Losing Your Dictator: Firms During Political Transition*

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Abstract We use new firm-level data from Chile to document resource misallocation in favor of politically connected firms during the transition from dictatorship to democracy. We find that firms with links to the Pinochet regime (1973–1990) were relatively unproductive and benefited from resource misallocation during the dictatorship, and those distortions persisted into democracy. We show that, after learning that the dictatorship was going to end, firms in the dictator's network increased their productive capacity, experienced higher profits, and obtained more loans from the state-owned bank. We test for different explanations and provide suggestive evidence consistent with connected firms aiming to shield their market position for the transition to democracy.

Keywords transition, distortions, firms, networks

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1 Introduction

Political transitions are associated with significant economic changes (Acemoglu et al., 2019), but little is known about the persistence of resource misallocation across regimes and the role firms play during these times.[1] Distortions in the allocation of resources across firms are an important source of inefficiency (Hsieh and Klenow, 2009) and links between firms and the state are at the heart of it.[2] Anticipation that said distortions will disappear if there is a regime change could lead politically connected firms to "prepare." If distortions exist and some firms successfully prepare, they would be transferring inefficiencies across political regimes, possibly limiting the benefits of democratization and the market changes it creates. However, observing firms during transition and across political regimes has been difficult.

We collect new firm-level data from Chile to document resource misallocation in favor of politically connected firms during the transition from dictatorship to democracy.[3] We find that firms connected to the Pinochet dictatorship (1973–1990) were relatively unproductive and benefited from resource misallocation when compared to unconnected firms in the same industries, and these distortions persisted into democracy. We then show that after learning the dictatorship was going to end, firms in Pinochet's network increased their productive capacity, experienced higher profits, and obtained more loans from the state-owned bank. In the effort to explain this observed firm behavior during political transition, we test for different potential mechanisms – including the role of uncertainty and financial frictions – and provide suggestive evidence consistent with connected firms aiming to shield their market position for the future democracy.

Chile's transition to democracy provides an opportunity to measure and study the interactions between a dictatorship and firms. Vast amounts of (previously unexploited) information exist about firms operating during and after the dictatorship led by Augusto Pinochet (1973–1990). The existence of records of people who worked for Pinochet assures that these interactions are measurable. In addition, the timing of this transition provides an opportunity to measure firm behavior after a democratization announcement but before the new democratic government takes office, a period in which firms can reoptimize their decisions for the new

[1] There have been four transitions to democracy per year in the last 25 years (Figure A.1). A large literature studies the effects of political regimes on economic variables. See Acemoglu et al. (2019) for a recent discussion.

[2] A large body of work shows that firms benefit from having connections to the state (e.g. Fisman 2001; Khwaja and Mian 2005; Faccio et al. 2006; Jayachandran 2006; Mobarak and Purbasari 2006; Claessens et al. 2008; Cingano and Pinotti 2013; Colonnelli and Prem 2017).

[3] We call "transition" to the period when it was known the dictator was leaving but he was still in power, and "democracy" to the period when the democratic government is in power. The former has been called "lame duck" (Dell, 2015) or "interim" period, and the latter is an "incomplete democracy" (Linz and Stepan, 1996).

environment. After fifteen years in power, Augusto Pinochet called for a referendum in 1988, in which he would run to transform his autocratic regime into a democratic one for the next eight years. Contrary to everyone's expectations, Pinochet not only lost the referendum, but also acknowledged his defeat. This event, known as the "1988 plebiscite," marked the beginning of Chile's transition to democracy. Perhaps surprisingly, Treisman (2017) shows this type of democratization is common. We take advantage of this situation to study connected and unconnected firms in dictatorship, transition, and democracy.

Our econometric analysis uses data for 118 firms that were mandated to submit annual reports to a regulatory agency. By law, firms listed in the stock market – or those with more than five-hundred shareholders – had to send reports describing their yearly business activities. We digitized these documents for all years between 1985 and 1994. We chose this period because since 1985 firms had to report the exact same activities. To be in our data, a firm needed to have reports in both the dictatorship and democracy. The reports allow us to observe assets and their subcategories, debt and its subcategories, profits, firm-bank relationships, and the identity of board members. To detect firms with links to the regime, we look for board members who worked for Pinochet before 1988, a process that results in the identification of firms with direct or indirect links to the regime, a novelty in our empirical approach. We refer to firms with direct or indirect links as connected or as being in the dictator's network of firms.

We study firm behavior using a differences-in-differences framework with three periods (i.e. dictatorship, transition, democracy) and three types of firms (i.e. directly connected, indirectly connected, unconnected). Our strategy flexibly controls for the probability that firms had a link to Pinochet and for unobservable industry shocks by period. Because firms with connections to Pinochet were larger and more likely to have been privatized, a differences-in-differences strategy is subject to the threat of cross-sectional variables interacting with year shocks. To deal with this concern, we estimate the probability of firms having links to the dictatorship and include an interaction between this probability with period fixed effects. Then we follow Hornbeck and Naidu (2014) and show that after adding this control differences in observables between connected and unconnected firms are smaller and not statistically significant, and we cannot reject the existence of parallel trends across firms before the plebiscite. However, given the differences across firms in the dictatorship period, and the limited number of variables available in the reports for us to estimate the probability of having links in the best possible manner, the results should be interpreted as causal with caution.

The first part of our analysis shows that when financial investors learned that the dictatorship was going to come to an end – i.e. after the 1988 plebiscite – connected firms experienced a significant decrease in their stock market value. However, we also show that connected firms

benefited from resource misallocation in dictatorship and these benefits persisted into democracy. To study changes in firm value we collected daily stock prices for firms in our data. We document that firms with direct *or* indirect links to Pinochet suffered a substantial decrease in their stock value in the days following the plebiscite. Although changes in stock prices of connected firms after political events have been documented before, the patterns for firms with *indirect* links are novel and suggest the existence of more complex political networks. To study resource misallocation we construct measures of productivity and the capital and output wedges proposed by Hsieh and Klenow (2009). Our results reveal that in the dictatorship firms with direct and indirect connections were less productive and their capital was distorted when compared to unconnected firms. Using our empirical strategy we show that this resource misallocation persisted into democracy.

The second part shows that during political transition – when it was known the dictatorship would end – firms with direct links to Pinochet increased their productive capacity by 0.40 standard deviations (σ) and enjoyed 0.20-0.30 σ higher profits, with no significant changes in the number of workers employed. Additionally, firms with direct links obtained substantially more loans from state-owned banks in this period, with some evidence of debt substitution from private banks. This result is consistent with anecdotal evidence pointing to the main state bank as important for firms connected to Pinochet (Leon-Dermota, 2003). Importantly, these results control for any effects the transition might have had across industries and are robust to a wide range of exercises, including: (i) a placebo that exploits the attempted murder of Pinochet during his dictatorship, and (ii) elections during democracy. However, the behavior of connected firms might still be explained by unobserved characteristics that were related to connections and unrelated to the variables included in the estimated probability of having links.

The last part of our paper attempts to explain the persistence of distortions using firm behavior during transition as a mechanism. We provide suggestive evidence that firms used their preferential relationship with state-owned banks to obtain credit and make investments to shield their market position for democracy. To arrive at this conclusion we test four different mechanisms that can potentially explain the higher investment, profits, and debt from the state-owned bank. First, we propose a theoretical framework in which firms with different types of connections decide to invest in presence of: (i) credit distortions, and (ii) the threat of entry in democracy. We test and confirm primary and auxiliary predictions from this model. Second, we use Baker et al. (2016) text analysis framework to construct firm-level measures of uncertainty and find a limited role for economic uncertainty. Third, we find that a supply side explanation in which banks provide more credit to large firms (Beck et al., 2005) is inconsistent with the data. Finally, we show that strategic link formation and wealth extraction are also unlikely to be mechanisms behind our results. We conclude that the evidence is most consistent with a strate-

gic behavior of firms aiming to shield their market position for the democracy period. However, we are unable to test other mechanisms that could also be at play.

Several papers have shown that a threat of entry can induce incumbent firms to change their behavior (Golsbee and Syverson, 2008; Cookson, 2018). However, the existence of a period for firms to adapt to the new environment is key. In a closely related study, Kochanova et al. (2018) show that the market share of firms connected to Suharto in Indonesia decreased in the post Suharto era, a finding consistent with more competition from unconnected firms. The main difference with Chile's transition is that the fall of Suharto was relatively more abrupt, leaving firms with less time to prepare for the next political period.

Our work is related to the literature studying resource misallocation in dictatorship and the legacies of non-democracies. Although empirical work documenting distortions associated with political connections is vast, only a few articles study resource misallocation in authoritarian regimes (e.g. Mobarak and Purbasari 2006). The empirical literature documenting short-term persistence of economic and political distortions across regimes is a relatively new area of research and has focused mostly on local politicians. For example, Martínez Bravo (2014) shows that appointed officials who remained in power after Indonesia's transition to democracy are associated with significant economic and political distortions. In the same context, Martínez Bravo et al. (2017) show that mayors who remained in power experienced worse governance outcomes, highlighting the costs associated with slow transitions. We contribute to this literature by examining the persistence of resource misallocation across firms, thus suggesting a new dimension of inefficiency arising from slow transitions.

This paper also contributes to the empirical literature studying the economic effects of political transitions. Estimates of the effect of democracy on economic growth go back to at least the beginning of the 1990s and have been the focus of contentious debates. Acemoglu et al. (2019) provide the most recent empirical analysis and show significant positive effects of democratizations on economic growth in the long run.[4] Our results suggest that the short-run effects of democratizations may be at least partially explained by a transfer of distortions from non-democratic times. In this sense, we interpret the persistence of distortions as a potential constraint to the effects of democratizations. Finally, our results also speak to a theoretical literature studying the persistence of economic power across political regimes (e.g. Acemoglu 2008, Acemoglu and Robinson 2008).

[4]See also Barro (1996), Tavares and Wacziarg (2001), Rodrik and Wacziarg (2005), Persson and Tabellini (2006), Papaioannou and Siourounis (2008), Murtin and Wacziarg (2014) among many others.

2 Chile's transition to democracy

The dictatorship led by General Augusto Pinochet in Chile began after a coup d'état against democratically elected socialist Salvador Allende on September 1973. Following the coup, Pinochet was part of a military *junta* that ruled the country until June 1974. After consolidating his power in the *junta*, Pinochet ruled the country for the next seventeen years. We can divide the Pinochet dictatorship in three periods: installation and repression (1973-75), implementation of radical economic policies (1976-82), and implementation of pragmatic policies (1983-89). Our analysis focuses on the period 1985-1994. Figure 1 presents a timeline of events and Figure A.2 presents macroeconomic indicators for this period. Throughout the text we will refer to the period from September 1973 to October 1988 as dictatorship, the period between October 1988 and March 1990 as transition – because it was known Pinochet would leave – and the period from March 1990 onwards as democracy.

2.1 Firms and the Pinochet regime

We now briefly discuss the history of the relations between firms and the Pinochet regime. Although empirical work studying the practices of firms during this period is limited, historical work documenting the relationship between firms and the regime is abundant. Relying on this research we argue that firm/state relations in the 1980s (our period of study) had their origins in: (1) the preexisting links between advisors to the regime and the business world, and (2) the privatization program implemented in the 1970s and 1980s.

After the 1973 coup, the right-wing coalition saw an opportunity to implement their economic program and persuaded the regime to follow market-based policies and to change the institutional framework (Cavallo et al., 2011). The regime was advised by two groups of individuals. The former group was composed by technocrats trained as economists at the University of Chicago – popularly known as the "Chicago Boys" – who had developed an economic program for the right-wing candidate in the 1970 presidential election. The majority of these economists studied business at leading universities in Chile and had close connections to the business world (Silva, 1996). The latter group of advisors was in charge of designing and implementing the legal framework that was to be used by the regime (Huneeus, 2000). The majority of these advisors were formally or informally associated with the right-wing coalition and also had close links to the business world.

In addition to the links between advisors and the business world, individuals who worked for the regime acquired control of firms in the context of a privatization program, probably

one of Pinochet's most controversial policies. Individuals close to Pinochet started working as board members for firms that were privatized by the regime. Perhaps the most famous case is Pinochet's former son-in-law, Julio Ponce Lerou, who worked for the regime and became a board member of the Chemical and Mining Society of Chile during its privatization process. Ponce Lerou represents one of the links between firms and the regime in our empirical analysis.[5]

2.2 Democratization by election

Pinochet called for elections in 1988 in which he would run as the only candidate; this Yes/No election known as the "1988 plebiscite" took place on October 5*th*. Pinochet's goal was to internationally validate his regime and become president of Chile for the period 1988–1996. However, he did not accomplish his goal. In an election in which more than 90% of the voting-age population registered to vote, 56% voted against Pinochet. Then, in December of 1989, a presidential election with candidates from all parties took place, an election in which Pinochet could not run. As expected, the opposition won, and the new democratically elected president Patricio Aylwin took office in March of 1990. Between the plebiscite and the arrival of the new government, seventeen months transpired in which firms could have been preparing for the new economic environment. According to Treisman (2017), Chile's democratization by election is a relatively common type of transition.

Pinochet's defeat at the plebiscite was unexpected for several reasons. First, there was no legal institution in charge of regulating the election. Second, previous surveys did not give a clear prediction (Cauce, 1988). Third, most people believed that Pinochet was not going to acknowledge a negative result.[6] And fourth, on election day, most preliminary results showed that Pinochet was winning, and the opposition's victory was only recognized on the next day at around 2 a.m. (Méndez et al., 1988). In addition to this historical evidence, Section 5.1 provides empirical evidence for the unexpectedness of the plebiscite's outcome by analyzing stock market returns for firms with and without links to Pinochet.

[5]Importantly, not all privatized firms were linked to Pinochet and not all firms linked to Pinochet were privatized. Thus, we can account for the effect of privatizations and differentiate it from the effect of links to Pinochet.

[6]According to declassified documents posted by the U.S. National Security Archive, Pinochet stated, "I'm not leaving power, no matter what." Different political forces (including the navy) pushed him to finally accept the result (Huneeus, 2006).

2.3 The credit market

Three state-owned banks operated during our period of analysis: the Bank of the State, the Central Bank, and the Production Development Corporation. The Bank of the State granted 85 percent of loans from state-owned banks in 1986 and 1987. Executives at these banks were directly appointed by Pinochet and were in charge of the review and approval of loan petitions (Law No. 2079, enacted in 1978).

The President of the Bank of the State during the transition period was Alvaro Bardón, the former President of the Central Bank (1977–81), Undersecretary of Finance (1982), and a member of the Chicago Boys. Bardón was appointed president one month after the plebiscite (November 7, 1988) and remained in this position until the last week of the regime. In contrast, the other two banks had the same leader in the months surrounding the plebiscite.

Bardón's appointment has been the focus of controversy due to the bank's financial operations during the transition. The controversy lies in the privatization of *El Mercurio* and *La Tercera* (the two largest newspapers), both bankrupted by the time of the transition. These newspapers were bailed out after the 1982 financial crisis and, as a consequence, were heavily indebted to the Bank of the State. These debts meant that the opposition party could have owned a significant part of the written media after taking office in 1990. To prevent this scenario, Bardón used debt swaps to transfer the ownership of the newspapers to firms with links to Pinochet. These financial operations were implemented between November 1989 and March 1990 and, because of significant underpricing, cost the Bank of the State approximately 26 million USD (Leon-Dermota, 2003).[7]

This "newspapers case" exemplifies how the Pinochet regime used state-owned banks to gain an advantage during political transition. Leon-Dermota (2003, p. 143) puts it succinctly: "The connection between *El Mercurio* and the military regime facilitated access to credit that was used to invest and gain an advantage over competitors."

[7]Price Waterhouse was in charge of estimating this value. Bardón and his team were investigated for state fraud in 1991. In a controversial ruling, the Supreme Court decided to exonerate them. Leon-Dermota (2003) argues that this exoneration is an example of Pinochet's power in the new democratic era.

3 Data construction

3.1 Sample selection

We constructed a panel dataset of firms that were required to report firm-level information to the *Superintendencia de Valores y Seguros*, a regulatory agency in Chile equivalent to the Securities and Exchange Commission in the U.S. The universe of companies that report data are: (i) firms listed in the stock market, and (ii) firms with more than five hundred shareholders. Firms report information in two ways, balance sheets and annual reports. Balance sheets have been digitized by the agency and contain quarterly information on earnings, physical capital, debt, and equity. Annual reports are kept in physical files at the agency and contained more firm-level information. Since 1985 the information reported was standardized, so we observe the same variables for all firms. From these reports, we collected outstanding borrowing from banks, bond and equity issuance, number of workers, year of foundation, and information about exports. We converted all variables to 1998 Chilean pesos using the consumer price index of the Central Bank of Chile. Table A.1 presents a summary of the data.

