

## The Geography of Dictatorship and Support for Democracy

María Angélica Bautista<sup>\*</sup>, Felipe González<sup>†</sup>, Luis R. Martínez<sup>\*</sup>, Pablo Muñoz<sup>‡</sup> and  
Mounu Prem<sup>§</sup>

### HiCN Working Paper 298

March 2019

**Abstract:** We study whether exposure to the military dictatorship of Augusto Pinochet in Chile (1973-1990) affected political attitudes and behavior, exploiting the plausibly exogenous location of military bases shortly before the coup that brought Pinochet to power. We show that residents of counties housing military bases both registered to vote and voted “No” to Pinochet’s continuation in power at higher rates in the crucial 1988 plebiscite that bolstered the democratic transition. Counties with military bases also experienced substantially more civilian deaths during the dictatorship, suggesting that increased exposure to repression is an important mechanism driving the larger rates of political participation and regime opposition. Evidence from survey responses and elections after democratization shows that military presence led to long-lasting support for democracy without changing political ideologies or electoral outcomes.

**Keywords:** dictatorship, repression, democratization, human rights

**JEL Codes:** D72, N46

*Acknowledgement:* This version: March 2019. First version: September 11, 2018. We would like to thank Ernesto Dal Bó, Fred Finan, Francisco Gallego, John Londregan, Nathan Nunn, Gerard Padró i Miquel, Debraj Ray, James Robinson, Gerard Roland, Mehdi Shadmehr, Juan F. Vargas, Stephane Wolton, Austin Wright and seminar participants at the Political Economy and Political Science (PEPS) Conference, PUC-Chile, University of Chicago (political economy lunch and comparative politics seminar), Universidad del Rosario, and the 1st Annual Colombian Economics Conference for comments and suggestions. González thanks Fondecyt (Project 11170258) for financial support. Bautista and Martínez thank CISSR and the Pearson Institute at the University of Chicago for financial support. Muñoz thanks the Center for Effective Global Action for financial support. Prem thanks Universidad del Rosario for financial support. Juliana Aguilar, Joaquín Lennon, Piera Sadini, Luis Serrano, David Vargas, Cristine von Dessauer, and Catalina Zambrano provided outstanding research assistance.

---

<sup>\*</sup> University of Chicago, Harris School of Public Policy

<sup>†</sup> Pontificia Universidad Católica de Chile, Instituto de Economía

<sup>‡</sup> University of California Berkeley, Department of Economics

<sup>§</sup> Universidad del Rosario, Department of Economics

# 1 Introduction

A large literature dating back to Banfield (1958) has argued that individual beliefs and social norms are as important as political institutions for the correct functioning of democracy.<sup>1</sup> Moreover, recent theoretical contributions have shown that democratic values are likely to play a fundamental role in the transition to a stable democracy (Persson and Tabellini, 2009; Ticchi et al., 2013; Besley and Persson, 2018). But only recently have we begun to gather empirical evidence on the factors that shape individual preferences for democracy and little is known about the contribution of democratic values to observed episodes of regime change. In particular, there is scant evidence on whether exposure to dictatorship and repression leads to long-lasting fear and submissiveness or whether it bolsters political action and increases the demand for democracy.

In this paper we study the effects of exposure to the military dictatorship of Augusto Pinochet in Chile (1973-1990) on political attitudes and behaviors. For this purpose, we leverage plausibly exogenous variation in the location of military bases built throughout the country during the many decades of democratic rule that preceded the dictatorship. Our identification strategy assumes that the geographic distribution of bases before the military coup did not respond to local political preferences nor did it anticipate future political opposition to the Pinochet regime, but it did expose the local population to increased contact with the military during the years of dictatorial rule. To support this claim, we carefully reconstruct the universe of military bases built prior to the government of Salvador Allende (1970-1973), the socialist president overthrown by Pinochet. We then provide historical and statistical evidence showing that the deployment of military units before the dictatorship was driven by national security concerns and logistical factors and not by local political conditions. In particular, we show that military presence is uncorrelated with electoral outcomes in the two decades before the military coup.

Our main object of interest is the behavior of voters in the 1988 plebiscite that bolstered the democratic transition and helped to bring the Pinochet regime to an end. This plebiscite was mandated by the constitution drafted by the military government eight years before and was the

---

<sup>1</sup> More recent contributions include Putnam et al. (1993); Glaeser et al. (2007); Nannicini et al. (2013); Gorodnichenko and Roland (2016); Alesina et al. (2018).

first approximately free election to take place in Chile since 1973. It asked voters whether they wanted Pinochet to remain as president for a further eight years, to which 55% responded “No”, thereby precipitating the end of the dictatorship. Our two main outcomes of interest are the county-level rates of voter registration for the plebiscite and the “No” vote share.

Our first set of findings show that voter registration was 9.3 percentage points (pp) higher and the “No” vote share was 2.2 pp higher in counties housing military bases in 1970. These effects are precisely estimated and correspond to respective increases of 13% and 4% over the sample mean. They are not present for other large facilities, such as airports or power plants, and they are not confounded by provincial or regional capitals. The estimates are robust to the inclusion of control variables corresponding to geographic and demographic characteristics correlated with military presence, as well as province fixed effects. They are also robust to the inclusion of spatial controls and to the use of other measures of military proximity.

Our second set of findings is related to the underlying mechanisms connecting military presence in 1970 to voters’ behavior in 1988. During the Pinochet dictatorship, the state murdered more than 3,000 people and tortured over 38,000. Using official records on every documented victim of the regime (killed or disappeared), we show that counties with military bases in 1970 had 2.1 more victims per 10,000 inhabitants, corresponding to a 90% increase over the sample average. Counties with bases also have a higher number of documented centers of detention and torture. However, a novel data set of local infrastructure projects during the dictatorship reveals that military presence was uncorrelated with government spending in the 1980s. The evidence indicates that greater exposure to repression in counties with military bases was a major contributor to the larger rates of political participation and regime opposition observed in these counties in 1988.

Assuming that the exclusion restriction is satisfied, we can use military presence in 1970 as an Instrumental Variable (IV) in the study of the effects of repression on our political outcomes of interest. An IV strategy in this context helps to overcome the bias in Ordinary Least Squares (OLS) estimates arising from selective targeting of victims and measurement error. The IV results show that a one-unit increase to the civilian victimization rate leads to a 4.4 pp increase in voter registration and to a 1.1 pp increase in the “No” vote share. These estimates are larger than their

OLS counterparts, but they are of the same order of magnitude, providing some evidence of downward bias in the latter. Although we cannot fully rule out the existence of other variables mediating the reduced-form relationship between military presence and the plebiscite outcomes (e.g., better information on other forms of government misbehavior), we use the method proposed by Conley et al. (2012) to gauge the sensitivity of the IV results to potential violations of the exclusion restriction. We find that these violations would have to be non-negligible, corresponding to 25 and 28% of the respective reduced-form effects, to make the IV estimates insignificant.

Our third set of findings is related to the meaning of the increased opposition to Pinochet in counties with military presence in 1988. We study national and subnational elections over three decades after democratization and focus on the vote share for the “Concertación” coalition. This coalition of center-left parties led the campaign for “No” in 1988 and would go on to win five of the seven presidential elections that have taken place since. We show that the electoral advantage held by “Concertación” in counties with military bases disappears after 1988. Hence, the results for 1988 cannot be interpreted as indication of a persistent change in political preferences or party affiliation, but rather as an expression of increased support for regime change in the presence of a democratic window of opportunity.

We complement this result using almost 19,000 Latinobarómetro survey responses in Chile between 1996 and 2015. The survey data allows us to leverage cross-cohort variation in exposure to the military coup in addition to the geographical variation in military presence. Aggregating responses to several questions on attitudes towards democracy, we show that respondents that were exposed to the military coup in counties with military bases espouse views that are more strongly supportive of democratic rule. Consistently with the electoral results, these individuals do not seem to differ in their political ideology. We conclude that military presence at the time of the coup led to a long-lasting increase in support for democracy but did not persistently affect political preferences or electoral outcomes.

This paper contributes to a growing literature on the determinants of political values and preferences.<sup>2</sup> Particularly close to our work are studies analyzing the influence of non-democracies,

---

<sup>2</sup> Previous research has studied the effects of migration (Spilimbergo, 2009; Barsbai et al., 2017), educational content (Cantoni et al., 2017) and economic conditions (Grosjean and Senik, 2011; Armingeon and Guthmann, 2014; Giuliano and Spilimbergo, 2014).

which have consistently found a negative correlation between exposure to dictatorship and support for democracy (Neundorf, 2010; Fuchs-Schündeln and Schündeln, 2015; Brum, 2018). We contribute to the literature by introducing a novel empirical strategy exploiting plausibly exogenous variation in exposure to dictatorship within a given country. This strategy allows us to uncover a positive causal effect on democratic values, as recorded both by survey responses and costly political action, which is mainly mediated by repression.

In this regard, our work also connects to a large literature studying the effects of exposure to violence on individual attitudes and behaviors, which has so far mainly focused on civil conflict and terrorism. The documented effects are heterogeneous and depend on the time horizon and the degree of exposure (Bellows and Miguel, 2009; Blattman, 2009; Hersh, 2013; Jones et al., 2017; Balcells and Torrats-Espinosa, 2018; Condra et al., 2018). Importantly, a recent meta-analysis failed to find robust effects on voting or interest in politics (Bauer et al., 2016). The same study also concluded that further research is warranted on the consequences of exposure to other forms of violence, including state repression.

Repression is one of the most pervasive features of authoritarian regimes (Davenport and Armstrong, 2004), but its effectiveness in quieting dissent remains largely unknown.<sup>3</sup> Research on this topic has grown in recent years, but it has mostly relied on survey responses. There is mixed evidence to date on the short-run effects of exposure to repression on reported measures of dissent (Garcia-Ponce and Pasquale, 2015; Lawrence, 2017; Young, 2019). In the long run, survey responses reveal heterogeneous effects according to various characteristics (Balcells, 2012; Bautista, 2014a,b; Wang, 2018). Only a few studies have moved beyond survey data to document long-run effects of exposure to repression on political participation and electoral outcomes (Lupu and Peisakhin, 2017; Rozenas et al., 2017; Zhukov and Talibova, 2018). Our setting allows us to bridge these different strands of the literature. We study the effect of exposure to repression on the outcome of a real, high-stakes vote potentially leading to democratization, but also use survey responses to guide our interpretation of the findings as an indication of a persistent increase in support for democracy.

---

<sup>3</sup> For instance, Davenport (2007a, p.17) concludes that “one explanation for state repression is that authorities use it to stay in power, but the literature contains not one systematic investigation of this proposition.”

The paper also contributes to the empirical literature on the causes of democratization. Existing work has largely studied the relationship between income and democracy across countries, with mixed findings (e.g., Acemoglu et al., 2008). Within-country studies have tested more nuanced comparative statics of the Acemoglu and Robinson (2001, 2006) model of democratic transitions (Bruckner and Ciccone, 2011; Aidt and Franck, 2015; Dower et al., 2018). We add to this literature by providing novel evidence that targeted violence by an autocratic regime may contribute to regime change when a democratic window of opportunity arises.<sup>4</sup>

## 2 Institutional background

In 1969, all of the main left-wing parties in Chile joined a coalition called “*Unidad Popular*” (UP).<sup>5</sup> This coalition chose Salvador Allende, a member of the Socialist party, as its candidate for the 1970 presidential election. Allende won that election with 36.6% of the votes, in what was his fourth attempt to become president, having previously lost in 1952, 1958 and 1964. His time in office was characterized by redistributive policies, a deterioration of economic conditions and a sharp increase in political polarization. Allende was overthrown on September 11, 1973 by a military coup led by General Augusto Pinochet, who was at the time the commander-in-chief of the army. A *junta* presided by Pinochet immediately suspended the Constitution and declared itself the supreme executive and legislative body of the country. It would govern Chile until 1990.

The junta established as one of its main objectives to “struggle against Marxism and extirpate it to the last consequences” (Constable and Valenzuela, 1991, p.36). During the first weeks after the coup, army and police units engaged in the detention, torture and execution of supporters of the deposed Allende government, including members of left-wing parties and trade unions. Improvised detention centers were set up throughout the country to house the rising number of prisoners. Violent repression against political opponents and alleged extremists remained very intense for the next few years and would continue until the end of the dictatorship. According to the report produced by the “*National Commission for Truth and Reconciliation*” 3,216 people were either

---

<sup>4</sup> The paper also relates to the strands of literature studying military dictatorships and the role of elections in authoritarian regimes. See Geddes et al. (2014) and Gandhi and Lust-Okar (2009) for respective overviews.

<sup>5</sup> Online appendix A provides a more detailed discussion of the institutional background.

killed or disappeared by the military government (Comisión Rettig, 1996). A second report by the “*National Commission on Political Imprisonment and Torture*” concluded that 38,254 people had been imprisoned for political reasons, 94% of which had been tortured (Comisión Valech, 2004).

Pinochet began consolidating power shortly after the coup and by the end of 1974 had persuaded the other members of the military junta to name him president. As a result, Pinochet had sole control over the executive and retained a vote in the junta, which was required to reach unanimity on all decisions. A new constitution, drafted under tight military control in 1980, formally extended his term as president for eight more years (Barros, 2002; Cavallo et al., 2011). The constitution also established that at the end of Pinochet’s term the junta would propose a presidential candidate for the following eight-year period, who would have to be ratified through a plebiscite. If this candidate failed to get a majority of votes, an open presidential election would take place.

Domestic opposition to the military regime intensified throughout the 1980s, leaving Pinochet little option but to adhere to the rules in the constitution.<sup>6</sup> During this period, political groups and student organizations advocating for the return to democracy became increasingly organized and there were a series of national strikes beginning in 1983. International pressure for democratization also mounted, with the UN issuing a US-backed resolution condemning Chile for human rights abuses in 1986. Amid growing uncertainty, Pinochet was confirmed as the regime’s candidate for the plebiscite only a few weeks before the date set for the election, October 5, 1988. On that day, voters were faced with a simple choice: “Plebiscite for President of the Republic: Augusto Pinochet Ugarte \_ YES \_ NO.”

Political parties, which had been outlawed in 1973, were legalized in 1987 and a center-left coalition campaigning for the “NO” option (“*Concertación de Partidos por el NO*”) was formed. Voter registration for the plebiscite also began in early 1987, as the voter registry had not been updated since 1973. Radical left-wing parties denounced restrictions on registration, but most other parties and social organizations encouraged participation in the plebiscite (El País, 1987). 7.5 million people had registered to vote by September 1988, corresponding to more than 90% of the estimated voting-age population, albeit with substantial variation across counties. Voting was

---

<sup>6</sup> This decision was made easier by the fact that the resulting democratic system provided economic rents to the armed forces and electoral advantages to right-wing parties (Acemoglu and Robinson, 2006; Londregan, 2007; Albertus and Menaldo, 2018).

mandatory conditional on registration and voter turnout reached 98%.

The country also lacked a functioning institution in charge of electoral organization, which had allowed Pinochet to manipulate the outcome and enjoy comfortable victories in two previous plebiscites in 1978 and 1980 (Fuentes, 2013). The absence of an institutional framework to guarantee fair elections was solved by allowing international and local supervision of the voting process, which helped limit vote-buying and ballot-stuffing (Engel and Venetoulis, 1992; Santa-Cruz, 2005). As a result, the 1988 plebiscite was the first free election in Chile since 1973.

The official result of the plebiscite was released in the early hours of October 6. “No” had won with 55% of the votes and Chile’s transition to democracy was under way. Following the plebiscite, Pinochet’s term was extended for an extra year, as established in the constitution, and a presidential election was called for December 14, 1989. The pro-democracy “Concertación” coalition chose Patricio Aylwin as its candidate, who won with 55% of the votes. “Concertación” candidates would go on to win regularly-held presidential elections until 2010. After leaving office, Pinochet remained as commander-in-chief of the army until 1998 and held a lifetime seat in congress until 2002, when he had to resign to face judicial prosecution for human right violations and misappropriation of public funds. He died under house arrest in 2006.

### **3 Conceptual framework**

Whether there is a relationship between proximity to military bases and political behavior in 1988 is an open empirical question. The expected sign of this relationship is unclear ex-ante and may be affected by multiple factors.

Prominent among these factors is exposure to repression. Most of the victims of the Pinochet dictatorship were arrested, tortured or killed by members of the armed forces, especially in the first months after the coup. Arguably, a larger distance to military bases increased the cost of patrolling, weakened informant networks, and created a protective buffer for the civilian population.<sup>7</sup> However, the expected effect of differential rates of victimization on local measures of political

---

<sup>7</sup> Dube and Naidu (2015) and Martínez (2017) show that distance to bases or safe havens affects conflict intensity in Colombia.



participation and support for democracy is uncertain. The psychological stress generated by exposure to repression may lead to fear and disengagement in the short run (Young, 2019). But fear may eventually subside and make way for an increased desire for justice or accountability (Lawrence, 2017). Exposure to repression under dictatorship can also lead to an improved understanding of the risks of autocratic rule, which may translate into political action when a democratic opening arises.

A related question is why should increased exposure to repression disproportionately affect local political outcomes. Informational frictions provide a plausible mechanism (Ferraz and Finan, 2008; Snyder and Strömberg, 2010). In Chile, all media channels were censored from the day of the coup and the military regime went to great lengths to keep the population uninformed about its violent activities.<sup>8</sup> However, it seems likely that the Pinochet dictatorship was more successful at keeping people ill-informed about repression in areas farther away from the events. Residents of counties with higher victimization rates could have more easily observed an arrest or heard about the dead or disappeared. They may have also seen lines of people near military bases trying to obtain information about their missing relatives. Even in the absence of informational asymmetries, evidence from other settings shows that knowledge about abuses closer to home has a heightened psychological impact (Schlenger et al., 2002; Hersh, 2013; Alsan and Wanamaker, 2017). In this regard, the arbitrary detentions, summary executions, and forced disappearances carried out by the military regime are likely to have had a especially heavy toll on local communities.<sup>9</sup> In counties with military bases, continued exposure to military facilities or interaction with military personnel may have also prevented these events from leaving people's minds.

Proximity to military bases could have also affected support for democracy in 1988 through improved information about acts of corruption or government favoritism towards the military.

---

<sup>8</sup> In 1975, the National Intelligence Directorate or DINA (Spanish acronym) operatives planted mutilated and burnt corpses in several locations in Argentina, identified them as alleged victims of forced disappearance, and claimed they had died as a result of internal struggles among extremist groups (Kornbluh, 2013, p.330). Pro-government newspaper *La Segunda* went as far as to claim that “There are no such disappeared” in its front page in February 1977. Even in the run-up to the plebiscite, content on repression was not allowed to be broadcast during the “No” campaign’s allotted television slot (La Tercera, 1988). Evidence from other settings shows that news coverage affects the salience of issues for voters, as well as their attitudes and behaviors (Enikolopov et al., 2011; Mastrococco and Minale, 2018).

<sup>9</sup> Aytaç et al. (2018) argue that emotional reactions to repression explain better individual participation in protests in Turkey than information-based theories.

Pinochet's perpetuation in power arguably relied on continued support from the armed forces, which predictably allowed its members to extract concessions (Acemoglu et al., 2010). It is not surprising that an army captain in 1989 earned three times as much as a high school teacher or an engineer (Constable and Valenzuela, 1991). Pinochet's secret bank accounts provide further evidence of financial mismanagement by the military government (New York Times, 2004). Hence, the outcome of the plebiscite in 1988 may have differed in counties with military presence if local residents were better informed about the privileges and rents awarded to the military. This mechanism seems potentially less important given that Pinochet's patronage network extended well beyond the counties with active military presence. For instance, having exclusive control of the executive branch allowed Pinochet to directly name the local mayors of all counties in the country, a substantial number of which were members of the military (González et al., 2018).

Military presence could have also affected political behavior in 1988 if military units played an important role in the functioning of government during the dictatorship. For instance, the Pinochet regime may have channeled public spending through the network of military units, which may have led to increased spending in the counties housing military bases. We use data on public investment during the dictatorship to examine this mechanism below. Yet another possibility is that proximity to military bases facilitated renewed intimidation and both legal and illegal forms of campaigning for Pinochet in the run-up to the plebiscite. But this seems unlikely given the extensive domestic and international monitoring of the 1988 election (Engel and Venetoulis, 1992; Santa-Cruz, 2005).

