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The value of political capital: Dictatorship collaborators as business elites

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ABSTRACT

What is the value of political capital for individuals? Towards the end of the Pinochet dictatorship in Chile, military and civilian collaborators entered the business elite, controlling the largest and most important firms in the country. Using a novel panel dataset of board members in these firms, we document an appointment premium for those who had previously collaborated with Pinochet. After democratization, however, collaborators were removed from boards and their compensation premium disappeared. These results suggest that dictatorship collaborators earn a premium in the business world in dictatorship, but not in democracy.

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1. Introduction

Firms hire board members for their managerial skills and monitoring capacity (Adams et al., 2010; Schwartz-Ziv and Weisbach, 2013), but also for their social networks. A large body of research has shown that firms benefit from one type of network, political connections or political capital.¹ If these connections are valuable, then we should also observe that individuals with valuable networks earn a premium for them. Moreover, this premium should generally disappear if valuable links cease to exist or if the value of the connections depreciates. Although intuitive, it has proven difficult to empirically identify this premium, particularly in the context of dictatorships and non-family relationships.

This paper shows the existence of an appointment premium among individuals with non-family relationships to the Pinochet regime before Chile's transition to democracy. Towards the end of the Pinochet dictatorship (1973–1990), a number of his collaborators entered the business elite as board members of the largest and most important firms in the country. These individuals had previously worked for the regime as part of the military or as civilians in cabinet positions. We collect data on board members and information on their board compensation for almost a decade, covering periods of both dictatorship and democracy. We exploit variation within individual-firm pairs and show Pinochet collaborators were appointed to more boards, had higher compensation, and were placed in higher positions than other board members. Importantly, this “appointment premium” among collaborators disappeared after democratization. These results suggest that dictatorship collaborators earn a premium in the business world in dictatorship, but not in democracy.

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¹ See Fisman (2001), Khwaja and Mian (2005), Faccio (2006), Faccio et al. (2006), Jayachandran (2006), Claessens et al. (2008), Ferguson and Voth (2008), Blanes i Vidal et al. (2012), Cingano and Pinotti (2013), Acemoglu et al. (2016), Fisman and Wang (2015), González and Prem (2018b), and Colonnelli and Prem (2017), among many others.

Several aspects of the Pinochet regime make it a useful and interesting case study. In the first place, the timing of this democratization allows us to observe the situation of collaborators and other board members in both the dictatorship and democracy. Chile's transition to democracy started in October 1988, when Pinochet lost a referendum, and concluded in March 1990 when Patricio Aylwin became the first democratically elected President since 1970. The transition to democracy was unexpected and changed the political nature of the following eight years. As a consequence of this common type of democratization (Treisman, 2017), collaborators lost their political networks and their social capital depreciated.

In the second place, data availability allows us to measure several important dimensions that are usually unavailable to researchers. We combine an administrative data set of board members in the largest firms in the country – which includes listed and non-listed firms – with a procedure that uses internet content to identify dictatorship collaborators. In addition, we are able to observe board compensation for the majority of individuals on these boards.

We find that collaborators enjoyed a significant premium during the dictatorship. In particular, we observe that within firms, collaborators were appointed to more and higher positions, and had 10% higher board compensation. In addition, we use the panel structure in our data in a differences-in-differences framework to exploit within board member variation and estimate how this premium changed during the transition and after democratization. Results show that, in democracy, collaborators were removed from board positions, and those who remained in their appointments suffered from a significant decrease in their board compensation. However, and perhaps surprisingly, collaborators also experienced a significant increase in their board compensation during the transition period, particularly military collaborators. This increase is consistent with collaborators being more valuable before the dictatorship ends. We identify these effects using a comparison between collaborators and other board members before and after Chile's transition to democracy. These changes in the appointment premium of dictatorship collaborators are similar for both military and civilian collaborators.

The disappearance of the appointment premium in democracy and the similarity of results across military and civilian collaborators suggest that the premium cannot be explained by differences in managerial skills. Civilians had arguably different managerial skills than the military but had the same premium. In an attempt to explain this appointment premium we explore how it varies by characteristics of the firm, the industry, and the individual. We also use historical data to study active military personnel, a group that also collaborated but was not appointed to any firm. We document that military personnel earned twice the wage of public employees *only* during dictatorship. This wage premium did not exist prior to the Pinochet regime, it originated in the mid-1970s as a consequence of legal reforms, and disappeared after democratization. Therefore, we argue that this *wage* premium is consistent with a favoritism mechanism. The size of the premium, its timing, and the historical context do not support other explanations. Although we cannot definitely prove that favoritism with military personnel implies favoritism with board members, the collection of findings points in that direction.