The selection of firms in our final sample results from three steps. First, we use the universe of balance sheets and firms' unique identifiers to construct an unbalanced panel of approximately 180 firms observed between 1985 and 1994. We chose those so we could compare across the three periods. Second, because we needed to digitize annual reports, we decided to work with a balanced panel, which decreased our sample to 118 firms. Third, in several trips to the agency we collected all reports we could find in their archives. Unfortunately, some reports were lost, and we could only construct an *unbalanced* panel of firm-level variables due to this. Therefore, when studying outcomes from balance sheets our sample consists of a balanced panel of 118 firms and when studying outcomes from the reports our sample consists of an unbalanced panel of approximately 99 firms.

3.2 Construction of variables and the network of firms

Outcome variables We use firm-level outcome variables from balance sheets and annual reports. From balance sheets, we use investment in physical capital and profits. We define investment in physical capital similarly to Banerjee and Duflo (2014): logarithmic change in land, machinery, and buildings. Profits are defined as earnings before interest, taxes, and depreciation. From annual reports, we use the total number of workers, productivity, outstanding debt to private and state banks separately, and two misallocation measures. We calculate productivity as "revenue productivity" using the Olley and Pakes (1996) procedure, although results

are robust to using a simpler Solow residual. Outstanding debt with private and state banks is measured in billions of Chilean pesos, and we use it to construct indicators for having debt with public and private banks separately. To handle outliers, we winsorized all variables at 2.5 percent of the empirical distribution. The last outcome variables from annual reports are two misallocation measures, capital and output wedges, which we constructed using the Hsieh and Klenow (2009) methodology, specifically their equations (17) and (18).

Auxiliary variables In addition, we constructed an indicator for exporting firms, an indicator for firms privatized by Pinochet, and existing business groups in 1987. The regime privatized 40 firms in our sample, and 32 firms were part of nine different business groups. We identified privatized firms using data from a commission in charge of investigating privatizations and business groups using the official document *Circular N. 766* produced by the stock market regulatory agency. To classify firms into industries we followed the two-digit definition of United Nations (2008). Finally, to study mechanisms we followed Baker et al. (2016) and constructed firm-by-year measures of uncertainty using text analysis of letters written for the shareholders, available in annual reports (more details in section 7.2).

Network of firms We constructed the network of firms with links to Pinochet using the name of board members in 1987, digitized by the regulatory agency. In particular, we performed a Google search of all board members from the universe of firms with balance sheets. We considered all firms instead of our balanced panel of 118 firms to avoid missing indirect links to Pinochet. Board information was complete for all firms. We classified a board member as linked to the regime if he worked for Pinochet before 1987 or was a member of Pinochet's close family. We found that approximately 10 percent of board positions were connected. We say a firm had a link to the regime if at least one board member worked for Pinochet.[8] Besides *direct* (first degree) links, we say a firm had an *indirect* (second degree) link to the regime if none of its directors worked for Pinochet but at least one worked for a firm with a link to him. Several papers have shown that these "interlocking directors" affect firm outcomes through an information mechanism (e.g., Fracassi 2016). Overall, in our sample of 118 firms we found that 43 firms had a *direct* link to Pinochet, 33 firms had an *indirect* link, and 42 were unconnected. Figure 1 presents this network of firms graphically.[9]

[8]Others have classified political connections similarly (e.g., Fisman 2001, Bertrand et al. 2007, Acemoglu et al. 2016). We present details about links in Appendix B. Measurement error is unlikely to be relevant because firms had on average 10 board members and most connected firms had multiple connections. Hence, to code a connected firm as unconnected we would have to miss several connections simultaneously.

[9]The distinction between direct and indirect links is novel but it does *not* drive our results. Unfortunately, our relative small sample prevents us from studying 3rd degree connections and beyond. Table A.2 presents an example of a firm with a direct link and Table A.3 presents the number of firms per link type and industry.

3.3 Descriptive statistics

Table 1 presents descriptive statistics in the dictatorship period by type of link. For completion Table A.4 presents descriptive statistics for the transition and democracy periods. We present the average and the standard deviation of all variables from balance sheets (118 firms) and annual reports (99 firms) in the period 1985-1987. To calculate statistical differences across firms, we estimate a cross-sectional regression using an outcome as dependent variable and indicators for direct and indirect links in the right-hand side. We present coefficients and standard errors for differences in the last two columns in this table.

Overall, firms linked to the dictatorship were larger and older, and were more likely to have been exporters, privatized by the regime, and part of a business group. These firms were also less productive and accrued more debt from banks. Differences between firms with direct and indirect links are similar but smaller. In addition, the two misallocation wedges reveal that connected firms benefited from cheaper access to credit and higher subsidies. These differences tend to be larger for firms with direct links and are similar when we use within-industry comparisons (unreported). In sum, Table 1 reveals the absence of quasi-random variation of connections across firms and therefore we develop an empirical strategy that controls for the probability of having links.

4 Empirical strategy

Because firms were not randomly linked to the regime, we estimate a differences-in-differences model that controls for the probability of having a connection to Pinochet. In addition, to control for potential changes in expectations, economic and political stability, and movements in commodity prices that might affect firms we include fixed effects by industry over time. The estimation distinguishes between three periods and three firm types. The baseline regression is:

$$Y_{ijkt} = \beta_T(P_i \cdot T_t) + \gamma_T(p_i \cdot T_t) + \psi_{kt} + \xi_i + \varepsilon_{ijkt} \quad (1)$$

where Y_{ijkt} is the outcome of firm i – part of business group j and operating in industry k – in period t. The indicators P_i and p_i are indicators for firms with (respectively) direct or indirect links in 1987, which are mutually exclusive categories. The vector T_t contains indicators for the transition and the democracy periods, with dictatorship as the omitted category. The vectors of parameters $\beta_T = (\beta_{tran} \quad \beta_{dem})'$ and $\gamma_T = (\gamma_{tran} \quad \gamma_{dem})'$ contain the coefficients of interest, with β_{tran} and γ_{tran} capturing differences during political transition. The vector ψ_{kt} captures industry unobservable shocks in the transition and democracy periods separately, and ξ_i represent firm

fixed effects.[10] Finally, ε_{ijkt} is an error term clustered at the business group level.[11]

4.1 Controlling for the probability of having links to the regime

Our empirical strategy controls for the probability of being connected to the regime (Dehejia and Wahba, 2002). This control is important because, as we will show, it leads to balance in observables and we cannot statistically reject the existence of parallel trends across groups of firms before the announcement of the transition to democracy. We proceed in two steps. In the first step, we estimate the probabilities of a firm having a link using a rich set of observable variables measured during the dictatorship period. In particular, we estimate:

$$\Pr(L_i^D = 1) = \Phi(x_i'\pi_D) \quad (2)$$

$$\Pr(L_i^I = 1) = \Phi(x_i'\pi_I) \quad (3)$$

where L_i^D and L_i^I are indicators for firms with direct and indirect links, x_i is a vector of variables in the dictatorship period, and (π_D, π_I) is a vector of parameters we estimate. We estimate equation (2) omitting firms with indirect links and equation (3) omitting firms with direct links. In our main specification the vector x_i includes the logarithm of assets, an indicator for firms privatized by Pinochet, an indicator for firms that were part of a business group, an indicator for exporting firms, leverage, firm age in 1987, productivity, and the two misallocation wedges. When we study differences in productivity and misallocation in dictatorship, however, we omit the latter three variables. Table 2 presents marginal effects for the two probit estimations.

In the second step of the empirical strategy, we use previous probit estimates to construct the predicted probabilities of being linked to the regime, i.e. $\widehat{L_i^D}$ and $\widehat{L_i^I}$. Then we collapsed these probabilities into a single variable $\widehat{L_i}$ and include it in the baseline regression interacted by time indicators for the transition and the democracy periods as control variables:

$$Y_{ijkt} = \beta_T(P_i \cdot T_t) + \gamma_T(p_i \cdot T_t) + \delta_T(\widehat{L_i} \cdot T_t) + \psi_{kt} + \xi_i + \varepsilon_{ijkt} \quad (4)$$

where all variables are defined as in equation (1), and we now include a control that captures how the probability of firms being connected affects firm-level outcomes in the transition and democracy periods. We use equation (4) as our main specification but we also present estimates

[10] One might worry that firms in the energy sector anticipated increased demand after the plebiscite and decided to increase their productive capacity accordingly. Including industry-period fixed effects addresses this type of concern.

[11] Any firm that is not part of a business group is assumed to be a business group on its own. There are 104 clusters in our dataset.

of equation (1) as benchmark. Therefore, our identification assumption is that, after controlling for the probability of a firm having links to the regime and in the absence of the transition, firms with and without links would have evolved similarly in the period 1989–1994. We now present evidence that suggests the identification assumption is likely to hold, and thus our empirical strategy is a valid approach. In addition, when analyzing the robustness of results we also allow for small deviations from the parallel trends assumption and calculate bounds for our estimates.

4.2 Validity of the empirical strategy

Observable differences across connected and unconnected firms in Table 1 disappear after we control for the probability of having links. Moreover, we present statistical evidence for the existence of parallel trends between firms with and without links before the transition to democracy. Taken together, we argue that these empirical patterns constitute evidence supporting our empirical strategy.

We begin by showing that firms with and without links appear to be similar. To test for balance in outcomes before the transition to democracy, we compare averages of our main variables across connected and unconnected firms using the following regression:

$$\overline{Y}_{i,DICT} = \alpha + \beta P_i + \gamma \widehat{L}_i + \epsilon_i \tag{5}$$

where β tests for differences in averages outcomes in dictatorship, i.e. if firms are similar then $\widehat{\beta} \approx 0$. We estimate equation (5) for firms with direct and indirect links separately. In a similar way, we follow Hornbeck and Naidu (2014) and test for the existence of parallel trends across types of firms during the dictatorship period using the following regression:

$$Y_{i,1987} - Y_{i,1986} = \alpha + \beta P_i + \gamma \widehat{L}_i + \epsilon_i \tag{6}$$

where β tests for differential trends across connected and unconnected groups before the transition. We estimate equation (6) again separately for firms with direct and indirect links. If they exhibit parallel trends, then $\widehat{\beta} \approx 0$. This strategy to test for pre-trends is particularly useful when there are only a few periods available before the treatment.

Table 3 shows that the empirical strategy delivers balance and parallel trends in key outcome variables before the transition to democracy. The upper panel studies outcomes from balance sheets and the lower panel outcomes from annual reports. We do not observe statistically significant differences in levels (columns 1 and 2) or changes (columns 3 and 4). There are also only a few economically meaningful differences and we observe no clear patterns in the sign

of these estimated coefficients. However, we acknowledge that we cannot completely rule out the presence of unobservable firm-level variables related to connections and interacting with the announcement of the transition. Therefore we also perform a battery of robustness checks to evaluate a potential violation of the assumption behind our empirical strategy.

5 Democratization and persistent distortions

This section presents two pieces of evidence that motivate our analysis of firms during political transition. First, we collect daily stock prices for our sample of firms to show that movements in the stock market reveal that Chile's democratization by election was largely unexpected. Second, we show that there is a robust negative relationship among political connections, productivity, and misallocation measures – which we call "distortions" – in dictatorship and that these distortions persisted after democratization.

5.1 An unexpected democratization

The stock market reflects the knowledge of financial investors about current and future events and therefore it can provide valuable information about the contemporaneous perception of events. To estimate the effect of the plebiscite on the stock market we combine our network analysis with daily stock market prices we hand-collected from the contemporary newspaper *El Mercurio*, publicly available at Chile's National Library.[12] To account for unobserved variables affecting stock returns across firms we utilize "abnormal returns," i.e. the difference between actual returns and expected (business as usual) returns (Campbell et al., 1997). We measure abnormal returns by restricting attention to firms that were traded for at least four months before October 1988, reducing our data to 80 firms.

We present results graphically. Figure 2 reveals a significant drop in abnormal returns of firms linked to the Pinochet regime. This drop corresponds to a decrease of three standard deviations and is similar for firms with direct (first degree) and indirect (second degree) links. We confirmed that this drop in stock returns was unique to the plebiscite by studying abnormal returns around other important political events (Figure A.3). We interpret these patterns in the stock market as evidence that the outcome of the plebiscite was unexpected and as validation of

[12]Girardi and Bowles (2018) use the same data to estimate the effect of Allende's election in 1970 and Pinochet's coup in 1973 on the Santiago stock market. In terms of magnitude, the "NO" victory in the 1988 plebiscite is one of the largest drops in the history of the Santiago stock market.

our identification of the network of firms.[13] These findings serve as motivation to study firms during this political transition.

5.2 Persistent distortions

We begin by showing that politically connected firms were associated with significant economic distortions in the dictatorship. We then show that these distortions persisted after democratization. To examine the relationship between political connections and firm-level distortions in the dictatorship, we estimate the following regression:

$$Y_{ikt} = \beta P_i + \gamma p_i + \delta \widehat{L}_i + \psi_k + \lambda_t + \epsilon_{ikt} \tag{7}$$

where Y_{ikt} is one of three dependent variables: productivity, capital misallocation, or output misallocation in firm i in year t, with $t = 1985, 1986, 1987$. Note that we include industry fixed effects in order to compare firms operating in the same industry. Finally, when estimating equation (7) we exclude the dependent variable in the calculation of the probability $\widehat{L}_i$ to avoid over-controlling.

If political connections were associated to increased distortions in dictatorship, then $\beta < 0$ for all three dependent variables. Table 4-A presents estimation results and shows that firms with links to the regime indeed had more distortions than other firms in the same industry. In particular, these firms had significantly lower productivity and had more misallocated capital, with little differences in our output misallocation measure. Estimates in columns 1-4 are economically large, as can be seen from the averages of outcome variables in Table 1. Coefficients are almost always larger for firms with direct links and decrease when we control for the probability of firms being connected to Pinochet. Overall, this panel supports the hypothesis of political connections and distortions being associated under the dictatorship.

Did firm-level distortions change after democratization? To answer this question we estimate equations (1) and (4). Table 4-B presents estimation results and shows that the negative association among productivity, capital allocation, and political connections persisted through transition and into the democracy period. Besides a few statistically significant differences after 1988, we observe economically small changes. In fact, if anything, we observe that distortions *increased* in the democracy period, but coefficients are only marginally significant. Overall, this table shows that misallocation distortions among firms with links to the regime persisted after the transition to democracy. These patterns are similar when we analyze productivity and

[13] In contrast, the opposition victory in the 1989 presidential election was expected and did not cause significant changes in the stock market (Figure A.3-C). Table A.5 presents regression estimates.

misallocation. However, this analysis captures differences across firms and the causal effect of the democratization on resource misallocation in the economy as a whole is still unclear.

6 Firms during political transition

Can firm behavior explain the persistence of distortions? This section studies firm inputs, profits, and the credit market during the political transition. Overall, we find that: (i) firms linked to the regime increased their productive capacity and enjoyed higher profits during political transition; (ii) firms linked to the regime obtained more loans from state-owned banks during political transition, with suggestive evidence of some debt substitution from private banks; and (iii) firms linked to the regime had better market outcomes in democracy. Section 7 tests for explanations for these findings.

6.1 Firm inputs, profits, and the credit market

Columns 1-6 in Table 5 present estimates of equations (1) and (4) to show how investment in physical capital, profits, and the number of workers changed after the plebiscite among firms with direct links to the regime. Coefficients indicate that firms with direct links to Pinochet increased their investments and enjoyed higher profits during political transition, with little change in the number of workers. In terms of magnitudes, the standard deviations (σ) in dictatorship imply that investment in physical capital increased by 0.40σ and profits increased by 0.25σ, while the change in the number of workers is smaller than 0.05σ.

The coefficients for firms with indirect links show smaller patterns during political transition. Estimates of the regression that controls for the probability of having links deliver similar although somewhat smaller estimates. Columns with even numbers are our preferred specification because were are comparing firms within industry-period and with similar probabilities of being connected. Regarding the coefficients for the democracy period, we believe it is difficult to interpret these because firm responses during political transition could have easily persisted to the democratic period. Results are similar if we only use the dictatorship and transition periods.