## **4 Data construction**

We use administrative electoral data from the National Electoral Service (NES), some of which we digitized for this study.<sup>10</sup> Our main outcomes of interest are county-level measures of voter registration and support for the "No" option in the 1988 plebiscite. We define the voter registration rate as the number of registered voters for the plebiscite divided by county population in the census of 1970, which was the last population census before the military coup. Registration was voluntary, but voting was mandatory once registered. Hence, voter turnout was almost universal at 97.5%.

---

<sup>10</sup>Online appendix B provides more detailed information about the data.

Our second main outcome is the share of valid votes in support of the “No” option. The data source for other elections in the period 1964-2017 is also from the NES.

We constructed a dataset with the location of all major military facilities since independence. For this purpose, we digitized historical records kept at military libraries and historical museums (e.g., González Salinas, 1987). We complemented this information with reports prepared by the army in response to our Freedom-of-Information requests. Our data includes the headquarters of all army regiments and battalions, as well as military academies, and allows us to trace the creation of new military units and the redeployment of existing ones to new locations over time. Our preferred measure of military presence is a dummy variable for counties with a military base at the time of the 1970 presidential election. This measure effectively shuts down the potentially endogenous placement of military units by either the Allende or Pinochet governments in response to local political conditions.

Information on the victims of the dictatorship comes from the final report produced by the “*National Commission for Truth and Reconciliation*” (Comisión Rettig, 1996) also known as the Rettig Report. This document provides detailed information on 3,216 documented victims who were disappeared (1,093) or killed (2,123) between 1973-1990, including the county in which they were detained or died. We manually verified and complemented the information on each victim using multiple sources. We define our main measure of exposure to repression, the civilian victimization rate, as the total number of documented victims per 10,000 inhabitants in the 1970 census. This variable is a proxy for the overall intensity of the acts of repression carried out by the military dictatorship, but does not take into account surviving political prisoners and exiles or victims of torture.

Our estimating sample includes 276 counties after dropping observations with missing data and a dozen outliers.<sup>11</sup> Panel A in Table 1 provides summary statistics for the main variables. Our sample includes 54 military bases located in 36 different counties, corresponding to 13% of counties with 34% of the population in 1970. Aggregate registration for the plebiscite amounted to

---

<sup>11</sup>We exclude from the analysis counties lacking 1970 population data – leaving us with 289 of the 340 counties with plebiscite data (85%). We drop four further counties because they lack results for the 1970 presidential election, as well as 13 outliers in the civilian victimization rate. The outliers are mostly small counties that housed improvised detention centers and experienced large massacres. Table A7 in the online appendix shows that the results are robust to their inclusion. Figure A1 illustrates the resulting sample attrition.

71% of the 1970 population, but there was substantial variation across counties, with some having registration rates as low as 21% while others had rates above 100%.<sup>12</sup> According to the official records, the aggregate vote share for “No” was 55.9%, which is slightly larger than the 54.8% in our sample. Cross-county variation in support for “No” was also large, ranging from 3 to 77%. The nationwide civilian victimization rate was 2.3 victims per 10,000 inhabitants, but the most-affected county had as many as 11 victims per 10,000 inhabitants.<sup>13</sup> Panel (a) in Figure 1 shows the geographic distribution of military bases and dictatorship victims. Military units were present throughout the country, with a slightly higher concentration in the central area where some of the largest cities are located. The victims of repression are also evenly spread throughout the country.

## 5 Empirical strategy

Our research design exploits the predetermined location of military bases before the 1970 election to study the effects of military presence during the Pinochet dictatorship starting in 1973 on political outcomes in 1988. We argue that proximity to military bases was largely uncorrelated to local political conditions before the coup, but led to differential exposure to the military dictatorship in the following years. In what follows, we first present historical evidence on the apolitical nature of the Chilean military before the 1970s. We then study the observable county characteristics that correlate with presence of military bases in 1970 and introduce our baseline specification. We provide further evidence in support of our identification strategy showing that military presence was uncorrelated with election outcomes in the two decades before the military coup.

Until 1973, Chile had a long-standing tradition of military subordination to democratic government. In a span of more than 140 years of independent republican history the country had only been under military rule for 13 months (Constable and Valenzuela, 1991). The historical record indicates that the creation, relocation and dismantling of military units throughout the 19th and 20th centuries was primordially driven by national-security concerns and logistical considerations.

---

<sup>12</sup>Registration rates above 100% are to be expected as a result of population growth and migration. Results are unaffected if we censor the registration rate at 100%.

<sup>13</sup>A homicide rate above 2 per 10,000 inh. is classified as high by the United Nations. Furthermore, the top two most violent countries in the world in 2012 had homicide rates of 9 and 5 per 10,00 inhabitants (UNODC, 2013).

The oldest infantry regiments were created in the early years of the republic to defend the country from a possible invasion from Spain (González Salinas, 1987, p. 19). In later years, technological innovations in weaponry, transportation and telecommunications played an important role in the expansion and transformation of the Chilean military. Also relevant were international conflicts, such as the War of the Pacific against Perú and Bolivia in 1879-1883. Despite rising levels of political polarization in the second half of the 20th century, there is no evidence that the military high command engaged in political interference or coup plotting up to 1970. In fact, future dictator Augusto Pinochet only became commander-in-chief of the army a few weeks before the military coup and his two most immediate predecessors espoused strong support for the democratic order.<sup>14</sup> Even the CIA acknowledged at the time that “there was no positive assurance of success [of a coup] because of the apolitical history of the military in Chile” (Kornbluh, 2013, p.9).

To better understand the correlates of the location of military bases in 1970, we estimate a series of univariate regressions with the indicator for military presence as dependent variable. Figure 2 plots the results for different observable county characteristics as regressor. We focus in our discussion on the estimates with province fixed effects (right panel).<sup>15</sup> We find that the location of bases in 1970 is not correlated with proxies for wealth and human capital accumulation, such as the number of houses per capita or the share of population with 12 or more years of education. Military presence is also uncorrelated with exposure to important policies before and during the dictatorship, including the agrarian reform begun by president Frei in 1964 and the liberalization of trade implemented by Pinochet. The univariate regressions also provide preliminary evidence that military presence is uncorrelated with electoral outcomes in the years immediately before the military coup. The only strong correlates of military presence are distance to Santiago and to the regional capital, total population and the rural share of population. These findings are consistent with the military leadership’s objective of ensuring military presence throughout the country, while at the same time exploiting the logistical advantages provided by larger and more urban counties.

---

<sup>14</sup>See online appendix A for additional information on turnover in the military leadership before the coup.

<sup>15</sup>The country was divided into 25 provinces at the time of the coup. In 1975, the military regime introduced 13 regions as the first level of sub-national government. The results below are robust to the use of region fixed effects.

Our baseline regression equation has the following form:

$$Y_{c,p} = \beta_1 \mathbb{1}(\text{Military presence})_{c,p} + \tau_1 X_{c,p} + \lambda_p + \varepsilon_{c,p} \quad (1)$$

where  $Y_{c,p}$  is an outcome in county  $c$  from province  $p$  in the 1988 plebiscite.  $\mathbb{1}(\text{Military presence})_{c,p}$  is a binary indicator equal to one in counties with a military base in 1970.  $X_{c,p}$  is a vector of predetermined controls for relevant county characteristics that were fixed by the time Salvador Allende took office in 1970. We use the evidence on the correlates of military presence to guide our selection and include as controls the total population and rural share in 1970, as well as the respective distances to Santiago and the regional capital. We also include the vote shares for Salvador Allende and Arturo Alessandri in 1970 (winner and runner-up) in our set of baseline controls to capture potentially persistent differences in political preferences (Valenzuela and Scully, 1997).<sup>16</sup> Equation (1) also includes a full set of province fixed effects,  $\lambda_p$ . Finally,  $\varepsilon_{c,p}$  corresponds to a robust error term. Our outcomes of interest, voter registration and support for “No”, correspond to individual behaviors. We weight our estimates by population in 1970 to ensure that we give equal importance to the actions of all voters, no matter the size of the county in which they reside. As a result, our estimated parameters capture empirical relationships in the population rather than across counties.

The coefficient of interest is  $\beta_1$ , which measures the relationship between military presence in 1970 and our outcomes of interest in 1988. A causal interpretation of the Ordinary Least Squares (OLS) estimate of  $\beta_1$  requires the indicator for military presence to be uncorrelated with the error term, conditional on the included controls. In practice, our identifying assumption is that the location of military bases within provinces before the coup is as-good-as-random, conditional on the political, geographic and demographic control variables. Given that we are controlling for baseline political preferences in 1970,  $\beta_1$  captures differential changes in political behavior in 1988 in counties with military bases, similarly to a value-added or a difference-in-difference research design.

To validate our empirical strategy, we estimate a series of placebo regressions using as dependent variable the election outcomes from the two decades before the military coup. We study

---

<sup>16</sup>Panel B in Table 1 provides summary statistics for our baseline controls.

presidential elections going back to 1952, as well as the last mayoral and legislative elections before the coup, which took place in 1971 and 1973 respectively. We employ our baseline specification, but modify the political controls for outcomes in the period 1958-1970 by including the vote shares from the most recent election instead of the ones from 1970. Figure 3 shows point estimates and 95% confidence intervals of  $\beta_1$  for each of these placebo regressions. We fail to find any systematic relationship between military presence and election outcomes before the coup. Until 1964, Salvador Allende’s vote share is 1-2 points lower in counties with military bases, but the difference is imprecisely estimated and not very stable. Allende and his UP coalition do relatively better in these counties in 1970-71, but again do relatively worse in the legislative election of March 1973. The estimates for the elections in these final years before the coup are more precise, but they are also particularly small and remain statistically insignificant.

## 6 Main results: Military presence and the 1988 Plebiscite

### 6.1 Baseline estimates

Panel A in Table 2 shows estimates of  $\beta_1$  using the voter registration rate as dependent variable. Column 1 corresponds to our baseline specification. We find that the average rate of voter registration for the 1988 plebiscite was substantially higher in counties with military presence. The point estimate of 9.3 is precisely estimated and corresponds to a 13% increase above the sample mean. Column 1 in panel B shows the equivalent estimate for the “No” vote share, which indicates that support for “No” was 2.2 points higher on average in counties with military bases. This estimate is also precisely estimated and corresponds to a 4% increase over the sample mean.<sup>17</sup>

The remaining columns in both panels show results from an enlarged specification including an additional indicator for the presence of the facility or political institution in the header. These regressions show that our indicator for military presence is not capturing the effect of other county

---

<sup>17</sup>However, these two results are not directly comparable, since the outcomes have different denominators. If we use as dependent variable the number of votes for “No” divided by population in 1970 (estimates not shown), the  $\beta_1$  estimate increases to 6.21 (standard error = 2.97). This result indicates that most of the additional voters in counties with military bases voted against Pinochet’s continuation in power. In fact, we fail to reject the null that the coefficient for the adjusted “No” vote share is equal to the one for voter registration at conventional levels ( $p=0.31$ ).

features that potentially correlate with the location of military bases. Columns 2-5 include dummies for other relevant facilities, i.e. maritime ports, airports, terrestrial entry points, and power plants. Columns 6 and 7 include respective dummies for the 25 counties that were provincial capitals until 1975 and for the 13 counties that became regional capitals after that year. The  $\beta_1$  estimates are remarkably robust, even when we add controls that absorb a substantial share of the variation in military presence. For instance, 20 of the 36 counties with bases in 1970 were also provincial capitals. Additionally, no other facility or institution appears to be systematically correlated with both outcomes. All but three of the other coefficients are smaller than the  $\beta_1$  estimates and only two are statistically significant. These results increase our confidence that we are capturing a non-spurious relationship between military presence and voters' behavior in 1988.

## 6.2 Robustness checks

We carry out further tests to verify the robustness of the main results to changes in the definition of variables, the construction of the sample or the econometric specification. We summarize our findings here, but leave the tables and figures for the online appendix.

Our measure of military presence implies a sharp distinction between counties that housed military bases in 1970 and those that did not. However, if any of the potential mechanisms discussed in section 3 were at play, we would expect the 1988 outcomes to be affected by proximity to military bases more broadly. We verify that this is the case by replacing our measure of military presence with the log distance to the nearest military base. The scatter plots in Figure 4 illustrate the results. We observe a robust negative relationship between both of our outcomes of interest and the distance to the nearest base. Specifically, the doubling of the distance is associated with a 3 percentage point (pp) decrease in voter registration and with a 0.8 pp decrease in the "No" vote share. Table A2 in the appendix shows the corresponding estimates. Arguably, the location of military bases is more likely to be uncorrelated with local conditions at the time of the coup for those bases that were built many years or decades before it took place. To ensure that our results are not biased by the potentially-endogenous location of bases built closer to the coup, in Table A3 we replicate the analysis sequentially excluding bases built after 1960, 1950 and 1940. The results are remarkably similar to our baseline estimates.



Regarding the specification, we verify in Table A4 that the results are unaffected if we introduce all the possible control variables from Figure 2 or if we use a machine-learning algorithm to determine the optimal combination of controls (Belloni et al., 2014). The results are also robust to the inclusion of flexible spatial controls. Table A5 separately replicates the analysis when we add polynomials of latitude and longitude, the population-weighted average distance from a county's centroid to all other counties or the Moran eigenvectors with positive eigenvalues, as in Rozenas et al. (2017) and Zhukov and Talibova (2018). Lastly, in Table A6 we show that the results remain largely unaffected, but become less precise, if we exclude the population weights.

We next examine the sensitivity of our results to the composition of the sample. Panels (a) and (b) in Figure A2 show that the results are unaffected if we drop randomly-chosen groups of twenty seven counties from the estimation. Panels (c) and (d) show that our estimates are mostly robust to the exclusion of any one province, except for voter registration when we exclude the metropolitan province of Santiago. This is somewhat unsurprising given that this was the largest province in the country and held slightly less than a third of the country's population in 1970. Finally, we show that our results are if anything stronger if we use the full sample including the 13 outliers in the civilian victimization rate (Table A7).

## **7 Mechanism: Exposure to repression and support for democracy**

The results presented so far provide evidence of a robust positive relationship between military presence soon before the dictatorship, voter registration and support for "No" in 1988. In this section, we present several pieces of additional evidence that help to understand the underlying mechanism. Our first objective is to identify the aspects of military presence that affected voters' behavior in 1988. In this regard, we consider the roles of exposure to repression and government spending and argue for military presence as a plausible instrument in the study of the effects of repression on our outcomes of interest. Our second objective is to clarify the meaning of voters' expressed disapproval of Pinochet's continuation in power. We seek to distinguish between a specific rejection of general Pinochet or his administration and a broader expression of support for democracy. For this purpose, we study electoral results after 1988, as well as survey responses

after democratization.

### *7.1 Military presence and repression during the dictatorship*

As mentioned in section 2, members of the armed forces were responsible for most acts of violent repression against civilians during the Pinochet regime, especially in the first years of the dictatorship when violence was at its worst. Accounts of human rights abuses make systematic reference to military bases as centers of detention, torture and execution. For example, an infamous military unit led by General Sergio Arellano-Stark toured 16 counties in a military helicopter a few weeks after the coup, all but one of which were home to a military base. This “Caravan of Death” aimed to set an example for how Allende’s sympathizers should be treated and killed almost 100 people along the way (Verdugo, 2001). In this section we present further evidence connecting military presence with increased exposure to repression, which plausibly affected voters’ behavior in 1988.

The maps in panels (b) and (c) in Figure 1 provide preliminary evidence for the provinces of Coquimbo and Cautín, respectively. We use stars to indicate military bases and darker shades of red to denote a greater intensity of repression within the province. Our preferred measure of repression is the civilian victimization rate, defined as the number of victims of the dictatorship per 10,000 inhabitants in 1970. Both maps show that counties with a military base had higher rates of civilian victimization relative to other counties in the same province.<sup>18</sup> The anecdotal evidence provided by Comisión Rettig (1996) indicates that this is not a coincidence and that military units were active participants in the detention, torture and death of many of the victims. In Cautín, 23 out of 100 victims were last seen at one of the two regimental headquarters in the province. Similarly, Comisión Rettig (1996) attributes 19 out of 22 deaths in Coquimbo to the local regiment.

Panel (a) in Figure 5 is based on the raw data and shows that the average rate of civilian victimization was two points higher in counties with military bases, relative to an average of roughly one victim per 10,000 inhabitants in counties without bases. Panel C in Table 2 provides the

---

<sup>18</sup>Cautín had 16 counties and two regiments: “Tucapel” in Temuco, the capital of the province and “La Concepción” in neighboring Lautaro. Coquimbo had 15 counties and one regiment, “Arica”, located in La Serena, the provincial capital. The civilian victimization rate in Temuco and Lautaro was 6.09 and 11.47, respectively. These were the second and third largest in the province. There were 169 victims in Cautín, 129 of which died in Temuco or Lautaro. In Coquimbo, the civilian victimization rate in La Serena was 3.04, the highest in the province.

corresponding regression estimates with the civilian victimization rate as dependent variable and including province fixed effects and baseline controls. The point estimate of 2.1 is very similar to the difference observed in the raw data and corresponds to a 91% increase over the sample mean.<sup>19</sup> The remaining columns indicate that the presence of other large facilities or subnational political institutions is not systematically associated with differences in the intensity of repression, suggesting again that we are not simply picking up a spurious correlation.

Table 3 provides further evidence of a robust positive relationship between presence of military bases and the intensity of repression during the Pinochet dictatorship. Column 1 shows that a doubling of the distance to the nearest military base is associated on average with a 0.6 point reduction in the victimization rate. Panel (b) in Figure 5 illustrates this result and shows a strong negative relationship between distance to bases and exposure to repression. Back in Table 3, columns 2 and 3 show a positive relationship between military presence and discrete versions of our measure of repression, corresponding respectively to non-zero victims and to victimization rates above the 75th percentile. These estimates indicate that military presence affected exposure to repression both at the extensive and intensive margins, but had a much larger impact on the latter. Column 4 shows a similarly positive relationship between military bases and the victimization rate when we replace victims' county of detention or death with their county of residence, which we were able to establish for a subset of the victims. This result alleviates the concern that our baseline estimates are artificially inflated by residents of other counties that died or were last seen at regimental headquarters. Finally, in columns 5 and 6 we use data on the universe of documented centers of detention and torture during the dictatorship and show that both the number of centers and the rate per 10,000 inhabitants are positively correlated with military presence. These findings suggest that the presence of military bases was also associated with other forms of repression, such as torture and irregular detention, that are not being captured by the civilian victimization rate.

---

<sup>19</sup>Panels (a) and (b) in Figure A3 in the appendix show the distributions of coefficients from this regression when we randomly assign military bases among counties nationwide or within the same province. This permutation test provides us with a distribution-free estimate of the probability that our coefficient arises by chance. Our estimated coefficient is above the 99th percentile of the resulting distributions in both cases.

## 7.2 *Government spending during the dictatorship*

Military presence may have also affected the behavior of voters in 1988 through its influence on the functioning of government. As mentioned in section 3, the military regime may have relied on the existing network of military units to run the country, which could have been reflected in increased government spending in counties with military bases. What seems certainly true is that the Pinochet regime relied on continued support from the armed forces to remain in power, which in turn allowed its members to extract benefits and concessions (Acemoglu et al., 2010). Higher public spending in counties with military bases could have been a way for this to happen.

To address the possibility of differential public spending in counties with military presence, we use a newly-digitized dataset on local infrastructure projects undertaken by the Ministry of Housing and Urban Planning (MHUP) between 1979-1990. Examples of these projects include the construction of roads, houses, and sewers. The data comes from annual reports prepared by MHUP, which handled approximately 5% of the annual public budget, and includes almost 8,000 projects throughout the country. We add spending across projects in each county and construct an aggregate measure of public spending per capita on urban projects. In addition, we disaggregate this variable into separate measures for highly visible projects, such as public spaces and housing, and less visible projects, including sanitation and indoor equipment. Higher visibility may simultaneously reduce corruption and increase the political returns to project completion (Marx, 2017).

Table 4 shows estimates of equation (1) using the different measures of government spending as dependent variable. We find that the aggregate and disaggregate measures of expenditure during the dictatorship are unrelated to military presence. The estimated coefficients are precise zeros and leave little doubt that public spending was not different in counties with military bases. We conclude that the presence of bases did not affect the plebiscite outcomes in 1988 through differential government spending. Although less conclusive, the evidence also casts doubt on government favoritism towards the military as the underlying mechanism.

