the Congress and political parties to local areas. Mayors became very important and had *de facto* power over the functioning of municipalities, with *regidores* in the *Consejo de Desarrollo Comunal* – i.e. the Council – serving only as advisors. Despite the importance of mayors, we know little about their appointments and fate after the return to democracy.

The 1980 Constitution crafted by the Pinochet regime established that mayors were to be appointed by the President and would last four years in power. The opposition was critical of this change which they argued broke a long-standing democratic tradition (Díaz and Maturana, 1994). Unfortunately most information about the selection and removal of mayors comes from anecdotes and interviews. For example, some members of right-wing parties seem to have started their political careers as appointed mayors and then got elected as members of the Congress in parliamentary elections or as mayors in local elections.⁶ Anecdotal evidence also suggests that Pinochet’s wife was responsible for many appointments, sometimes removing a mayor because he was not helping with CEMA-Chile, an organization of housewives that she led (Farfán and Vega, 2009), or because she felt that a mayor or his wife threatened her power, and sometimes rewarding people by appointing them as mayors of important municipalities (Camus, 2014).

As stated in the Constitution, a referendum was held in October 1988 to determine whether Augusto Pinochet would remain in power for the following eight years. Pinochet got 44% of the vote and the transition to democracy began. The opposition candidate Patricio Aylwin won the subsequent presidential election in 1989 running with (among others) a proposal to “democratize municipalities.” At the time the opposition coalition and the regime could not agree about what to do with local governments, and a final agreement to democratically elect mayors and councils only hap-

⁶Examples include the appointed mayors of *Pudahuel* municipality in the 1985-1989 period and *La Cisterna* municipality in the 1989-1992 period. Both mayors were members of right-wing parties, went on to win seats in the Congress representing the same local areas and remain in power until today.

pened during the second year post-dictatorship. The first attempt came from President Patricio Aylwin, who in May 1990 proposed to hold local elections but the right-wing coalition expressed their discontent with the proposal because it could “weakened the institutional stability” (*La Tercera*, May 1990). A new proposal was sent in May 1991 which ended up being approved by right-wing parties in August 1991 (Díaz and Maturana, 1994; Mardones, 2006).

The 1992 local election

Law N. 19097 enacted in November 1991 established that a municipality was to be ruled by a mayor and a council who would be democratically elected in local elections to be held in June 1992. However, in this election voters elected councilors instead of mayors. Councilors were to be elected using a D’Hondt method and the electoral rule for mayors was as follows: if a candidate obtained more than 35% of the votes *and* was part of the most voted list, then he or she became the mayor for the 1992-1996 period.⁷ If one of these requirements was not met, then the council elected the mayor using a simple majority rule.⁸ The council was composed by the most voted candidates. Municipalities with less than 70 thousand registered voters elected 6 councilors, between 70 and 150 thousand elected 8, and those with more than 150 thousand elected 10.

The winner of this local election was the left-wing coalition *Concertación por la Democracia* with 53% of the votes. They elected 266 mayors and 1159 of 2076 councilors. The runner-up was the right-wing coalition with 30% of the votes, 62 mayors, and 756 councilors. The electoral rule together with the even number of councilors

⁷Lists were groups of political parties and were registered before election day. There were six lists in the 1992 election: *Concertación por la Democracia* (list A) – composed by six parties – Communist Party (list B), Liberal Party (list C), *Participación y Progreso* (list D) – composed by three parties – *Unión de Centro Centro* (list E), and Independent (list I).

⁸This electoral rule favored the Christian Democrats, a party in the center of the political spectrum but aligned with the left-wing coalition during the transition to democracy. Figure A.1 shows that a simple majority rule would have lead to more dictatorship mayors being elected (18% instead of 12%).

caused that in 84 races two mayors were elected by the council. In these cases the two elected mayors split the period in two terms of two years with a random order of incumbency. A total of 50 mayors obtained more than 35% of votes and were part of the most voted list and hence were directly elected as mayors for the 1992-1996 period. Of these mayors, 29 were from the left-wing coalition and 21 from the right-wing coalition, with the Christian Democrats being the party with the most mayors (18).

The rules to elect mayors changed for the 1996 local elections. If the most voted candidate was not part of the most voted list, then the most voted candidate from the most voted list was elected mayor. From 2004 onwards mayors and councilors were elected using a simple majority rule in separate ballots.

III DATA CONSTRUCTION

This section explains how we gathered information about dictatorship mayors, how we constructed local spending measures, and provides descriptive statistics.

Administrative sources

We constructed two main datasets. The first contains the names of all mayors appointed by Pinochet between 1973 and 1992. To the best of our knowledge this is the first time all names have been gathered in a single dataset. To construct it we collected the universe of official records on mayors' appointments from the Ministry of Interior. Each time a mayor was appointed by Pinochet a decree was created with the full name of the mayor, the first date of the mandate, and the name of the municipality. In the few cases without information, we contacted municipalities directly to fill the gaps. We converted this information into a panel dataset of municipalities observed annually with the names of dictatorship mayors in each year. We observe 1,104 unique

individuals serving as mayors in approximately 6,500 municipality-year positions.

The second dataset measures local spending annually during the dictatorship period using two different sources. First, we digitized information about all urban projects implemented in the period from 1979 until 1992. We collected this information from annual reports produced by the Ministry of Housing and Urbanism. Projects were classified by the Ministry in four categories: housing, sanitation, equipment, and other. Examples of these projects include health infrastructure, paving, lighting, sewerage, fire stations, sport courts, and social housing, among others. We observe the exact dates of implementation, the municipality of the project, and the financial cost. Second, we digitized the revenues and spending of municipalities from annual reports collected by the General Accounting Office, available from 1985 onwards. Figure 1-B presents a summary of the data collection.

We complemented this information with other administrative data. We use electoral data for local, parliamentary, and presidential elections which we take directly from the Electoral Service after 1988 and digitized from their administrative records before that year. We identified dictatorship mayors in the list of 6,500 candidates in the first local election in 1992 using a probabilistic record matching algorithm. We found 246 dictatorship mayors running. We also use data measuring state repression by municipality and individual-level data on prisoners, information collected by the National Commission on Truth and Reconciliation and the National Commission on Political Imprisonment and Torture (a.k.a. Valech and Rettig reports). When studying the performance of mayors in democracy we use additional data from the General Accounting Office and the Health Bureau. Table A.1 presents descriptive statistics for these additional data.

Descriptive statistics

The data we constructed allow us to characterize patterns of appointments during dictatorship in an unusually rich way. Table 1 presents some descriptive statistics. The average municipality had three mayors during the dictatorship and a mayor stayed in power for an average of four years. Yet some mayors remained in office for less than one year and some for the entire period of dictatorship. Figure 2-A shows the number of new appointments per year from 1973 until 1992, where we can see that on average the dictatorship replaced 10-20% of mayors per year.

The drivers behind new appointments are poorly understood but anecdotal evidence suggest that they did *not* respond to changes in performance. The lower panels in Figure 2 provide suggestive evidence of this being the case. These panels show the correlation between the percentage of new appointments per municipality in a given periods (e.g. 1983-1985) as a function of variables that could have revealed the ability or performance of mayors. The percentage of new appointments is empirically unrelated to the intensity of protests in 1983-1984, to the intensity of one of the largest earthquakes ever recorded in 1985, to the local performance of mayors as measured by municipal deficit, and to the local implementation of repression during the 1973-1976 period.⁹ These patterns suggest that mayors were not removed because of their performance.

The lower panel in Table 1 presents descriptive statistics for revenues and spending in municipalities and the middle panel for local spending in urban projects. Figure 3 presents time variation in local spending as measured by the total number of projects and their monetary cost in the period 1979-1992. Two noticeable patterns emerge.

⁹Data for the intensity of the 1985 earthquake at the local level comes from the National Office of Emergency of the Interior Ministry (ONEMI). Protest data comes from annual reports produced by the Vicariate of Solidarity, a human rights organization operating during the dictatorship.