We now present results for the credit market using a modified version of equation (4). In particular, we estimate the following regression equation:

$$\begin{aligned} Y_{ihjkt} &= \beta_T(P_i \cdot D_h \cdot T_t) + \gamma_T(p_i \cdot D_h \cdot T_t) + \delta_T(\widehat{L}_i \cdot T_t) \\ &+ \omega_{1T}(P_i \cdot T_t) + \omega_{2T}(p_i \cdot T_t) + \tau_T(D_h \cdot T_t) + \phi_{ih} + \phi_t + \psi_{kT} + \varepsilon_{ihjkt} \end{aligned} \quad (8)$$

where Y_{ihjkt} is a debt outcome for firm i with type of bank h (i.e. private or state) in period t, with j and k denoting industries and business groups respectively. The indicator D_h takes the value of one for state banks and ϕ_{ih} is a full set of firm-bank fixed effects. All remaining variables are defined as before, with the probability of links $\widehat{L_i}$ again estimated using the specification from Table 2 which includes all firm-level variables at baseline. Standard errors are again clustered by business group.

The main coefficients of interest are β_T and γ_T, which capture the change in debt from the state bank among connected firms during the transition and democracy periods. Other relevant coefficients are ω_{1T} and ω_{2T}, which capture the change in debt from private banks (the omitted category) among connected firms by period. Taken together, the sum of coefficients $\beta_T + \omega_{1T}$ (or $\gamma_T + \omega_{2T}$) measures the change in *total* debt among firms with direct (or indirect) connections when compared to unconnected ones in the same industry-period. The sum is important because it provides suggestive evidence of a potential debt substitution from one type of bank to the other. For example, if $\beta_{tran} > 0$ and $\beta_{tran} + \omega_{1,tran} > 0$, then connected firms were increasing their total debt using state banks. In contrast, if $\beta_{tran} > 0$ and $\beta_{tran} + \omega_{1,tran} = 0$, then firms with direct links might have been substituting debt from private banks to the state bank.

Table 6 presents estimates of equation (8). Columns 1 and 2 use debt in millions of Chilean pesos as dependent variable. Firms with direct links increased their debt from state banks during political transition and the coefficient is large, as can be seen from the average debt with these banks. Columns 3 and 4 show that the probability of having a positive amount of debt is also larger for these firms. The probability of having some debt with a state-owned bank increases by 18 percentage points for firms with direct links during transition. Columns 5 and 6 show that debt over assets also increases significantly after the plebiscite. Remarkably, coefficients are always positive but smaller in magnitude for firms with indirect links (p-values of 0.16, 0.23, and 0.07, respectively).[14] We can also reject that connected firms borrowed similarly from state and private banks during the transition period (p-values of 0.02, 0.07, <0.01, <0.01, 0.02, and 0.03 in columns 1-6), which suggests results are unlikely to be driven by more unproductive firms investing to become more competitive.

When examining the sum of coefficients to study debt substitution a more nuanced interpretation emerges. First, note that $\widehat{\omega}_{1,tran}$ is negative, which means that the debt of connected firms with private banks decreased during the transition period. Second, the sum of coefficients $\widehat{\beta}_{tran} + \widehat{\omega}_{1,tran}$ in columns 2, 4, and 6 is 15.53, −0.03, and 0.00 with p-values of 0.05, 0.70, and 0.95 respectively. Therefore, the estimates suggest that 56% of the increase in debt from

[14]The average firm had debt with five banks in the dictatorship period and this number did not change for linked firms after the plebiscite.

state banks during the transition period among firms with direct connections is an increase in *total* debt (15.53/27.83 = 0.56). The remaining 44% of the increase in debt during transition might have been debt substitution from private banks. A similar pattern appears among first with indirect connections. Although we are unable to precisely show if and which loans are being substituted, this result is consistent with anecdotal evidence highlighting how the state bank used debt swaps during this period (Leon-Dermota, 2003).[15]

6.2 Robustness checks

We now show that results in section 6.1 are robust to specification and estimation decisions. Columns 2-7 in Table 7 replace the probability of having links by specific firm-level variables. All these controls are measured in the dictatorship period and we allow their coefficients to change in the transition and democracy periods separately. Results are similar when we add an indicator for big firms – above the median of the firm size distribution – an indicator for firms privatized by the dictatorship, an indicator for firms participating in a business group, an indicator for exporting firms, and the productivity and misallocation wedges. Moreover, Column 8 includes all of these control variables together and results are again similar.

Results are also similar when we collapse the data to three periods – dictatorship, transition, and democracy – to deal with potentially serially correlated outcomes (Bertrand et al., 2004, see column 1 in Table 7), when we use a Solow residual to estimate productivity (Table A.7), and when we measure links to the regime in 1986 instead of 1987 (see column 8 in Table 7). In addition, column 9 controls for the effect of substituting links from the old to the new regime and results are again similar.[16] Two additional exercises using the propensity score also support previous results. First, we estimate regression (4) but follow Crump et al. (2009) and restrict attention to firms with overlap in the propensity score distribution, and coefficients are again similar (see column 11). Second, column 12 includes indicators for quartiles of the propensity score distribution interacted with period fixed effects and results are robust. Finally, we use the synthetic control approach proposed by Abadie et al. (2010) and find similar results (Table A.8).

We also performed two falsification exercises to corroborate the importance of the plebiscite. The first, presented in Table 8-A, restricts attention to the period 1985–1988 and examines outcomes before and after the third quarter of 1986, when a group of politically motivated individuals attempted to murder Pinochet, a well-known event at the time that can be interpreted

[15]To understand additional sources of funding we also explored changes in stocks and bond issuances. However, we did not find any significant differences explained by links to the regime (Table A.6)

[16]To measure these links we used the methodology in Appendix B but replaced the word "Pinochet" with the word "Concertacion." We identified seven firms that substituted links between 1988 and 1992.

as a potential end of the Pinochet regime. The second exercise, presented in Table 8-B, restricts attention to the period 1990–1997 and examines the time before and after the 1993 presidential election in columns 1-2. Due to data constraints, we repeat this exercise before and after the 1992 local elections for outcomes in columns 3-5. These elections serve as checks for the effect of elections that did not lead to a political transition. In both cases we observe smaller and statistically insignificant point estimates. We interpret these results as further evidence for the importance of the plebiscite, an election which initiated a political transition.

Finally, Figures A.4 and A.5 present year-by-year coefficients from a flexible estimation of equations (4) and (8) and reveal some noise with perhaps some visual evidence of differential trends across firms before the plebiscite. Although this could constitute a threat, further statistical analysis reveals that these patterns are unlikely to be a concern. First, the test in Table 3 does *not* reject the existence of similar trends across firms. Moreover, when we test for the joint significance of coefficients during the dictatorship period we cannot reject that these are zero while the coefficients after it *are* different from zero. Second, we followed Muralidharan and Prakash (2017) and estimated a differential linear trend among connected firms to construct bounds for the profits and credit market results, cases in which the trend could affect our results. This is a conservative exercise because the trend for profits is not statistically significant. Our calculations indicate that the estimated increase in profits during the transition period for firms with direct connections decreases by 25% and the increase in debt with the state-owned bank among the same firms decreases by 45%. Although smaller our estimates remain economically large and statistically significant at conventional levels (see Table A.9 for details).

7 An exploration of mechanisms

This section provides an exploration of mechanisms that can potentially explain our findings. We first discuss a simple model that can rationalize our results and then study salient alternative explanations. We argue that the collection of findings is most consistent with firms linked to the dictatorship making strategic investments to shield their market position after political transition. Alternative explanations find little support in the data. However, we cannot rule out all potential mechanisms and results in this section should be interpreted as suggestive.

7.1 Strategic investments

Our findings are theoretically consistent with entry deterrence models predicting increased investment when there is a threat of competition (Dixit, 1980). In our context, the increase in

competition comes from the potential increase in firm entry that democracy brings (Acemoglu, 2008).[17] This model predicts that firms exploit their (now transitory) privileged relationship with state-owned banks during political transition to increase their productive capacity and deter entry in democracy. This model has the ability to explain the increased investment, higher profits, and increase in loans from state-owned banks during transition. The model is also consistent with empirical evidence of an increase in the compensation of connected board members during the transition period (González and Prem, 2018).

We present a formal theoretical model with the former predictions in Appendix A. The model has three time periods (dictatorship, transition, and democracy) and three types of firms (direct links, indirect links, and no links). To solve the model we obtain best response functions for all firm-period pairs using an exogenous democratization announcement to study the transition period. Importantly, this model not only has the ability to predict the previously mentioned results, but also rationalizes the observed differences between firms with direct and indirect links. This model is also useful because we can use it to derive auxiliary predictions. We now discuss evidence for three additional predictions of the model.

In our model investing in physical capital is an effective way to reduce firm entry.[18] If our findings are the consequence of strategic decisions, then we should expect higher investment during political transition in industries with higher entry costs. This is because of the higher marginal return for investment in these industries. To test for this, we follow Lambson and Jensen (1998) and construct a proxy for entry (sunk) costs by industry using data on property, plants, and equipment in the period 1985–87. We divide industries into those with more and less entry costs and use this variable to augment equation (1) with a triple difference. Table A.10 shows that investment among firms with links is indeed higher in more capital-intensive industries during political transition, evidence that supports the first auxiliary prediction.

A second auxiliary prediction we can test is the relationship between the number of firms with links in an industry and firm entry into the same industry under democracy. To do this, we estimate industry-level regressions using the logarithm of number of firms as dependent variable and the share of firms with links as explanatory variable, controlling for industry fixed effects and time trends. We use this econometric strategy both in our data of listed firms and in a different dataset of firms we constructed using the Chilean annual manufacturing census, which also serves as an out-of-sample test. Table A.11 provides some suggestive evidence

[17] Reassuringly, we observe an increase in firm entry after democratization in Chile. See Figure A.6.

[18] However, investments might also take place to capture local institutions or to improve efficiency in production and we cannot distinguish between these. In addition, note that in the model the ability of connected firms to invest comes from a preferential access to credit, but empirically we cannot precisely pin down the sources of funding.

that industries with more linked firms during political transition indeed had lower firm entry in democracy. However, given the limited number of industries in our data, these results need to be interpreted with caution.

A final prediction we can test is the following. If firms increasing their capacity during political transition obtained an advantage over those that did not, we should expect the former to have higher profits during democracy. Indeed, we find that there is a positive and statistically significant relationship between capacity responses in transition and profits in democracy, and the effect is large when compared to investments in a different period. In particular, a one standard deviation increase in a firm's capacity response to the plebiscite is associated with an increase of 0.2 standard deviations in profits, which is larger than the increase of 0.1 standard deviations to investments found in a different period (i.e. third quarter of 1986 in our estimation). See Figure A.7 for details. Although suggestive, we believe that taken together these additional results provide some evidence for a strategic behavior of firms with links to the regime aiming to improve their market position in the democracy. In the remainder of this section we address the plausibility of alternative mechanisms.

7.2 Alternative explanations

Economic policy uncertainty Are results driven by political and economic uncertainty? Several authors have shown that uncertainty affects investment and profits (e.g., Julio and Yook 2012) and it is sensible to think the periods before and after the plebiscite are times of uncertainty. Empirical evidence, however, suggest this is probably not relevant in explaining our results. As our analysis includes time fixed effects, we are accounting for changes in macroeconomic variables that affect all firms. Hence, uncertainty can only explain our results if it affects firms with links differently after the plebiscite. We follow Baker et al. (2016) and construct a firm-by-year measures of uncertainty using text analysis of reports and estimate the following equation:

$$\text{Uncertainty}_{it} = \beta(P_i \cdot T_t) + \gamma(p_i \cdot T_t) + \psi_{kt} + \lambda_t + \xi_i + \varepsilon_{ijkt} \tag{9}$$

where all variables are defined as in Section 4 but we focus on the period 1986-1989. The outcome variable $Uncertainty_{it}$ is a measure of uncertainty for firm i in year t which we construct directly from annual reports. In particular, we employ a section of the reports with a letter written for the shareholders. We read the letters for all firms in this period and construct four indicator variables. The first variable takes the value of one if the report mentions uncertainty and risk explicitly in the letter. The second and third indicate whether the firm had positive or negative beliefs about the evolution of the industry or the country. The fourth measures if pol-

icy was mentioned in the letter. Only 11% of firm-year observations mentioned uncertainty and risk, 22% and 3% had positive and negative beliefs about the industry or country respectively, and 6% mentioned economic policy.

Table A.12 presents estimates of equation (9). The first column shows that, if anything, connected firms perceived uncertainty to be higher than unconnected firms did. As higher uncertainty is *negatively* associated with investment (Julio and Yook, 2012), these results suggest that uncertainty is unlikely to be a mechanism behind the observed firm behavior during political transition. Columns 2 and 3 also show that connected firms were slightly more optimistic about the evolution of their industry and the country, although coefficients are not statistically significant at conventional levels. Column 4 shows that connected firms also mention economic policy more than unconnected firms, but the difference is not statistically significant. In sum, we find some suggestive (but weak) evidence that connected firms' positive beliefs about the future could explain some of their greater investment during the political transition.[19]

Supply-side explanation Another alternative explanation comes from the supply side. A large body of research suggests that banks' valuation of assets creates credit misallocation in the form of more funds being available for larger firms (e.g., Beck et al. 2005). Because connected firms are larger, receive more credit, invest more, and have higher profits, differential bank behavior is a potential mechanism. To test for the role of banks we use a version of equation (4) that includes one of three cross-sectional variables: firm size – an indicator for firms above the median of the firm size distribution in 1986 – which captures the fact that larger firms are more likely to get credit; leverage, which we use to control for the fact that firms with higher leverage are less likely to obtain credit; and the financial constraints index proposed by Kaplan and Zingales (1997), a linear combination of cash flow, leverage, liquidity, Tobin's Q, and dividend payments. Overall, when we control for any of these three variables interacted with the transition and democracy indicators, our findings remain unchanged (Table A.13).[20]

8 Conclusion

To improve our understanding of the economic effects of democratizations, we studied resource misallocation and the behavior of firms during political transition. Our empirical analysis focused on Chile's transition to democracy, which offered a unique opportunity to measure the

[19]We also read the Sunday edition of the main newspaper in the country and found similar evidence of positive expectations about the future and limited changes in the policy platform around the plebiscite.

[20]Appendix C discusses two additional explanations that are inconsistent with the data. Namely, the potential targeting of firms to game the transition and the use of firms to extract rents before the dictatorship is over.

network of firms with links to the dictatorship and other important firm-levels variables. We showed that firms connected to the Pinochet regime were relative unproductive and benefited from resource misallocation in dictatorship. These economic distortions persisted into democracy, and we provide suggestive evidence consistent with firms attempting to shield their market position for the new democratic era, highlighting the role of firm responses during political transition.

The reader might worry that Chile's transition to democracy differs from other transitions and our findings have limited external validity. However, approximately 50 percent of democratizations occur in a similar fashion (Treisman, 2017). Hence, we believe our findings are informative about the role of firms in other transitions around the world. Possible sources of differential effects in other countries are the role of information and the probability of a reversal. If firms in a dictator's network have more accurate information about the future than other firms – the most likely case in our view – the kind of firm behavior we have documented could be magnified. Conversely, if the new regime is fragile and a reversal probable, firms may be less likely to respond during transition. In this sense, careful regulation of the credit and investment market during a democratization seems like a potentially effective policy to avoid persistence of distortions.

Although this paper studied firms, we emphasize that other agents could also react to a democratic transition. For example, individuals non-democratically appointed to local governments might decide to allocate resources to win elections in democracy. Landowners could make an effort to depress mobility from rural to urban sectors of the economy to preserve their economic power. In addition, there could be other areas affected by firms in democracy. We believe the political arena is particularly important not only in the Chilean case, but potentially other settings as well. If the economic power that persists across regimes translates into political power in democracy, the old political regime could still exert influence and create political distortions. Recent corruption scandals in Chile suggest this is indeed the case as several firms have been accused of (illegally) financing electoral campaigns.