### *7.3 Instrumental variables estimates of the effects of repression*

The previous results make the indicator for military presence a plausible instrument for repression in the analysis of its effects on the plebiscite outcomes in 1988. Besides the strong first-stage relationship documented above, the use of military presence as an Instrumental Variable (IV) for repression requires the former to only affect our outcomes of interest through its effect on the latter. This exclusion restriction is the identification assumption for the IV analysis and is essentially untestable. We discuss below the ways in which the evidence presented so far lends credibility to this assumption and we also follow a more agnostic approach and examine the sensitivity of the results to potential violations of the exclusion restriction.

An IV strategy potentially solves the bias in OLS estimation resulting from omitted variables and measurement error, the sign of which is not obvious ex-ante. For example, hard-to-measure levels of social capital may have reduced the intensity of repression while increasing political opposition in 1988, leading to downward bias. However, targeted repression against more politically active districts, which may not be perfectly captured by our political controls, could lead to upward bias. Additionally, classical measurement error in the number of dictatorship victims per county may cause attenuation bias. This seems likely since our measure of repression is based on the number of documented deaths and fails to capture surviving political prisoners and victims of torture. However, the OLS estimates could be upward biased due to non-classical measurement error if residents of counties that benefited more from policies implemented by the military dictatorship were both less likely to report abuses and more likely to support Pinochet in 1988.

Columns 1 and 2 in Table 5 show OLS estimates of the effect of repression on the 1988 outcomes, including province fixed effects and the same controls as in equation (1). The results indicate that a one-unit increase in the civilian victimization rate is associated with a 1.6 pp increase in the rate of voter registration and with a 0.4 pp increase in the “No” vote share. Columns 3 and 4 show the corresponding IV estimates. The results confirm that exposure to repression had a positive effect on voter registration and the “No” vote share. In counties where the civilian victimization rate was one unit higher, the IV estimates point to respective increases in the voter registration rate and “No” vote share of 4.4 pp and 1.1 pp. These effects are economically meaningful and represent increases of 6% and 2% over the corresponding sample averages (see Table

1). At the bottom of columns 3-4 we present two different versions of the first-stage F-statistic that are robust to non-i.i.d errors, both of which indicate that the excluded instrument is very strong.

If the IV assumptions are satisfied, the coefficients in columns 3-4 are capturing a positive causal effect of exposure to repression on voters' behavior in the plebiscite. In the presence of heterogeneous effects, the IV estimates capture the Local Average Treatment Effect (LATE) of repression on the behavior of those individuals, the compliers, that were more exposed to repression because of the presence of military bases in their counties.<sup>20</sup> The fact that the IV estimates are larger than their OLS counterparts suggests that the latter are possibly downward-biased. As mentioned above, this could be due to classical measurement error in our measure of repression or to unobservables that correlate in opposite ways with repression and the 1988 outcomes. Another possibility is that complier counties experienced a more brutal type of repression than the average county, leading to a greater responsiveness. Both the historical record and our characterization of compliers in Appendix D show indeed that repression in these counties was mostly concentrated in the first months after the coup, when it was most violent and indiscriminate. Having said this, it is worth noting that the OLS and IV estimates are of the same order of magnitude and that we fail to reject the null that they are equal to one another ( $p=0.17$  in both cases). Hence, the bias is relatively small.

As mentioned above, the IV strategy requires an exclusion restriction to be satisfied. In this regard, the historical and quantitative evidence suggests that we can consider the location of military bases to be as-good-as-random, especially within provinces and conditional on controls. Furthermore, the lack of a relationship with election outcomes before the coup indicates that we are not picking up pre-existing differences in political preferences. The fact that military presence is unrelated to government spending is further proof against mechanisms other than repression. While we cannot fully rule out other mechanisms, such as better knowledge on military favoritism or misbehavior in counties with bases, the similarity between the OLS and IV estimates suggests that violations to the exclusion restriction are small and being kept in check by the strong first-stage

---

<sup>20</sup>The LATE interpretation of our IV estimates also requires a monotonicity assumption that is very likely satisfied, as there is no evidence that being farther away from a military base increases exposure to repression, all else equal. Table A9 shows that the validity of our instrument is not refuted by the tests developed by Huber and Mellace (2015) and Kitagawa (2015). Appendix D provides a characterization of the complier counties.

relationship.<sup>21</sup>

A different approach involves acknowledging that the exclusion restriction may be partially violated and proceeding to gauge the quantitative importance of any such violation. Following Conley et al. (2012), we allow the presence of military bases to affect our outcomes of interest both directly and indirectly through repression. This exercise enables us to measure how important the mechanisms other than repression would have to be to make our estimates statistically insignificant. To benchmark the magnitude of the violation to the exclusion restriction needed for this to happen, we rely on the reduced-form estimates reported in Table 2. The results in Figure A4 in the appendix show that the direct effect of military bases on voter registration and the “No” vote share would have to be positive and non-negligible, equivalent to 25% and 28% of the respective reduced-form coefficients, to make the effect of repression statistically insignificant. These findings indicate that the IV estimates are moderately robust to the presence of other mechanisms through which military bases affected political behavior in 1988.

#### *7.4 Elections after 1988*

In this section, we examine the potential relationship between military presence and electoral outcomes in the 30 years after the 1988 plebiscite. This analysis is a first step towards establishing whether the findings in the previous sections can be interpreted as evidence of increased support for democratic rule in counties that were closer to military bases and experienced more repression during the dictatorship. An alternative explanation is that rather than expressing increased support for democracy, voters near bases were simply stating their disapproval of the Pinochet administration and their desire for political turnover. Another interpretation is that the politically-targeted violence perpetrated by the military dictatorship led to increased support for parties on the left of the political spectrum in areas near military bases.

Studying elections after the plebiscite allows us to distinguish between these possible interpretations for two reasons. First, the pro-democracy “Concertación” coalition that led the campaign for “No” in 1988 remained in place for the following three decades and governed the country until

---

<sup>21</sup>The bias in the IV estimate resulting from violations to the exclusion restriction is equal to the direct effect of the excluded instrument divided by the first-stage coefficient.

2010. As a result, we can compare the “Concertación” vote share in 1988, when it was campaigning for democracy, to its vote share in later years when it was the ruling party. Secondly, most of the leading figures in Chilean politics, including all presidents since 1989, can be classified in terms of their relationship to the dictatorship.<sup>22</sup> Pinochet’s prominence in Chilean politics up to this day allows us to interpret the vote shares for left and right parties as broad proxies that capture voters’ attitudes towards the former dictator.

Seven presidential elections have taken place in Chile after 1988. The first one in 1989 determined Pinochet’s immediate successor and took place still under dictatorship. The “Concertación” candidate, Patricio Aylwin, defeated Pinochet’s former Minister of Finance, Hernan Büchi, in what was “in many ways a replay of the plebiscite” (Angell and Pollack, 1990, p.2). “Concertación” would go on to win all the presidential elections over the next three decades, except for those in 2009 and 2017, won by conservative candidate Sebastián Piñera.

Figure 6 shows estimates of  $\beta_1$  in equation (1) using the county-level vote share for “Concertación” in each presidential election as dependent variable. We find that the 1989 vote share for the coalition was almost two points higher on average in counties with military presence. This point estimate is slightly smaller than that for 1988, but it is also less precise ( $p=0.112$ ). Over the following two decades, we observe a steady decrease to the electoral advantage held by “Concertación” in counties with military bases. The point estimates for the last three elections in 2009, 2013 and 2017 are almost exactly zero, indicating that military presence has become again unrelated to national electoral outcomes, as in the decades before the coup.<sup>23</sup> Figure A6 in the online appendix shows the corresponding estimates for local elections. The pattern is very similar and confirms the decreasing electoral advantage held by “Concertación” in counties with military presence.

These findings indicate that voters near military bases broadly confirmed in 1989 the increased

---

<sup>22</sup>President Patricio Aylwin (1989-1994) was president of the senate at the time of the military coup and became a leader of the pro-democracy movement in the 1980s. President E. Frei Ruiz-Tagle (1994-2000) is the son of President E. Frei Montalva (1964-1970), who became the main opposition figure in his final years in the early 1980s. President R. Lagos (2000-2006) was also a major opposition figure and one of the leaders of the pro-democracy movement. President M. Bachelet (2006-2010) was detained and tortured in 1975. Her father died during captivity. President S. Piñera (2010-2014 and 2018-) is the younger brother of a former minister of Pinochet.

<sup>23</sup>Figure A5 in the appendix shows that right-wing parties benefited from the declining support for “Concertación” in counties with military bases until 2009. Since then, they have lost votes to third parties, but the estimates are noisy and insignificant. Table A10 shows the classification of presidential candidates we use for this analysis.



support for the pro-democracy coalition that they expressed in 1988, but started to vote less in unison. Over the following years, voters in these counties increasingly voted for conservative parties and the relationship between military presence and the “Concertación” vote share further waned and disappeared. One explanation for this phenomenon is that “Concertación” became increasingly accountable to voters as the governing party and that government performance gained prominence in voters’ minds relative to the coalition’s historical origin. Another possibility is that efforts at accountability and reconciliation after democratization, including the release of the reports by Comisión Rettig (1996) and Comisión Valech (2004) and the construction of the Museum of Memory and Human Rights in Santiago, allowed people throughout the country to become better informed about the abuses during the dictatorship, slowly eliminating the informational advantage held in counties with bases.

Overall, the results show that the higher “No” vote in 1988 near military bases expressed increased support for democratic rule rather than more intense partisanship in favor of the center-left “Concertación” coalition or persistent disapproval of the right-wing policies of the Pinochet regime. They also constitute evidence against persistent effects of exposure to the dictatorship and its repressive apparatus on national and subnational electoral outcomes.

### *7.5 Survey evidence*

The previous results on election outcomes after 1988 indicate that military presence during the dictatorship led to increased support for democracy when a window of opportunity opened up in 1988. We now turn to survey data from the post-democratization period to examine whether military presence had long-lasting effects on expressed support for democracy or political preferences. For this purpose, we use data from several waves of the “Latinobarómetro” survey between 1996 and 2015. Taken together, these surveys contain information about the political attitudes and preferences of almost 19,000 Chileans living in almost 170 counties. For this part of the analysis, we exploit the fact that the survey includes responses by people born as early as 1936 and as late as 1997 and allow the effect of military presence to vary across cohorts depending on their exposure

to the military coup. We estimate the following regression:

$$Y_{i,c,t} = \delta_1 \mathbb{1}(\text{Military base})_c \times \mathbb{1}(\text{Exposed to coup})_{i,c,t} + \tau X_{i,c,t} + \phi_c + \phi_t + \varepsilon_{i,c,t} \quad (2)$$

where  $Y_{i,c,t}$  is a measure of support for democracy by person  $i$  in county  $c$  in the Latinobarómetro survey from year  $t$ . As above,  $\mathbb{1}(\text{Military base})_c$  is an indicator variable for the presence of a military base in county  $c$  in 1970.  $\mathbb{1}(\text{Exposed to coup})_{i,c,t}$  is an indicator variable for cohorts exposed to the military coup. We consider several cut-off years for exposure.  $X_i$  is a vector of individual control variables, including gender and the indicator for exposure.  $\phi_c$  and  $\phi_t$  are county and survey wave fixed effects. The error term  $\varepsilon_{i,c,t}$  is clustered at the county level. The coefficient of interest is  $\delta_1$ , which captures the differential effect of military presence on the outcomes of interest for the cohorts that were exposed to the military coup. The county fixed effects,  $\phi_c$ , absorb the county-specific indicator for military bases and the baseline controls, and ensures that we are only leveraging within-county variation in exposure to the coup.

The Latinobarómetro survey contains several questions gauging respondents' attitudes towards democracy. Following standard practice in the literature, we aggregate these questions into a standardized index for the family of outcomes. We estimate equation (2) using OLS and verify the robustness of the results to estimation through Seemingly Unrelated Regressions (SUR), following Kling et al. (2007). A separate question in Latinobarómetro asks respondents to state whether they have any political ideology and to rank it in a scale from 0 to 10, where lower values correspond to more left-wing views and higher values to more right-wing ones. We use the answer to this question to construct various outcomes on political preferences.

Table 6 shows the results for the aggregate index of support for democracy.<sup>24</sup> In columns 1-2, we set 1963 as the cut-off birth year for exposure to the military coup. That is, we assume that the coup only affected people that were at least ten years old at the time. The estimate of  $\delta_1$  is positive and precisely estimated, indicating that exposed cohorts in counties with military bases express stronger support for democracy. The results are similar no matter whether we estimate the model using OLS or SUR. Columns 3-4 move the cut-off year to 1973, implying that all individuals

---

<sup>24</sup>Table A12 in the online appendix shows separate regressions for each of the binary variables we define based on separate survey questions. Appendix B provides further information on the definition of variables.

that were alive at the time of the coup are considered exposed. The results are hardly affected and become stronger for the OLS specification in column 3. This suggests that the attitude towards democracy of young children at the time of the coup was just as affected as that of older individuals. In columns 5-6, we move the cut-off birth year to 1983, effectively allowing people born as many as ten years after the coup to be exposed. In this case, the coefficient on the interaction term becomes substantially smaller and is no longer statistically significant. This falsification test makes us confident that our  $\delta_1$  estimate in the previous columns is picking up the effect of increased exposure to the military and its repressive apparatus at the time of the coup.

Table 7 shows the results on political preferences. The outcome in column 1 is the continuous variable measuring political ideology. The estimate of  $\delta_1$  is small and imprecise, indicating that exposed cohorts in counties with military presence do not differ in political ideology. One limitation of the continuous index is that by definition it is not available for people that claim not to have a political ideology, which is why the sample is smaller. The remaining columns in Table 7 use different binary variables, including the lack of ideology as dependent variable. We fail to find any robust correlation between increased exposure to the military coup across cohorts and espoused political ideology. Hence, the survey responses are consistent with the electoral results in showing that proximity to military bases had a long-lasting effect on the upholding of democratic values, but not on political preferences or ideology.

## 8 Conclusion

In this paper we study the effects of exposure to the military dictatorship of Augusto Pinochet in Chile between 1973 and 1990 on political preferences. For this purpose, we exploit the plausibly exogenous location of military bases in the previous decades of democratic rule and leverage variation across counties in proximity to the military shortly before the coup that brought Pinochet to power. We show that residents of counties housing military bases registered to vote at higher rates and also voted against Pinochet at higher rates in the crucial 1988 plebiscite that brought down the regime and bolstered the democratic transition. We further show that counties with military bases experienced substantially larger rates of civilian victimization during the dictatorship, which lends

support to increased exposure to repression as the main driving mechanism. These findings constitute novel evidence that targeted violence by an autocratic regime may unintentionally contribute to regime change when a democratic window of opportunity arises.

Two other pieces of evidence lead us to conclude that the differential behavior of voters in counties with military presence in 1988 reflect greater support for democracy by individuals more exposed to the repressive Pinochet dictatorship. First, electoral outcomes in the three decades after democratization show a sustained decrease in the electoral advantage held in counties with bases by the center-left “Concertación” coalition that led the campaign against Pinochet in 1988. Hence, our findings on the plebiscite cannot be interpreted as indication of a persistent change in political preferences or party affiliation. Second, Latinobarómetro survey responses by almost 19,000 Chileans in the decades after democratization reveal that people exposed to the military coup in counties with military bases espouse views that are more strongly supportive of democratic rule. Consistently with the electoral results, these individuals do not seem to differ in their political ideology. These findings illustrate a previously-unknown connection between exposure to dictatorship, repression and the upholding of democratic values.

Our results help to explain some recent changes in the functioning of non-democracies around the world. Over the last decades, there has been a steady increase in the number of hybrid regimes that combine electoral politics with many of the features often associated with autocratic rule, such as limitations on freedom of the press or persecution of political opponents (Levitsky and Way, 2010). Additionally, contemporary autocrats have become increasingly reliant on real or fabricated measures of government performance rather than on violent repression in order to remain in power (Guriev and Treisman, 2018). Our findings provide a novel micro-foundation for the observed negative correlation between democracy and repression (Davenport and Armstrong, 2004; Davenport, 2007b), as they show that violent repression can backfire for a hybrid autocrat that regularly participates in elections if a real democratic opening arises (Treisman, 2017). Hence, the increased reliance by contemporary autocrats on elections as a means of awarding legitimacy to their regimes and the simultaneous decrease in their use of violent repression are not a coincidence.

The external validity of our findings extends to other settings in which authoritarian regimes perpetrate targeted violence against civilians. Chile’s experience was not unique. It was one of

many countries to experience dictatorship and state repression against political opponents during the cold war. It was also one of many countries to experience democratization at the end of the twentieth century. Hence, we expect our findings to be relevant for many young democracies in various parts of the world. It seems plausible, though, that the consequences of exposure to dictatorship may differ in settings in which the number or population share of victims is substantially larger. In these settings, direct exposure to repression may dominate over indirect exposure. Also, compositional effects of violence on the surviving population may acquire an importance that they lack in the case of Chile. The external validity of our findings may also vary depending on the availability of credible opportunities for meaningful political expression as well as on the amount of time mediating between exposure to repression and such opportunities. Further research is needed in this regard.

## References

- Acemoglu, D., Johnson, S., Robinson, J. A., and Yared, P. (2008). Income and Democracy. *American Economic Review*, 98(3):808–42.
- Acemoglu, D. and Robinson, J. A. (2001). A Theory of Political Transitions. *American Economic Review*, 91(4):938–963.
- Acemoglu, D. and Robinson, J. A. (2006). *Economic Origins of Dictatorship and Democracy*. Cambridge University Press.
- Acemoglu, D., Ticchi, D., and Vindigni, A. (2010). A Theory of Military Dictatorships. *American Economic Journal: Macroeconomics*, 2(1):1–42.
- Aidt, T. S. and Franck, R. (2015). Democratization Under the Threat of Revolution: Evidence From the Great Reform Act of 1832. *Econometrica*, 83(2):505–547.
- Albertus, M. and Menaldo, V. (2018). *Authoritarianism and the Elite Origins of Democracy*. Cambridge University Press.
- Alesina, A., Giuliano, P., and Reich, B. (2018). Nation-Building and Education. Working Paper.
- Alsan, M. and Wanamaker, M. (2017). Tuskegee and the Health of Black Men. *Quarterly Journal of Economics*, 133(1):407–455.
- Angell, A. and Pollack, B. (1990). The Chilean Elections of 1989 and the Politics of the Transition to Democracy. *Bulletin of Latin American Research*, 9(1):1–23.
- Armingeon, K. and Guthmann, K. (2014). Democracy in Crisis? The Declining Support for National Democracy in European Countries, 2007-2011. *European Journal of Political Research*, 53(3):423–442.
- Aytaç, S. E., Schiumerini, L., and Stokes, S. (2018). Why Do People Join Backlash Protests? Lessons from Turkey. *Journal of Conflict Resolution*, 62(6):1205–1228.
- Balcells, L. (2012). The Consequences of Victimization on Political Identities: Evidence from Spain. *Politics & Society*, 40(3):311–347.
- Balcells, L. and Torrats-Espinosa, G. (2018). Using a Natural Experiment to Estimate the Electoral Consequences of Terrorist Attacks. *Proceedings of the National Academy of Sciences*.
- Banfield, E. (1958). *The Moral Basis of a Backward Society*. Simon and Schuster, Free Press.
- Barros, R. (2002). *Constitutionalism and Dictatorship: Pinochet, the Junta and the 1980 Constitution*. Cambridge studies in the theory of democracy. New York: Cambridge University Press.
- Barsbai, T., Rapoport, H., Steinmayr, A., and Trebesch, C. (2017). The Effect of Labor Migration on the Diffusion of Democracy: Evidence from a Former Soviet Republic. *American Economic Journal: Applied Economics*, 9(3):36–69.
- Bauer, M., Blattman, C., Chytilov, J., Henrich, J., Miguel, E., and Mitts, T. (2016). Can War Foster Cooperation? *Journal of Economic Perspectives*, 30(3):249–74.
- Bautista, M. A. (2014a). Political Effects of State Repression: The Chilean Case. Working Paper.
- Bautista, M. A. (2014b). The Sins of the Fathers: Intergenerational Effects of State Repression. Working Paper.
- Belloni, A., Chernozhukov, V., and Hansen, C. (2014). High-Dimensional Methods and Inference on Structural and Treatment Effects. *Journal of Economic Perspectives*, 28(2):29–50.
- Bellows, J. and Miguel, E. (2009). War and Local Collective Action in Sierra Leone. *Journal of Public Economics*, 93(11):1144 – 1157.
- Besley, T. and Persson, T. (2018). Democratic Values and Institutions. Forthcoming in *American*