Overall, these findings suggest that dictatorship collaborators enjoy a premium in the business world in dictatorship, but not in democracy, and this premium is most likely to be explained by favors flowing from the dictatorship to collaborators and finally to firms. Importantly, this premium is not guaranteed to exist forever, and we find evidence that it disappears when the value of networks decreases and political capital depreciates. The premium can be theoretically explained by either collaborators being more productive during the dictatorship, or because the dictator is favoring his network while in power. Although we cannot identify the importance of these two mechanisms because of potential regime-specific productivity differences, we provide suggestive evidence for favoritism being presumably more important in our context.

The main contribution of this paper is to estimate how the value that firms place on political capital translates into a premium for dictatorship collaborators and to show how this premium changes after a democratization. To the best of our knowledge, the analysis of dictatorship collaborators is novel.² Indeed, we are shifting the focus in the political connections literature from firm value and performance (e.g., Fisman 2001, Ferguson and Voth 2008, Fisman et al. 2012, Amore and Bennedsen 2013, Kostovetsky 2015, among others), and firm-related outcomes (e.g., Khwaja and Mian 2005, Cingano and Pinotti 2013, among others) to the outcomes of individuals providing connections between a dictatorship and the business world.

Although we are not aware of any study analyzing how firms value dictatorship collaborators, a growing number of papers study individual-level outcomes in the private world as a function of social networks in the public sphere. For example, Hsieh et al. (2011) find that citizens in Venezuela experienced higher unemployment rates and lower wages after being identified as opponents to the Chávez regime. Fisman et al. (2014) show that the assets of winners in state elections in India increase by 3–5% when compared to assets of runners-up. Finally, several articles have shown evidence of economic benefits in the labor market for individuals with social ties to top politicians in a variety of contexts such as Brazil, Italy, the Philippines, Sweden, and the U.S. (Blanes i Vidal et al., 2012; Colonnelli et al., 2018; Fafchamps and Labonne, 2017; Folke et al., 2017; Gagliarducci and Manacorda, 2017).³

The next section provides details about the Pinochet regime and dictatorship collaborators. Section 3 describes the data construction process and provides descriptive statistics. Section 4 presents main results, Section 5 discusses mechanisms by studying military personnel, and Section 6 concludes.

² There is a significant amount of *qualitative* work about collaborators. For example, Salazar (1995) documents the history of the head of Pinochet's secret police, Woloch (2002) studies the contribution of collaborators to the rise of Napoleon in France, and Kaplan (2001) studies the fate of writer and Nazi supporter Robert Brasillach.

³ Others study the return to social connections *within* the private world. For example, Cohen et al. (2008) show how connections between boards and mutual fund managers translate into higher performance for the latter.

2. Collaborators of the Pinochet regime

The dictatorship in Chile began in September 11th of 1973, when President Salvador Allende was overthrown in a coup d'état. Coup plotters included the Navy, the Air Force, the National Police, and the Army, the latter led by Commander-in-Chief Augusto Pinochet. In the aftermath of the operation, all political activities were suppressed, the Congress was closed, the Constitution was suspended, and a *junta* was established to rule the country. The leaders of the armed forces and the National Police were appointed as members of the *junta*, and Pinochet was designated head of the institution. In the following months, Pinochet consolidated his power and became (self-proclaimed) President of Chile in December of 1974.⁴

After taking political control of the country, the *junta* needed to fill positions in the government. There was, however, no clear strategy to recruit individuals willing to collaborate with the new regime. As stated by Cavallo et al. (2011, p. 25), “there were no plans, no names, just the agreement of assigning government departments to the armed forces and, hopefully, some civilians.” The ministers of the first cabinet were designated by the *junta* in the following three weeks following the coup. The objective was to have a “functioning government as quickly as possible” (Spooner, 1999, p. 85). All designated ministers were part of the armed forces except for two who were civilians. In the months after the coup, there was significant turnover in government departments and little consensus on how to run the country.