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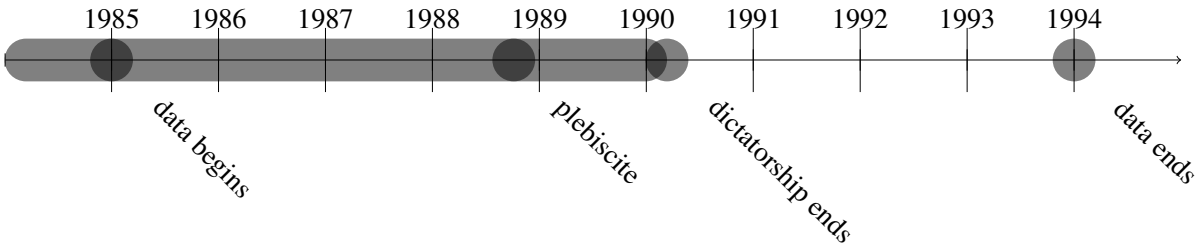
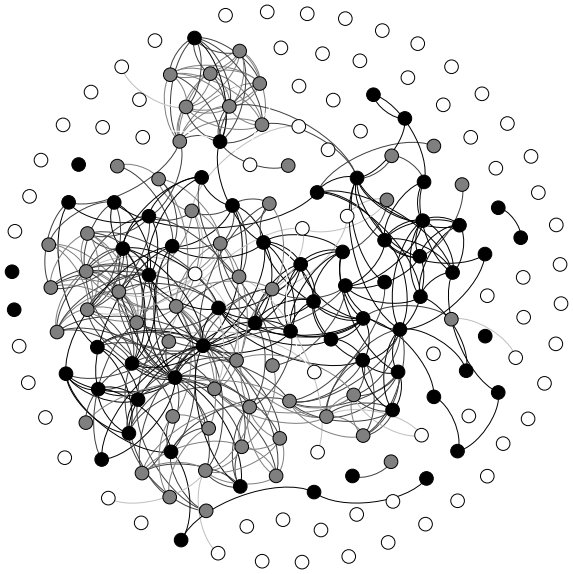
Figure 1: Timeline and network of firms

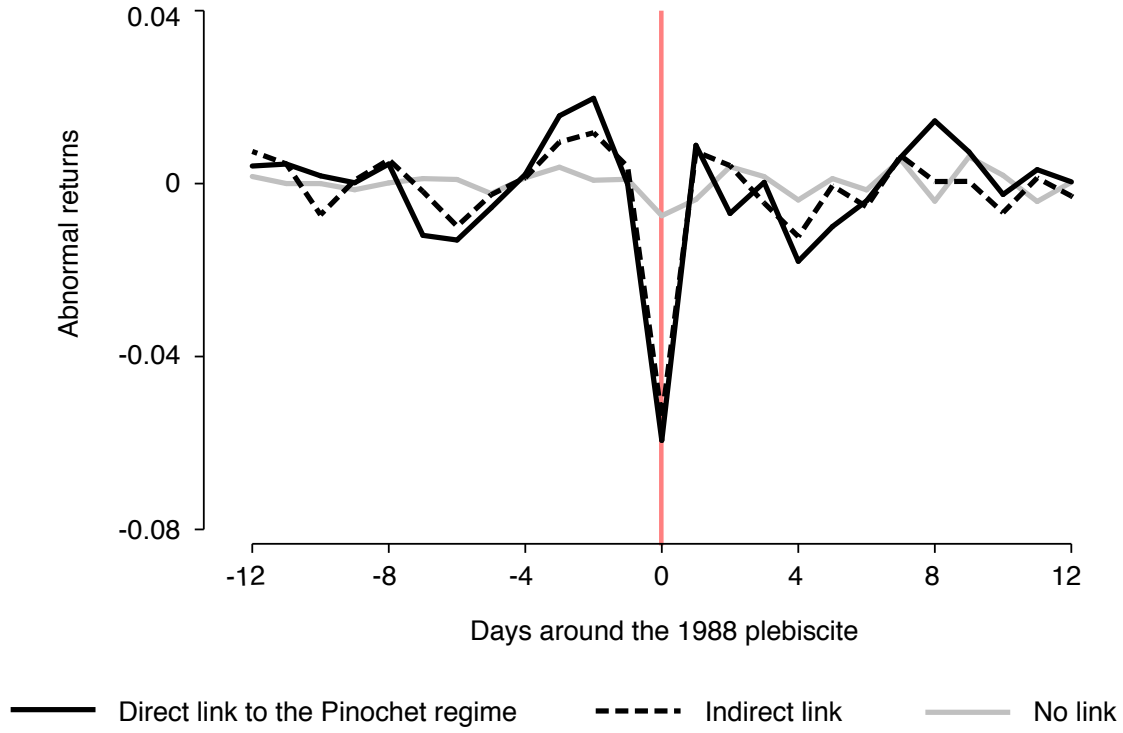


Notes: We use three periods in our analysis. The dictatorship period goes from September 1973 to March 1990 (4 years). The democracy period begins in March 1990 and we collected data until 1994 (5 years). We call "transition" the period between October 1988 and March 1990 (1.5 years), when it was known Pinochet would leave. Our firm-level data goes from 1985 to 1994, quarterly in the case of balance sheets data and annually for report data.



Notes: This figure presents the network of firms listed in the Chilean stock market in 1987. We classify these firms into three groups. Each circle represents a firm. Firms denoted by black dots had a direct link to the Pinochet regime (first degree link), firms denoted by gray dots had no links to the regime but had a link to firms with a link (second degree link), and firms denoted by white dots did not have links to the regime or linked firms. We define a link "—" between firms using board linkages. The average firm is linked to 4.7 other firms by board linkages. The average number of links between any two firms that can be connected is 3.3, the maximum distance between any two firms is 9, the global clustering coefficient is 0.48, and the fraction of firms in the giant network is 0.44. This network of firms shows some features of "small world," low diameter, and high clustering discussed by Jackson and Rogers (2005). The network is our own construction based on data provided by Chile's stock market regulatory agency.

Figure 2: The stock market



Notes: The stock prices data was collected from contemporary newspaper "El Mercurio," accessed through Chile's National Library. The vertical red line denotes the date of the plebiscite (October 5, 1988).

Table 1: Differences in observables across types of firms in the dictatorship

	Firms without links	Firms with direct links to Pinochet	Firms with indirect links to Pinochet	Difference with unconnected firms	
Balance sheets	(1)	(2)	(3)	(2) – (1)	(3) – (1)
Investment in physical capital	0.00	-0.00	0.01	-0.00	0.00
	(0.05)	(0.05)	(0.06)	(0.01)	(0.01)
Profits	-0.32	0.39	-0.11	0.70***	0.20**
	(0.24)	(1.48)	(0.52)	(0.17)	(0.08)
Logarithm of assets	14.52	17.55	16.82	2.99***	2.27***
	(2.10)	(1.87)	(1.37)	(0.43)	(0.41)
Annual reports					
Log workers	4.38	6.27	5.65	1.90***	1.27***
	(1.99)	(1.65)	(1.39)	(0.29)	(0.29)
Productivity	-0.47	-1.52	-1.08	-1.05***	-0.61**
	(1.69)	(1.92)	(1.54)	(0.29)	(0.27)
Capital misallocation	-0.31	-0.71	-0.70	-0.43*	-0.41
	(1.11)	(0.53)	(0.70)	(0.23)	(0.26)
Output misallocation	0.88	0.76	0.87	-0.10	-0.02
	(0.14)	(0.81)	(0.49)	(0.14)	(0.11)
Debt with state-owned banks	4	17	21	13***	17***
	(17)	(48)	(46)	(5)	(5)
Debt with other banks	18	88	63	70***	45***
	(46)	(118)	(92)	(12)	(10)
Time invariant					
Age in 1987	39	53	49	14**	10
	(27)	(30)	(29)	(6)	(7)
Exporter	0.26	0.48	0.57	0.27**	0.34***
	(0.43)	(0.50)	(0.50)	(0.10)	(0.11)
Privatized by Pinochet	0.11	0.56	0.33	0.44***	0.21**
	(0.31)	(0.50)	(0.47)	(0.09)	(0.10)
Part of a business group	0.02	0.21	0.39	0.19***	0.37***
	(0.15)	(0.41)	(0.49)	(0.07)	(0.09)

Notes: Average of main variables in the period 1985–1987. Data for 118 firms in Panel A, 99 firms in the first four rows of Panel B, and 113 firms in the last two of rows of Panel B. Debt is measured in billions of Chilean pesos. Standard deviation is in parentheses in columns 1-3, and standard error is in parentheses in the last three columns. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. More details in Section 3.

Table 2: Predicting direct and indirect links to the Pinochet regime

Dependent variable:	Indicator for link to the Pinochet regime	
	Direct link	Indirect link
	(1)	(2)
Logarithm of assets	0.23***	0.16***
	(0.06)	(0.05)
Privatized by Pinochet	0.21	-0.07
	(0.15)	(0.17)
Part of a business group	0.23	0.62
	(0.22)	(0.14)
Leverage	0.16**	0.29*
	(0.07)	(0.17)
Exporter	-0.42**	0.14
	(0.16)	(0.17)
Age in 1987	0.00	0.00
	(0.00)	(0.00)
Productivity	-0.08	-0.01
	(0.07)	(0.05)
Capital misallocation	-0.07	-0.47**
	(0.09)	(0.19)
Output misallocation	-0.96	-0.69
	(0.88)	(0.30)
Firms	82	73

Notes: We report marginal effects from two cross-sectional probit regressions using indicators for firms with direct and indirect links as dependent variables. Column 1 (2) omits firms with indirect (direct) links. We measure right-hand-side variables as averages in the period 1985–1987 (the baseline dictatorship period). Standard errors are in parentheses. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 3: Balance in observables and parallel trends between connected and unconnected firms after controlling for the probability of having links to Pinochet

	Difference with unconnected firms		Parallel trends with unconnected firms	
	Direct	Indirect	Direct	Indirect
Balance sheets	(1)	(2)	(3)	(4)
Investment in physical capital	-0.00	0.01	0.00	0.00
	(0.01)	(0.01)	(0.01)	(0.01)
Profits	0.40	-0.05	0.02	-0.00
	(0.27)	(0.07)	(0.09)	(0.04)
Logarithm of assets	0.88	-0.07	-0.01	-0.01
	(0.64)	(0.35)	(0.01)	(0.01)
Annual reports				
Logarithm of workers	0.88	-0.31	0.07	0.01
	(0.72)	(0.39)	(0.08)	(0.07)
Productivity	-0.01	-0.12	-0.04	-0.09
	(0.64)	(0.43)	(0.13)	(0.10)
Capital misallocation	0.04	-0.22	0.02	0.04
	(0.22)	(0.17)	(0.02)	(0.02)
Output misallocation	-0.01	0.02	0.00	-0.01
	(0.06)	(0.04)	(0.01)	(0.01)
Debt with state owned banks	5	-4	-2	5*
	(7)	(7)	(6)	(3)
Debt with other banks	10	-4	-1	23*
	(16)	(14)	(14)	(14)

Notes: Columns 1 and 2 present differences in means between connected and unconnected firms in the *level* of key outcome variables before the transition. Columns 3 and 4 present differences between connected and unconnected firms in the *changes* of key outcomes variables. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. More details in Section 4.

Table 4: The persistence of distortions across political regimes

	Productivity (Olley and Pakes, 1996)		Misallocation measures (Hsieh and Klenow, 2009) Capital		Output	
Panel A *Distortions in dictatorship*	(1)	(2)	(3)	(4)	(5)	(6)
Direct link	-1.22***	-0.95***	-0.46***	-0.23**	-0.14	-0.33*
	(0.29)	(0.35)	(0.14)	(0.11)	(0.10)	(0.18)
Indirect link	-0.79***	-0.53*	-0.47***	-0.26**	-0.01	-0.18*
	(0.25)	(0.31)	(0.06)	(0.12)	(0.13)	(0.10)
Firms	99	99	92	92	92	92
Observations	231	231	243	239	234	230
Year fixed effects	x	x	x	x	x	x
Industry fixed effects	x	x	x	x	x	x
Probability of links		x		x		x
Panel B *Change in distortions after dictatorship*						
Direct link × Transition	-0.11	-0.16	-0.01	0.04	-0.03	-0.01
	(0.19)	(0.16)	(0.10)	(0.07)	(0.04)	(0.05)
Direct link × Democracy	0.12	0.07	-0.12	-0.06	-0.15*	-0.11
	(0.38)	(0.34)	(0.12)	(0.11)	(0.08)	(0.13)
Indirect link × Transition	-0.22*	-0.26*	-0.14	-0.09	-0.05	-0.08
	(0.12)	(0.15)	(0.11)	(0.08)	(0.03)	(0.06)
Indirect link × Democracy	-0.01	-0.05	-0.26*	-0.20*	0.10	0.06
	(0.23)	(0.31)	(0.13)	(0.10)	(0.09)	(0.13)
Firms	99	99	97	97	97	97
Observations	792	792	776	776	776	776
Firm fixed effects	x	x	x	x	x	x
Year fixed effects	x	x	x	x	x	x
Industry fixed effects × Transition	x	x	x	x	x	x
Industry fixed effects × Democracy	x	x	x	x	x	x
Probability of links × Transition		x		x		x
Probability of links × Democracy		x		x		x

Notes: Panel A uses firm-year observations in the dictatorship period and present estimates of cross-sectional regressions using two specifications and three dependent variables. Panel B uses the sample but including observations in the transition and democracy periods. We estimate the "Probability of links" using the probit specifications from Table 2. Robust standard errors are clustered at the business group level and are reported in parentheses (88 clusters). Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 5: Firms during Chile's transition to democracy

	Balance sheets				Annual reports	
	Investment		Profits		Workers	
	(1)	(2)	(3)	(4)	(5)	(6)
Direct link × Transition	0.02**	0.02*	0.29***	0.24**	0.01	0.07
	(0.01)	(0.01)	(0.09)	(0.10)	(0.12)	(0.10)
Direct link × Democracy	0.02***	0.01	0.20	0.14	-0.06	-0.02
	(0.01)	(0.01)	(0.13)	(0.13)	(0.11)	(0.11)
Indirect link × Transition	0.01	0.01	0.06	0.01	-0.03	0.03
	(0.01)	(0.01)	(0.05)	(0.08)	(0.08)	(0.08)
Indirect link × Democracy	0.02**	0.01	0.17*	0.11	0.04	0.08
	(0.01)	(0.01)	(0.10)	(0.13)	(0.11)	(0.11)
Firms	118	118	118	118	99	99
Observations	4,694	4,694	4,694	4,692	792	792
Firm fixed effects	x	x	x	x	x	x
Time fixed effects	x	x	x	x	x	x
Industry fixed efects × Transition	x	x	x	x	x	x
Industry fixed efects × Democracy	x	x	x	x	x	x
Probability of links × Transition		x		x		x
Probability of links × Democracy		x		x		x

Notes: Panel A uses a quarterly data (balance sheets), and Panel B uses annual data (reports), both for the period 1985–1994. The "transition" period corresponds to the time between the plebiscite (October 1988) and the arrival of the new democratic government (March 1990). We estimate the "Probability of links" using the probit specifications from Table 2. Robust standard errors are clustered at the business group level and are reported in parentheses. There are 104 clusters in Panel A and 88 clusters in Panel B. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. More details in Section 6.

Table 6: The credit market during political transition

Dependent variable (Debt) is total debt with banks, measured from annual reports

	Debt		Indicator for positive debt		Debt over assets	
	(1)	(2)	(3)	(4)	(5)	(6)
Direct link × Transition × State bank	27.82***	27.82***	0.18**	0.18**	0.09**	0.09**
	(10.32)	(10.33)	(0.08)	(0.08)	(0.04)	(0.04)
Direct link × Democracy × State bank	2.95	2.95	0.22**	0.22**	0.07*	0.07*
	(14.95)	(14.96)	(0.10)	(0.10)	(0.04)	(0.04)
Indirect link × Transition × State bank	28.70	28.69	0.09	0.09	0.07*	0.07*
	(20.11)	(20.12)	(0.07)	(0.07)	(0.04)	(0.04)
Indirect link × Democracy × State bank	13.37	13.36	0.14	0.14	0.06	0.06
	(19.35)	(19.36)	(0.09)	(0.09)	(0.05)	(0.05)
Direct link × Transition	-15.88*	-12.29	-0.19**	-0.21**	-0.08**	-0.09**
	(9.43)	(12.67)	(0.07)	(0.08)	(0.04)	(0.04)
Direct link × Democracy	-6.15	-4.08	-0.19**	-0.24**	-0.05	-0.08
	(16.33)	(17.30)	(0.09)	(0.11)	(0.04)	(0.05)
Indirect link × Transition	-20.83	-17.19	-0.02	-0.04	-0.07*	-0.08*
	(15.67)	(16.48)	(0.08)	(0.09)	(0.04)	(0.05)
Indirect link × Democracy	-12.11	-10.01	-0.11	-0.16**	-0.06	-0.08
	(15.35)	(17.41)	(0.07)	(0.08)	(0.05)	(0.06)
Transition × State bank	2.44	2.44	-0.06	-0.06	-0.02	-0.02
	(5.70)	(5.70)	(0.04)	(0.04)	(0.03)	(0.03)
Democracy × State bank	1.94	1.94	-0.08**	-0.08**	-0.02	-0.02
	(6.31)	(6.32)	(0.04)	(0.04)	(0.03)	(0.03)
Mean of dependent variable	29	29	0.38	0.38	0.06	0.06
Firms	113	113	113	113	113	113
Observations	2,073	2,073	2,073	2,073	2,073	2,073
Firm-bank and year fixed effects	x	x	x	x	x	x
Industry fixed effects × Transition	x	x	x	x	x	x
Industry fixed effects × Democracy	x	x	x	x	x	x
Probability of links × Transition		x		x		x
Probability of links × Democracy		x		x		x

Notes: These regressions use the annual dataset of firms in the period 1985–1994. The unit of observation is a firm/bank relationship per year. We estimate the "Probability of links" using the probit specifications from Table 2. Robust standard errors are clustered at the business group level and are reported in parentheses. The number of clusters is 99. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. More details in Section 6.