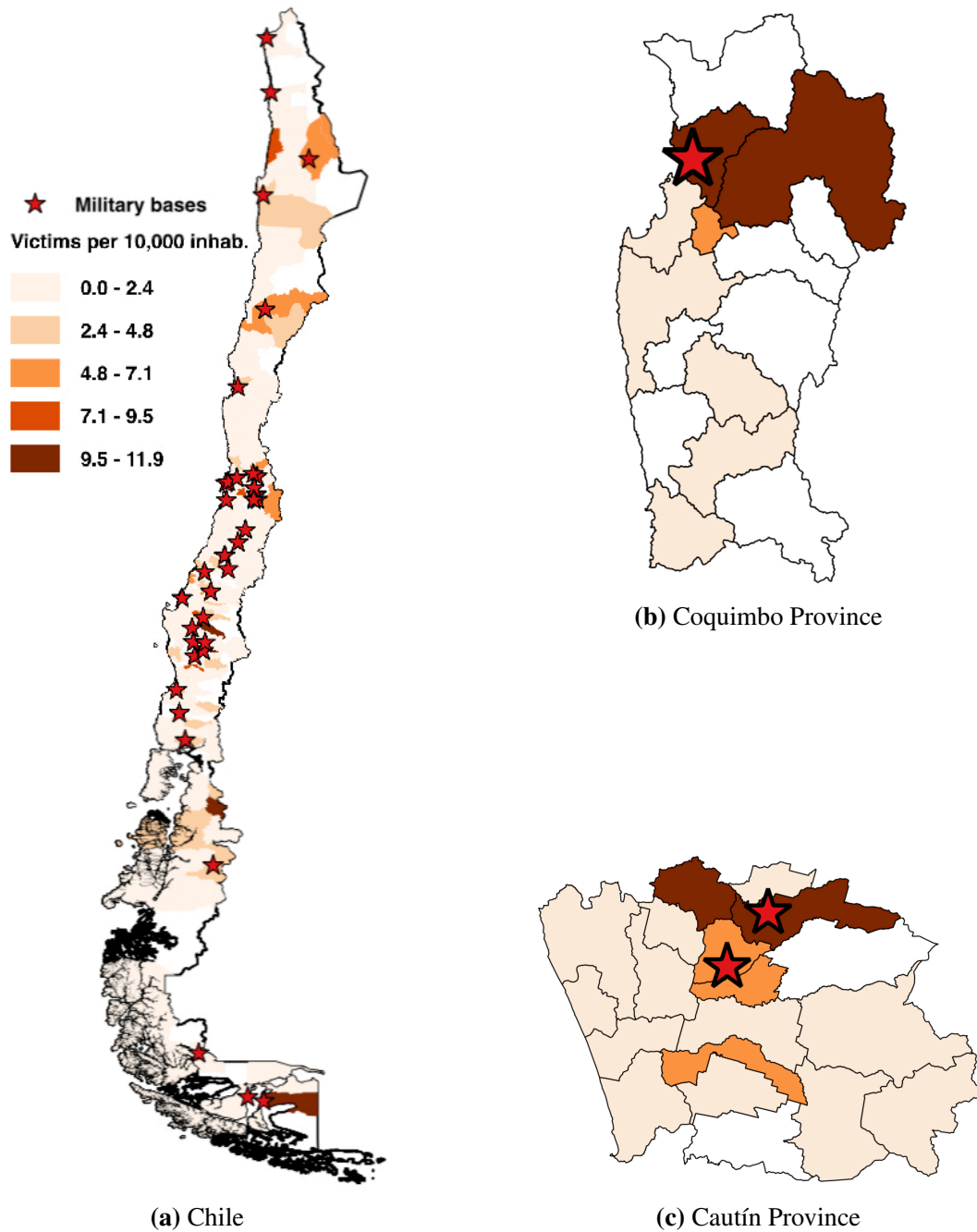
- Economic Review: Insights.
- Blattman, C. (2009). From Violence to Voting: War and Political Participation in Uganda. *American Political Science Review*, 103(2):231-247.
- Bruckner, M. and Ciccone, A. (2011). Rain and the Democratic Window of Opportunity. *Econometrica*, 79(3):923-947.
- Brum, M. (2018). Do Dictatorships Affect People's Long Term Beliefs and Preferences? An Empirical Assessment of the Latin American Case. *Working Paper*.
- Cantoni, D., Chen, Y., Yang, D. Y., Yuchtman, N., and Zhang, Y. J. (2017). Curriculum and Ideology. *Journal of Political Economy*, 125(2):338-392.
- Cavallo, A., Salazar, M., and Sepúlveda, O. (2011). *La Historia Oculta del Régimen Militar: Memoria de una Época 1973-1988*. Uqbar editores.
- Comisión Rettig (1996). *Informe de la Comisión Nacional de Verdad y Reconciliación*. Chile: Ministerio del Interior, Corporación Nacional de Reparación y Reconciliación.
- Comisión Valech (2004). *Informe de la Comisión Nacional Sobre Prisión Política Y Tortura*. Chile: Ministerio del Interior, Comisión Nacional sobre Prisión Política y Tortura.
- Condra, L. N., Long, J. D., Shaver, A. C., and Wright, A. L. (2018). The Logic of Insurgent Electoral Violence. *American Economic Review*, 108(11):3199-3231.
- Conley, T., Hansen, C., and Rossi, P. (2012). Plausibly Exogenous. *Review of Economics and Statistics*, 94(1):260-272.
- Constable, P. and Valenzuela, A. (1991). *A Nation of Enemies: Chile Under Pinochet*. W.W. Norton & Co, New York.
- Davenport, C. (2007a). State Repression and Political Order. *Annual Review of Political Science*, 10(1):1-23.
- Davenport, C. (2007b). *State Repression and the Domestic Democratic Peace*. Cambridge University Press.
- Davenport, C. and Armstrong, D. A. (2004). Democracy and the Violation of Human Rights: A Statistical Analysis from 1976 to 1996. *American Journal of Political Science*, 48(3):538-554.
- Dower, Paul Castañeda Finkel, E., Gehlbach, S., and Nafziger, S. (2018). Collective Action and Representation in Autocracies: Evidence from Russia's Great Reforms. *American Political Science Review*, 112(1):125-147.
- Dube, O. and Naidu, S. (2015). Bases, Bullets, and Ballots: The Effect of US Military Aid on Political Conflict in Colombia. *Journal of Politics*, 77(1):249-267.
- El País (1987). Los chilenos, por primera vez desde el golpe de Pinochet, pueden inscribirse para votar. February 26, 1987.
- Engel, E. and Venetoulis, A. (1992). The Chilean plebiscite: projections without historic data. *Journal of the American Statistical Association*, 87(420):933-941.
- Enikolopov, R., Petrova, M., and Zhuravskaya, E. (2011). Media and Political Persuasion: Evidence from Russia. *American Economic Review*, 101(7):3253-85.
- Ferraz, C. and Finan, F. (2008). Exposing Corrupt Politicians: The Effects of Brazil's Publicly Released Audits on Electoral Outcomes. *Quarterly Journal of Economics*, 123(2):703-745.
- Fuchs-Schündeln, N. and Schündeln, M. (2015). On the Endogeneity of Political Preferences: Evidence from Individual Experience with Democracy. *Science*, 347(6226):1145-1148.
- Fuentes, C. (2013). *El Fraude*. Santiago: Hueders.
- Gandhi, J. and Lust-Okar, E. (2009). Elections Under Authoritarianism. *Annual Review of Political Science*, 12(1):403-422.

- Garcia-Ponce, O. and Pasquale, B. (2015). How Political Repression Shapes Attitudes Toward the State: Evidence from Zimbabwe. Working Paper.
- Geddes, B., Frantz, E., and Wright, J. G. (2014). Military Rule. *Annual Review of Political Science*, 17(1):147–162.
- Giuliano, P. and Spilimbergo, A. (2014). Growing Up in a Recession. *Review of Economic Studies*, 81(2):787–817.
- Glaeser, E. L., Ponzetto, G. A. M., and Shleifer, A. (2007). Why Does Democracy Need Education? *Journal of Economic Growth*, 12(2):77–99.
- González, F., Prem, M., and Muñoz, P. (2018). Lost in Transition? The Persistence of Dictatorship Mayors. *Working Paper*.
- González Salinas, T. C. E. (1987). *Reseñas Históricas de las Unidades e Institutos del Ejército de Chile*. Santiago: Instituto Geográfico Militar.
- Gorodnichenko, Y. and Roland, G. (2016). Culture, Institutions and Democratization. NBER Working Paper 21117.
- Grosjean, P. and Senik, C. (2011). Democracy, Market Liberalization, and Political Preferences. *Review of Economics and Statistics*, 93(1):365–381.
- Guriev, S. and Treisman, D. (2018). Informational Autocrats. *Working Paper*.
- Hersh, E. D. (2013). Long-term Effect of September 11 on the Political Behavior of Victims' Families and Neighbors. *Proceedings of the National Academy of Sciences*, 110(52).
- Huber, M. and Mellace, G. (2015). Testing Instrument Validity for LATE Identification Based on Inequality Moment Constraints. *Review of Economics and Statistics*, 97(2):398–411.
- Jones, D. B., Troesken, W., and Walsh, R. (2017). Political Participation in a Violent Society: The Impact of Lynching on Voter Turnout in the Post-Reconstruction South. *Journal of Development Economics*, 129:29 – 46.
- Kitagawa, T. (2015). A Test for Instrument Validity. *Econometrica*, 83(5):2043–2063.
- Kling, J. R., Liebman, J. B., and Katz, L. F. (2007). Experimental Analysis of Neighborhood Effects. *Econometrica*, 75(1):83–119.
- Kornbluh, P. (2013). *The Pinochet File: A declassified dossier on atrocity and accountability*. The New Press, New York, NY.
- La Tercera (1988). Los desconocidos detalles del capítulo censurado de la franja del No. September 14, 1988.
- Lawrence, A. K. (2017). Repression and Activism among the Arab Spring's First Movers: Evidence from Morocco's February 20th Movement. *British Journal of Political Science*, 47(3):699–718.
- Levitsky, S. and Way, L. A. (2010). *Competitive Authoritarianism: Hybrid Regimes After the Cold War*. Cambridge University Press, New York, NY.
- Londregan, J. B. (2007). *Legislative Institutions and Ideology in Chile*. New York: Cambridge University Press.
- Lupu, N. and Peisakhin, L. (2017). The Legacy of Political Violence across Generations. *American Journal of Political Science*, 61(4):836–851.
- Martínez, L. R. (2017). Transnational Insurgents: Evidence from Colombia's FARC at the Border with Chávez's Venezuela. *Journal of Development Economics*, 126:138 – 153.
- Marx, B. (2017). Elections as Incentives: Project Completion and Visibility in African Politics. *Working Paper*.
- Mastorocco, N. and Minale, L. (2018). News Media and Crime Perceptions: Evidence from a



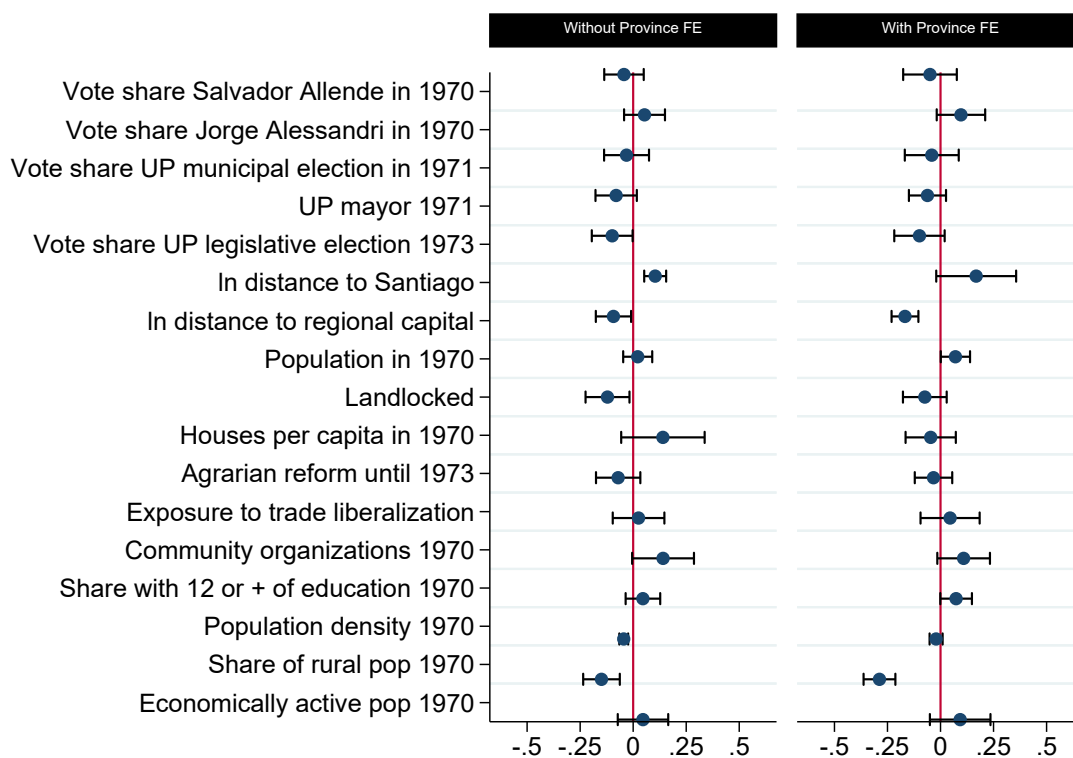
- Natural Experiment. *Journal of Public Economics*, 165:230 – 255.
- Nannicini, T., Stella, A., Tabellini, G., and Troiano, U. (2013). Social Capital and Political Accountability. *American Economic Journal: Economic Policy*, 5(2):222–50.
- Neundorff, A. (2010). Democracy in Transition: A Micro Perspective on System Change in Post-Socialist Societies. *Journal of Politics*, 72(4):1096–1108.
- New York Times (2004). The Pinochet Money Trail. December 12, 2004.
- Persson, T. and Tabellini, G. (2009). Democratic Capital: The Nexus of Political and Economic Change. *American Economic Journal: Macroeconomics*, 1(2):88–126.
- Putnam, R. D., Leonardi, R., and Nonetti, R. Y. (1993). *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton University Press.
- Rozenas, A., Schutte, S., and Zhukov, Y. (2017). The Political Legacy of Violence: The Long-Term Impact of Stalins Repression in Ukraine. *Journal of Politics*, 79(4):1147–1161.
- Santa-Cruz, A. (2005). *International Election Monitoring, Sovereignty, and the Western Hemisphere: The Emergence of an International Norm*. New York: Routledge.
- Schlenger, W. E., Caddell, J. M., Ebert, L., Jordan, B. K., Rourke, K. M., Wilson, D., Thalji, L., Dennis, J. M., Fairbank, J. A., and Kulka, R. A. (2002). Psychological Reactions to Terrorist Attacks: Findings from the National Study of Americans’ Reactions to September 11. *Journal of the American Medical Association*, 288(5):581–588.
- Snyder, J. M. and Strömberg, D. (2010). Press Coverage and Political Accountability. *Journal of Political Economy*, 118(2):355–408.
- Spilimbergo, A. (2009). Democracy and Foreign Education. *American Economic Review*, 99(1):528–43.
- Ticchi, D., Verdier, T., and Vindigni, A. (2013). Democracy, Dictatorship and the Cultural Transmission of Political Values. IZA Discussion Paper 7441.
- Treisman, D. (2017). Democracy by Mistake. *NBER Working Paper 23944*.
- UNODC (2013). *Global Study on Homicide: Trends, Context, Data*. UNODC.
- Valenzuela, J. S. and Scully, T. R. (1997). Electoral Choices and the Party System in Chile: Continuities and Changes at the Recovery of Democracy. *Comparative Politics*, 29(4):511–27.
- Verdugo, P. (2001). *Chile, Pinochet, and the Caravan of Death*. Boulder: Lynne Rienner.
- Wang, Y. (2018). For Whom the Bell Tolls: The Political Legacy of China’s Cultural Revolution. Working Paper.
- Young, L. (2019). The Psychology of State Repression: Fear and Dissent Decisions in Zimbabwe. *American Political Science Review*, 113(1):140 – 155.
- Zhukov, Y. M. and Talibova, R. (2018). Stalin’s Terror and the Long-term Political Effects of Mass Repression. *Journal of Peace Research*, 55(2):267–283.

**Figure 1:** Location of military bases and civilian victimization rates



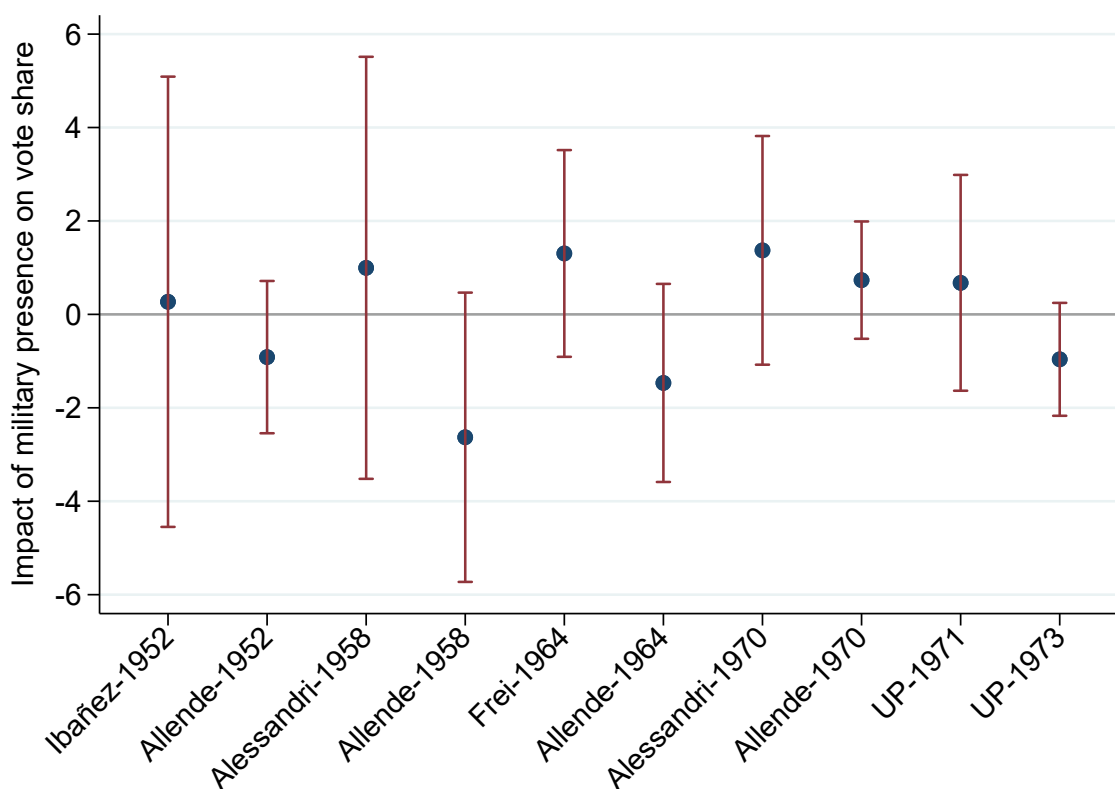
Notes: Panel (a) shows the location of all army bases in 1970 and the number of victims of the dictatorship between 1973 and 1990 per 10,000 inhabitants in 1970. Panels (b) and (c) provide the same information at a finer scale for the provinces of Coquimbo and Cautín, respectively. In panels (b) and (c) we show in white counties without documented victims and use darker shades of red to indicate higher levels of victimization for three equally-sized intervals of the within-province distribution of violence.