First, the effect of the 1982-83 economic crisis can be seen by looking at the monetary resources invested during those years. Second, there is a significant increase of approximately 50% in local spending in 1989. This year is somewhat special because Pinochet knew that he would be leaving power and the new opposition coalition was going to take office in March 1990. Pinochet also had full control of monetary resources and could implement projects at discretion. As we argue, both features imply that this is the ideal scenario for the dictatorship to attempt to retain their political power by spending in local projects in order to win hearts and minds before the next election.

IV THE VOTE PREMIUM OF DICTATORSHIP MAYORS

This section shows that dictatorship mayors obtained more votes than other candidates in the first local election in democracy. This vote premium can be explained by an incumbency advantage and local spending before the transition to democracy.

The vote premium

To estimate the differential electoral performance of dictatorship mayors we focus in the 1992 local election and estimate the following regression equation:

$$V_{ijc} = \beta \cdot \text{Dictatorship mayor}_i + \phi_j + \phi_c + \varepsilon_{ijc} \quad (1)$$

where V_{ijc} is the vote share of candidate i , affiliated to political party j , and running in municipality c . The main variable of interest is $\text{Dictatorship mayor}_i$, an indicator that takes the value of one for candidates who were mayors during the dictatorship period. In addition, parameters ϕ_j and ϕ_c represent fixed effects by political party and municipality respectively, and we allow the error term ε_{ijc} to be arbitrarily correlated within municipalities. There are 333 local elections in our data and 13 political parties. The

parameter of interest is β and measures the average differential vote share obtained by dictatorship mayors within municipalities and parties. Note that we can estimate β because dictatorship mayors run as independent candidates or as members of different right-wing parties, meaning that our estimation controls for any incumbency advantage the dictatorship might have had through connections with right-wing political parties.

Column 1 in Table 2 presents estimates of equation (1) without fixed effects, column 2 adds municipality fixed effects, and column 3 adds political party fixed effects. We always include an indicator for dictatorship prisoners to estimate their premium and for comparison purposes. Prisoners are defined as individuals who were imprisoned at some point during the 1973-1990 dictatorship period.¹⁰ For reference, the average candidate obtained 5.1% of votes in a municipality, there were 246 dictatorship mayors and 514 dictatorship prisoners running, the average municipality had 19 candidates competing, and there was at least one dictatorship mayor as candidate in 196 races. Municipality fixed effects imply that we estimate β using variation from these 196 municipalities.

Results indicate that dictatorship mayors obtained 9 percentage points higher vote share than other candidates. Consequently, Table A.2 in the appendix shows that they were 18 percentage points more likely to win the election, a substantial increase from a base of 7%. In contrast, dictatorship prisoners obtained a vote premium of around 1 percentage point and only a marginally significant increase in the probability of winning. Table A.3 shows that all these results are robust to the inclusion of the following more flexible fixed effects: (i) political party by region, and (ii) political party by province. We also randomized being a dictatorship mayor within a municipality 1,000 times and estimated equation (1) each time to perform randomization inference. Our

¹⁰The names of dictatorship prisoners comes from The National Commission on Political Imprisonment and Torture Report produced by the Chilean Congress. We match this list of names with the list of names with all candidates in the 1992 election using a probabilistic record matching algorithm.

estimate is above the 99% of randomized estimates.

All in all, we find robust evidence of dictatorship mayors obtaining a nine percentage point higher vote share than other candidates in the same municipality. Why were citizens voting relatively more for mayors previously appointed by Pinochet?

Why is there a vote premium for dictatorship mayors?

Perhaps the most intuitive explanation for the vote premium is the existence of an incumbency advantage. The last dictatorship mayor before the 1992 election could have had an advantage simply because he or she was the incumbent mayor, a robust empirical finding across many countries and time periods.¹¹ To test for this explanation we identified the last dictatorship mayor in all municipalities before the 1992 local election. With this information we constructed an indicator for candidates who were the incumbent mayor and augmented equation (1) to include this variable.

Column 4 in Table 2 presents results. The coefficient for dictatorship mayors decreases from 9 to 6 percentage points and the coefficient for incumbents is around 6-7 percentage points (p -value <0.05). This estimate constitutes suggestive evidence of an incumbency advantage among dictatorship mayors. However, this result needs to be interpreted with caution because the mayors who decided to run might have been different in unobservable dimensions that are valued by voters. Presumably the mayors with the highest probability of winning decided to run and hence these unobservables will bias the coefficient on incumbents upwards. Because the vote premium was 9 percentage points and dictatorship mayors who were not incumbents obtained 6 percentage points of premium, we conclude that an incumbency advantage can explain at most one-third of the vote premium of dictatorship mayors.

¹¹There is a large literature estimating the advantage that incumbents have on elections. See, for example, Lee (2008); Fowler and Hall (2014); Erikson and Titiunik (2015); Fiva and Smith (2018).

Another mechanism is linked to the role of local spending. Before the transition to democracy the dictatorship could have decided to increase their spending locally to maximize the probability of their mayors being elected in the upcoming elections. Descriptive statistics in the previous section suggest that local spending increased after the announcement of the transition in October 1988. Thus to test for this explanation we augment equation (1) to allow for a differential effect of local spending in urban projects in different political periods. In particular, we estimate:

$$V_{ijc} = \beta \cdot \text{Dict mayor}_i + \sum_p \gamma_p \cdot (\text{Dict mayor}_i \times \text{Local spending}_c^p) \quad (2)$$

$$+ \phi_j + \phi_c + \varepsilon_{ijc}$$

where $\text{Local spending}_c^p$ is local spending in urban projects in municipality c during period p . We call “dictatorship” to the period before October 1988, “transition” to the period between October 1988 and March 1990, and “democracy” to the period between March 1990 and June 1992. The remaining variables are defined in the same way as before and we again include dictatorship prisoners for comparison purposes.

The coefficients of interest are γ_{DICT} , γ_{TRAN} , γ_{DEM} and measure the empirical association between local spending in different political periods and the vote share of dictatorship mayors in the 1992 election. We use two measures of local spending and one measure of municipal spending for comparison purposes. The former were relatively visible urban projects where the dictatorship had decision power and the latter is related to the day-to-day functioning of local governments. To measure local spending we use the logarithm of total spending (in monetary units) per capita and the number of projects per capita. To measure municipal spending we use the logarithm of spending per capita.

If the dictatorship was successful in winning hearts and minds before the transition to democracy we expect that $\hat{\gamma}_{TRAN} > 0$ and $\hat{\gamma}_{TRAN} > \hat{\gamma}_{DICT}, \hat{\gamma}_{DEM}$. To be clear, we

expect that $\hat{\gamma}_{TRAN} > \hat{\gamma}_{DEM}$ because we assume voters knew which coalition was doing the spending and could associate it with candidates from those coalitions. In addition, we believe $\hat{\gamma}_{TRAN} > \hat{\gamma}_{DICT}$ for two reasons. First, spending during the transition could have been targeted precisely for political purposes. Second, local spending that is closer to the local election should have a higher impact on vote shares simply because of recency bias, i.e. the tendency of voters to value recent information more than older information (Berry and Howell, 2007). In any case, if $\hat{\gamma}_{TRAN} > \hat{\gamma}_{DICT}$ is ultimately an empirical question.

Table 3 presents estimates of equation (2). Column 1 uses spending per capita as independent variable, column 2 the total number of projects per capita, and column 3 municipal spending per capita. Overall, the results in this table are consistent with the Pinochet regime being successful in winning hearts and minds. To facilitate the interpretation of coefficients we have standardized local and municipal spending. A one standard deviation increase in local spending during the transition period is associated to an increase of 2-4 percentage points in the vote share of dictatorship mayors (columns 2 and 3). In contrast, local spending in other periods has little statistical relationship with vote shares in the 1992 election and the point estimate is also of significantly lower magnitude. Moreover, changes in municipal spending are also *not* statistically associated with vote shares and the vote shares of dictatorship prisoners remain similar across different patterns of spending. We conclude that local spending can partially explain the vote premium of dictatorship mayors.

V THE LEGACIES OF DICTATORSHIP MAYORS

Do dictatorship mayors have an impact on local elections? Do they perform better or worst than other mayors? These are key questions that speak directly to the functioning of young democracies with a recent authoritarian history. This section presents

an empirical strategy to evaluate the legacies of dictatorship mayors. We do this by studying results in local and presidential elections in the following 20 years after the dictatorship and also by studying the mayors' performance after the transition.