Although the military coup was condemned both nationally and internationally, the *junta* still enjoyed considerable support among citizens.⁵ In the political arena, the prevailing parties' opinions were divided in a predictable manner. On one hand, the left-wing was against the authoritarian regime that overthrew the first socialist president. On the other hand, the right wing supported the coup; and the Christian Democrats, the largest political party, were divided in their support. Overall, many politicians from the center-right political spectrum were willing to collaborate with the regime. In fact, the right-wing coalition, comprised by the National Party and the Radical Party, saw in these turbulent times an opportunity to implement their policy platform without having to negotiate with the opposition.⁶

The arrival of civilian collaborators to the regime occurred quickly. Collaborators in the early stage of the regime came from two distinct groups that worked in relatively different areas.⁷ The first group was composed by highly educated individuals trained at the University of Chicago, known as “Chicago Boys.” These technocrats were in charge of the design and implementation of economic policies. That policy design is described in a lengthy document known as “The Brick,” first created before the 1970 presidential election as an economic program for the right-wing candidate Jorge Alessandri.⁸ The implementation of these policies started in 1975 and were substantially moderated after the 1982 economic crisis. A prominent figure of this group was Sergio De Castro, Pinochet's Economy Minister between 1975 and 1982, member of several boards of directors after 1982, and the epitome of collaborators in our data.

The second group of collaborators was composed by politically oriented individuals who participated in the “Gremialism,” a political group originating at the Catholic University in the late 1960s. The Gremialists were responsible for the design and implementation of the legal framework that is largely at work in contemporary Chile. The most well-known collaborator in this group was Jaime Guzmán, the intellectual writer of the 1980's constitution and the founder of the Independent Democratic Union in 1983. Guzmán's party supported Pinochet's regime, and remains a powerful political force today.

Both groups of collaborators worked together to design and implement reforms during the regime. One of the most controversial policies was the transfer of ownership of large firms from the public to the private sector. As a consequence of these privatizations, several civilian and military collaborators of the regime acquired control of the largest firms in the country. The controversy lies in how privatizations were implemented and who benefited from the process. Some firms were sold at prices lower than the market price, effectively transferring wealth from the state to politically connected individuals.⁹ A notable example comes from Pinochet's son-in-law, Julio Ponce Lerou, who was appointed executive director of the world's largest producer of potassium nitrate, iodine, and lithium due to a privatization. Nowadays, Ponce Lerou is one of the richest people in the world with a wealth of 3.3 billion U.S. dollars (Carlyle 2013, Salazar 2015). This is not an exceptional case and by the late 1980s many dictatorship collaborators participated in the boards of the largest and most important firms in the country.

⁴ The other members of the *junta* were Gustavo Leigh (Air Force), José Toribio Merino (Navy), and César Mendoza (National Police). Pinochet left the *junta* in 1981 and José Toribio Merino replaced him as the head. Before 1981 the *junta* represented both the executive and legislative power, but after 1981 it acted only as a legislative body. This was the first time a *junta* was established since 1932.

⁵ “During the regime's first few days in power, the defense ministry received an avalanche of letters, telegrams, flowers, and other congratulations from Chileans backing the coup. There were donations of jewelry delivered to the central bank to help ‘rebuild’ the country.” (Spooner, 1999, p. 87–88).

⁶ The rationale behind the implementation of radical economic policies in turbulent times should not surprise economists (see Rodrik 1996). The case of Chile has been extensively documented and discussed by Klein (2008).

⁷ The interactions between these groups have been documented by Huneus (2000), who argues that these groups shared a “long-term power strategy.” Miguel Kast, Pinochet's Minister of Planning (1978–80), Labor (1980–82), and President of the Central Bank (1982), acted as bridge between groups.

⁸ See Centro de Estudios Públicos (1992) for more details about the text. The first part is dedicated to a diagnosis of the country and the second part to economic policies.

⁹ For example, the Steel Company of the Pacific was sold for 40 million U.S. dollars. It has been estimated that the firm's value was approximately 200 million U.S. dollars. Hernan Büchi, Pinochet's Minister of Finance (1985–1989) was in charge of running the company (Mönckeberg, 2015, p. 72–75). More details about the consequences of these privatizations can be found in González et al. (2018).

After fifteen years in power, and with many collaborators running the largest firms, Augusto Pinochet decided to validate his regime internationally. The referendum of October 1988, known as the “1988 Plebiscite,” in which Pinochet ran as the only candidate, was intended to validate him as democratic leader. Although people were skeptical of the referendum, Pinochet lost and acknowledged his defeat.¹⁰ Instead of continuing the regime for the following eight years (1988–1996), Pinochet’s successor was decided in December 1989 in a presidential election with candidates from all parties. As expected, the opposition won the 1989 election, and Patricio Aylwin became the democratically elected president. Several pieces of evidence, including a large drop in Chile’s stock market, suggest that this democratization was largely unanticipated by citizens and the dictatorship itself (González and Prem, 2018b). According to Treisman (2017), a dictator overestimating his chances of winning an election is a relatively common type of democratization.