**Figure 2: Balance in baseline characteristics by military presence**



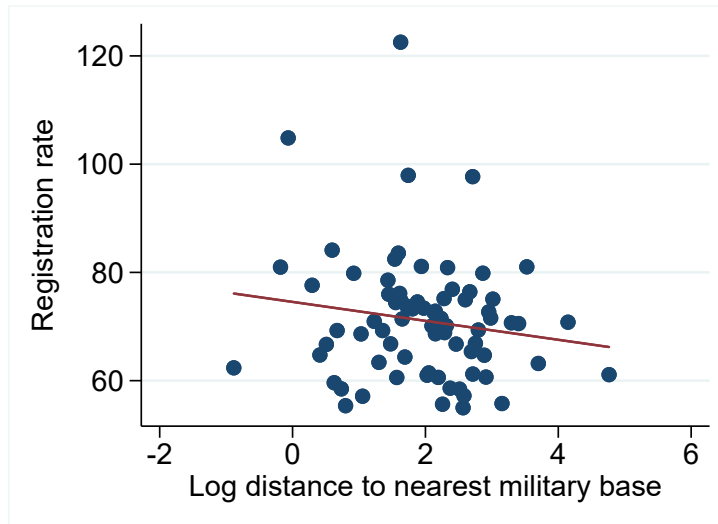
Notes: The figure shows point estimates and 95% confidence intervals (using robust standard errors) of univariate regressions of the indicator for presence of military base in 1970 on each of the variables listed, which capture variation in demographic, economic and political characteristics before the 1973 coup and the Pinochet dictatorship. All regressions are weighted by county-level population in 1970.

**Figure 3:** Military presence and national election outcomes before the dictatorship

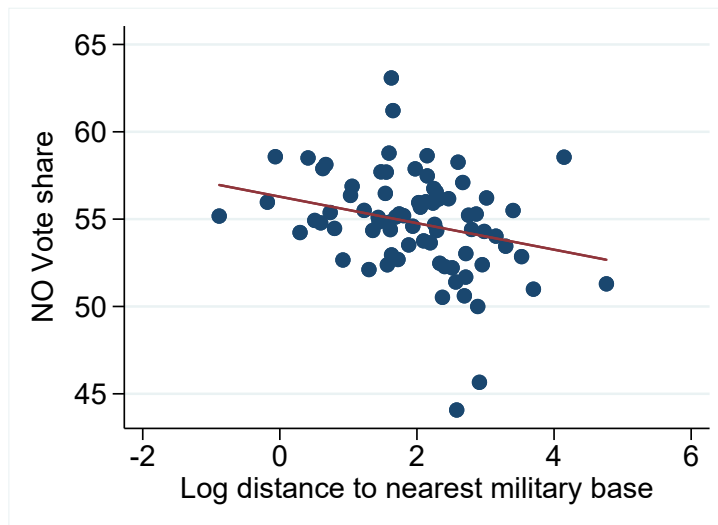


Notes: The graph shows point estimates and 95% confidence intervals of the effect of presence of military bases in 1970 on national election outcomes before the Pinochet dictatorship. Each marker corresponds to a separate regression having as dependent variable the vote share for the candidate in the x-axis. All outcomes correspond to vote shares in presidential elections except for the last two. UP-1971 corresponds to UP vote share in the 1971 local elections, while UP-1973 corresponds to UP vote share in the legislative elections of March 1973. All regressions control for distance to Santiago and to the corresponding regional capital, population in 1970, share of rural population in 1970 and province fixed effects. Starting in 1958, each regression also includes political controls from the previous election. See online appendix for full results.

**Figure 4:** Military presence and the 1988 plebiscite



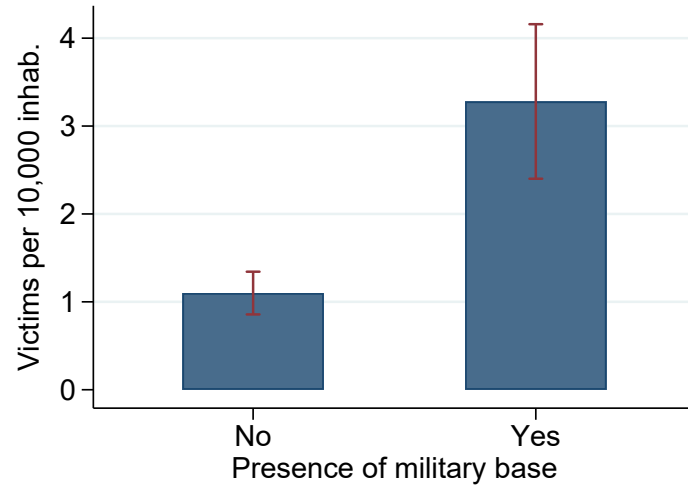
(a) Voter registration



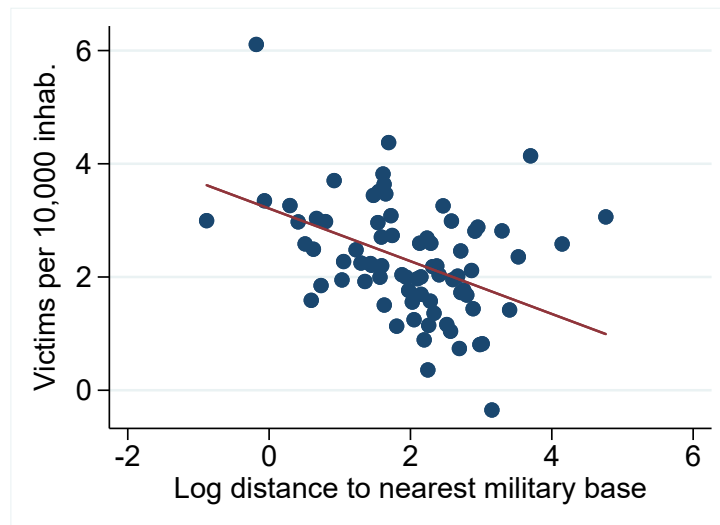
(b) "NO" vote share

Notes: Panels present binned scatterplots and linear fit for the relationship between the distance to the nearest military base in 1970 and the voter registration rate [panel (a)] and "NO" vote share [panel (b)]. The civilian victimization rate is defined as the number of victims of the dictatorship between 1973 and 1990 per 10,000 inhabitants in 1970. The rate of voter registration is also defined with respect to population in 1970. Both panels control for Allende and Alessandri vote shares in 1970, distance to Santiago and to the corresponding regional capital, population in 1970, share of rural population in 1970 and province fixed effects.

**Figure 5: Proximity to military bases and repression**



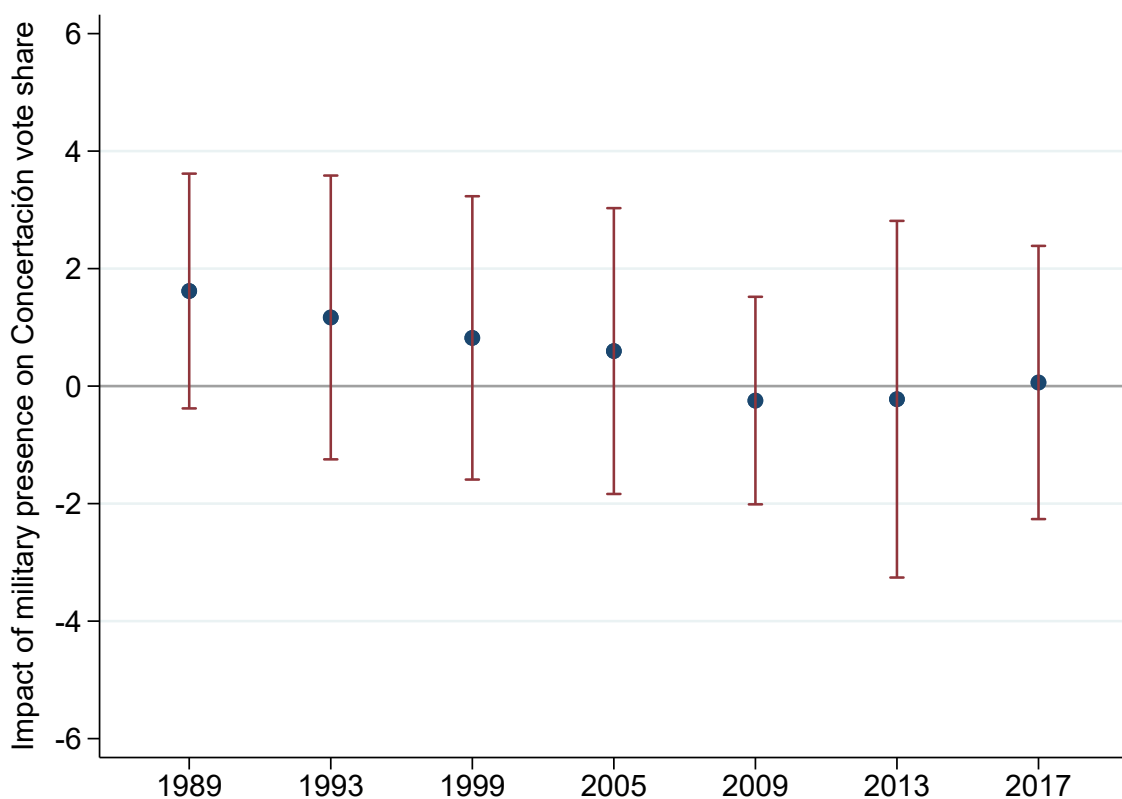
(a) Indicator military presence



(b) Distance to nearest military base

Notes: Panel (a) shows the average civilian victimization rate and the 95% confidence interval for counties with and without presence of military bases in 1970. Panel (b) presents a binned scatterplot and the linear fit for the relationship between the distance to the nearest military base in 1970 and the civilian victimization rate. The civilian victimization rate is defined as the number of victims of the dictatorship per 10,000 inhabitants in 1970. Panel (b) controls for Allende and Alessandri vote shares in 1970, distance to Santiago and to the corresponding regional capital, population in 1970, share of rural population in 1970 and province fixed effects.

**Figure 6:** Military presence and “Concertación” vote share in Presidential elections after 1988



Notes: Panel shows point estimates and 95% confidence intervals of the effect of presence of military bases in 1970 on the vote share for candidates belonging to the “Concertación” pro-democracy coalition in presidential elections between 1989 and 2017. Each marker corresponds to a separate regression. All regressions control for Allende and Alessandri vote share in 1970, distance to Santiago and to the corresponding regional capital, population in 1970, share of rural population in 1970 and province fixed effects. See online appendix for estimates for other parties.

**Table 1: Descriptive statistics**

	Unweighted	Weighted		Min	Max
	Mean	Mean	St. Dev		
<b>A: Main variables</b>	(1)	(2)	(3)	(4)	(5)
Indicator military presence	0.13	0.34	0.48	0.00	1.00
Registration in 1988	72.50	71.16	25.20	20.61	146.19
Vote share NO in 1988	48.44	54.82	9.49	3.26	76.77
Victims per 10,000 inhabitants	1.38	2.31	2.01	0.00	11.09
<b>B: Baseline controls</b>					
Vote share Alessandri in 1970	34.86	34.09	8.79	12.51	61.45
Vote share Allende in 1970	35.04	37.17	10.84	4.17	76.78
ln Distance to Santiago	5.52	4.72	1.92	0.94	8.23
ln Distance to regional capital	3.87	2.80	1.65	0.00	5.37
Rural share in 1970	0.53	0.26	0.29	0.00	1
Population in 1970	0.29			0.01	2.55

Notes: Descriptive statistics for 276 counties in Chile. Baseline controls are included in most regressions below. The statistics in columns 2 and 3 are weighted by county population in 1970, except for “Population in 1970” (expressed per 100,000). We construct electoral outcomes from administrative data kept at Chile’s Electoral Service. The number of victims by county comes from the Rettig report. Vote share is defined as the percentage of people who voted No over the total of votes counted (different from blank or null) in this referendum. Registration is constructed as number of people who registered to vote in the 1988 referendum over the total number of inhabitants in 1970. Population in 1970 comes from the housing census. All distances are calculated from a county’s centroid.



**Table 2: Military presence, repression and the 1988 plebiscite**

	Additional control for other institution:						
	Baseline	Maritime port	Airport	Terrestrial entry point	Power plant	Provincial capital	Regional capital
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<b>A: Voter registration (1988):</b>							
Indicator military presence	9.25** (4.38)	10.76*** (3.92)	8.91** (4.28)	9.08** (4.46)	9.77** (4.48)	9.96** (4.66)	10.15** (4.19)
Indicator other institution		13.10** (5.30)	1.49 (6.07)	2.24 (4.94)	7.86 (8.98)	-2.04 (5.32)	-13.54 (12.01)
<b>B: “NO” vote share (1988):</b>							
Indicator military presence	2.24** (1.01)	2.16** (1.01)	1.85* (1.04)	2.31** (1.03)	2.32** (1.02)	2.02* (1.08)	2.07** (1.04)
Indicator other institution		-0.74 (0.73)	1.72** (0.84)	-0.91 (1.10)	1.22 (1.44)	0.64 (1.15)	2.60 (1.89)
<b>C: Victimization rate:</b>							
Indicator military presence	2.09*** (0.41)	2.10*** (0.41)	2.02*** (0.44)	2.09*** (0.41)	2.13*** (0.41)	2.36*** (0.44)	2.11*** (0.42)
Indicator other institution		0.15 (0.31)	0.31 (0.45)	-0.12 (0.42)	0.69* (0.38)	-0.79 (0.50)	-0.32 (0.76)
Observations	276	276	276	276	276	276	276
R-squared (panel A)	0.667	0.689	0.667	0.667	0.671	0.667	0.671
R-squared (panel B)	0.824	0.825	0.826	0.825	0.825	0.824	0.825
R-squared (panel C)	0.565	0.566	0.566	0.565	0.570	0.572	0.565
Province fixed effects	x	x	x	x	x	x	x
Controls	x	x	x	x	x	x	x

Notes: This Table shows our baseline estimates of the effects of military presence (column 1), as well as results from expanded specifications that control for presence of other institutions or county characteristics. The dependent variable in panel A is the voter registration rate, constructed as the number of people who registered to vote in the plebiscite over the total number of inhabitants in 1970. In panel B, the dependent variable is the “NO” vote share, defined as the percentage of people who voted No over the total number of valid votes. The dependent variable in panel C is the civilian victimization rate, defined as the number of victims of the dictatorship divided by population in 1970. All additional controls in columns 2-7 are binary indicators. In column 2, presence of maritime ports. In column 3, presence of airports. In column 4, presence of terrestrial points of entry into the country. In column 5, presence of power plants in 1970. Column 6 includes an indicator for counties that were capitals of their respective province in 1970, while column 7 includes a dummy for counties that became regional capitals in 1975. All regressions include province fixed effects and the following controls: Allende and Alessandri vote share in 1970, distance to Santiago and to the corresponding regional capital, population in 1970, share of rural population in 1970. All regressions are weighted by county population in 1970. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table 3: Further evidence on military presence and repression**

Dependent variable:	Victimization	Indicator	Indicator	Victimization	Detention/torture centers	
	rate	victims>0	victims > p75	rate (residence)	total	per 10,000 inhab.
	(1)	(2)	(3)	(4)	(5)	(6)
Indicator military presence		0.08* (0.04)	0.39*** (0.10)	1.20*** (0.37)	4.04*** (0.76)	0.17* (0.09)
ln distance closest base	-0.62*** (0.14)					
Observations	276	276	276	276	276	276
R-squared	0.553	0.428	0.500	0.489	0.827	0.569
Province fixed effects	x	x	x	x	x	x
Controls	x	x	x	x	x	x
DV mean	2.308	0.858	0.285	1.948	5.971	0.853

Notes: Table shows robustness of the relationship between military presence and civilian victimization. The dependent variable in column 1 is the civilian victimization rate, defined as the number of victims of the dictatorship divided by population in 1970. Column 1 uses ln distance to the nearest military base rather than the base dummy. In column 2 we use as dependent variable an indicator for non-zero victims in the county. In column 3, we use as dependent variable an indicator for counties with a civilian victimization rate above the 75th percentile. In column 4, we use victims' county of residence to construct the civilian victimization rate. In column 5, the dependent variable is the number of documented centers of detention and torture in the county, while in column 6 it is the number of centers per 10,000 inhab. All regressions include province fixed effects and the following controls: Allende and Alessandri vote share in 1970, distance to Santiago and to the corresponding regional capital, population in 1970, share of rural population in 1970. All regressions are weighted by county population in 1970. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table 4:** Military presence and public goods provision during the dictatorship*Dependent variable: Expenditure per capita in local projects*

	All	Visible	Not visible
	(1)	(2)	(3)
Indicator military presence	0.00 (0.07)	0.00 (0.06)	-0.00 (0.02)
Observations	276	276	276
R-squared	0.472	0.430	0.620
Province fixed effects	x	x	x
Controls	x	x	x
DV mean	0.57	0.49	0.08

Notes: This table presents estimates of a regression of state spending in urban projects in the period 1979-1989 on the indicator for military presence in 1970. The dependent variable in column 1 is total spending per capita. In column 2, the dependent variable is spending per capita in visible projects (e.g., housing), while in column 3 it is spending per capita in less visible projects (e.g., sanitary projects). All regressions include province fixed effects and the following controls: Allende and Alessandri vote share in 1970, distance to Santiago and to the corresponding regional capital, population in 1970, share of rural population in 1970. All regressions are weighted by county population in 1970. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table 5: Repression during the dictatorship and the 1988 plebiscite**

Dependent variable:	OLS		IV	
	Voter registration	“NO” vote share	Voter registration	“NO” vote share
	(1)	(2)	(3)	(4)
Victims per 10,000 inhab.	1.61* (0.87)	0.41** (0.19)	4.44** (2.08)	1.08** (0.49)
Observations	276	276	276	276
R-squared	0.663	0.823	0.635	0.812
Province fixed effects	x	x	x	x
Controls	x	x	x	x
Kleibergen Paap F-statistic	-	-	26.27	26.27
Olea-Montiel Pflueger F-statistic	-	-	40.59	40.59

Notes: This table presents regression results using the voter registration rate and “NO” vote share in the 1988 plebiscite as dependent variables. Voter registration is constructed as number of people who registered to vote in the plebiscite over the total number of inhabitants in 1970. “NO” vote share is defined as the percentage of people who voted No over the total number of valid votes. Columns 1 and 2 show OLS estimates of the effect of the civilian victimization rate. The civilian victimization rate is defined as the number of victims of the dictatorship divided by population in 1970. Columns 3 and 4 show 2SLS estimates of the effect of civilian victimization, using military presence as the excluded instrument. All regressions include province fixed effects and the following controls: Allende and Alessandri vote share in 1970, distance to Santiago and to the corresponding regional capital, population in 1970, share of rural population in 1970. All regressions are weighted by county population in 1970. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table 6:** Military presence and expressed support for democracy

	Exposed if born by:					
	1963		1973		1983	
	(1)	(2)	(3)	(4)	(5)	(6)
Indicator military presence × Exposed to coup	0.037** (0.019)	0.048** (0.022)	0.055*** (0.020)	0.045* (0.024)	0.028 (0.030)	0.032 (0.034)
Exposed to coup	-0.021 (0.017)	-0.028 (0.018)	-0.025 (0.017)	-0.025 (0.021)	-0.023 (0.026)	-0.029 (0.029)
Observations	18,731	18,731	18,731	18,731	18,731	18,731
R-squared	0.051	-	0.052	-	0.052	-
County fixed effects	x	x	x	x	x	x
Survey wave fixed effects	x	x	x	x	x	x
Method	OLS	SUR	OLS	SUR	OLS	SUR

Notes: Table shows results from regressions of an aggregate measure of expressed support for democracy, based on individual responses to four survey questions in Latinobarómetro, on an indicator for cohorts exposed to the Pinochet dictatorship and its interaction with the indicator for military presence. In odd-numbered columns, the outcome is a Z-score we construct by standardizing each question based on the average and standard deviation of the control group, and then taking the average across questions. In even-numbered columns we calculate the aggregate effect for the family of outcomes using seemingly-unrelated regressions, following Kling et al. (2007). In columns 1 and 2, individuals are considered exposed to the coup if born by 1963 (i.e., 10 years old at the time of the 1973 coup). In columns 3 and 4, individuals are exposed if born by 1973 (i.e., alive at the time of the coup). In columns 5 and 6, individuals are considered exposed if born by 1983 (i.e., born no more than 10 years after the coup). All regressions include county and survey year fixed effects and control for gender. Robust standard errors clustered at the county level in parenthesis. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . See Appendix B for details on construction of variables.