Table 7: Robustness checks

		Control variables × Period indicators							Network links		Propensity score	
	Three periods	Big firms	Privatized	Business group	Exporter	Productivity	Misallocation wedges	All	Substituted links	Links 1986	Truncated	Non-linear
Investment	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Direct × Transition	0.02*	0.02**	0.02**	0.02**	0.02**	0.02*	0.02*	0.02**	0.02*	0.02**	0.02**	0.02**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Indirect × Transition	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.02**	0.01	0.01	0.02**	0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Profits												
Direct × Transition	0.35**	0.22**	0.23**	0.34***	0.28***	0.24**	0.23**	0.19*	0.23**	0.21*	0.19	0.19**
	(0.15)	(0.10)	(0.11)	(0.11)	(0.10)	(0.10)	(0.10)	(0.11)	(0.11)	(0.11)	(0.13)	(0.09)
Indirect × Transition	0.06	0.06	0.10	0.19*	0.11	0.02	0.01	0.08	0.02	-0.03	0.10*	-0.02
	(0.11)	(0.08)	(0.08)	(0.11)	(0.08)	(0.08)	(0.07)	(0.10)	(0.08)	(0.07)	(0.05)	(0.06)
Workers												
Direct × Transition	0.05	0.04	0.04	0.03	0.03	-0.05	-0.08	-0.12	0.11	0.21**	-0.04	0.08
	(0.09)	(0.12)	(0.12)	(0.11)	(0.11)	(0.16)	(0.16)	(0.17)	(0.08)	(0.09)	(0.16)	(0.12)
Indirect × Transition	-0.02	0.01	0.01	0.00	-0.01	0.06	0.04	0.03	0.02	0.15	0.06	0.03
	(0.07)	(0.10)	(0.10)	(0.09)	(0.09)	(0.09)	(0.10)	(0.11)	(0.08)	(0.13)	(0.10)	(0.10)
Credit market												
Direct × Transition × State bank	0.08**	0.11**	0.09**	0.11***	0.09**	0.09**	0.09**	0.14***	0.09**	0.09**	0.06*	0.09**
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.04)
Indirect × Transition × State bank	0.07*	0.10**	0.08*	0.12**	0.07	0.08*	0.08*	0.14***	0.07*	0.04	0.06	0.07*
	(0.04)	(0.05)	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)
Firm and time fixed effects	x	x	x	x	x	x	x	x	x	x	x	x
Industry fixed effects × Transition	x	x	x	x	x	x	x	x	x	x	x	x
Industry fixed effects × Democracy	x	x	x	x	x	x	x	x	x	x	x	x
Probability of links × Transition	x								x	x	x	x
Probability of links × Democracy	x								x	x	x	x

Notes: We estimate the "Probability of links" using the probit specifications from Table 2. Column 8 includes "All" controls from columns 2-7. Robust standard errors are clustered at the business group level and are reported in parentheses. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Details in Section 6.

Table 8: The importance of the plebiscite

	Investment	Profits	Productivity	Workers	Debt
	(1)	(2)	(3)	(4)	(5)
A – Placebo in dictatorship					
Direct link × After attempted murder of Pinochet	0.01	0.08	-0.28*	0.09	7
	(0.01)	(0.10)	(0.15)	(0.10)	(10)
Indirect link × After attempted murder of Pinochet	0.02**	-0.00	-0.05	0.04	15
	(0.01)	(0.10)	(0.15)	(0.07)	(14)
Firms	118	118	89	89	109
Observations	1,518	1,400	310	310	829
Firm fixed effects	x	x	x	x	x
Time fixed effects	x	x	x	x	x
Industry fixed effects × Transition	x	x	x	x	x
Industry fixed effects × Democracy	x	x	x	x	x
Probability of links × Transition	x	x	x	x	x
Probability of links × Democracy	x	x	x	x	x
B – Placebo in democracy					
Direct link × After local/presidential elections	0.01	0.21*	-0.21	0.08	-3
	(0.01)	(0.12)	(0.37)	(0.10)	(12)
Indirect link × After local/presidential elections	0.01	0.19	0.52	0.11	-9
	(0.01)	(0.14)	(0.33)	(0.10)	(9)
Firms	118	118	92	92	109
Observations	2,232	2,348	411	411	1,034
Firm fixed effects	x	x	x	x	x
Time fixed effects	x	x	x	x	x
Industry fixed effects × Transition	x	x	x	x	x
Industry fixed effects × Democracy	x	x	x	x	x
Probability of links × Transition	x	x	x	x	x
Probability of links × Democracy	x	x	x	x	x

Notes: In panel A we create a placebo exercise by splitting the dictatorship period into two, before and after the third quarter of 1986, a time when a group of individuals attempted to murder Pinochet. In panel B, we create another placebo by splitting the democracy period in two, before and after the 1993 presidential elections (1990–1997) in columns 1–2, and before and after 1992 local elections in columns 4–5. We estimate the "Probability of links" using the probit specifications from Table 2. Robust standard errors are clustered at the business group level and are reported in parentheses (104 clusters). Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. More details in Section 6.

ONLINE APPENDIX

Losing Your Dictator: Firms During Political Transition

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A Theoretical Framework

How do firms react to an announced political transition? how does this reaction vary with links to the incumbent regime? This section presents a theoretical framework to answer these questions. There are two key assumptions in our model. First, firms close to the non-democratic regime enjoy differential access to finance, which disappears after a democratization. Second, there is an increase in firm entry during the democratic period. The main insight we obtain is that increasing productive capacity becomes a dominant strategy for firms with links to the dictatorship during political transition.

A.1 Environment

Let there be N_t incumbent firms and three different periods $t = 1, 2, 3$. In the first period, a dictator is in power and N_1 firms operate in the market. In the second period, all firms learn that a new democratic government will take office in the third period. Following our setting, we assume this is an unanticipated democratization announcement. As it is public knowledge that the dictator will leave office, we call this period "transition." Potential entrants also learn about the political transition and update their entry decisions accordingly. We call the third period "democracy," where a newly democratically elected government rules the country and new firms enter the market.

In periods 1 and 2, firms can have different links to the dictator. There are not links to the democratic government in period 3. Let link of firm i be represented by $\gamma_i \in [0, r]$, where $\gamma_i = 0$ represents no link, and $\gamma_i > 0$ some link between a firm and the dictatorship. In each period, firms compete à la Cournot by choosing their input subject to a given private demand $Q_t = a - bP_t$. Let the production technology be $q_t^i = K_t^i$, where K_t^i is the stock of capital of firm i in period t. The marginal cost of producing one extra unit is zero if production is below a firm's capacity, and infinite otherwise.

The cost of capital for firms is $R_i \equiv r - \gamma_i$. We interpret this lower cost of capital as the combination of two factors: (1) firms with links have more access to credit, and (2) firms with links have relatively better information about investment opportunities. We will discuss how we can place bounds on these mechanisms exploiting the network analysis.

A.2 Timing

In period 1, there are N_1 firms competing in quantities. Private demand for the homogeneous product is fixed. Firm i chooses K_1^i to maximize the discounted present value of profits, and expect the dictator to be ruling indefinitely. Then, a firm's problem is:

$$\max_{K_1^i} \quad \Pi_1^i \quad = \quad \frac{1}{1-\delta}\left[b^{-1}\left(a - \sum_j^{N_1} K_1^j\right)K_1^i - R_i K_1^i\right] \tag{10}$$

where $\delta \in (0,1)$ represents the discount factor. Let the term in square brackets be denoted by $\Omega(K_1^i, N_1|\gamma_i)$ to facilitate exposition. For simplicity, let $\gamma_i \in \{0, \bar{\gamma}, r\}$, with $\bar{\gamma} \in (0, r)$. Then, there are three types of firms: direct link (C: $\gamma_i = r$), indirect link (I: $\gamma_i = \bar{\gamma}$), and without link (U: $\gamma_i = 0$). Thus, $i \in \{C, I, U\}$.[21] To find the Nash equilibrium in dictatorship, we obtain firms best response function. Then, we use these best response functions to solve for productive capacities. Equilibrium capacities are:

$$\begin{aligned} K_1^C &= \frac{a + b(2r - \bar{\gamma})}{4} \\ K_1^I &= \frac{a - b(2r - 3\bar{\gamma})}{4} \\ K_1^U &= \frac{a - b(2r + \bar{\gamma})}{4} \end{aligned}$$

Total quantity offered in the market is defined as $Q_1^* = \sum_{i \in \{C,I,U\}}^{N_1} K_1^i$. The equilibrium price is determined by the aggregate demand function, and profits are computed as in equation (1).

In period 2, firms learn that a democratization will take place with certainty. This means connected firms will lose their political links. Specifically, we assume:

Assumption 1. *There is an exogenous democratization announcement.*

Assumption 2. *It is common knowledge that firm entry is exogenously higher in democracy.*

Firms can adjust their productive capacity in the second period, when links are still in place. This could be a firm's optimal response in order to compete with new entrants. The new equilibrium is similar to the equilibrium of a Stackelberg game. In our case, incumbent firms are first movers and entrants are followers. Then, firms internalize future competition and solve the following problem:

$$\max_{K_2^i} \quad \Pi_2^i = \Omega(K_2^i, N_2|\gamma_i) + \frac{\delta}{(1-\delta)}\Omega(K_2^i, N_3|\gamma_i = 0) \tag{11}$$

where $N_2 = N_1$ and N_3 is the number of firms operating in democracy. Then, equilibrium

[21] Note that firms do not expect a political transition to take place in the foreseeable future. Then, assuming that the free entry condition is binding, we can interpret this period as a steady state.

capacities for the period after the democratization announcement are:

$$
\begin{aligned}
K_2^C &= \frac{1}{4}\left(a + b\left(r + \frac{2(1+\psi)(r-\bar{\gamma}) + 2\psi r}{2+\psi}\right)\right) \\
K_2^I &= \frac{1}{4}\left(a + b\left(r - \frac{6(1+\psi)(r-\bar{\gamma}) - 2\psi r}{2+\psi}\right)\right) \\
K_2^U &= \frac{1}{4}\left(a + b\left(-3r + \frac{2(1+\psi)(r-\bar{\gamma}) - \psi r}{2+\psi}\right)\right) \\
K_2^E &= \frac{1}{8}\left(a + b\left(-3r + \frac{2(1+\psi)(r-\bar{\gamma}) - \psi r}{2+\psi}\right)\right)
\end{aligned}
$$

where $\psi \equiv \delta(1-\delta)^{-1}$. Then, total quantity offered in the market during transition and democratic periods are defined respectively by $Q_2^* = \sum_{i\in\{C,I,U\}}^{N_2} K_2^i$ and $Q_3^* = \sum_{i\in\{C,I,U,E\}}^{N_3} K_3^i$, where note that there are $N_2 = N_1$ incumbent firms in the second period, and N_3 incumbent firms in the third period. Finally, the equilibrium price is determined by the aggregate demand function, and profits are computed as in equation (1).

In period 3, all links disappear (i.e., $\gamma_i = 0\ \forall i$), and production and entry decisions are decided as a function of the actions taken by incumbent firms in period 2. Former incumbent firms face the same objective function.

A.3 Comparative statics

Let K_t^i —the solution of the game— denote the capital stock of firm i during period t. Then:

Proposition A.1. *Under assumptions 1 and 2 capital adjustment is a dominant strategy. Firms with different links adjust differently:*

$$K_2^C > K_1^C \quad ; \quad K_2^I \gtreqless K_1^I \quad ; \quad K_2^U < K_1^U$$

Exists $\gamma^* \in (0,1)$ s.t. if $\bar{\gamma} > \gamma^*$ then $K_2^I > K_1^I$, if $\bar{\gamma} < \gamma^*$ then $K_2^I < K_1^I$, and if $\bar{\gamma} = \gamma^*$ then $K_2^I = K_1^I$.

Proof: *Using the equilibrium capacities, we can compare how capacity changes between periods for firms with different types of links. In the case of firms with direct links:*

$$K_2^C - K_1^C = \frac{\psi b}{4(2+\psi)}(3r - \bar{\gamma})$$

Note that if $\delta = 0$, we have that $\psi = 0$, then $K_2^C = K_1^C$. Therefore, if $\delta > 0$, and $\bar{\gamma} \leq r$, we have that $(3r - \bar{\gamma}) > 0$. This means that $K_2^C > K_1^C$. In the case of firms with indirect links, this inequality becomes ambiguous. To see this more clearly, let us subtract the equilibrium

capacities for these firms in the two periods of interest:

$$K_2^I - K_1^I = \frac{\psi b}{4(2+\psi)}(9\bar{\gamma} - 7r)$$

Note that if $\delta = 0$, we have that $\psi = 0$, then $K_2^I = K_1^I$. Therefore, if $\delta > 0$, the difference of interest will be positive if and only if $(9\bar{\gamma} - 7r) > 0$. This means that if $\bar{\gamma} > \frac{7}{9}r$ we have that $K_2^I > K_1^I$, if $\bar{\gamma} = \frac{7}{9}r$ we have that $K_1^I = K_2^I$, and if $\bar{\gamma} < \frac{7}{9}r$ we have that $K_2^I < K_1^I$. Note that, $\gamma^* = \frac{7}{9}r$. Finally, firms without links decrease their productive capacity. To see this, let us again subtract the equilibrium capacities in the two periods of interest:

$$K_2^U - K_1^U = -\frac{\psi b}{4(2+\psi)}(r + \bar{\gamma})$$

Note that if $\delta = 0$, we have that $\psi = 0$, then $K_2^U = K_1^U$. Therefore, if $\delta > 0$, we have that $(r + \bar{\gamma}) > 0$. This means that $K_2^U < K_1^U$. □

Firms with links increase their capital stock in period 2 because of (i) the increase in firm entry in period 3 and (ii) the lower cost of capital they face. Firms without links adjust their capital stock downwards to keep prices high when new firms enter the market. A corollary of Proposition A.1 is:

$$\underbrace{K_2^C - K_1^C}_{>0} > \underbrace{K_2^I - K_1^I}_{\gtreqless 0} > \underbrace{K_2^U - K_1^U}_{<0} \tag{12}$$

In addition, to give us insights about mechanisms behind the lower cost of capital, the network analysis is useful. The lower cost of capital can be decomposed as $R - r = \bar{\gamma} + (\gamma - \bar{\gamma})$. Recall that firms with direct and indirect links share board members, which implies that information flows freely among them. This means that their differential investment reaction places a bound to the role of information. Specifically, the higher the difference in investment between firms with direct and indirect links, the lower the role of information.

The following proposition summarizes the predictions for profits:

Proposition A.2. *Under assumptions 1 and 2, there exist $\bar{\gamma}$ such that profits are higher for firms with direct links during political transition:*

$$\Pi_2^C(\bar{\gamma}) > \Pi_1^C(\bar{\gamma}) \quad ; \quad \Pi_2^I(\bar{\gamma}) > \Pi_1^I(\bar{\gamma}).$$

Firms without links obtain decreasing profits $\forall\gamma$, $\Pi_3^U < \Pi_2^U < \Pi_1^U$.