3. Data

3.1. Dictatorship collaborators and the business elite

We collect data on the universe of individuals appointed to the boards of listed and non-listed firms between 1986 and 1994. This period covers Pinochet’s last years in power and the first democratic government after dictatorship (Patricio Aylwin, 1990–1994). These firms are the largest in the country and their assets are equivalent to 70% of Chile’s GDP in 1990. Since 1985, all listed firms and all non-listed firms with more than 500 shareholders have been mandated to report their financial activities to a regulatory agency at the end of each year.¹¹ Board members in these firms are key as they decide the company’s economic strategy and monitor the actions of CEOs.¹² We retrieve the full name of board members (and their unique national identifier) from these reports. There were 1111 individuals appointed to the boards of 186 firms in 1987, and the average individual was appointed to 1.2 boards.

We classified board members as collaborators or non-collaborators by performing a Google search of their names and studying their employment history before 1988.¹³ This classification is feasible due to the vast amount of information available about individuals who participated in the dictatorship. In addition, heads of government departments and army officers are well-known, facilitating the search. Using this information, we classified an individual as a collaborator if he worked for the dictatorship before 1988.

After studying the employment history of these 1111 individuals appointed to boards in 1987, we found 83 (7.5%) to be collaborators. Although it is hard to evaluate the magnitude of this number, collaborators were appointed to relatively large firms and had worked in different areas of the Pinochet regime: 22 were high-ranked officers of the armed forces, 13 were close (economic or legal) advisors, 25 worked as head of government departments, and 23 were politicians designated directly by Pinochet (e.g. local politicians). Given the procedure we use to identify collaborators we believe that, if anything, we are undercounting the number of collaborators. Hence, our estimates should be interpreted as a lower bound. Finally, to study heterogeneous effects we classify collaborators as military or civilian who, as emphasized by Benmelech and Frydman (2015), would have arguably different managerial skills.

From the previously discussed annual reports we collect several pieces of information for board members: their board compensation (in Chilean pesos), profession (e.g., economist), and their alma mater. Because profession and alma mater are sometimes not reported, we complement this data set using Google. Unfortunately, we cannot follow the same strategy to complement missing compensation data. In addition, since individuals get their national identifiers close to when they are born, and we collected these numbers from annual statements, we can use them to estimate an individual’s age.

We use two additional data sources in our empirical analysis. The first data source is Chile’s nationally representative survey, conducted by the Ministry of Social Development once every 2–3 years since 1985. This survey contains information about the education and occupation of approximately 200,000 individuals. We use these data to estimate the wage distribution in 1987. The second data source we use is the Occupation Survey, conducted by the University of Chile since 1957. This survey contains information about the labor activities of approximately 5000 randomly chosen households in Santiago, the capital of Chile. We use this second data source to estimate the wage premium of the military personnel before, during, and after the Pinochet regime using bureaucrats as comparison group.

3.2. Descriptive statistics

Fig. A.1 presents the compensation distribution of board members together with the wage distribution in Chile. The average employed individual in 1987 earned approximately \$4,000 annually (in 2015 USD) while the average board member in the same year had a compensation of \$26,400. The wage of an average board member lies at the 88th percentile of the

¹⁰ See Boas (2015) and González and Prem (2018a) for more details about this election.

¹¹ The regulatory agency in charge of compiling the annual reports is called *Superintendencia de Valores y Seguros*. The equivalent of this agency in the U.S. is the Securities and Exchange Commission.

¹² Board members are appointed by minority shareholders and the firm’s owner. The compensation of board members is set by the controlling shareholder. See Lefort and Urzúa (2008) for more details.

¹³ We performed all 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) the full name of the board member, and (2) full name + Pinochet. Appendix A provides more details.

Table 1
Summary statistics for board members during the dictatorship.

	Mean (1)	St. Dev. (2)	Observations (3)
Appointments			
Number of boards	1.16	0.82	1111
Number of high positions	0.21	0.54	1111
Annual compensation (USD)	26,367	48,394	551
Collaboration			
Indicator for collaborator of the Pinochet regime	0.07	0.29	1111
Indicator for military collaborators	0.02	0.14	1111
Indicator for civilian collaborators	0.05	0.12	1111
Education			
Indicator for degree in business	0.34	0.47	554
Indicator for degree in engineering	0.26	0.44	554
Indicator for degree in law	0.19	0.39	554
Studied in elite university	0.66	0.48	222

Notes: This table presents summary statistics for the 1111 individuals we observe in the reports who were appointed as board members in the dictatorship period. We define elite universities as the Catholic University and the University of Chile. *Number of high positions per year* is defined as the total number of appointments as president or vice-president in each year. *Annual compensation in USD* is the total compensation as a board member in 2000 USD. See Section 3 for more details.

Table 2
Firm-level differences by collaboration status.