**Table 7: Military presence and expressed political ideology**

	Political ideology index (0-10)	Indicator non-aligned (2)	Indicator left (0-2)	Indicator center (3-7)	Indicator right (8-10)
	(1)	(2)	(3)	(4)	(5)
Indicator military presence × Exposed to coup	0.088 (0.094)	0.011 (0.014)	-0.012 (0.009)	-0.004 (0.013)	0.005 (0.010)
Exposed to coup	0.082 (0.070)	-0.023* (0.013)	-0.000 (0.007)	0.008 (0.012)	0.015* (0.009)
Observations	14,000	17,821	17,821	17,821	17,821
R-squared	0.043	0.072	0.026	0.054	0.036
County fixed effects	x	x	x	x	x
Survey wave fixed effects	x	x	x	x	x
DV mean	4,900	0.214	0.102	0.578	0.106

Notes: Table shows results from regressions of measures of political ideology, based on survey responses in Latinobarometro, on an indicator for cohorts exposed to the Pinochet dictatorship and its interaction with the indicator for military presence. The dependent variable in column 1 is a continuous index (0-10), with larger values indicating more right-wing views. Binary dependent variable in columns 2-5. Respondents expressing no political inclination are excluded in column 1. See Appendix B for details on construction of variables. Survey respondents are classified as exposed to the coup if born by 1963 (i.e. 10 years old in 1973). All regressions include county and survey year fixed effects and control for gender. Robust standard errors clustered at the county level in parenthesis. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

# Appendix (for online publication)

## Table of Contents

---

<b>Appendix A Detailed institutional background</b>	<b>iii</b>
A.1 The politics and the institutions . . . . .	iii
A.2 Repression and the location of military bases . . . . .	v
<b>Appendix B Further information about the data</b>	<b>vii</b>
B.1 Victims . . . . .	vii
B.2 Military bases . . . . .	vii
B.3 Electoral outcomes . . . . .	viii
B.4 Latinobarómetro . . . . .	viii
B.5 Other sources . . . . .	ix
<b>Appendix C Additional Figures and Tables</b>	<b>x</b>
<b>Appendix D Characterization of the complier counties</b>	<b>xxviii</b>

---

## List of Figures

---

A1	Characterization of sample attrition . . . . .	x
A2	Robustness of results to exclusion of counties or provinces . . . . .	xi
A3	Random assignment of military bases . . . . .	xii
A4	Relaxing the exogeneity assumption . . . . .	xiii
A5	Military presence and other parties' vote share after 1988 . . . . .	xiv
A6	Military presence and "Concertación" vote share in local elections after 1988 . . . . .	xv

---

## List of Tables

---

A1	Differences by military presence <i>before</i> the dictatorship . . . . .	xvi
A2	Proximity to military bases using distance as an instrument . . . . .	xvii
A3	Robustness to different cut-off years for military base construction . . . . .	xviii
A4	Robustness of results to different sets of controls . . . . .	xix
A5	Robustness of results to spatial controls . . . . .	xx
A6	Robustness of results to exclusion of population weights . . . . .	xxi
A7	Robustness of results to inclusion of outliers . . . . .	xxii
A8	Robustness of results to victim assignment by county of residence or work . . . . .	xxiii
A9	Validity tests for military presence instrument . . . . .	xxiv
A10	Ideological classification of candidates in presidential elections 1993 – 2017 . . . . .	xxv
A11	Ideological classification of coalitions in local elections 1992 – 2016 . . . . .	xxvi
A12	Exposure to repression and expressed support for democracy . . . . .	xxvii
A13	Characterization of compliers . . . . .	xxix

---



## Appendix A Detailed institutional background

### A.1 *The politics and the institutions*

In September 4th of 1970, Salvador Allende ran in the presidential elections under the Popular Unity coalition formed by the Communist, Socialist and Radical parties. Two more candidates ran in these elections: Jorge Alessandri who had been president between 1958 and 1964 and represented the conservative party. His main goal was to reverse the policies that had been implemented during the previous government of the Christian Democrat, Eduardo Frei. For example, if he became president, he would reverse the agrarian reform and bring order to labor and student movements. The other candidate was Radomiro Tomic who represented the Christian Democrats and was to the left of his party. Given that none of the candidates obtained the majority of votes, congress had the final saying. During the months of September and mid-October the Christian Democrats and the Popular Unity coalition pushed for Allende. At the same time, some right-wing groups seek the support of the United States and the CIA in order to stop Allende. The main obstacle for the purpose of the CIA was General René Schneider who had opposed military intervention in the past and insisted that the military should remain apolitical. The CIA developed a plan in which Schneider would be kidnapped allowing for the officers below his command to take control over the political situation. However, during the month of October, after several kidnapping attempts he was murdered in Santiago. This event had the opposite effect of what was intended and Allende was confirmed by congress as the “first Marxist president in the western world” when the Christian Democrats decided to back him with 78.5% of the votes. Rector (2003, p.172).

Allende’s government was marked by strong polarization. He lacked a congressional majority and increasingly had to rely on decrees and other methods which the opposition deemed unconstitutional. In a climate of heightened conflict on 23rd August of 1973 Congress had passed a motion severely censoring the Allende regime for, amongst other things, ruling by decree, encouraging illegal land occupations, and refusing to enforce judicial decisions against its partisans. The political instability generated rumors about a coup but General Carlos Prats, the commander in chief of the Chilean Army, a supporter of what became known as the Schneider doctrine, would put down coup attempts such as the one so called “Tanquetazo” on June 29, 1973. However, the one on September 11 was far better planned and organized, though Pinochet himself had only come on board the previous Sunday, two days before the coup was consummated Constable and Valenzuela (1991, p.52). The *Junta* that was constituted on September 11 would run Chile until re-democratization in 1990, though the people who constituted in changed.

By 1974 Pinochet had persuaded his colleagues to make him the chief executive and by the end of the same year he had induced them to agree to him becoming president. This role was reaffirmed by the plebiscite in 1978 where Chileans were asked to answer yes or no to the following question: “Faced with international aggression launched against our fatherland, I support President Pinochet in his defense of the dignity of Chile and reaffirm the legitimacy of the government.” Official figures declared that yes votes received 75% of the total. Pinochet’s position was further consolidated

by the new constitution that the military wrote in 1980 (Barros, 2002).<sup>1</sup> This constitution made Pinochet president for 8 years with the *Junta* continuing as the legislative body of the country. The first term began in 1981. The constitution had been ratified by a plebiscite on September 11, 1980 with 67.5% of people voting yes.<sup>2</sup> It was only until 2005 after a package of reforms promoted by president Ricardo Lagos that several of the authoritarian features of the 1980 constitution were removed allowing for a more inclusive set of political institutions.

The economic reforms that were implemented during the dictatorship complemented the repression enforced in the political institutions. Pinochet understood that the package of free market policies offered by the “Chicago Boys” would facilitate the dismantling of the labor movement and reduce the role of the state in the provision of health care, social security and education. The *Junta* followed Milton Friedman’s policy recommendations. Some of these were privatizing the banks and firms that had been expropriated by the Allende government and others that had not; reducing tariffs from 100 to 10 percent from 1973 to 1980 to increase firms’ competition; designing and implementing labor reforms that eliminated bargaining power from unions and facilitating foreign borrowing in order to increase capital investment. The Agricultural sector went through several adjustments since the military pushed back on the agrarian reform and land occupations that occurred in the previous governments. The way it happened was by giving titles to some of the subjects who occupied the land, returning the land to previous owners and by selling plots that had been acquired by the state. The shock treatment implemented by the “Chicago Boys” and the *Junta* brought prosperity during the decade of the 70’s. However, in 1982 the economy was hit by crisis that diminished the enthusiasm of the free market experiment and the experts reversed several of their policies (e.g introduced regulation in financial markets and exchange rates). By the end of the dictatorship the economy recovered mostly due to improvements in copper prices but the democratic government that started in 1990 had to deal with macroeconomic disequilibrium, poverty rates of 40% and one the largest increases in inequality recorded in the post WWII.<sup>3</sup>

The economic uncertainty brought by the free market policies implemented during the dictatorship led to social and political discontent even among some of its supporters. Protests became more frequent but they were met with the expected repression. However, civil society became more organized and visible groups such as the Catholic Church and the Concertación would put a big pressure to the regime. Under their leadership, a movement towards democracy started and they saw the plebiscite of 1988 as their opportunity to make this transition real. This was boosted by the fact that the U.S administration of Ronald Reagan and other European countries started pushing for a democratic process. Opinion polls initially predicted an easy victory for Pinochet, but as the election approached the outcome became more uncertain and the expected “No” vote share steadily climbed (Cauce, 1988; Méndez et al., 1988). Campaigning was an important factor in the final weeks before the vote. Both sides were allowed to produce daily 15-minute spots that were aired on national television in the month preceding the plebiscite. Those produced by the “No” campaign revealed sensitive information, including previously-censored material related to human rights violations and had a positive effect on the “No” vote share (Boas, 2015; González

---

<sup>1</sup> See Cavallo et al. (2011, Ch. 30) for an analysis of the constitutional process.

<sup>2</sup> Fuentes (2013) elaborates on the fraudulent nature of this referendum.

<sup>3</sup> The Gini coefficient went from 0.46 in 1971 to 0.58 in 1989 an increase of over 25%.

and Prem, 2018). The majority of Chileans decided to support this option and the transition to democracy started when Pinochet accepted that the same constitution he had designed, got him out of the presidential office.

Nonetheless, this same authoritarian constitution cast a long shadow over the following democratic governments. Designed by the expert lawyers consulted by Pinochet, any amendment had to be approved by the conservative parties. This was practically impossible since 9 seats of the senate were allocated to the military. It would also state that Pinochet would stay as the head of the armed forces at least until 1998. Another way of shaping the political institutions was by imposing a binomial electoral system soon after the plebiscite. This system meant that each district would elect two senate members but voters could only cast ballots for one of them. The coalition of candidates with the highest number of votes would be elected as long as their share of votes were as twice as much as the second coalition obtained. The result of this system was that conservative parties were always favored and small parties such as the communist party, never had a chance to win a seat in the senate. This system was only changed in 2015. In 1998, when his period as head of the armed forces expired, Pinochet did not hold his permanent seat at the senate due to health reasons. He went to London to receive medical treatment and while he was recovering from a surgery, he was arrested under an extradition order issued by a Spanish judge. He spent about a year and a half under house arrest and in March 2000 he went back to Chile after the British authorities declared him unfit to face a trial. In his return he also faced processes for human rights violations, such as the one of the “caravan of death” where he was held responsible for ordering General Stark’s actions or the assassination of General Prats in Argentina. By 2002 he resigned from his position in the senate and was declared unfit to face a trial once more due to dementia. Even though several of the officers that were under the command of Pinochet went to trials and ended up in prison, the General died in 2006 without having being held responsible for any of the human rights violations committed during his dictatorship.

## *A.2 Repression and the location of military bases*

The repression and its execution during the Chilean dictatorship can be divided in three periods according to the Valech Report. The first period starts on the day of the coup and lasts until the last day of 1973. These first days were characterized by mass raids in factories, shantytowns, mining camps and universities. Because of the large number of prisoners several improvised detention centers were opened, from schools to stadiums, and were used to hold thousands of prisoners in terrible conditions. One of the most significant ones was the National Stadium (Estadio Nacional) which functioned from the day of the coup until November 9th 1973. There are different estimates of the number of prisoners held in this place, but they go from 7,000 to as many as 40,000. The Red Cross, after one inspection of the conditions of the prisoners, described them as terrible because of the overcrowding, unsanitary and starvation conditions with the whole situation being aggravated by torture sessions (Comisión Rettig, 1996, Vol I p. 115). Both the sports arenas the National Stadium and the Chile Stadium were turned into impromptu prisons and interrogations centers. One of the most memorable cases is the one of the folk singer Victor Jara, a member of the Communist Youth, arrested on September 12 and last seen alive at the detention center set up inside of Chile Stadium on September 15. This stadium was conveniently located 2.5 km away

from Tacna regiment's headquarters. Jara's body was discovered the following day with both face and hands disfigured. The autopsy revealed 44 gunshot wounds.

There are several examples that illustrate how the regiments that were located in the military bases were instrumental when it came to execute the repression. On October 9th 1973, a military convoy including members of the "Cazadores" and "Maturana" regiments left the military base in Valdivia county and traveled to the nearby foresting compound of Panguipulli, where 17 local workers were apprehended and shortly afterwards executed (Comisión Rettig, 1996, p. 391). Similar episodes took place in San Bernardo county, where truck-loads of men from the local army regiment would arrive to areas that had been occupied by peasants during the Frei and Allende governments, pick out their victims and take them to the nearby Cerro Chena compound for execution (Comisión Rettig, 1996, p. 224-226). It is also known that some of Allende's close collaborators were taken to the headquarters of "Tacna" regiment shortly after the presidential palace was stormed by the military (Comisión Rettig, 1996, p. 119). They were executed two days later, but their bodies were never recovered. Military bases were also the place where some of those wanted by the regime voluntarily surrendered. This was the case of Luis Alaniz Álvarez and José Rodríguez Acosta, who surrendered to the local military authorities of Arica and La Serena respectively and were executed within a few days (Comisión Rettig, 1996, p. 249,276). For others, proximity to a military facility simply raised the probability of a brush-up with the authorities. Gastón Arias had the bad luck of being stopped as he drove past the military base in Punta Arenas. A passer-by identified him as an "extremist" and he was immediately detained. He would spend 100 days in captivity, during which time he was subjected to torture (Kunstman and Torres, 2008, p.88).

The second period identified by the Valech commission runs from 1974 to 1977. In order to better coordinate surveillance and intelligence activities, the National Intelligence Directorate (DINA, according to its Spanish acronym) was created at the end of 1973 under the direction of Colonel Manuel Contreras. This was a group composed of "elite" military from all the intelligence units, "fear specialists" as Cavallo et al. (2011, p.59) put it. In consequence, the way the repressive apparatus worked changed. The phase of mass detentions finished and detentions became more selective where the targets were primarily members of the Revolutionary Left Movement or M.I.R. (acronym in Spanish), Socialist and Communist parties. The detentions usually took place in their place of work, homes or in the street and were conducted by men dressed in civilian clothes who would take the prisoner without any formal arrest warrant. Secret detention centers started to spread under the control of the DINA.<sup>4</sup> Among them was Villa Grimaldi, where at least 4,500 people were tortured and 241 killed or disappeared. Again, the selection of this place by the DINA does not seem random since it had the "ideal characteristics for its new obscure function, such as its... proximity to the Telecommunication Regiment of the Army" (Corporación Villa Grimaldi, 2018). Detainees who entered these places were tortured and, in many cases, were subjected to forced disappearance. Due to the closeness of Colonel Contreras to General Pinochet and all the arbitrary decisions this group made, the other intelligence branches came into conflict with the DINA. One of them was called Comando Conjunto, group formed by elite members of the Air Force Intelligence. The internal disputes among intelligence units and the assassination of General Orlando Letelier in Washington D.C. in 1976, which increased foreign pressure on human

---

<sup>4</sup> The Valech Report ended up recognizing 1,200 places of torture

rights abuses, led to the dissolution of DINA in 1977. It was replaced by the National Center of Information (CNI in Spanish) and this marks the beginning of the third period of repression.

This last period stretches from 1977 to 1990. In 1977 the CNI and Comando Conjunto became the main organizations implementing repression. The CNI adopted some of the members from the DINA, their repressive methods and detention centers. These changes coincided with the return and reorganization of some militants of the MIR, the Movimiento de Acción Popular Unitario or MAPU- Lautaro and some segments of the Communist Party such as the FPMR. This led to constant confrontations and the hunt for the members of these groups. In 1983, the Frente Patriótico Manuel Rodríguez organized and started to commit violent acts including an assassination attempt on Pinochet in 1986. The CNI remained in charge of surveillance and repression until the end of the dictatorship, but the intensity of civilian victimization decreased substantially compared to the previous years. Still, the military regime occasionally resorted to repression against students and political activists throughout the 1980s.

## **Appendix B Further information about the data**

### *B.1 Victims*

As mentioned in the main text, we rely on information about victims of the dictatorship from the report produced by the Rettig commission. This commission was headed by former minister and ambassador Raúl Rettig. It was created by President Aylwin in 1991 and its goal was to clarify and document the human rights violations committed by the Pinochet regime. The Rettig report was digitized by the Museum of Memory and Human Rights, an institution that draws attention to human rights violations committed in Chile during the dictatorship. From the resulting dataset, we observe each victim's full name, the county of detention or execution, the exact date of detention or execution, political affiliation (if any), age, and occupation. We have complemented this information by manually reconstructing the county of residence and work for the victims. We also add 66 cases of surviving victims who were tortured and for whom similar information is available at judicial records kept by the same museum. However, we must exclude victims for which the county of detention/execution is unknown and victims who were assassinated abroad, which reduces the total number to 3,150 (98% of total).

### *B.2 Military bases*

Army regiments belong to several subcategories: infantry, armored cavalry, artillery, engineering, communications, transportation and logistics. We also have information about the location of air force bases, which we use for robustness checks. Our measure of distance to the nearest base is calculated as the logarithm of the distance from a county's centroid to that of the centroid of the nearest county with a base. We set this measure to zero for counties with bases. These are straight-line "as-the-crow-flies" distances.

### B.3 Electoral outcomes

County-level data on the outcome of the plebiscite is publicly available. We digitized the data on voter registration from archival documents kept at the Electoral Service. We also digitized some of the data for the elections in the 1952-1973 period. Besides the 1988 plebiscite, the only other elections between 1973 and 1988 were the plebiscites of 1978 and 1980, which took place without an electoral registry. Furthermore, the county-level data on the electoral results is allegedly missing and the validity of the elections has been seriously questioned (Fuentes, 2013).

The normalization of the voter registration rate by population in 1970 can give rise to registration rates above 100% as a result of various factors (e.g., population growth). The number of counties with more registered voters in 1988 than inhabitants in 1970 is small and these have little weight in our estimations. In our baseline regressions, we winsorize the voter registration rate at the 98th percentile. As part of our robustness checks, we show that the results are unaffected by this choice. Regarding the “No” vote share, results are unaffected if we use the total number of votes (including null and blank votes) in the denominator. The correlation between both measures is 0.999.

### B.4 Latinobarómetro

We construct four separate binary measures of support for democracy based on four different questions in the Latinobarómetro survey. Not all questions are asked in all years of the survey. The first indicator equals one if the respondent highly agrees with the statement: “Democracy may have problems but it is the best system of government” [This question is asked from 2002 to 2015. For the year 2011 it corresponds to question P16ST.A]. The second indicator equals one if the respondent expresses being satisfied or highly satisfied with the functioning of democracy in the country.<sup>5</sup> The third indicator equals one if the respondent claims that “Democracy is preferable to any other kind of government.”<sup>6</sup> The other options for this question are “Under some circumstances, an authoritarian government can be preferable to a democratic one” and “For people like me, it does not matter whether we have a democratic or non-democratic regime” The fourth indicator equals one if the respondent claims that he or she “Would not support a military government under any circumstance?”<sup>7</sup> The alternative answer here is “Would support a military government in replacement of a democratic one if things get very bad” We calculate the aggregate effect for the family of outcomes, following Kling et al. (2007). For this purpose, we use the “avg\_effect” Stata command written by Christopher Robert.

We construct variables measuring political preferences using the following question: “In politics, people normally speak of “left” and “right”. On a scale where 0 is left and 10 is right, where

---

<sup>5</sup> The original question available from 1995 to 2015 and it states: “In general, would you say you are very satisfied, quite satisfied, not very satisfied or not at all satisfied with the working of the democracy in Chile”. It corresponds to question P14ST.A

<sup>6</sup> This question is available from 1995 to 2015 and it corresponds to question P13ST in the questionnaire of 2011

<sup>7</sup> This question is available for years 2004-2005, 2009-2011 and in the questionnaire of 2011 it corresponds to question P18ST

would you place yourself?” Respondents may also indicate that they do not have political leanings [This question is available from 1995 to 2015 and for the year 2011 it corresponds to question P76ST].