Econometric strategy

Dictatorship mayors were not randomly placed across municipalities after the 1992 local election. Therefore, a simple comparison of outcomes across municipalities ruled by dictatorship mayors or not is unlikely to reflect the causal effect of their persistence. However, electoral rules in this election help us to approximate a natural experiment in which dictatorship mayors were closed to being randomly allocated in a subset of races. In particular, we use the fact that the most-voted candidates within a municipality were elected as councilors and these councilors elected 284 mayors using a simple majority rule.

To illustrate our argument consider voting scenarios in a municipality with six councilors (Table 4).¹² In some the five or six most voted candidates were from the same coalition and elect a mayor from their coalition (cases L1, L2, R1, and R2). A similar case happens when the four most voted candidates and the 6th/7th candidate were from the same coalition (cases L4 and R3). However, in a subset of elections the order of the 6th/7th candidates had a large impact on the elected mayor (cases L3, L5, R6, and R4). There are two types of cases: (i) a coalition had a majority *because* of the order of the 6th/7th candidates (cases L3 and R4) and a different order would have made them lose the majority; and (ii) coalitions are equally represented but a different order of the 6th/7th candidate would have caused a majority (cases L5 and R6 below).

When focusing on the subset of municipalities in which the order of the 6th/7th

¹²As discussed in section II the size of the council could have been eight or ten in some municipalities depending on population, but the argument extends naturally to those cases.

candidate affected the majority of the council we can approximate a natural experiment in the same spirit of the regression discontinuity design used in close elections (e.g. Lee 2008). There were 101 races with this quasi-experimental variation in council composition in which the vote difference between the 6th/7th candidates was smaller than 5 percentage points. We collapse this information in the “restricted sample” of races as:

$$\text{Council Majority}_c^{1992} = \begin{cases} 1 & \text{if Majority left-wing in council} \\ 0.5 & \text{if Coalitions equally represented} \\ 0 & \text{if Majority right-wing in council} \end{cases} \quad (3)$$

where we decided to use the 0.5 to represent the 84 cases in which two mayors were elected and they split the four year period in two periods of two years.

Table 5 presents descriptive statistics for all municipalities in which councilors elected the mayor (column 1) and the restricted sample (column 2), and it shows that after accounting for a simple vector of predetermined variables X_c there is little relationship between council composition and electoral outcomes before dictatorship.¹³ Counties with different orders of the 6th/7th candidates voted similarly in local, parliamentary, and presidential elections in the fifteen years before the 1973 coup. Therefore, for estimation we focus on the restricted sample of municipalities and estimate:

$$Y_{cjt} = \beta_t \text{Council Majority}_c^{1992} + \gamma_t X_c + \phi_{jt} + \varepsilon_{cjt} \quad (4)$$

where Y_{cjt} is an outcome of interest in municipality c , located in province j , and measured in year $t > 1992$. Finally, ϕ_{jt} are province fixed effects and ε_{cjt} is a mean-zero

¹³This vector X_c includes the vote share for right-wing candidates in the 1992 local elections, a second degree polynomial for the margin of victory in the 1992 election, the vote shares for left- and right-wing candidates in the 1970 Presidential Election, and the distance to the regional and city capitals.

error term that is robust to heteroskedasticity. Note that all parameters are indexed by t because we estimate equation (4) separately for different years. We also present p -values that correct for multiple hypotheses testing (Romano and Wolf, 2005).

We study two families of outcomes related to political and economic legacies. For the former we focus on the vote shares for right-wing candidates in local and presidential elections.¹⁴ Right-wing candidates were aligned with the dictatorship and many candidates worked for the dictatorship. To measure the latter we use variables related to the performance of mayors. In particular, we use two variables related to the management of the local budget, the ratio of revenues to expenditures and an indicator for misreporting of expenditures as measured by the General Accounting Office of Chile. We also use administrative data measuring deaths in transit accidents and neonatal deaths from the Health Statistics Bureau – arguably related to transit infrastructure and the functioning of public hospitals – and the number of urban projects implemented and their corresponding amount in monetary units. Urban projects are also administrative data from the Ministry of Housing and Urbanism.

Results: Economic and political legacies

The composition of the council is a strong predictor of the probability of dictatorship mayors being elected by the council. In the restricted sample the probability of a dictatorship mayor being elected was 10%. However, when the majority of the council was from right-wing parties this number almost doubled to 19%. In contrast, when the council was split equally between coalitions the probability was 13% and when the majority was left-wing dictatorship mayors were never elected. As a consequence, when we estimate equation (4) using an indicator for the election of dictatorship mayors as

¹⁴Tables A.4 and A.5 provide more details about how we grouped candidates and coalitions in left- and right-wing candidates and coalitions using administrative data from the Electoral Service office.

dependent variable we obtain a coefficient of -0.31 (s.e. 0.11 , p -value < 0.01).

Table 6 presents estimates of equation (4). Panel A studies the effect of council majority on the vote share for right-wing candidates in local elections, panel B in presidential elections, and panel C on the performance of mayors at the beginning of democracy. On average right-wing candidates obtain one-third of votes in local elections and almost half of the votes in most presidential elections. Although point estimates and statistical significance vary by year and type of election, overall we observe a decrease in the vote share of right-wing candidates when the order of the 6th/7th candidate favoured the left-wing. In terms of magnitude the vote share decreases by approximately 8 percentage points in local elections when the council goes from right- to left-wing majority and by 6 percentage points in presidential elections, which represent decreases of 23% and 15% respectively.

In contrast to the previous political results, we find little difference in the performance of dictatorship mayors when compared to other mayors in democracy. Table 6-C cannot reject that municipalities with and without left-wing majority in 1992 behaved similarly in the 1990s. Moreover, the sign of coefficients is inconsistent across columns, sometimes suggesting that in municipalities with left-wing majority there was more corruption and deaths in transit accidents (columns 1 and 3) and sometimes suggesting better performance as measured by fewer neonatal deaths and more monetary resources invested in urban projects. In addition, estimates have unfortunately large confidence intervals probably due to our small sample of municipalities. Taken together, we interpret these estimates as inconclusive about the performance of dictatorship mayors.¹⁵

In sum, the evidence presented in this section suggests that dictatorship mayors influenced voting patterns in democracy without evidence of differential performance.

¹⁵Table A.6 shows that all results in Table 6 are similar if we follow Belloni et al. (2013) and use a vector of machine-selected controls – out of 23 possible ones – instead of the ones we chose.

These results are consistent with previous research (Martínez Bravo, 2014) and constitute additional evidence of dictatorial legacies through local governments.

VI CONCLUSION

We have shown that mayors appointed by the Pinochet dictatorship in Chile obtained a vote premium in the first local election. An increase in local spending in urban projects before the transition, together with an incumbency advantage, have the ability to partially explain this result. Because these mayors are associated to more votes for right-wing parties in democracy, these findings reveal new ways in which dictatorships can influence the functioning of young democracies.

The results in this paper suggest that policies limiting the participation of dictatorship politicians in elections in a new democracy have the potential to reduce the influence of the previous authoritarian regime. Even in the absence of an increase in local spending the existence of an incumbency advantage implies that dictatorship politicians will always obtain a significant number of votes. When authoritarian regimes hold local elections, the competitiveness of these races and the representation of opposition parties can naturally affect whether the body of elected officials can or should participate in subsequent elections held in democracy.

There are at least two limitations that are important to mention to interpret the results in this study. First, besides local spending in urban projects there might be additional strategies used by incumbent dictatorships to preserve their political power. Examples include an improvement in the provision of police services, public education, public health, or other state services more generally. An increase in urban projects could crowd-out some of these other services or could complement them. Second, some democratizations might be more abrupt than a democratization by election and, precisely because of it, these transitions restrict the ability of incumbent dictators to

strategically act to transmit their power across regimes.