Proof: *Profits for firms with different types of links can be easily calculated from equilibrium capacities and the equilibrium price we computed in each period. Let us start by calculating the change in profits for firms with direct links. To do this, we need to take the difference between Π_2^C and Π_1^C. Note that if $\delta = 0$, $\Pi_2^C = \Pi_1^C$. Now let us assume $\delta > 0$ and take the derivative of*

the difference in profits with respect to ψ:

$$\frac{\mathrm{d}(\Pi_2^C - \Pi_1^C)}{\mathrm{d}\psi} = \frac{1}{16b}\left(\frac{4b(a+br)}{(2+\psi)^2}(r-\bar{\gamma}) + \frac{8b^2\psi}{(2+\psi)^3}((1-\psi)r^2 + (1+\psi)(r-\bar{\gamma})^2)\right)$$

where the last term in the big parenthesis is always positive because $\psi < 1$. Then, given that ψ is increasing in δ, we can use the chain rule to conclude that $\Pi_2^C - \Pi_1^C$ increases with δ. This means that as δ increases, Π_2^C becomes larger than Π_1^C. Intuitively, the more linked firms value the future the more they are going to invest during political transition in order to deter entry in period 3, this will lead to an increase in their profits. To facilitate the proof for firms with indirect links, let us now move to the analysis of firms without links. Note that if $\delta = 0$ we have that $K_2^U = K_1^U$ and $P_2 = P_1$. Therefore, $\Pi_2^U = \Pi_1^U$. Assume that $\delta > 0$. Then, it is easy to see that $P_2 < P_1$ and $K_2^U < K_1^U$. Therefore, it follows that $\Pi_2^U < \Pi_1^U$. Firms without links do not have access to preferential credit which leads them to reduce their capital, reducing their profits. Using previous results, we can conclude that for any given $\delta > 0$, if $\gamma \to 0$, the difference in profits converges to the one of firms without links, meaning that $\Pi_2^I < \Pi_1^I$. If $\gamma \to r$, on the other side, the difference in profits converges to the one of firms with direct links, which implies that $\Pi_2^I > \Pi_1^I$. Therefore, for any given δ, there must be a $\bar{\gamma}$, such that for $\gamma > \bar{\gamma}$ the difference in profits is positive and for $\gamma < \bar{\gamma}$ is negative. Finally, since $P_2 > P_3$, due to the entry of new firms, we conclude that $\Pi_2^C < \Pi_3^C$, $\Pi_2^I < \Pi_3^I$, $\Pi_2^U < \Pi_3^U$. □

Two forces drive profits: prices and capacity. Prices decrease during periods 2 and 3. Proposition A.2 shows that for some $\bar{\gamma}$, profits increase during period 2. In particular, the higher $\bar{\gamma}$, the lower the profits for firms with direct links during period 2, because a higher $\bar{\gamma}$ implies firms with indirect links increase their capacity by more, which lowers prices. A corollary of this proposition is:

$$\Pi_2^C - \Pi_1^C > \Pi_2^I - \Pi_1^I > \Pi_2^U - \Pi_1^U. \tag{13}$$

The difference in profits between the transition and democratic period, on the other hand, depends on the number of firms that enter the market in period 3. The number of entrants could be driven by, for example, lower entry costs.

Some auxiliary predictions can be derived from the model. First, increases in capacity during political transition are associated with more profits during the democratic period. Second, capacity increases are a function of how capital intensive the industry is.

B Construction of links to the Pinochet regime

Section 2.1 of the paper presented our methodology to identify the network of firms with links to the Pinochet regime before the 1988 plebiscite. The outcomes of this methodology are direct (first degree) and indirect (second degree) links between publicly listed firms and Pinochet. Table A.2 presents an example of a firm with a direct link to the regime. As can be seen from this table, firms are linked because a subset of their board of directors worked for the Pinochet

dictatorship. To uncover this labor relations, we searched for the employment history of the universe of board members working in 1987 at firms listed in the Chilean stock market. This section presents more details about our identification of labor relations.

B.1 Employment history

Investigation of the employment history of board members before 1988 is possible due to the vast amount of information available online about individuals that worked for the Pinochet dictatorship. We gathered this information using Google as an oracle for standardized queries. We performed searches in *incognito* mode to avoid personalized searches and facilitate replication. More precisely, we look in the first page of results using two different queries:

1. Full name of board member
2. Full name of board member + Pinochet

Empirically, several reports document the name and specific job that people performed during the dictatorship (e.g., "Los 100 rostros de la dictadura", "Memoria Viva," among others). In addition, heads of government departments and army officers are extremely well known and, consequently, have an employment history that is easy to track.

B.2 Descriptive statistics

We found that 78 board members (approximately 10 percent) had a direct link to Pinochet in 1987. These board members had different jobs in the dictatorship: 22 were army officers, 9 were close (economic or legal) advisors, 24 worked as head of government departments (ministers), 19 worked as politicians (e.g. local politicians), 2 were part of Pinochet's family, and 2 collaborated with money and press.

C More alternative explanations

C.1 Targeting

Another explanation for our findings is that the Pinochet regime placed individuals as board members in firms that were expected to invest during political transition and perform well in democracy. Two pieces of evidence suggest that this "targeting of firms" is unlikely to be relevant in our context. Because our econometric strategy accounts for industry unobservable shocks during transition, our first piece of evidence against this interpretation comes from the difficulty of predicting future economic outcomes within industries. If the regime targeted firms, the regime should have been able to identify: (1) firms that would behave in a precise way in the future, and (2) if and when there would be a transition. Besides the observable variables for which we control for, it is hard to imagine what type of within-industry information the regime

could have had to target firms. In addition, the regime was expecting to remain in power until at least 1996 (see Section 2), making strategic targeting unlikely.

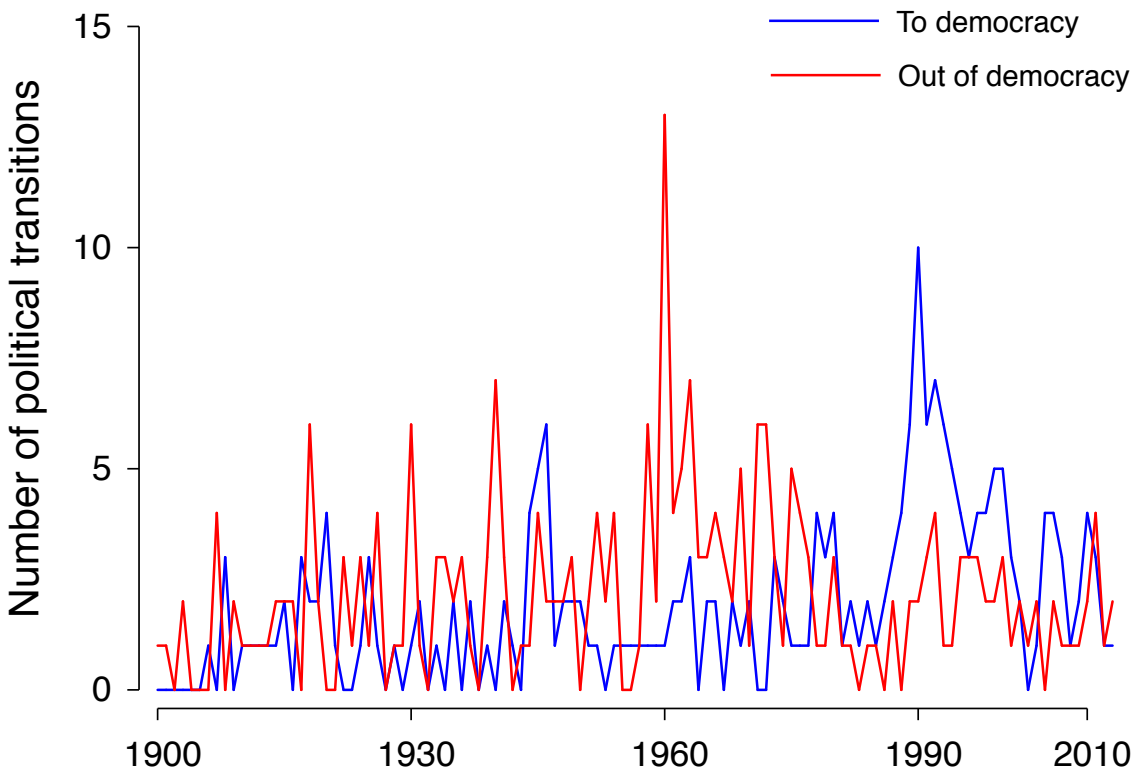
The second piece of evidence against this interpretation comes from the stock market. Recall that stock prices of firms with links to the regime *decreased* following the plebiscite. However, if these firms were expected to behave in a certain way during political transition, we should not observe a decrease in their stock value after the plebiscite. The reasoning behind this argument is that the plebiscite should not have revealed any new information if the regime expected the transition and the reaction of firms.

C.2 Wealth extraction

Another interpretation for our findings is that the Pinochet regime extracted wealth from state-owned banks and made transfers to firm owners before leaving power. This mechanism can explain the higher profits among firms with links during transition. Two pieces of evidence are, however, hard to reconcile with this interpretation. First, we observe higher profits among firms with links after the plebiscite, particularly among those with increases in productive capacity (Figure A.7). Because there is no *a priori* reason to expect wealth transfers should increase *future* profits, we think this interpretation cannot explain these results.

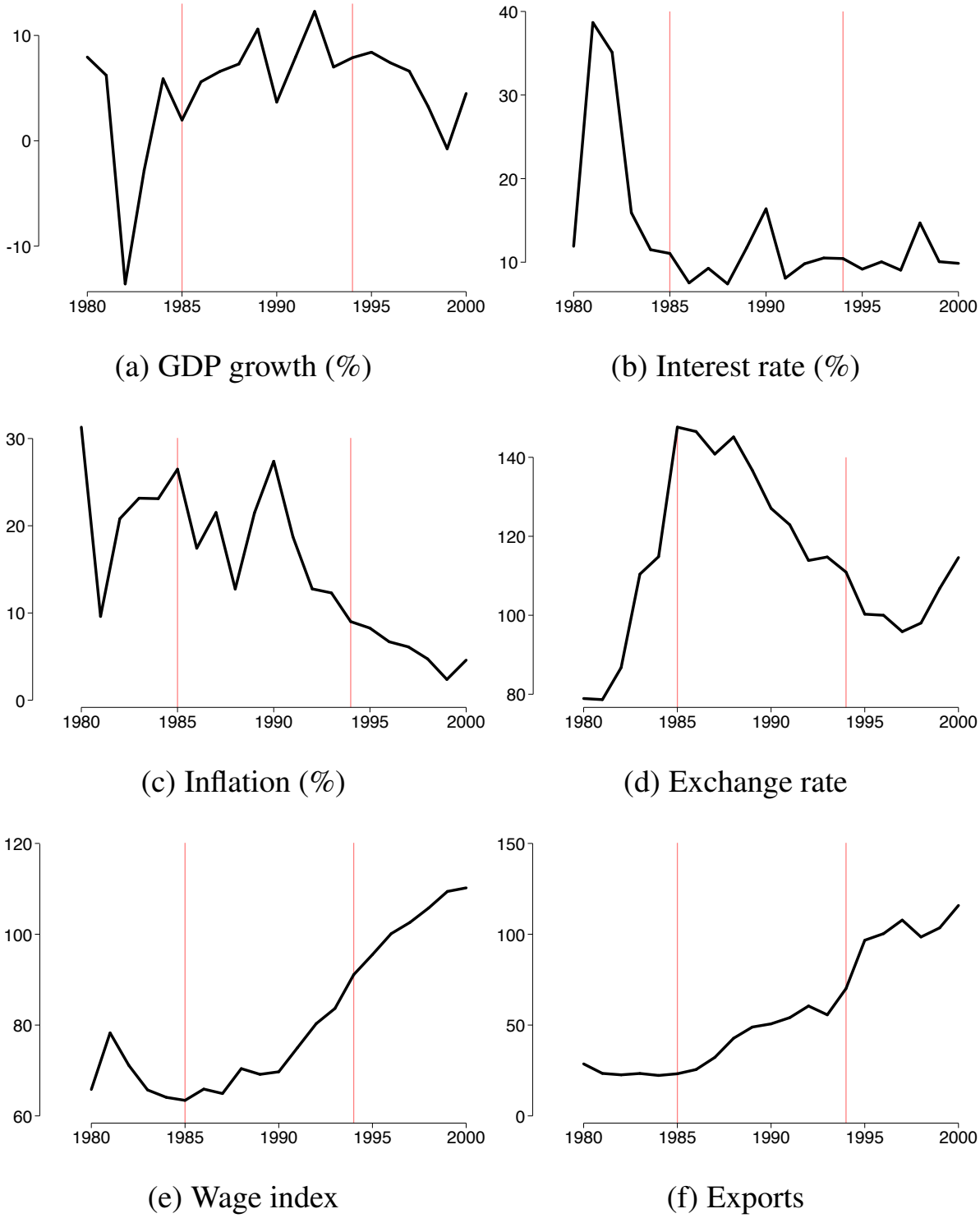
Second, if the regime transferred resources to firm owners, we should observe an increase in wealth extraction from firms by their owners, essentially the last step of the transfer process. This auxiliary prediction can be tested by studying changes in dividends after the plebiscite, which we would see in annual reports. Table A.14 shows that owners of linked firms did not extract more wealth after 1988. In fact, if anything, we observe fewer extraordinary dividends among these firms.

Figure A.1: Political transitions in the world 1900–2010



Notes: Own construction based on data from the Polity IV Project "Political Regime Characteristics and Transitions, 1800–2013." We define the year of a *transition to democracy* as a positive value of the variable `democ` in year t and in the set $[-88, -77, -66, 0]$ in year $t-1$, and the year of a *transition out of democracy* in the opposite way.

Figure A.2: Macroeconomic indicators 1980–2000



(a) GDP growth (%)

(b) Interest rate (%)

(c) Inflation (%)

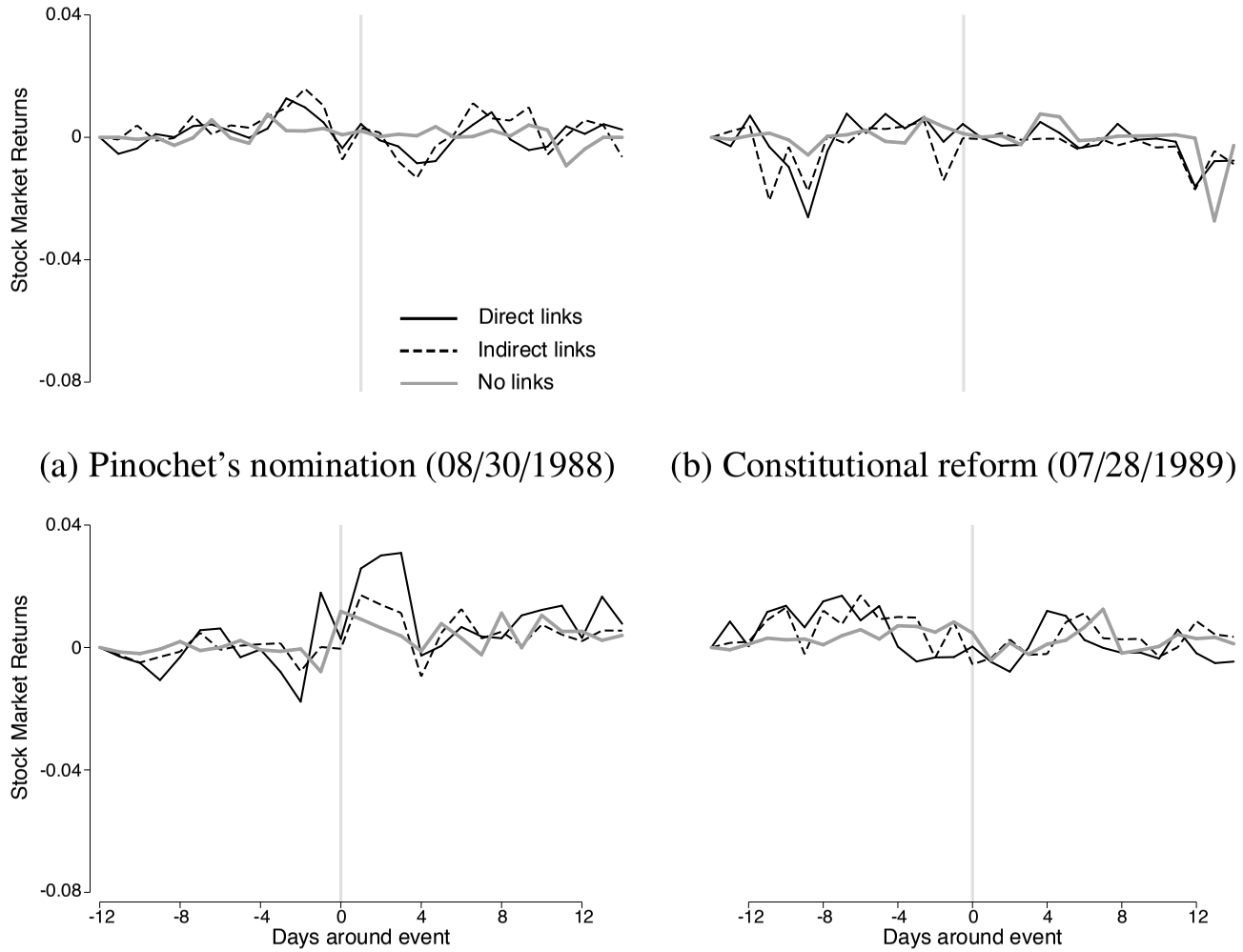
(d) Exchange rate

(e) Wage index

(f) Exports

Notes: Own construction based on data by Díaz et al. (2016) "Chile 1810-2010: La República en Cifras. Historical Statistics" (Ediciones UC). Vertical red lines denote the first and last year in our firm-level data.