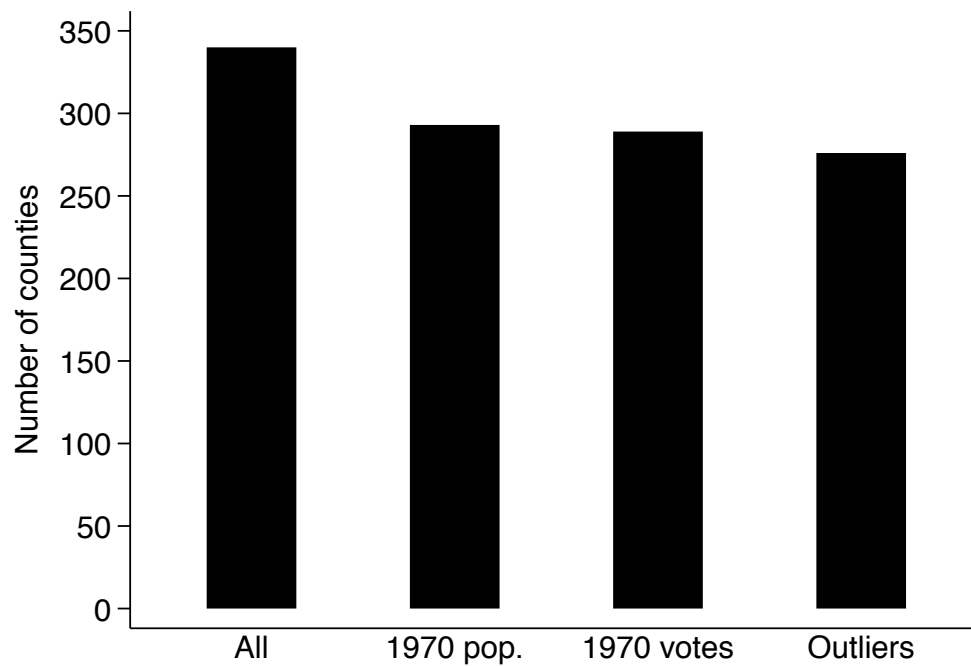
### *B.5 Other sources*

Our analysis also uses information from the 1965 agricultural census. We use county-level measures of land inequality from the census to characterize the mostly rural society of the time. We also incorporate measurements of the percentage of agricultural land expropriated during the implementation of the agrarian reform, which was one of the most important national policies of the 1960s and 1970s. The source for both of these pieces of data is Cuesta et al. (2017).

The 1970 population and housing census provides us with population counts. We use this census, instead of the more recent one from 1982, as population may have endogenously responded to repression by then. For instance, estimates of the number of people in exile due to the dictatorship range from 130,000 to 200,000, corresponding to 1.5-2.3% of the total population in 1970 (Orellana, 2015). Similarly, the 1992 census may reflect population movements triggered by the return to democracy. We also use the 1970 census to construct county-level measures of wealth based on the number of houses per capita, which is arguably related to the level of income in the locality.

## Appendix C Additional Figures and Tables

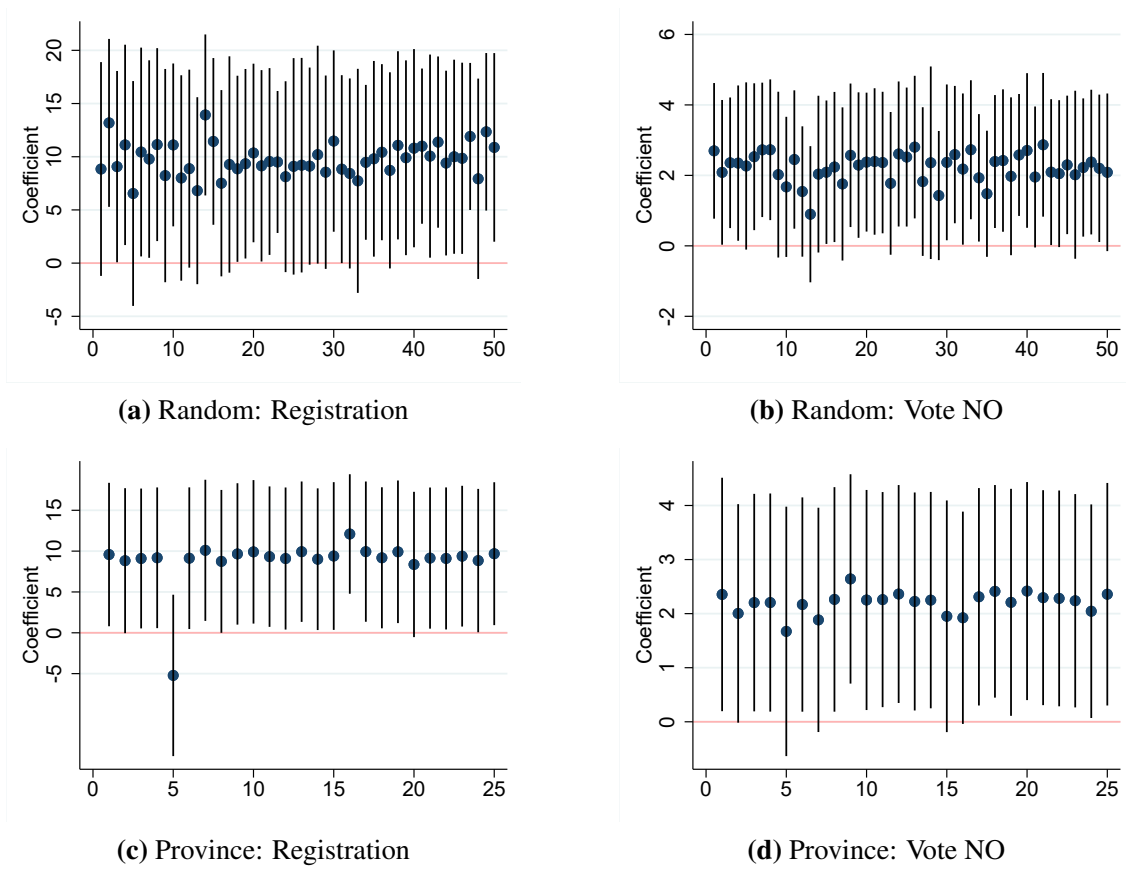
**Figure A1:** Characterization of sample attrition



Notes: This table describes the attrition process in our sample. The universe of potential counties in our data is 340 counties, i.e. those with vote shares data in the 1988 plebiscite (“All”). The sample decreases to 293 counties because of missing population data in the 1970 census (“1970 pop.”). Then the sample decreases to 289 because of missing 1970 vote shares (“1970 votes”). Finally, the sample decreases to 276 counties after deleting 5% of counties we considered to be outliers in terms of victims per 10,000 inhab. (“Outliers”).

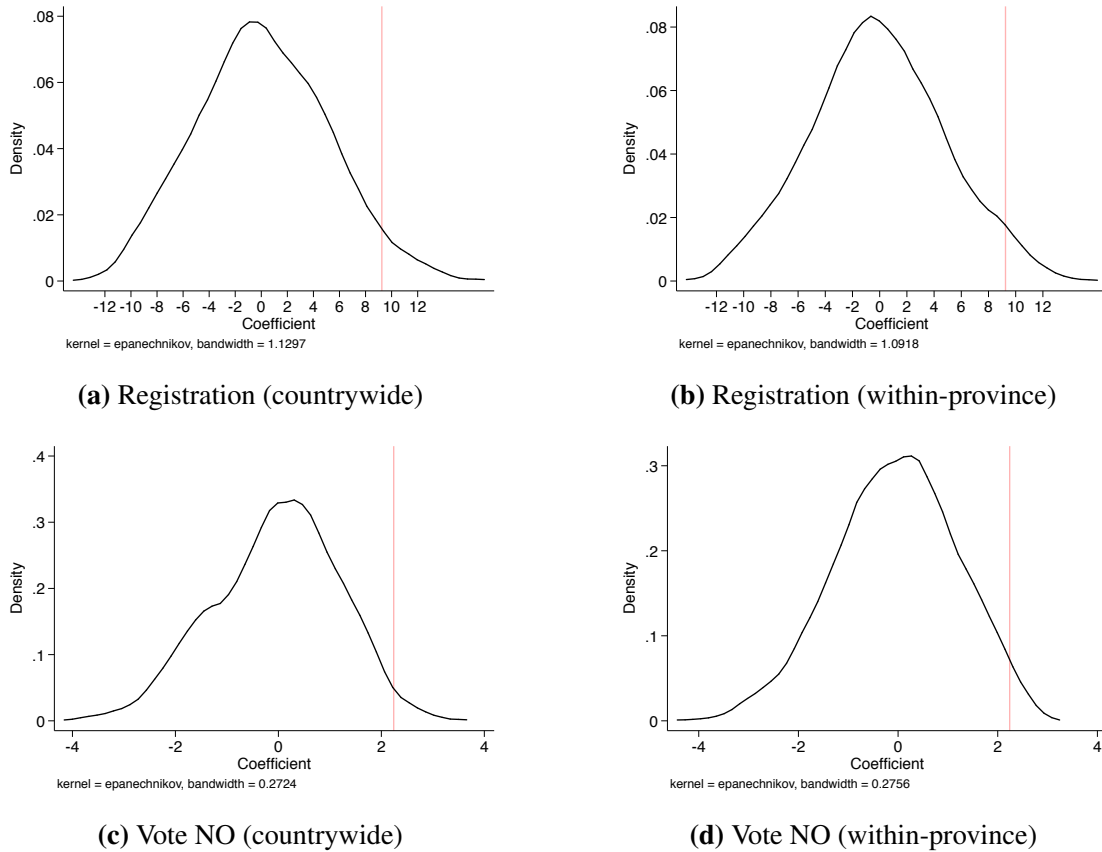


**Figure A2: Robustness of results to exclusion of counties or provinces**



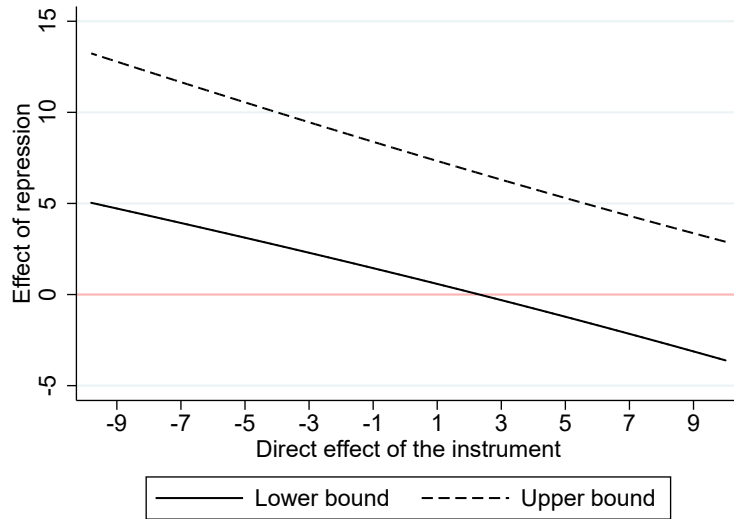
Notes: The y-axis represents the value of the coefficient associated to the dummy for presence of military bases. In panel (a) and (b) the x-axis corresponds to 50 different samples of counties, where we exclude 10% (27) randomly chosen counties each time. In panels (c) and (d) the x-axis corresponds to different samples excluding one province at a time.

**Figure A3: Random assignment of military bases**

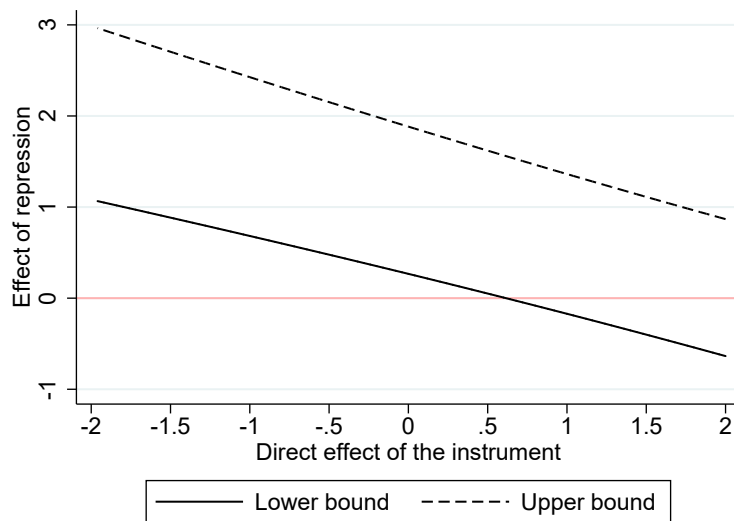


Notes: This figure presents the distribution of point estimates from a series of regressions in which military bases are randomly assigned across counties. The upper panels use registration as dependent variable and the lower panels use the NO vote share. Panels (a) and (c) randomly assign 36 indicators among all counties in the country (countrywide). Panels (b) and (d) randomly assign the original indicator for military bases but within the same original province. We perform each set of randomizations 1,000 times. The red line shows the point estimate from column 1 of Panel C in Table 2.

**Figure A4: Relaxing the exogeneity assumption**



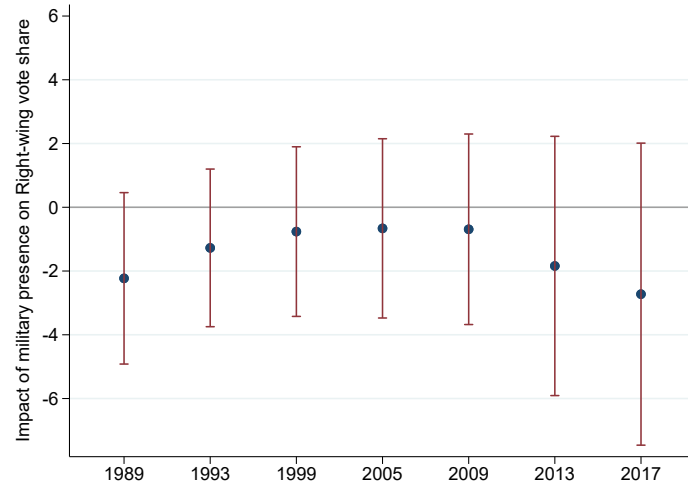
**(a) Registration**



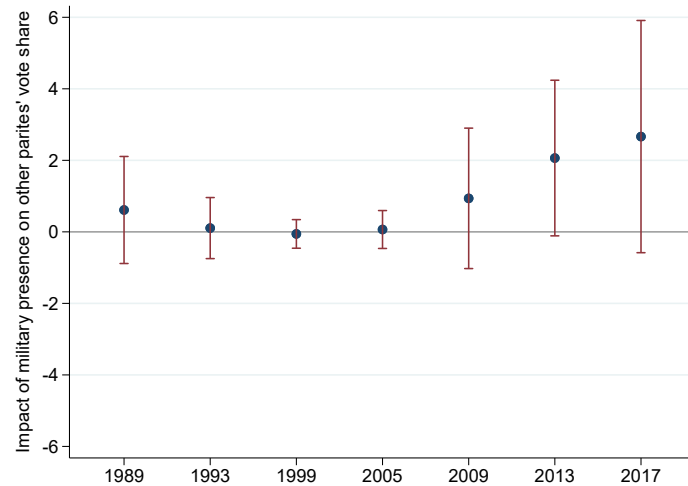
**(b) Vote share NO**

Notes: These figures present results from a bounding exercise in which we allow military bases to affect outcomes directly. The  $x$ -axis measures (theoretical) direct effects of military bases on registration (Panel A) and the NO vote share (Panel B). The  $y$ -axis measures the corresponding effect of repression. Overall, we find that to make the effect of repression non-different from zero we need the direct effect of bases to be 2.3 and 0.6 in panels A and B, equivalent to 25% ( $2.3/9.25$ ) and 28% ( $0.62/2.24$ ) of the reduced form effect. See Conley et al (2012) for details.

**Figure A5:** Military presence and other parties' vote share after 1988



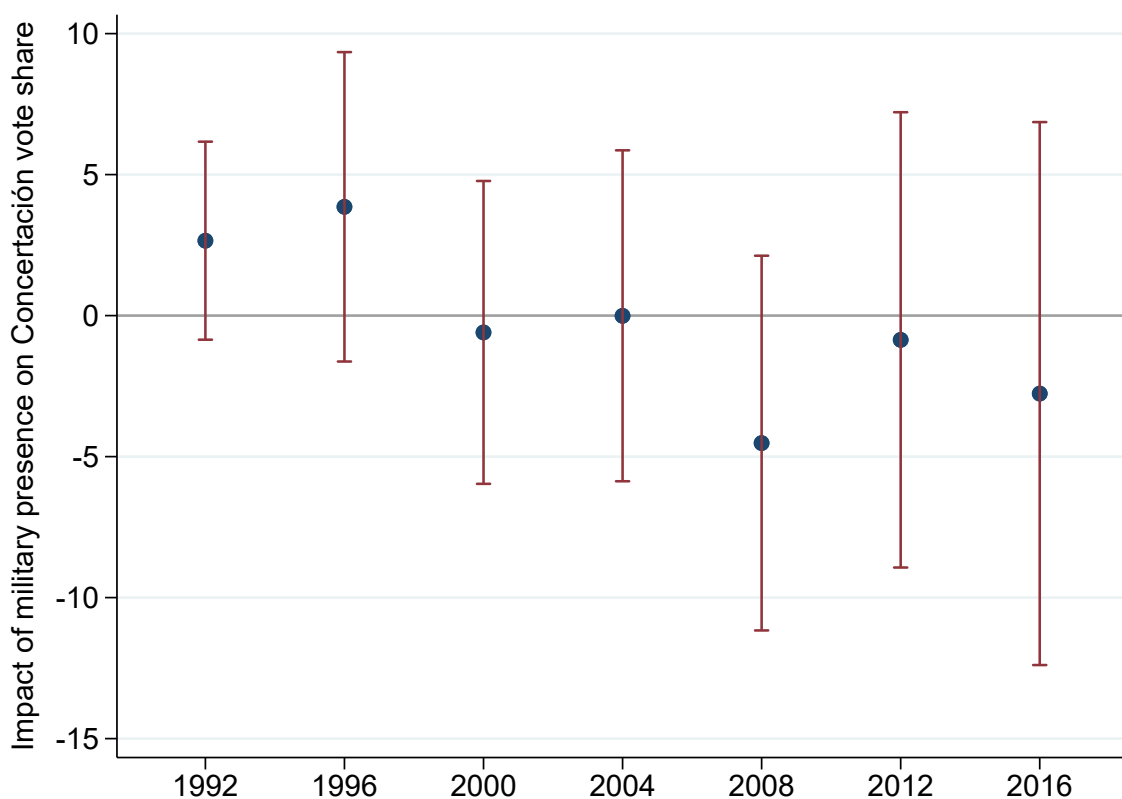
**(a)** Right-wing parties



**(b)** Other parties

Notes: Panels shows point estimates and 95% confidence intervals of the effect of presence of military bases in 1970 on the vote shares of different presidential candidate candidates belonging to the “Concertación” pro-democracy coalition between 1989 and 2017. Each marker corresponds to a separate regression. All regressions control for Allende and Alessandri vote share in 1970, distance to Santiago and to the corresponding regional capital, population in 1970, share of rural population in 1970 and province fixed effects. See online appendix for estimates for other parties.

**Figure A6:** Military presence and “Concertación” vote share in local elections after 1988



Notes: Panel shows point estimates and 95% confidence intervals of the effect of presence of military bases in 1970 on the vote share for candidates belonging to the “Concertación” pro-democracy coalition in local elections between 1992 and 2016. Each marker corresponds to a separate regression. All regressions control for Allende and Alessandri vote share in 1970, distance to Santiago and to the corresponding regional capital, population in 1970, share of rural population in 1970 and province fixed effects. See online appendix for estimates for other parties.