Finally, we believe this study opens new questions about the fate of dictatorship politicians after a democratization. In Chile many politicians started their careers by being appointed in the Pinochet years and remain working in the public sector until today. Whether this creates inefficiencies needs to be better understood empirically. In addition, more work is necessary to understand if authoritarian regimes are able to allocate resources across municipalities efficiently or not. Uncontested political power might facilitate the extraction of rents but it might also permit to pursue projects that might be more difficult to pursue when negotiating with others.

References

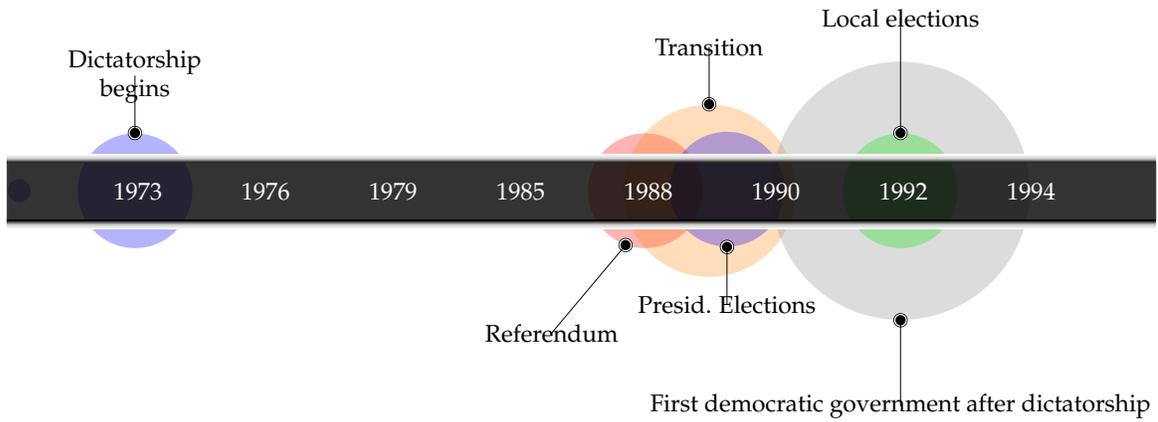
- Acemoglu, D. and Robinson, J. (2008). Persistence of power, elites, and institutions. *American Economic Review*, 98(1):267–293.
- Albertus, M. (2019). The fate of former authoritarian elites under democracy. *Journal of Conflict Resolution*, 63(3):727–759.
- Albertus, M. and Menaldo, V. (2014). Gaming democracy: Elite dominance during transition and the prospects for redistribution. *British Journal of Political Science*, 44(3):575–603.
- Albertus, M. and Menaldo, V. (2018). *Authoritarianism and the Elite Origins of Democracy*. Cambridge University Press.
- Bagues, M. and Esteve-Volart, B. (2016). Politicians' luck of the draw: Evidence from the Spanish christmas lottery. *Journal of Political Economy*, 124(5):1269–1294.
- Bautista, M. A., González, F., Martínez, L., Muñoz, P., and Prem, M. (2019). The geography of dictatorship and support for democracy. *Working Paper*.
- Belloni, A., Chernozhukov, V., and Hansen, C. (2013). Inference on treatment effects after selection among high-dimensional controls. *Review of Economic Studies*, 81(2):608–650.
- Berman, E., Shapiro, J., and Felter, J. (2011). Can hearts and minds be bought? The economics of counterinsurgency in Iraq. *Journal of Political Economy*, 119(4):766–819.

- Berry, C. and Howell, W. (2007). Accountability and local elections: rethinking retrospective voting. *Journal of Politics*, 69(3):844–858.
- Besley, T. and Coate, S. (2003). Elected versus appointed regulators: Theory and evidence. *Journal of the European Economic Association*, 1(5):1176–1206.
- Brownlee, J. (2007). Hereditary succession in modern autocracies. *World Politics*, 59(4):595–628.
- Camus, A. (2014). *Doña Lucía*. Penguin Random House.
- Cavallo, A., Salazar, M., and Sepúlveda, O. (2011). *La Historia Oculta del Régimen Militar: Memoria de una Época 1973–1988*. Uqbar editores.
- Choi, S., Gulati, M., and Posner, E. (2010). Professionals or politicians: The uncertain empirical case for an elected rather than appointed judiciary. *Journal of Law, Economics, and Organization*, 26(2):290–336.
- Colonnelli, E., Prem, M., and Teso, E. (2019). Patronage and selection in public sector organizations. *Working Paper*.
- Dal Bó, E., Dal Bó, P., and Snyder, J. (2009). Political dynasties. *Review of Economic Studies*, 76(1):115–142.
- Dal Bó, E. and Finan, F. (2018). Progress and perspectives in the study of political selection. *Annual Review of Economics*, 10:541–75.
- Díaz, J. and Maturana, C. (1994). Las elecciones municipales de 1992 en Chile. *Revista de Derecho Político*, (38):473–504.
- Donaldson, D. (2018). Railroads of the Raj: Estimating the impact of transportation infrastructure. *American Economic Review*, 108(4):899–934.
- Erikson, R. and Titiunik, R. (2015). Using regression discontinuity to uncover the personal incumbency advantage. *Quarterly Journal of Political Science*, 10(1):101–119.
- Faber, B. (2014). Trade integration, market size, and industrialization: Evidence from China’s national trunk highway system. *Review of Economic Studies*, 81(3):1046–1070.
- Fafchamps, M. and Labonne, J. (2019). Family networks and distributive politics. *Journal of the European Economic Association*.
- Farfán, C. and Vega, F. (2009). *La Familia. Historia Privada de los Pinochet*. Random House Mondadori.
- Fiva, J. H. and Smith, D. M. (2018). Political dynasties and the incumbency advantage in party-centered environments. *American Political Science Review*, 112(3):706–712.