Figure A.3: Stock returns around other important political events



(a) Pinochet's nomination (08/30/1988)

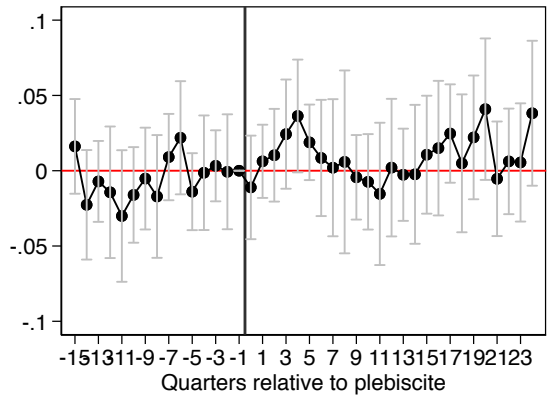
(b) Constitutional reform (07/28/1989)

(c) Presidential election (12/13/1989)

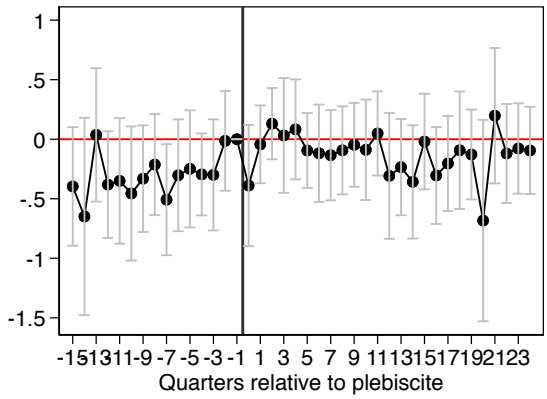
(d) Pinochet leaves power (11/03/1990)

Notes: Own construction based on daily stock data from contemporary newspapers. We define stock returns as $R_{it} \equiv \ln S_{it} - \ln S_{it-1}$, where S_{it} is stock price i in day t. More details in section 2.2.

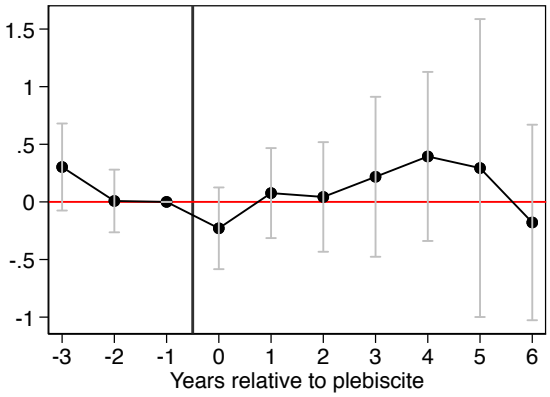
Figure A.4: Dynamic coefficients for firms with direct links



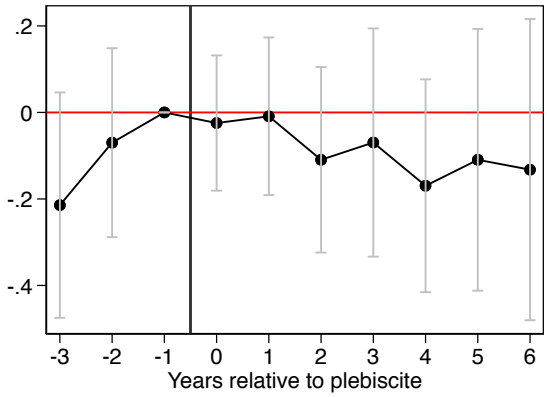
(a) Investment



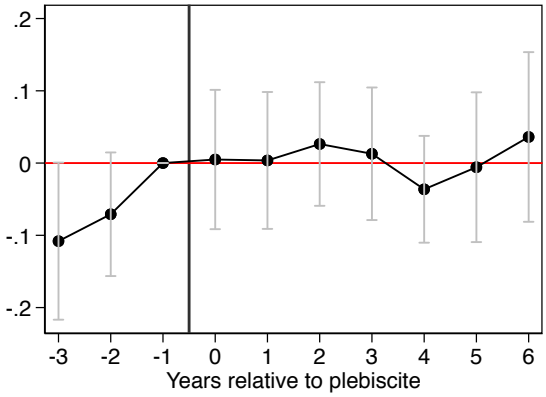
(b) Profits



(c) Productivity



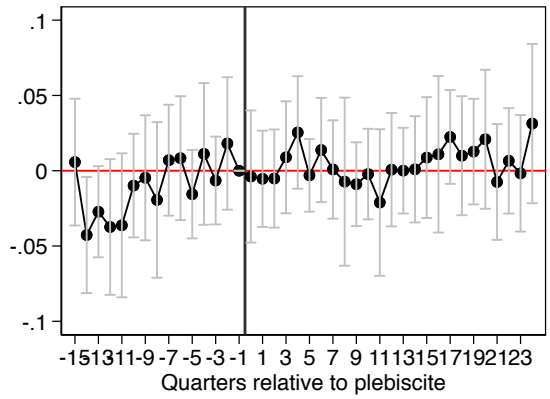
(d) Workers



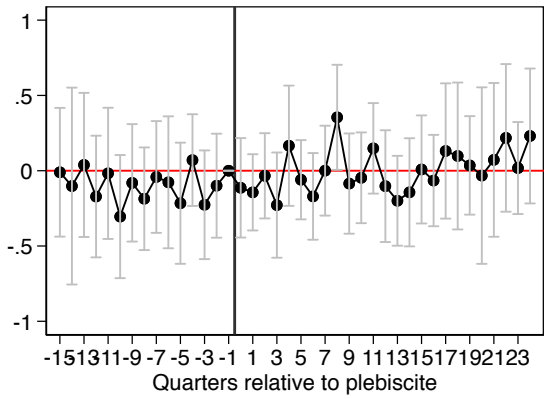
(e) Debt with state-owned bank

Notes: These figures show the estimated coefficients associated to firms with direct links using a dynamic version of equation (4). Vertical lines represent 95% confidence intervals. The *p*-values for the joint significance of coefficients before the plebiscite: 0.25, 0.36, 0.25, 0.28, 0.15.

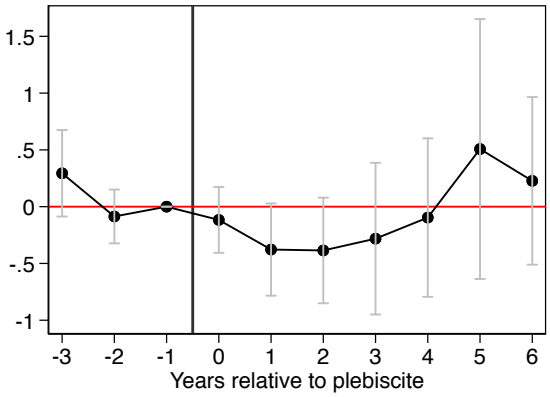
Figure A.5: Dynamic coefficients for firms with indirect links



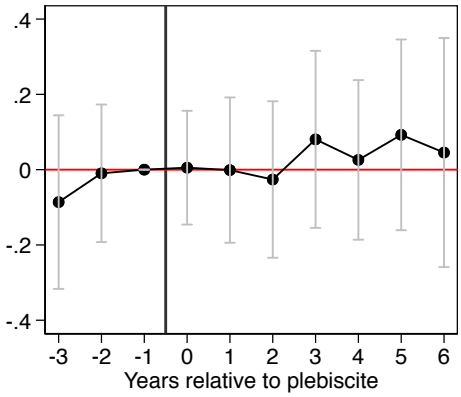
(a) Investment



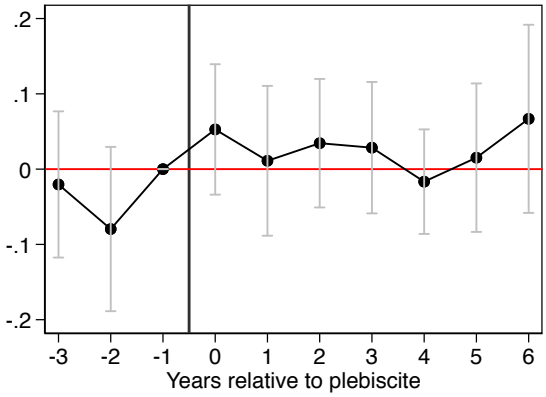
(b) Profits



(c) Productivity



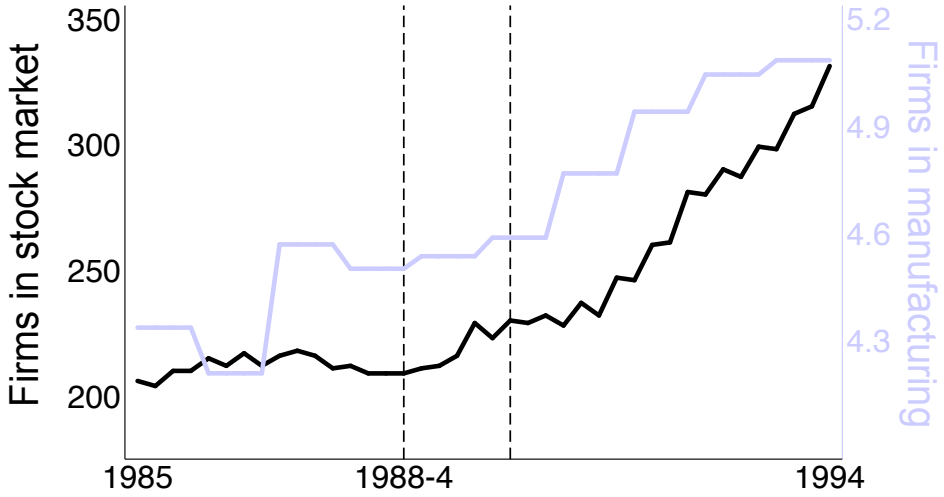
(d) Workers



(e) Debt with state-owned bank

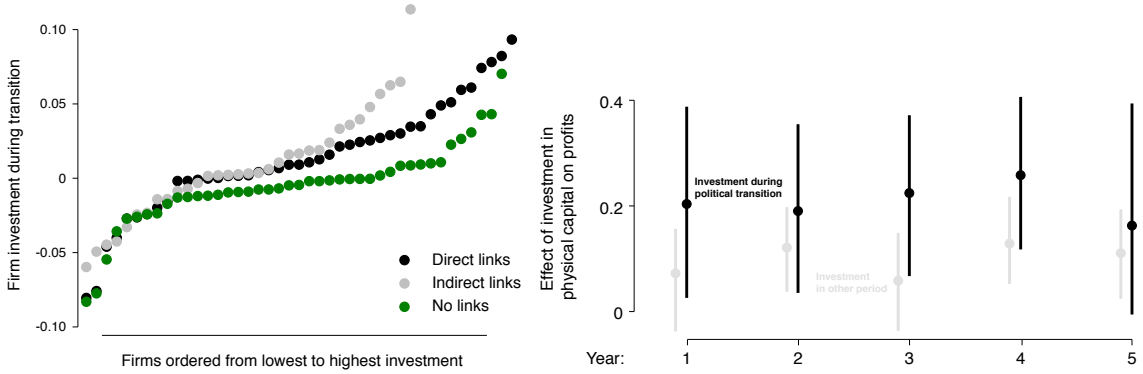
Notes: These figures show the estimated coefficients associated to firms with indirect links using a dynamic version of equation (4). Vertical lines represent 95% confidence intervals. The p-values for the joint significance of coefficients before the plebiscite: 0.16, 0.09, 0.75, 0.15, 0.12.

Figure A.6: Firm entry



Notes: This figure presents the number of firms operating in the stock market during the period under study. Vertical dash lines represent the time of the plebiscite and the beginning of the democratic period (March 11th, 1990). The second y-axis (gray) presents the number of firms operating in the manufacturing census (*Encuesta Nacional de la Industria Manufacturera, ENIA).*

Figure A.7: Firm investments during political transition



(a) Firm specific investments during political transition

(b) Investment during transition and profits in democracy

Notes: Panel (a) presents estimates of firm-level investments changes in productive capacity during the transition period (1988–1990). Panel (b) presents the estimated relationship between investment during political transition and profits in the first five years of democracy. Details are as follows. We estimate the correlation between profits and firm-specific capacity responses during political transition. Because investments are expected to increase profits (at least on average), we compare the profits response to investments during political transition to the profits response to investments in the 3*rd* quarter of 1986. We proceed in three steps. First, to estimate firm-specific responses, we augment equation (1) by interacting time period indicators with firm specific indicators. This allow us to estimate firm specific capacity responses $\beta_{i,lame}$ with $i = 1, \ldots, 118$. Panel (a) plots these coefficients. Second, we construct profits in year t by adding up quarterly profits. Third, we estimate the following cross-sectional regression each year between 1990 and 1994:

$$\Pi_{it} \quad = \quad \alpha_t + \tau_t \widehat{\beta}_{i,lame} + \eta_{it}$$

where Π_{it} represents profits in year t for firm i, α_t is a constant term, and $\widehat{\beta}_{i,lame}$ is our estimate of firm-specific capacity responses. To facilitate the interpretation of coefficients, we have standardized capacity responses and yearly profits. The coefficient of interest is τ_t, and our theoretical framework implies that $\tau_t > 0$. Standard errors for τ_t are calculated using a bootstrap procedure to account for the uncertainty in our estimation of firm-specific capacity responses. Panel (b) presents OLS estimates of coefficients $(\hat{\tau}_{1990}, \ldots, \hat{\tau}_{1994})$.

Table A.1: Definition of variables and sources

	Definition	Source
Sample	(1)	(2)
Universe of firms	All Firms listed in Chile's stock market or with more than five hundred shareholders	SVS
Sample of firms	Firms with balance sheet information or annual reports in dictatorship and democracy	SVS
Variables		
Direct link to Pinochet	1987 board member worked for Pinochet	See Appendix B
Indirect link to Pinochet	1987 board member works in another board where a board member worked for Pinochet	See Appendix B
Stock prices	Daily stock prices	Newspaper *El Mercurio*
Abnormal returns	Daily stock returns different from business as usual. Defined by Campbell et al. (1997)	Stock prices
Physical capital	The sum of land, machinery, and buildings in monetary units	Balance sheets
Profits	Earnings before interest, taxes, and depreciation	Balance sheets
Investment	Logarithmic change in physical capital between periods	Physical capital
Workers	Number of blue- and white-collar workers in the firm	Annual reports
Revenues	Sales, measured in monetary units	Balance sheets
Productivity	Revenue productivity, defined by Olley and Pakes (1996)	Revenues, capital, and workers
Capital misallocation	A measure of distortion defined by Hsieh and Klenow (2009), equation (17) in page 1415	Revenues, capital, and workers
Output misallocation	A measure of distortion defined by Hsieh and Klenow (2009), equation (18) in page 1415	Revenues, capital, and workers
Debt with state-owned banks	Outstanding debt with *Banco del Estado*	Annual reports
Debt with other banks	Outstanding debt with all private banks	Annual reports
Age in 1987	1987 minus the year of establishment	Annual reports
Exporter	Indicator that takes the value of one for firms declaring they export products	Annual reports
Privatized by Pinochet	List of firms privatized by Pinochet	Congress' report
Industries	Own classification reading description of activities and using two-digit industries	Annual reports and United Nations (2008)
Business groups	Firms under the same controller belong to the same group. Controllers own more than 50% of the firm	Circular N. 766 (SVS)
Uncertainty measures	Baker et al. (2016) text analysis applied to letters for shareholders	Annual reports

Notes: This table presents definitions and sources for all variables mentioned in the paper. Balance sheets and annual reports for each firm-year come from the Superintendencia de Valores y Seguros (SVS). More details in section 3.