**Table A1: Differences by military presence *before* the dictatorship**

		(1)	(2)	(3)
	Avg without military presence	Without Province FE	With Province FE	Adding controls
<b>Political characteristics</b>				
Vote share Salvador Allende in 1970	37.76 ( 12.13)	-1.73 ( 1.91)	-1.64 ( 2.16)	-
Vote share Jorge Alessandri in 1970	33.42 ( 9.46)	1.97 ( 1.81)	3.03 ( 1.90)	-
Vote share UP municipal election in 1971	51.35 ( 12.48)	-1.36 ( 2.34)	-1.71 ( 2.74)	0.39 ( 1.11)
UP mayor 1971	0.39 ( 0.49)	-0.16 ( 0.10)	-0.13 ( 0.10)	-0.06 ( 0.09)
Vote share UP legislative election 1973	45.64 ( 11.54)	-3.75** ( 1.82)	-3.60 ( 2.27)	-1.29** ( 0.61)
<b>Geographic characteristics</b>				
ln distance to Santiago	4.28 ( 1.98)	1.27*** ( 0.43)	0.16 ( 0.11)	-
ln distance to regional capital	3.13 ( 1.28)	-0.95** ( 0.46)	-1.39*** ( 0.34)	-
Landlocked	0.76 ( 0.43)	-0.25** ( 0.11)	-0.09 ( 0.07)	0.06 ( 0.07)
<b>Demographic characteristics</b>				
Population in 1970	0.96 ( 1.05)	0.18 ( 0.26)	0.44** ( 0.19)	-
Houses per capita in 1970	0.20 ( 0.04)	0.01 ( 0.00)	-0.00 ( 0.00)	-0.01* ( 0.00)
Community organizations 1970	4.91 ( 14.29)	7.13** ( 2.84)	6.29** ( 2.71)	2.44 ( 2.24)
Share with 12 or + of education 1970	0.02 ( 0.03)	0.01 ( 0.01)	0.02** ( 0.01)	0.01 ( 0.01)
Population density 1970	2729.73 ( 4788.76)	-2150.87** ( 1031.00)	-749.58 ( 671.97)	-988.16 ( 648.86)
Share of rural pop 1970	0.32 ( 0.33)	-0.19*** ( 0.05)	-0.24*** ( 0.04)	-0.16*** ( 0.04)
Economically active pop 1970	0.29 ( 0.03)	0.01 ( 0.01)	0.01 ( 0.01)	0.01 ( 0.01)
<b>Policy characteristics</b>				
Agrarian reform until 1973	0.23 ( 0.25)	-0.07 ( 0.05)	-0.02 ( 0.03)	-0.04 ( 0.04)
Exposure to trade liberalization	-0.20 ( 0.18)	0.02 ( 0.06)	0.01 ( 0.02)	-0.01 ( 0.03)

Notes: This table presents the mean and standard deviation (in parentheses) for important county-level variables before the beginning of the Pinochet dictatorship in 1973. All vote shares  $v_{it}$  are measured as percentages, i.e.  $v_{it} \in [0, 100]$ . Columns 1-3 show the coefficient and standard error (in parenthesis) of the projection of each variable on a dummy for military presence. All regressions are weighted by county-level population in 1970. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table A2: Proximity to military bases using distance as an instrument**

	First stage	Reduced form		IV	
	<i>Victims per 10,000 inhab.</i>	<i>Registration</i>	<i>Vote share NO</i>	<i>Registration</i>	<i>Vote share NO</i>
	(1)	(2)	(3)	(4)	(5)
Victims per 10,000 inhab.				4.78** (2.16)	1.27** (0.50)
In distance to military base	-0.62*** (0.14)	-2.98** (1.33)	-0.79** (0.31)		
Counties	276	276	276	276	276
Province fixed effects	x	x	x	x	x
Controls	x	x	x	x	x
R-squared	0.553	0.667	0.825		
Kleibergen-Paap <i>F</i> -statistic	-	-	-	18.92	18.92

Notes: Table replicates the main analysis using In distance to a military base as measure of military presence. Columns (2) and (3) show the corresponding reduced form effects on registration and vote share. Finally, columns (4) and (5) present IV estimates of the effect of repression on registration and “No” vote share. The bottom of the table also presents the strength of the first-stage, measured by the *F*-stat of excluded instruments. All regressions include province fixed effects and the following controls: Allende and Alessandri vote share in 1970, distance to Santiago and to the corresponding regional capital, population in 1970, share of rural population in 1970. All regressions are weighted by county population in 1970. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table A3:** Robustness to different cut-off years for military base construction

	First stage	Reduced form		IV	
	<i>Victims per 10,000 inhab.</i>	<i>Registration</i>	<i>Vote share NO</i>	<i>Registration</i>	<i>Vote share NO</i>
	(1)	(2)	(3)	(4)	(5)
<b>Panel A: pre-1960</b>					
Victims per 10,000 inhab.				3.76* (2.20)	1.05** (0.52)
Indicator military presence	1.97*** (0.43)	7.43 (4.56)	2.07** (1.00)		
R-squared	0.550	0.662	0.823		
<i>F</i> - stat excl. instruments				20.71	20.71
<b>Panel B: pre-1950</b>					
Victims per 10,000 inhab.				4.60** (2.30)	0.99* (0.51)
Indicator military presence	1.96*** (0.43)	9.03** (4.51)	1.94** (0.98)		
R-squared	0.549	0.665	0.823		
<i>F</i> - stat excl. instruments				20.92	20.92
<b>Panel C: pre-1940</b>					
Victims per 10,000 inhab.				5.34* (2.93)	1.54*** (0.59)
Indicator military presence	1.83*** (0.49)	9.76* (5.22)	2.81*** (0.83)		
R-squared	0.530	0.666	0.826		
<i>F</i> - stat excl. instruments				14.15	14.15
Observations	276	276	276	276	276
Province fixed effects	x	x	x	x	x

Notes: This table replicates the main analysis using only military bases constructed before 1960, 1950 and 1940. All regressions are weighted by county-level population in 1970. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .



**Table A4: Robustness of results to different sets of controls**

	First stage	Reduced form		IV	
	<i>Victims per 10,000 inhab.</i>	<i>Registration</i>	<i>Vote share NO</i>	<i>Registration</i>	<i>Vote share NO</i>
	(1)	(2)	(3)	(4)	(5)
<b>Panel A: All controls</b>					
Victims per 10,000 inhab.				4.58** (2.06)	1.51*** (0.44)
Indicator military presence	2.28*** (0.44)	10.45** (4.82)	3.43*** (0.93)		
Kleibergen-Paap <i>F</i> -statistic	27.06			27.06	27.06
R-squared	0.588	0.713	0.848		
<b>Panel B: LASSO controls</b>					
Victims per 10,000 inhab.				4.24** (2.13)	1.20** (0.50)
Indicator military presence	2.05*** (0.41)	8.68* (4.53)	2.45** (0.97)		
Kleibergen-Paap <i>F</i> -statistic	24.84			24.84	24.84
R-squared	0.563	0.664	0.830		
Counties	276	276	276	276	276
Province fixed effects	x	x	x	x	x

Notes: This table checks the robustness of results to the inclusion of controls selected using LASSO. All regressions are weighted by county population in 1970. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table A5: Robustness of results to spatial controls**

	First stage	Reduced form		IV	
	<i>Victims per 10,000 inhab.</i>	<i>Registration</i>	<i>Vote share NO</i>	<i>Registration</i>	<i>Vote share NO</i>
	(1)	(2)	(3)	(4)	(5)
<b>Panel A: Latitude/longitude polynomial</b>					
Victims per 10,000 inhab.				4.47** (2.10)	1.16** (0.52)
Indicator military presence	2.06*** (0.41)	9.21** (4.41)	2.39** (1.05)		
Kleibergen-Paap <i>F</i> -statistic				24.96	24.96
R-squared	0.588	0.669	0.829		
<b>Panel B: Centrality</b>					
Victims per 10,000 inhab.				4.09** (2.01)	0.88* (0.46)
Indicator military presence	2.16*** (0.40)	8.85** (4.49)	1.90* (1.02)		
Kleibergen-Paap <i>F</i> -statistic				28.73	28.73
R-squared	0.572	0.668	0.831		
<b>Panel C: Moran eigenvectors</b>					
Victims per 10,000 inhab.				4.44** (2.08)	1.08** (0.49)
Indicator military presence	2.09*** (0.41)	9.25** (4.38)	2.24** (1.01)		
Kleibergen-Paap <i>F</i> -statistic				26.27	26.27
R-squared	0.565	0.667	0.824		
Counties	276	276	276	276	276
Province fixed effects	x	x	x	x	x

Notes: This table checks the robustness of results to the inclusion of spatial variables that capture a potential effect of the geographic location of counties. Panel A includes second degree polynomials of latitude and longitude, panel B includes the logarithm of the average distance to all other counties, and panel C includes Moran eigenvectors with positive eigenvalues as controls. All regressions are weighted by county population in 1970. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table A6: Robustness of results to exclusion of population weights**

	First stage	Reduced form		IV	
	<i>Victims per 10,000 inhab.</i>	<i>Registration</i>	<i>Vote share NO</i>	<i>Registration</i>	<i>Vote share NO</i>
	(1)	(2)	(3)	(4)	(5)
Victims per 10,000 inhab.				6.33* (3.28)	1.14 (0.76)
Indicator military presence	1.67*** (0.51)	10.56** (4.34)	1.90 (1.29)		
Counties	276	276	276	276	276
Province fixed effects	x	x	x	x	x
Controls	x	x	x	x	x
R-squared	0.356	0.384	0.739		
Kleibergen-Paap <i>F</i> -statistic				10.55	10.55

Notes: This table checks the robustness of results to not using population weights. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table A7: Robustness of results to inclusion of outliers**

	First stage	Reduced form		IV	
	<i>Victims per 10,000 inhab.</i>	<i>Registration</i>	<i>Vote share NO</i>	<i>Registration</i>	<i>Vote share NO</i>
	(1)	(2)	(3)	(4)	(5)
Victims per 10,000 inhab.				5.21*** (1.29)	0.66* (0.36)
Indicator military presence	3.34*** (0.72)	17.43*** (4.82)	2.20** (1.12)		
Counties	289	289	289	289	289
Province fixed effects	x	x	x	x	x
Controls	x	x	x	x	x
R-squared	0.472	0.656	0.825		
Kleibergen-Paap <i>F</i> -statistic				21.47	21.47

Notes: This table checks the robustness of results to inclusion of the 13 counties with abnormally high civilian victimization rates. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table A8:** Robustness of results to victim assignment by county of residence or work

	OLS		IV	
	Registration	<i>Vote share</i> NO	Registration	<i>Vote share</i> NO
	(1)	(2)	(3)	(4)
<b>Panel A: residence county</b>				
Victims per 10,000 inhab.	0.32 (0.99)	0.44** (0.21)	7.73* (4.57)	1.87** (0.90)
R-squared	0.654	0.823		
<i>F</i> - stat excl. instruments			10.67	10.67
<b>Panel B: working county</b>				
Victims per 10,000 inhab.	1.15 (1.07)	0.36 (0.22)	8.91* (4.75)	2.16** (1.07)
R-squared	0.656	0.821		
<i>F</i> - stat excl. instruments			11.89	11.89
Observations	276	276	276	276
Province fixed effects	x	x	x	x
Controls	x	x	x	x

Notes: In panel A, we assign victims to counties depending on their county of residence, while in panel B we replicate the analysis using the county where they worked. Place of residence is missing for 17.1% of victims, while place of work is missing for 41.7%. All regressions are weighted by county-level population in 1970. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table A9:** Validity tests for military presence instrument

	Huber and Mellace (2015)	Kitagawa (2015)
Registration	0.96	0.38
Vote share NO	0.76	0.63

Notes: This table presents the p-values for validity tests based on Huber and Mellace (2015) and Kitagawa (2015). We use a discrete version of our endogenous variable, corresponding to a civilian victimization rate above the 75th percentile, to be able to apply the tests. The null hypothesis in both tests is that the main assumptions behind LATE estimation (unconfoundness, mean exclusion restriction, and monotonicity) hold in the data. For Kitagawa (2015), we use a trimming constant of 0.07, which is the range suggested by the author that reaches higher power. Note that not rejecting the null does not imply that no potential violations could still be in place, even asymptotically. Thus this test should be seen as necessary condition more than a sufficient condition for the instrument validity.

**Table A10: Ideological classification of candidates in presidential elections 1993 – 2017**

Coalition	1993	1999	2005	2009	2013	2017
<b>RIGHT</b>	A. Alessandri J. Piñera	J. Lavín	S. Piñera J. Lavín	S. Piñera	E. Matthei	S. Piñera J.A. Kast
<b>LEFT</b>	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
<b>CONCERTACIÓN</b>	E. Frei	R. Lagos	M. Bachelet	E. Frei	M. Bachelet	A. Guillier C. Goic
<b>FAR-LEFT</b>	E. Pizarro	G. Marín	T. Hirsch	J. Arrate	R. Miranda	E. Artés

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

**Table A11: Ideological classification of coalitions in 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 Cambiamos la Historia Nueva Mayoría P. Reg. Magallanes Poder Eco. y Ciudad. Marco Cambio Norte Verde
CONCERTACIÓN	Concertación	Concertación	Concertación	Concertación	Concert. Dem. Concert. Prog.	Concertación Dem.	Concertación Dem
FAR-LEFT	P. Comunista	La Izquierda	La Izquierda	Juntos Podemos Nueva Alt. Indep. Independientes	Juntos Podemos	Chile Justo	Chile Justo
INDEPENDENT	Independientes	Independientes	Independientes	Independientes	Independientes	Independientes Región. e Indep.	Independientes Reg. e Indep.

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



**Table A12:** Exposure to repression and expressed support for democracy

	Democracy is the best form of government	Satisfied with functioning of democracy	Democracy is preferable to other forms of government	Would never support military government
	(1)	(2)	(3)	(4)
Indicator military base × Indicator exposed to coup	0.030 (0.022)	0.023 (0.018)	-0.007 (0.018)	0.040* (0.023)
Indicator exposed to coup	-0.001 (0.019)	-0.028 (0.018)	0.013 (0.017)	-0.033* (0.019)
Observations	11,870	18,184	18,133	5,286
R-squared	0.102	0.068	0.054	0.094
County fixed effects	x	x	x	x
Survey year fixed effects	x	x	x	x
Mean DV	0.295	0.599	0.591	0.774

Notes: The dependent variable is a binary indicator equal to one for survey responses indicating stronger support for democracy. See Appendix A for details on construction of variables. Indicator exposed to coup equals 1 if respondents birth year is less than or equal to 1963. All regressions include county and survey wave fixed effects and control for gender. Robust standard errors clustered at the county level in parenthesis. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

## Appendix D Characterization of the complier counties

In any instrumental variables design, the sub-population induced to take (or not to take) the treatment because of the variation in the instrument is referred to as the set of “compliers.” In our case, the compliers are the counties that were exposed to different amounts of repression because of their proximity to (or distance from) military bases. Following the technique proposed by Abadie et al. (2002), we can characterize this set of counties. This exercise allows us to evaluate the external validity of our estimates and also provides insights about the variation we are exploiting.

To facilitate the interpretation, we focus on a binary treatment and a binary instrument. Regarding repression, we use a dummy equal to one if the number of victims per 10,000 inhabitants in the county is in the top quartile of the distribution. The average number of victims per 10,000 inhabitants in the top quartile is 4.3. We refer to these counties as experiencing “high” repression. Regarding military bases, we focus on the indicator for presence. We define as “treated compliers” those counties with bases and high repression, while counties without bases and without high repression are called “untreated compliers.” We then estimate the following regression:

$$Y_{i,t} = \mu R_{i,t \in [1973, 1988]} + \tau X_{i,t \leq 1970} + \lambda_p + \varepsilon_{ip} \quad (3)$$

where  $Y_{i,t}$  is a variable we use to characterize compliers and  $R_{i,t \in [1973, 1988]}$  is the indicator for high repression. The parameter  $\mu$  measures the average characteristic among treated compliers. We can replace  $R_{i,t \in [1973, 1988]}$  by  $1 - R_{i,t \in [1973, 1988]}$  to characterize untreated compliers.

Panel A in Table A13 speaks to the external validity of our estimates. Columns 1-3 show that the average characteristics of complier counties are similar to those of the average county, with the exception that compliers voted relatively more for the left-wing candidate in 1970. Thus, our instrumental variables estimates capture the effect of repression on counties with similar wealth and inequality than the average county but with different political preferences. Moreover, the comparison between columns 1 and 2 confirms the *internal* validity of our econometric design because treated and untreated complier counties were similar before 1973.

Panel B studies county characteristics after 1973. The difference between treated and untreated compliers is equivalent to the local average treatment effect. Reassuringly, the “Plebiscite” sub-panel shows that the estimate we obtained when using the “high” repression indicator is similar to what we obtained using the continuous treatment. Moreover, the “Repression year” sub-panel suggests that our first stage is stronger in counties that experienced violence at the beginning of the dictatorship. This result is consistent with historical details provided in online appendix A, where we document how the repressive apparatus changed after 1974, with DINA becoming mostly responsible. Finally, the “Profession” and “Age categories” sub-panels show that victims in complier counties were more likely to have been middle-age laborers or farmers affiliated to a political party.

**Table A13: Characterization of compliers**

	Treated Compliers	Untreated Compliers	Full sample
	(1)	(2)	(3)
<b>A. Pre-1973 characteristics:</b>			
Houses per capita in 1970	0.19	0.22	0.20
Land inequality 1965 (Gini)	0.88	0.79	0.85
Agrarian reform intensity	0.13	0.25	0.20
Vote share Allende 1970	0.47	0.52	0.27
Vote share Alessandri 1970	-0.11	0.34	0.20
<b>B. Post-1973 characteristics:</b>			
Plebiscite:			
Registration	118.83	74.40	71.16
Vote share “No”	58.50	46.09	54.82
Repression year:			
In 1973	0.64	0.22	0.44
In 1974	0.16	0.12	0.11
≥1975	0.23	0.16	0.33
Profession:			
Laborer	0.41	0.10	0.25
Farmer	0.14	-0.03	0.09
Military	0.07	0.05	0.07
Bureaucrat	0.11	0.01	0.07
Student	0.03	0.05	0.10
Affiliated to political party	0.41	0.16	0.39
Age categories:			
∈ [18, 25]	0.37	0.22	0.33
∈ [25, 60]	0.64	0.19	0.50
≥ 60	-0.01	0.06	0.02

Notes: This table presents an empirical characterization of the complier counties. Panel A shows that compliers were relatively similar to the average county in the full sample. Panel B describes counties that experienced repression because of the presence of military bases. See Abadie et al. (2002) for details. The treatment in this exercise is an indicator that takes the value one if the share of victims is in the top quartile of the empirical distribution.

## References

- Abadie, A., Angrist, J., and Imbens, G. (2002). Instrumental Variables Estimates of the Effect of Subsidized Training on the Quantiles of Trainee Earnings. *Econometrica*, 70(1):91–117.
- Barros, R. (2002). *Constitutionalism and Dictatorship: Pinochet, the Junta and the 1980 Constitution*. Cambridge studies in the theory of democracy. New York: Cambridge University Press.
- Boas, T. C. (2015). Voting for Democracy: Campaign Effects in Chile’s Democratic Transition. *Latin American Politics and Society*, 57(2):67–90.
- Cauce (1988). Mito, temores y encuestas. *Cauce Magazine*.
- Cavallo, A., Salazar, M., and Sepúlveda, O. (2011). *La Historia Oculta del Régimen Militar: Memoria de una Época 1973–1988*. Uqbar editores.
- Comisión Rettig (1996). *Informe de la Comisión Nacional de Verdad y Reconciliación*. Chile: Ministerio del Interior, Corporación Nacional de Reparación y Reconciliación.
- Constable, P. and Valenzuela, A. (1991). *A Nation of Enemies: Chile Under Pinochet*. W.W. Norton & Co, New York.
- Corporación Villa Grimaldi (2018). Website of Corporación Parque por la Paz Villa Grimaldi: Historia - Cuartel Terranova. <http://villagrimaldi.cl/historia/cuartel-terranova/>. [Accessed on 09/10/2018].
- Cuesta, J. I., Díaz, J., Gallego, F. A., González, F., and Marshall, G. (2017). La reforma agraria Chilena: Hechos estilizados a la luz de una nueva base de datos. *Estudios Públicos*, 146:7–48.
- Fuentes, C. (2013). *El Fraude*. Santiago: Hueders.
- González, F. and Prem, M. (2018). Can Television Bring Down a Dictator? Evidence from Chile’s ‘No’ Campaign. *Journal of Comparative Economics*, 46(1):349–361.
- Huber, M. and Mellace, G. (2015). Testing Instrument Validity for LATE Identification Based on Inequality Moment Constraints. *Review of Economics and Statistics*, 97(2):398–411.
- Kitagawa, T. (2015). A Test for Instrument Validity. *Econometrica*, 83(5):2043–2063.
- Kling, J. R., Liebman, J. B., and Katz, L. F. (2007). Experimental Analysis of Neighborhood Effects. *Econometrica*, 75(1):83–119.
- Kunstman, W. and Torres, V., editors (2008). *Cien Voces Rompen el Silencio: Testimonios de Ex-Presos Políticos de la Dictadura Militar en Chile (1973-1990)*. Santiago: Dirección de Bibliotecas, Archivos y Museos, Centro de investigaciones Diego Barros Arana.
- Méndez, R., Godoy, O., Barros, E., and Fontaine, A. (1988). ¿Por qué ganó el no? *Centro de Estudios Públicos*.
- Orellana, P. (2015). *La Represión en Chile: 1973-1989*. Editorial Senda.
- Rector, J. (2003). *The History of Chile*. Palgrave MacMillan.