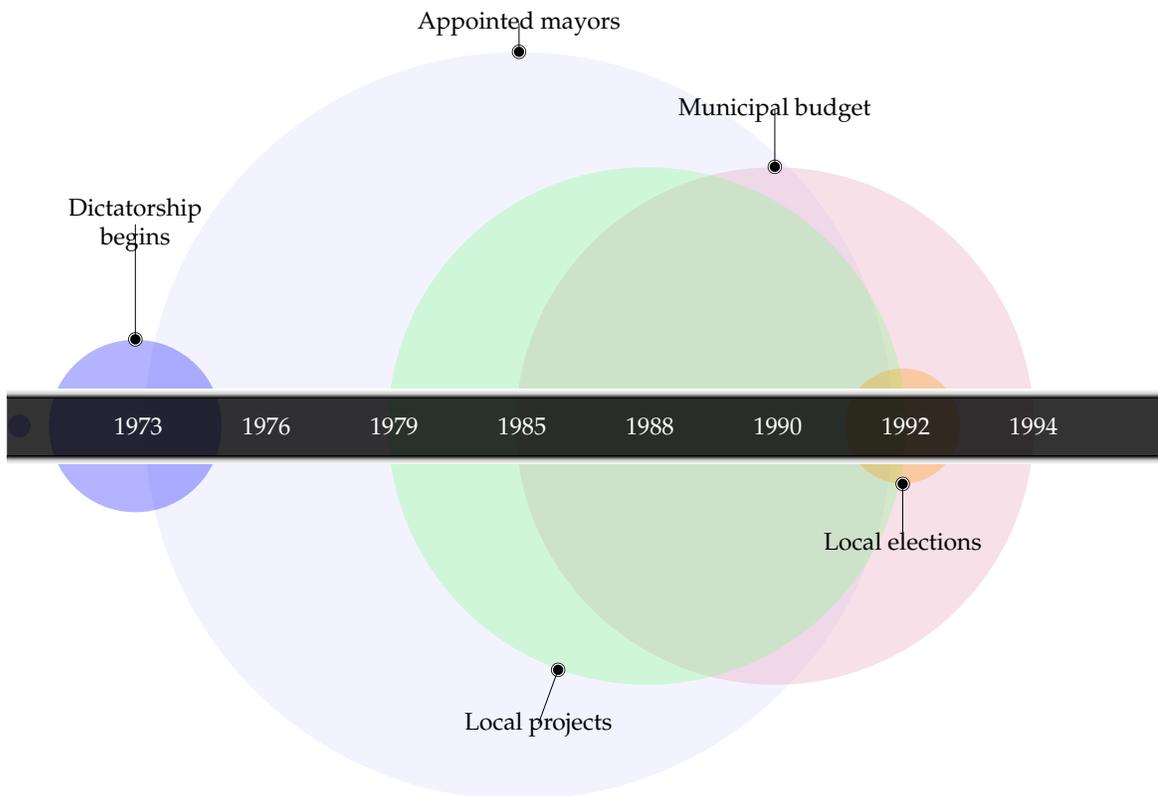
- Fowler, A. and Hall, A. (2014). Disentangling the personal and partisan incumbency advantages: Evidence from close elections and term elections. *Quarterly Journal of Political Science*, 9(4):1142–1164.
- Geddes, B., Wright, J., and Frantz, E. (2018). *How Dictatorships Work: Power, Personalization, and Collapse*. Cambridge University Press.
- González, F. and Prem, M. (2019). Losing your dictator: Firms during political transition. *Working Paper*.
- González, F., Prem, M., and Urzúa, F. (2019). The privatization origins of political corporations: Evidence from the Pinochet regime. *Working Paper*.
- Hessami, Z. (2018). Accountability and incentives of appointed and elected public officials. *Review of Economics and Statistics*, 100(1):51–64.
- Honna, J. (2010). The legacy of the new order military in local politics. In *Soeharto's New Order and Its Legacy: Essays in honour of Harold Crouch*. ANU Press.
- Hornbeck, R. and Donaldson, D. (2016). Railroads and American economic growth: A “market access” approach. *Quarterly Journal of Economics*, 131(2):799–858.
- Huneus, C. (2006). *The Pinochet Regime*. Lynne Rienner Publishers.
- Huntington, S. (1991). *The Third Wave*. Norman: University of Oklahoma Press.
- Labonne, J. (2013). The local electoral impacts of conditional cash transfers: Evidence from a field experiment. *Journal of Development Economics*, 104:73–88.
- Lee, D. S. (2008). Randomized experiments from non-random selection in U.S. House elections. *Journal of Econometrics*, 142:675–697.
- Levin, J. and Tadelis, S. (2010). Contracting for government services: Theory and evidence from U.S. cities. *Journal of Industrial Economics*, LVIII(3):507–541.
- Levitt, S. and Snyder, J. (1997). The impact of federal spending on house election outcomes. *Journal of Political Economy*, 105(1):30–53.
- Linz, J. J. and Stepan, A. (1996). *Problems of Democratic Transition and Consolidation: Southern Europe, South America, and Post-Communist Europe*. Baltimore: Johns Hopkins University Press.
- Manacorda, M., Miguel, E., and Vigorito, A. (2011). Government transfers and political support. *American Economic Journal: Applied Economics*, 3(3):1–28.
- Mardones, R. (2006). Descentralización y transición en Chile. *Revista de Ciencia Política*, 26(1):3–24.

- Martínez Bravo, M. (2014). The role of local officials in new democracies: Evidence from Indonesia. *American Economic Review*, 104(4):1244–87.
- Martínez Bravo, M., Mukherjee, P., and Stegmann, A. (2018a). The non-democratic roots of elite capture: Evidence from Soeharto mayors in Indonesia. *Econometrica*, 85(6):1991–2010.
- Martínez Bravo, M., Padró-i-Miquel, G., Qian, N., and Yao, Y. (2018b). The rise and fall of local elections in China: Evidence on the autocrat’s trade-off. *Working Paper*.
- Marx, B. (2018). Elections as incentives: Project completion and visibility in African politics. *Working Paper*.
- Michaels, G. (2008). The effect of trade on the demand for skill: Evidence from the interstate highway system. *Review of Economics and Statistics*, 90(4):683–701.
- O’Donnell, G. and Schmitter, P. C. (1986). *Transitions from Authoritarian Rule: Tentative Conclusions about Uncertain Democracies*. The Johns Hopkins University Press.
- Robinson, R. and Hadiz, V. (2004). *Reorganizing Power in Indonesia: The Politics of Oligarchy in an Age of Markets*. London: Routledge.
- Romano, J. P. and Wolf, M. (2005). Stepwise multiple testing as formalized data snooping. *Econometrica*, 73(4):1237–1282.
- Treisman, D. (2019). Democracy by mistake. *Working Paper*.
- Valdivia, V., Álvarez, R., and Donoso, K. (2012). *La Alcadización de la Política. Los Municipios en la Dictadura Pinochetista*. Santiago de Chile: LOM Ediciones.
- Voigtländer, N. and Voth, H.-J. (2018). Highway to Hitler. *Working Paper*.
- Xu, G. (2018). The costs of patronage: Evidence from the British Empire. *American Economic Review*, 108(11):3170–3198.
- Yang, D. (2019). The impact of media censorship: 1984 or Brave New World? *American Economic Review*, 109(6):2294–2332.

Figure 1: Timeline of events and data collection

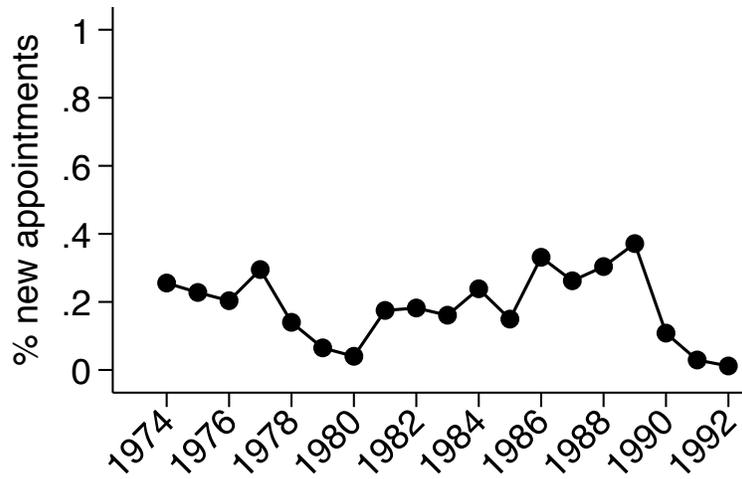


(a) Main political events

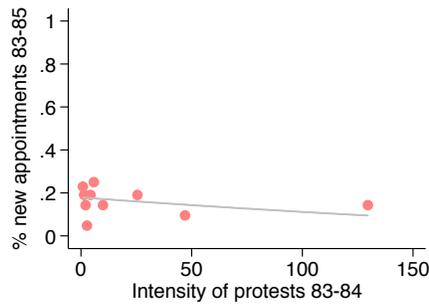


(b) Data collection

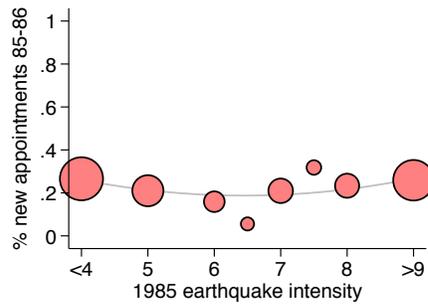
Figure 2: The appointments of dictatorship mayors