Table A.2: Example of a firm with a direct link to Pinochet

Name of board member	Job in the Pinochet regime	Years in job
Guillermo Letelier	Army Officer	1980s
Sergio Melnik	Minister of Planning	1987
Julio Ponce Lerou	Pinochet's son in law	1969–
Enrique Valenzuela	Minister of Mining	1975–1978
Sergio Valenzuela	Minister of Planning	1985
Nine other board members	No links	–

Notes: Names and links of individuals working in the Board of Directors of the *Chemical and Mining Society of Chile* in 1987, a Chilean chemical company and supplier of industrial chemicals. Board members data comes from *Superintendencia de Valores y Seguros*. More details in section 2.1 and section B.

Table A.3: Links by industry

Industry:	No links	Direct links to Pinochet	Indirect links to Pinochet	Total number of firms
Accommodation and food service activities	0	2	1	3
Agriculture, forestry, and fishing	3	4	8	15
Arts, entertainment, and recreation	0	1	0	1
Construction	2	1	0	3
Education	1	0	0	1
Electricity, gas, steam and air conditioning supply	4	6	2	12
Human health and social work activities	1	0	0	1
Information and communication	0	2	2	4
Manufacturing	13	19	13	45
Mining and quarrying	2	3	2	7
Real estate activities	14	1	3	18
Transportation and storage	1	3	1	5
Wholesale and retail trade	1	1	1	3
Total:	42	43	33	118

Notes: Number of firms by industry and type of link in our data. Own construction based on information in annual reports.

Table A.4: Summary statistics by period

	Direct links	Indirect links	No links
A – Transition (1988–1989)			
Investment	0.01	0.02	0.00
	(0.06)	(0.05)	(0.05)
Profits	0.88	0.08	-0.29
	(1.89)	(.65)	(.25)
Log workers	6.41	5.74	4.59
	(1.58)	(1.42)	(2.07)
Productivity	-1.34	-1.09	-0.39
	(1.80)	(1.30)	(1.68)
Capital misallocation	-0.58	-0.74	-0.27
	(0.74)	(0.27)	(1.08)
Output misallocation	0.82	0.85	0.90
	(0.65)	(0.65)	(0.11)
Debt with state-owned banks	23	22	2
	(65)	(66)	(8)
Debt with other banks	65	28	13
	(112)	(50)	(26)
B – Democracy (1990-1994)			
Investment	0.01	0.02	0.00
	(0.05)	(0.05)	(0.06)
Profits	0.79	0.11	-0.27
	(1.85)	(0.78)	(0.33)
Log workers	6.73	5.92	4.82
	(1.61)	(1.43)	(1.94)
Productivity	-1.78	-1.25	-0.43
	(1.81)	(1.33)	(1.33)
Capital misallocation	-0.63	-0.68	-0.15
	(0.44)	(0.32)	(1.15)
Output misallocation	0.65	0.90	0.82
	(0.87)	(0.16)	(0.20)
Debt with state-owned banks	8	14	1
	(27)	(60)	(4)
Debt with other banks	74	39	12
	(110)	(72)	(29)

Notes: Averages of main variables by period. Data for 118 firms in Panel A, 99 firms in the first four rows of Panel B, 113 firms in the last two of rows of Panel B. Debt is measured in billions of Chilean pesos. Standard deviation in parentheses in columns 1-3, and standard error in parentheses in the last three columns. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.5: Stock returns after the 1988 plebiscite

Dependent variable is cumulative abnormal stock returns

Days after event:	Same day	0-5 days	0-10 days
Direct link	-0.05***	-0.08***	-0.07***
	(0.02)	(0.02)	(0.03)
Indirect link	-0.05**	-0.08***	-0.10***
	(0.01)	(0.02)	(0.03)
Firms	80	80	80

Notes: This table shows a estimates from a cross section regression of abnormal cumulative stock returns on links to the Pinochet regime. Robust standard errors are reported in parentheses. Significance level: *** $p < 0.01$, ** $p < 0.05$.

Table A.6: Other sources of funding

Dependent variable: issuance (total amount issued in shares and bonds) or an indicator for issuance greater than zero

	Shares			Bonds		
	Issuance	1[Issuance > 0]	log(Issuance)	Issuance	1[Issuance > 0]	log(Issuance)
	(1)	(2)	(3)	(4)	(5)	(6)
Direct link × Transition	-102.87	-0.02	-5.95**	1.54	0.00	67.59
	(65.22)	(0.06)	(2.73)	(1.52)	(0.05)	(88.25)
Direct link × Democracy	111.47	0.08	-1.60	2.45	-0.06**	65.51
	(121.91)	(0.06)	(1.70)	(1.80)	(0.03)	(89.07)
Indirect link × Transition	17.59	0.05	0.57	-0.94	0.02	1.99*
	(76.41)	(0.05)	(0.83)	(1.28)	(0.04)	(1.14)
Indirect link × Democracy	-66.99	0.12*	-3.21***	0.73	0.02	
	(99.33)	(0.06)	(0.78)	(1.11)	(0.03)	
Observations	1,107	1,107	100	1,107	1,107	54
Number of firms	112	112	53	112	112	29
Firm and time F.E.	x	x	x	x	x	x
Industry F.E. × transition/democracy	x	x	x	x	x	x
Pscore × transition/democracy	x	x	x	x	x	x

Notes: Data for firms in the period 1985–1994. Issuances are measured in $MMM Chilean pesos. Robust standard errors are clustered at the business group level and are reported in parentheses. In columns 1, 2, 4, and 5, the number of clusters is 98; in column 3 (6) is 48 (28). Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.7: Solow productivity

	Productivity	
	(1)	(2)
Direct link × Transition	-0.13	-0.15
	(0.18)	(0.15)
Direct link × Democracy	0.07	0.06
	(0.35)	(0.32)
Indirect link × Transition	-0.19*	-0.22
	(0.12)	(0.13)
Indirect link × Democracy	0.05	0.04
	(0.22)	(0.29)
Firms	99	99
Observations	792	792
Firm & time F.E.	x	x
Industry F.E. × transition/democracy	x	x
Pscore × transition/democracy		x

Notes: Data for firms in the period 1985–1994. We calculated productivity using a Solow residual. The mean (standard deviation) of productivity before the plebiscite is 0.028 (1.531). Robust standard errors are clustered at the business group level and are reported in parentheses (88 clusters). Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.8: Synthetic controls

	Direct link		Indirect link	
	Unweighted	Weighted	Unweighted	Weighted
A – Investment				
Transition	0.02**	0.02**	0.02**	0.01
	[0.004, 0.05]	[0.003, 0.05]	[0.01, 0.04]	[-0.004, 0.04]
Democracy	0.00	0.00	0.01	0.01
	[-0.01, 0.04]	[-0.01, 0.04]	[-0.002, 0.040]	[-0.004, 0.06]
B – Profits				
Transition	0.85**	0.20**	0.02	-0.01
	[0.78, 1.89]	[0.01, 0.56]	[-0.13, 0.58]	[-0.05, 0.46]
Democracy	0.43**	-0.002	-0.07	-0.09
	[0.11, 1.63]	[-0.19, 0.45]	[-0.42, 0.79]	[-0.21, 0.74]

Notes: Average difference in quarterly investment for firms with direct (indirect) links and synthetic controls. Following Abadie et al. (2010), we construct synthetic controls for each firm with a link based on a set of firm characteristics in the period 1985–1987. In particular, we use the logarithm of assets, leverage, and indicators for being part of a business group, being an exporter, and have been privatized by the dictatorship. We present two average differences between firms with links and synthetic controls:

- Unweighted: $M = \frac{1}{N \times T} \sum_i^N \sum_t^T Inv_{it} - \hat{Inv}_{it}$, where $\hat{Inv}_{it} = \sum_{j \in Controls} w_j^i Inv_{jt}$ and w_j^i are weights based on the synthetic controls algorithm.
- Weighted: $Mw = \sum_i \alpha_i \times \sum_t \frac{Inv_{it} - \hat{Inv}_{it}}{T}$ where $alpha_i = \frac{1/\sigma_i}{\sum_i 1/\sigma_i}$ and σ_i is the goodness of fit of each synthetic control.

To compute confidence intervals, we conduct the following procedure:

1. Generate a bootstrapped sample, b, from control group.
2. Estimate w^i and compute M_b, Mw_b.
3. Repeat the procedure $B = 2,000$ times.
4. Compute [2.5, 97.5] percentiles of empirical distribution over the bootstrapped sample of M_b and Mw_b. These intervals are presented in brackets below the means.

Table A.9: Bounding exercise using estimated trends under dictatorship

	Balance sheets		Annual reports		
Dependent variable:	Investment	Profits	Workers	Productivity	Credit market
	(1)	(2)	(3)	(4)	(5)
Direct link × Linear trend	-0.00	0.02	0.09	-0.10	-0.03
	(0.00)	(0.01)	(0.06)	(0.09)	(0.02)
Indirect link × Linear trend	-0.00***	-0.00	0.04	-0.07	0.00
	(0.00)	(0.01)	(0.05)	(0.09)	(0.01)
Direct link × State bank × Linear trend					0.04**
					(0.02)
Direct link × State bank × Linear trend					0.01
					(0.01)
Firms	118	118	98	98	107
Observations	1,636	1,636	231	231	619
Firm fixed effects	x	x	x	x	x
Time fixed effects	x	x	x	x	x
Probability of links × time fixed effects	x	x	x	x	x
Calculation for direct links:					
Trend prediction for the transition period (I)	0.02	0.36	0.09	-0.10	0.04
Main estimate for the transition period (II)	0.12	1.44	0.07	-0.16	0.09
Difference between I and II (p-value)	0.06	0.08	0.55	0.64	0.10
Calculation for indirect links:					
Trend prediction for the transition period (I)	0.05	-0.04	0.04	0.07	0.01
Main estimate for the transition period (II)	0.06	0.06	0.03	-0.26	0.07
Difference between I and II (p-value)	0.59	0.42	0.52	0.86	0.07

Notes: Estimates in this table use quarterly/annual data only from the dictatorship period. To calculate the "Trend prediction for the transition period" ("Main estimate for the transition period") we use the estimated differential linear trend in this table (main estimates in the paper) and multiplied that number by six (quarters) in columns 1-2 and one (year) in columns 3-5. The statistical difference between both was calculated using draws from the distribution of estimates implied by their standard errors. Robust standard errors are clustered at the business group level and are reported in parentheses. There are 104 clusters in columns 1-2 and 88 clusters in columns 3-5. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Details in section 6.2.

Table A.10: Entry barriers

Dependent variable is investment

	(1)	(2)
Direct link × Transition × High entry costs	0.03**	0.03**
	(0.02)	(0.02)
Direct link × Democracy × High entry costs	0.00	0.00
	(0.01)	(0.01)
Indirect link × Transition × High entry costs	0.02	0.02
	(0.02)	(0.02)
Indirect link × Democracy × High entry costs	0.03*	0.03*
	(0.01)	(0.01)
Direct link × Transition	0.00	-0.00
	(0.01)	(0.01)
Direct link × Democracy	0.02**	0.01
	(0.01)	(0.01)
Indirect link × Transition	0.00	-0.00
	(0.02)	(0.02)
Indirect link × Democracy	0.01	-0.00
	(0.01)	(0.01)
Firms	118	118
Observations	4,694	4,694
Firm and time F.E.	x	x
Industry F.E. × Transition/Democracy	x	x
Pscore × Transition/Democracy		x

Notes: Data for firms in the period 1985–1994. To construct industries average sunk cost (i.e. entry costs), we follow Lambson and Jensen (1998) and take the average of gross book value of property, plant, and equipment in the period 1985–1987. We define "High entry costs" as an indicator for industries with an average sunk cost above the median. Robust standard errors are clustered at the business group level and are reported in parentheses (104 clusters). Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.11: Firm entry

Dependent variable is the logarithm of total number of firms in the period 1984–2000

	Share		Indicator	
	(1)	(2)	(3)	(4)
A – All industries				
Share of firms with links in 1987 × Post	-0.44**	-1.24	-0.24***	-0.63*
	(0.19)	(0.94)	(0.08)	(0.35)
Industries	9	9	9	9
Observations	153	153	153	153
B – Manufacturing				
Share of firms with links in 1987 × Post	-4.31***	-10.78***	-0.06*	-0.22*
	(1.09)	(3.42)	(0.03)	(0.11)
Industries	11	11	11	11
Observations	176	176	176	176
Industry F.E.	x	x	x	x
Year F.E.	x	x	x	x
Industry trend	x	x	x	x
Industry trend × Post		x		x

Notes: Panel A uses data from the *Superintendencia de Valores y Seguros* and Panel B uses data from the manufacturing census of firms (ENIA). The former includes listed firms and the latter includes all firms in the manufacturing census in Chile. When using the manufacturing census we can construct more narrowly-defined industries within the manufacturing census. We define "Share of firms with links in 1987" in columns 1-2 as the percentage of firms in an industry that have a link to the regime in 1987. Columns 3-4 use an indicator for industries with a high share of links (above the median). *Industry Trend* is a linear trend for each industry. Robust standard errors are reported in parentheses. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.12: The role of economic policy uncertainty

Dependent variable:	Indicator for firms with reports mentioning:			
	Uncertainty and risk	Positive beliefs about industry or country	Negative beliefs about industry or country	Talks about policy
	(1)	(2)	(3)	(4)
Direct link × Transition	0.19*	0.10	0.04	0.12
	(0.11)	(0.12)	(0.03)	(0.08)
Indirect link × Transition	0.15	0.11	0.04	0.01
	(0.15)	(0.11)	(0.04)	(0.08)
Firms	99	99	99	99
Observations	395	395	395	395
Firm fixed effects	x	x	x	x
Year fixed effects	x	x	x	x
Industry fixed effects × Transition	x	x	x	x
Mean of dependent variable	0.11	0.22	0.03	0.06

Notes: We use the Baker et al. (2016) methodology to construct four firm-year measures of uncertainty using text analysis of reports. Standard errors clustered by firm are reported in parentheses. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.13: Robustness to supply-side mechanism

					Debt		
	Investment	Profits	Productivity	Workers	Level	Indicator	Share
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Direct link × Transition	0.02*	0.24**	-0.02	0.07	28***	0.19**	0.09**
	(0.01)	(0.10)	(0.24)	(0.09)	(11)	(0.08)	(0.04)
Direct link × Democracy	0.01	0.13	0.29	-0.02	1	0.22**	0.07*
	(0.01)	(0.13)	(0.47)	(0.10)	(15)	(0.10)	(0.04)
Indirect link × Transition	0.01	0.01	-0.12	0.04	29	0.09	0.07*
	(0.01)	(0.08)	(0.16)	(0.08)	(20)	(0.07)	(0.04)
Indirect link × Democracy	0.02	0.09	0.11	0.08	13	0.14	0.06
	(0.01)	(0.13)	(0.32)	(0.11)	(19)	(0.09)	(0.05)
Firms	118	118	99	99	112	112	112
Observations	4,694	4,694	792	792	2,073	2,073	2,073
Firm F.E.	x	x	x	x	x	x	x
Time F.E.	x	x	x	x	x	x	x
Industry F.E. × Transition/Democracy	x	x	x	x	x	x	x
Pscore × Transition/Democracy	x	x	x	x	x	x	x

Notes: All regressions control by a firm-specific cross-sectional index of financial constraints – proposed by Kaplan and Zingales (1997) – interacted by an indicator for the transition and democracy periods. The index is a linear combination cash flow, leverage, dividends, liquidity, and Tobin's Q. Robust standard errors are clustered at the business group level and are reported in parentheses. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.14: Extraordinary dividends

Dependent variable is payment of extraordinary dividends

	Extraordinary dividends		Payment of extraordinary dividends	
	(1)	(2)	(3)	(4)
Direct link × Transition	0.00	-0.01	-0.30*	-0.20
	(0.02)	(0.02)	(0.15)	(0.15)
Direct link × Democracy	-0.04**	-0.05**	-0.46***	-0.43**
	(0.02)	(0.02)	(0.17)	(0.19)
Indirect link × Transition	0.00	-0.01	-0.37***	-0.29*
	(0.02)	(0.02)	(0.12)	(0.14)
Indirect link × Democracy	0.02	0.01	-0.28	-0.26
	(0.02)	(0.02)	(0.17)	(0.20)
Observations	519	519	519	519
Number of firms	65	65	65	65
Firm and time F.E.	x	x	x	x
Industry F.E. × Transition/Democracy	x	x	x	x
Pscore × Transition/Democracy		x		x

Notes: Data for firms in the period is 1985–1994. A mandatory dividend of 30% of earnings is part of the Chilean regulation. The board of the company can decide to pay extraordinary dividends above this threshold. We define "Extraordinary dividends" as payments above the threshold over total assets. Columns 3-4 use an indicator for the payment of extraordinary dividends. Robust standard errors are clustered at the business group level and are reported in parentheses. The number of clusters is 65. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.