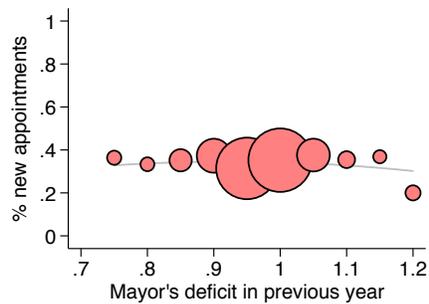
(a) Percentage of new mayors over time



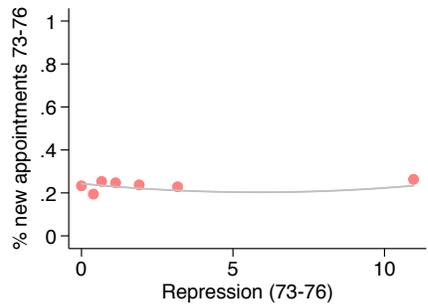
(b) Intensity of protests



(c) Earthquake intensity



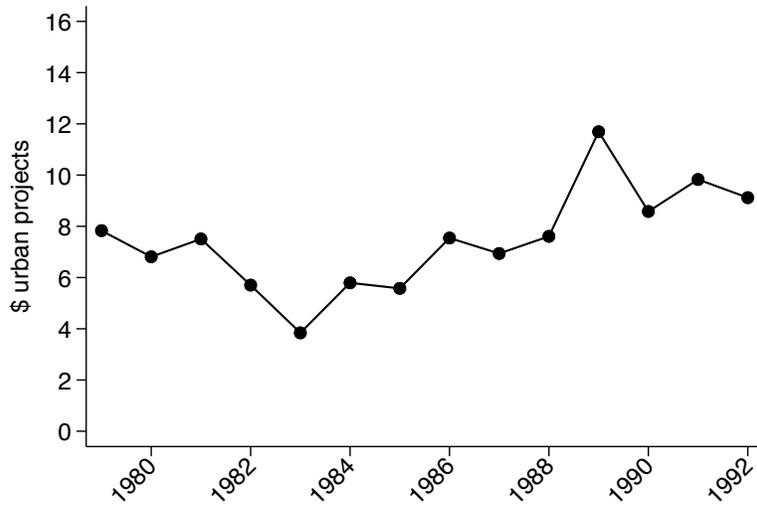
(d) Municipal budget



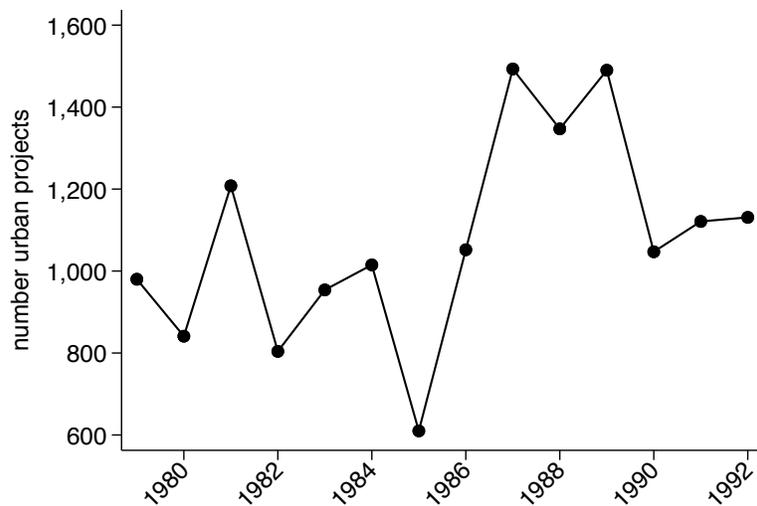
(e) Local repression

Notes: Panel (a) shows the percentage of new mayors over time. The bottom four panels show that mayors were *not* removed after events that were likely to reveal performance. Section III provides more details.

Figure 3: Urban projects



(a) Urban projects (\$)



(b) Urban projects (number)

Notes: Time series variation in local spending in urban projects. Administrative data from annual reports of the Ministry of Housing and Urbanism. Section III presents more details.

Table 1: Descriptive statistics

	Mean	St. Dev.	Min	Max
	(1)	(2)	(3)	(4)
Mayors appointed by Pinochet ($N=1,104$)				
Years of tenure (1973–1987)	4.14	3.60	1.00	15.00
Municipalities per mayor (1973–1987)	1.04	0.21	1.00	3.00
Municipalities ($N=333$)				
Number of mayors (1973–1987)	3.22	1.61	1.00	8.00
Spending in urban projects per capita (1979–1987)	50.16	358.22	0.00	6305.66
Number of projects per capita (1979–1987)	16.85	23.55	0.00	327.87
Budget: deficit (1985–1987)	1.09	0.89	0.38	10.72
Budget: revenues per capita (1985–1987)	15.05	35.58	0.24	605.12
Budget: spending per capita (1985–1987)	14.94	34.98	0.35	594.41

Notes: Descriptive statistics for 1,104 dictatorship mayors in the upper panel and for 333 counties in the lower panel. All variables are measured until the year before the democratization announcement (1988). Section III presents more details.

Table 2: Dictatorship mayors in the first democratic local election*The dependent variable is the vote share of candidates in the 1992 local election*

	(1)	(2)	(3)	(4)
Dictatorship mayor	9.04*** (0.76)	8.96*** (0.78)	9.39*** (0.77)	6.53*** (0.92)
Dictatorship prisoner	0.21 (0.32)	0.51 (0.33)	1.16*** (0.31)	1.15*** (0.31)
Incumbent mayor				6.03*** (1.52)
Candidates (observations)	6,497	6,497	6,497	6,497
Municipalities	333	333	333	333
Municipality fixed effects		X	X	X
Political party fixed effects			X	X
Avg. dependent variable	5.13	5.13	5.13	5.13

Notes: Each observation is a candidate in the 1992 local election. The number of dictatorship prisoners is 514, the number of dictatorship mayors is 246, and the number of incumbent dictatorship mayors is 117. Standard errors clustered by municipality in parenthesis. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 3: Local elections and local spending in urban projects*The dependent variable is the vote share of candidates in the 1992 local election*

Local spending variable:	Development projects		Municipal spending
	Log spending per capita	Number of projects per capita	Log spending per capita
	(1)	(2)	(3)
Dictatorship mayor	9.51*** (0.77)	9.51*** (0.77)	9.42*** (0.74)
× Spending in democracy	0.16 (1.13)	-0.02 (1.15)	2.81 (3.08)
× Spending in transition	2.44* (1.29)	3.56** (1.48)	-0.52 (3.41)
× Spending in dictatorship	-0.03 (0.94)	0.79 (0.90)	1.16 (1.93)
Dictatorship prisoner	1.11*** (0.32)	1.18*** (0.38)	1.05*** (0.33)
× Spending in democracy	-0.38 (0.72)	0.19 (0.63)	1.19 (1.10)
× Spending in transition	0.70 (0.46)	0.97 (0.78)	-1.30 (1.17)
× Spending in dictatorship	-0.01 (0.92)	-0.65 (1.55)	-0.22 (0.69)
Candidates (observations)	6,274	6,274	6,274
Municipalities	324	324	324
Municipality fixed effects	X	X	X
Political party fixed effects	X	X	X
Avg. dependent variable	5.164	5.164	5.164

Notes: Each observation is a candidate in the 1992 local elections. The number of dictatorship mayors is 246 and the number of dictatorship prisoners is 514. Robust standard errors clustered at the municipality level in parenthesis. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. See section IV for details.

Table 4: Hypothetical voting scenarios

	(L1)	(L2)	(L3)	(L4)	(L5)	...	(R6)	(R5)	(R4)	(R3)	(R2)	(R1)
Candidate 1	L	L	L	L	L	...	R	R	R	R	R	R
Candidate 2	L	L	R	R	R	...	L	L	L	L	R	R
Candidate 3	L	R	L	L	L	...	R	R	R	R	L	R
Candidate 4	L	L	R	R	R	...	L	L	L	L	R	R
Candidate 5	L	L	L	L	R	...	L	R	R	R	R	R
Candidate 6	L	L	L	L	L	...	R	L	R	R	R	R
Candidate 7	L	L	R	L	R	...	L	R	L	R	R	R
⋮												
Candidate <i>N</i>												

Notes: Hypothetical order of left- (L) and right-wing (R) candidates in a municipality after the 1992 local election. The six most voted candidates became councilors and elected the mayor whenever the most voted candidate obtained less than 35% of voters or was not part of the most voted list. A list is a group of political parties.

Table 5: Summary statistics and differences by council composition

	Summary statistics		Difference by council composition		
	Full sample	Restricted sample	Full sample	Restricted sample	Baseline controls
	(1)	(2)	(3)	(4)	(5)
Vote share Conf. Dem. parliamentary election 1973	59.42 (10.78)	56.06 (11.70)	-12.75*** (3.23)	-14.93** (5.98)	-3.31 (2.11)
Vote share U.P. parliamentary election 1973	38.67 (10.41)	41.87 (11.41)	12.52*** (3.06)	14.75** (5.79)	3.28 (2.03)
Vote share U.P. municipal election	44.48 (10.78)	47.16 (10.74)	14.17*** (4.10)	8.93 (5.62)	-1.63 (4.02)
Vote share right-wing municipal election 1971	27.83 (10.35)	25.48 (9.71)	-11.41** (4.42)	-5.94 (5.29)	-2.08 (3.78)
Vote share Nacional municipal election 1971	23.41 (11.03)	21.22 (10.51)	-11.64*** (3.97)	-6.73 (4.70)	-0.81 (2.95)
Vote share Radical municipal election 1971	4.42 (5.43)	4.26 (6.64)	0.23 (1.16)	0.79 (2.04)	-1.28 (3.21)
Vote share Jorge Alessandri in 1970	39.20 (8.54)	36.78 (8.60)	-10.40*** (3.30)	-8.71* (4.52)	-
Vote share Salvador Allende in 1970	30.68 (9.76)	32.81 (11.02)	12.16*** (2.58)	13.43** (5.37)	-
Vote share Frei in 1964	59.55 (10.73)	56.74 (11.67)	-11.23*** (2.50)	-11.71** (4.67)	-0.34 (2.11)
Vote share Alessandri in 1958	35.90 (10.99)	35.60 (11.78)	-7.25*** (2.27)	-9.14** (4.19)	-7.36 (4.92)
Municipalities	284	101	284	101	101

Notes: Summary statistics in columns 1-2 and differences in columns 3-5 are weighted by 1992 population. Robust standard errors in parenthesis in columns 3-5. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 6: The legacies of dictatorship mayors

<i>Panel A: Vote share for right-wing candidates in local elections</i>						
	1996	2000	2004	2008	2012	2016
	(1)	(2)	(3)	(4)	(5)	(6)
Council majority is left-wing	-20.3*** (6.1) [0.02]	-5.7 (6.4) [0.08]	-9.7* (5.4) [0.08]	-3.0 (7.3) [0.85]	-10.1* (6.0) [0.41]	-4.2 (8.7) [0.86]
R-squared	0.617	0.56	0.59	0.50	0.57	0.53
Avg. dependent variable	34.6	38.1	35.0	34.8	33.3	35.7
<i>Panel B: Vote share for right-wing candidates in presidential elections</i>						
	1993	1999	2005	2009	2013	2017
Council majority is left-wing	-6.0*** (2.2) [0.01]	-4.4* (2.2) [0.03]	-4.2** (2.0) [0.09]	-4.4** (2.1) [0.09]	-6.5*** (2.3) [0.03]	-9.1*** (2.7) [0.03]
R-squared	0.75	0.82	0.77	0.76	0.74	0.74
Avg. dependent variable	30.8	50.1	50.4	45.0	24.4	46.3
<i>Panel C: Related to the local performance of mayors</i>						
	Misreported expenditures	Deficit	Deaths in transit accidents	Neonatal deaths	Money in urban projects	Number of urban projects
Council majority is left-wing	0.32 (0.28) [0.53]	0.01 (0.04) [0.88]	0.05 (0.03) [0.23]	-0.07 (0.08) [0.53]	1.61* (0.87) [0.69]	-1.15 (1.88) [0.88]
R-squared	0.46	0.28	0.56	0.50	0.71	0.56
Avg. dependent variable	0.38	0.99	0.17	0.36	3.02	6.48
Counties	101	101	101	101	101	101
Province fixed effects	X	X	X	X	X	X
Controls	X	X	X	X	X	X

Notes: All estimates include counties in restricted sample. Controls include: vote share for right-wing candidates in the 1992 local elections, a second degree polynomial for the margin of victory in the 1992 election, the vote shares for left- and right-wing candidates in the 1970 presidential election, and the distance to the regional and city capitals. All regressions are weighted by 1992 population. Robust standard errors in parenthesis and p -values corrected for multiple hypotheses in square brackets (Romano and Wolf, 2005). Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

ONLINE APPENDIX

Lost in Transition? The Persistence of Dictatorship Mayors

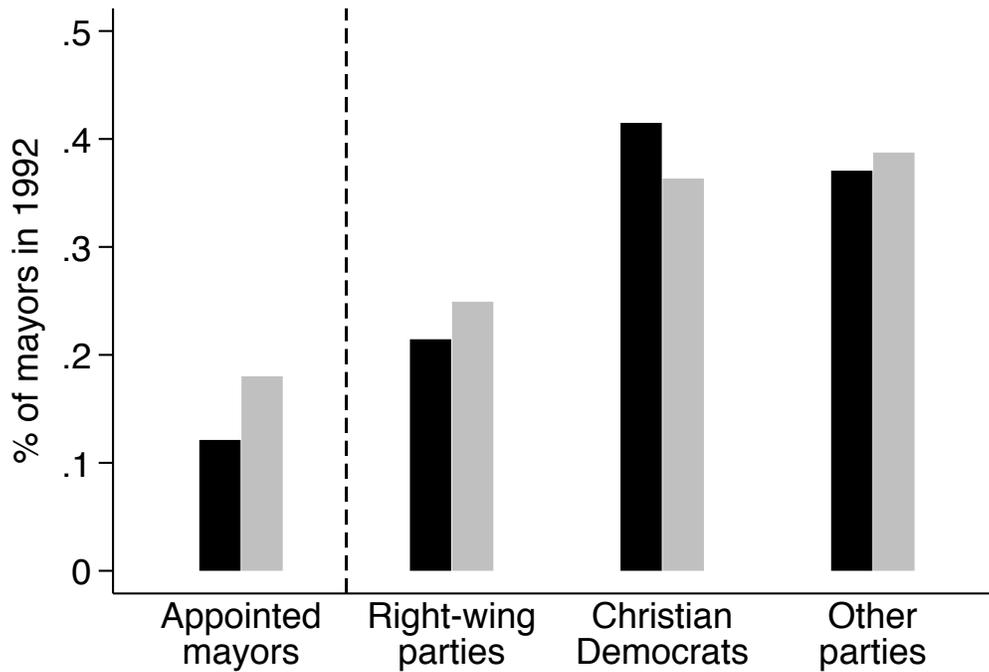
List of Figures

A.1	Who profited from the electoral rule in the 1992 election	ii
A.2	Data on urban projects	iii
A.3	Data on municipal spending	iv

List of Tables

A.1	Additional descriptive statistics	v
A.2	Winners in the first local election	vi
A.3	Robustness to flexible fixed effects by party	vii
A.4	Candidates presidential elections 1993 – 2017	viii
A.5	Coalitions local elections 1992 – 2016	ix
A.6	Robustness to machine-selected controls	x

Figure A.1: Who profited from the electoral rule in the 1992 election



Notes: Electoral results (**black bars**) and counterfactual results (**gray bars**) in the 1992 local elections under different electoral rules. Percentage of mayors by appointed or not in the left part of the figure and by political party in the right part of the figure. Black bars indicate the actual percentage of mayors elected, while gray bars represent the percentage of mayors elected in a counterfactual world with a simple majority rule to elect mayors. Section II provides more details.

Figure A.2: Data on urban projects

OBRAS TERMINADAS AL 31 DE DICIEMBRE DE 1985														
Comuna	Nombre de la obra	Línea de acción	Cant.	Fecha Contrato	Fecha Term.	Sup. Unitaria m ²	Sup. Total m ²	Costo Unitario U.F.	Costo Total U.F.	Origen Financ.	Decreto de Contrato	N° de pisos	Forma agrupac.	Contratista
OBRAS DEL SECTOR														
Pavimentación:														
Los Andes	Av. Argentina	Pavimentos nuevos		12-06-84	01-85				19.370	Sector	170			24
Los Andes	Av. Argentina	Pavimentos nuevos		20-11-84	01-85				1.403	Sector	170			24
Viña del Mar	Av. 1 Norte	Varios		14-11-84	01-85				1.917	Sector	170			24
Viña del Mar	Varias calles	Recuperación		20-06-85	08-85				439	Sector	29			17
Viña del Mar	Varias calles	Recuperación		03-06-85	08-85				6.928	Sector	29			24
Viña del Mar	Granadillas 1-2-3-4	Pavimentos nuevos		12-03-85	09-85				7.733	Sector	29			24
Valparaíso		Recuperación		30-04-85	06-85				462	Sector	170			9
Valparaíso	Av. 11 de Septiembre	Varios		31-05-85	07-85				1.140	Sector	170			9
Quilpué	Acceso Puente El Belloto	Pavimentos nuevos		14-11-84	01-85				1.457	Sector	170			24
Total inversión en pavimentación									40.849					
Otras obras:														
Valparaíso	Av. Aitamarino	Varios		10-09-84	01-85				8.300	Sector	170			24
OBRAS POR CONVENIOS Y MANDATOS SIN ADMINISTRACION FINANCIERA														
Saneamiento de poblaciones:														
Villa Alemana	Rosénquist	Unidades sanitarias	450	29-06-84	08-85	7,08	3.186	87,00	39.152	Municipal-BID	Especial			19
Quillota	Aconcagua Sur	Unidades Sanitarias	307	29-06-84	07-85	7,08	2.174	90,10	27.662	Municipal-BID	Especial			19
San Antonio	Varias obras	Unidades Sanitarias	327	31-07-84	08-85	7,08	2.315	105,18	34.393	Municipal-BID	Especial			19
Total			1.084			7.675		101.207						
Pavimentación:														
Viña del Mar	Varias calles	Pavimentos nuevos		12-03-85	03-85				5.327	Municipal	170			24
San Felipe	Av. 11 de Septiembre	Pavimentos nuevos		25-07-85	10-85				6.462	Municipal	29			18
Total									11.789					

OLMUE
C. Condell



QUILLOTA
El Bajo



Notes: Section III provides more details.

Table A.1: Additional descriptive statistics

	Mean	St. Dev.	Min	Max	Counties
	(1)	(2)	(3)	(4)	(5)
Indicator misreporting local finance (1996)	0.35	0.48	0.00	1.00	333
Municipal budget deficit (1993–1994)	1.00	0.06	0.76	1.36	333
Death in transit accidents accidents per 1,000 inhab. (1993–1996)	0.15	0.10	0.00	0.56	333
Neonatal deaths per 1,000 inhab. (1993–1996)	0.35	0.21	0.00	1.41	333
Spending urban projects per capita (in \$, 1993–1996)	3.09	3.88	0.00	36.18	333
Number of urban projects per capita (1993–1996)	9.46	15.12	0.00	178.04	333

Notes: Data for misreporting of local finance and budget deficit comes from the General Accounting Office. Data for deaths in transit accidents and neonatal deaths comes from the Health Statistics Bureau. Data for urban projects comes from annual reports of the Ministry of Housing and Urbanism.

Table A.2: Winners in the first local election

The dependent variable is an indicator for the winners of the 1992 local election

	(1)	(2)	(3)
Designated mayor	0.15*** (0.03)	0.15*** (0.03)	0.18*** (0.03)
Dictatorship prisoner	0.01 (0.01)	0.01 (0.01)	0.02* (0.01)
Candidates	6,497	6,497	6,497
Municipalities	333	333	333
R-squared	0.02	0.03	0.11
Municipality fixed effects		X	X
Political party fixed effects			X
Mean of dependent variable	0.07	0.07	0.07

Notes: Each observation is a candidate in the 1992 local election. The number of dictatorship prisoners is 514 and the number of dictatorship mayors is 246. Standard errors clustered by municipality in parenthesis. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.3: Robustness to flexible fixed effects by party

	Vote share		Indicator elected	
	(1)	(2)	(3)	(4)
Dictatorship mayor	9.37*** (0.77)	9.50*** (0.76)	0.18*** (0.03)	0.18*** (0.03)
Dictatorship prisoner	1.13*** (0.31)	1.18*** (0.30)	0.02* (0.01)	0.03** (0.01)
Candidates	6,491	6,481	6,491	6,481
Municipalities	333	333	333	333
Municipality fixed effects	X	X	X	X
Political party by region fixed effects	X		X	
Political party by province fixed effects		X		X
Avg. dependent variable	5.13	5.13	0.07	0.07

Notes: Each observation is a candidate in the 1992 local election. The number of dictatorship mayors is 246, the number of dictatorship prisoners is 514, and the number of incumbent dictatorship mayors is 117. Standard errors clustered by municipality in parenthesis. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.4: Candidates presidential elections 1993 – 2017

Coalition	1993	1999	2005	2009	2013	2017
RIGHT	A. Alessandri J. Piñera	J. Lavín	S. Piñera J. Lavín	S. Piñera	E. Matthei	S. Piñera J.A. Kast
LEFT	E. Frei M. Max Neef E. Pizarro C. Reitze	R. Lagos G. Marín T. Hirsch	M. Bachelet T. Hirsch	E. Frei J. Arrate M. Enríquez	M. Bachelet M. Enríquez M. Claude A. Sfeir R. Miranda	M. Enríquez A. Guillier C. Goic B. Sánchez A. Navarro E. Artés

Notes: Own construction based on administrative data from the Electoral Service.

Table A.5: Coalitions local elections 1992 – 2016

	1992	1996	2000	2004	2008	2012	2016
RIGHT	Participación y Prog. U. Centro Centro	Unión por Chile Prog. Centro Centro	Alianza Centro Centro	Alianza Centro Centro	Alianza	Alianza	Chile Vamos Amplitud
LEFT	Concertación P. Comunista	Concertación La Izquierda Humanista	Concertación La Izquierda Humanistas y Ecologistas	Concertación Juntos Podemos Hum. y Eco.	Concertación Dem. Juntos Podemos Hum. y Eco. Concertación Prog. Chile Limpio Fza. Norte	Concertación Dem. Chile en Otra El Cambio Por Ti Más Humanos Desarrollo Norte Chile Justo	Concertación Dem. Alt. Democrática Cambiemos la Historia Nueva Mayoría P. Reg. Magallanes Poder Eco. y Ciud. Marco Cambio Norte Verde

Notes: Own construction based on administrative data from the Electoral Service.

Table A.6: Robustness to machine-selected controls

<i>Panel A: Vote share for right-wing candidates in local elections</i>						
	1996	2000	2004	2008	2012	2016
	(1)	(2)	(3)	(4)	(5)	(6)
Council majority is left-wing	-19.69*** (5.56)	-5.67 (6.33)	-14.33** (6.35)	-2.70 (7.54)	-6.13 (7.39)	7.13 (9.57)
R-squared	0.586	0.474	0.488	0.394	0.441	0.412
Avg. dependent variable	34.6	38.1	35.0	34.8	33.3	35.7
<i>Panel B: Vote share for right-wing candidates in presidential elections</i>						
	1993	1999	2005	2009	2013	2017
Council majority is left-wing	-6.56*** (2.15)	-3.58 (2.35)	-4.40* (2.29)	-5.78** (2.55)	-7.56** (3.40)	-8.86** (3.73)
R-squared	0.764	0.802	0.772	0.741	0.686	0.677
Avg. dependent variable	30.8	50.1	50.4	45.0	24.4	46.3
<i>Panel C: Related to the local performance of mayors</i>						
	Misreported expenditures	Deficit	Deaths in transit accidents	Neonatal deaths	Money in urban projects	Number of urban projects
Council majority is left-wing	0.29 (0.27)	-0.00 (0.03)	0.07* (0.04)	-0.05 (0.08)	1.56 (1.06)	-1.21 (1.80)
R-squared	0.364	0.247	0.464	0.436	0.653	0.546
Avg. dependent variable	0.38	0.99	0.17	0.36	3.02	6.48
Counties	101	101	101	101	101	101
Province fixed effects	X	X	X	X	X	X
Controls	X	X	X	X	X	X

Notes: All estimates include counties in restricted sample. Controls include: vote share for right-wing candidates in the 1992 local elections, a second degree polynomial for the margin of victory in the 1992 election, the vote shares for left- and right-wing candidates in the 1970 presidential election, and the distance to the regional and city capitals. All regressions are weighted by 1992 population. Robust standard errors in parenthesis. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.