	All firms (1)	Firms with at least one collaborator (2)	Firms without collaborators (3)	Difference (2) - (3) (4)	p-value of difference (5)
Firms with board data	186	65	121	–	–
Firms with board and balance sheet data	154	55	99	–	–
Board size	6.9	7.6	6.5	1.1	0.01
Logarithm of assets	16.0	17.4	15.2	2.2	0.00
Leverage	0.52	0.53	0.51	0.02	0.85
Return over assets	0.19	0.12	0.24	-0.12	0.04
Indicator for exporting	0.37	0.34	0.40	-0.06	0.57
Years since foundation	46.4	47.8	45.6	2.2	0.67
Years with compensation data	5.0	5.7	4.7	1.0	0.09

Notes: This table shows average differences for firms with and without dictatorship collaborators. Columns (1), (2), and (3) show averages for the whole sample, for connected and unconnected firms, column (4) presents the difference between columns (2) and (3), and column (5) presents the *p*-value of a two-way average test. See Section 3 for more details.

wage distribution of the general population, and approximately 10% of board members were above the 99th percentile. Thus board members were part of the wealthiest individuals in the economy, a segment that is usually not observed in traditional representative surveys.

Table 1 describes the positions of board members during the dictatorship. The upper panel shows the number and type of positions. The average individual was appointed to 1.2 boards, and remained in a firm for an average of 2.4 years. There are three types of positions in these boards: president, vice-president, and other. We say a board member had a “high position” if he was president or vice-president. This distinction is relevant because presidents and vice-presidents have higher compensation and more decision-making power. Almost a quarter of board members were appointed to high positions.

To get a clearer picture of who these board members were, we present additional information in the middle and bottom panels of Table 1. Unfortunately, this information is not available for all individuals in our data. Board members earned approximately \$26,000 annually (in 2015 USD), and had degrees in business, engineering, and law from the two most prestigious (elite) universities in the country: Catholic University and the University of Chile. Approximately 75% of collaborators were civilians and 25% were military. In sum, board members were highly educated individuals and part of the wealthiest group in society.

Finally, it is important to emphasize that collaborators were not randomly placed across firms. In Table 2 we show that the 35% of firms who had collaborators in their boards had on average more board members (7.6 versus 6.5), were larger in terms of assets, and had lower return over assets (0.12 versus 0.24). Interestingly, firms with and without collaborators were similar in terms of leverage, exports, and years since their foundation. Additionally, there is little differential reporting of compensation across firms with and without collaborators and, if anything, firms with collaborators report more compensation data. The empirical analysis that follows accounts for observable and unobservable differences across firms using firm-level fixed effects.

Table 3

The appointment premium of dictatorship collaborators.

Dependent variable:	Number of board positions		Number of high positions		Compensation (USD)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dictatorship collaborator	0.18** (0.08)		0.24*** (0.06)		3,971* (2,418)		5,223** (2,556)	
Military		0.10 (0.12)		0.15 (0.09)		4,110* (2,182)		4,613** (2,256)
Civilian		0.21** (0.10)		0.28*** (0.08)		3,915 (3,033)		5,442* (3,062)
Board members	1111	1111	1111	1111	545	545	402	402
Time periods	2	2	2	2	1	1	1	1
Observations	2222	2222	2222	2222	679	679	529	529
Mean of dependent variable	1.16	1.16	0.21	0.21	30,192	30,192	31,881	31,881
Year fixed effects	x	x	x	x				
Firm fixed effects					x	x	x	x
Board member controls							x	x

Notes: Each observation in a regression correspond to a *board member-year* pair in dictatorship in columns 1–4 and to a *board member-firm* pair in dictatorship in columns 5–8. “Board member controls” include indicators for board members with a university degree in law, business and economics, and engineering. Robust standard errors are clustered at the individual level. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. See Section 4.1 for details.

4. Main results

We present results in four parts. Parts one, two, and three document the appointment premium of collaborators as business elite during the dictatorship, and the changes after democratization. The fourth part discusses the mechanism by studying heterogeneous effects.

4.1. The appointment premium of collaborators

To test for the existence of an appointment premium among collaborators before the transition to democracy, we restrict attention to the years of dictatorship in our data – i.e. 1986 and 1987 – and estimate the following regression equation:

$$W_{ijt} = \rho \cdot \text{Collaborator}_i + \gamma x_i + \lambda_t + \eta_j + v_{ijt} \quad (1)$$

where W_{ijt} is the number of board positions per year, the number of high-positions per year, or board compensation measured in U.S. dollars of board member i appointed to firm j in year t . The coefficient of interest ρ is associated to the variable Collaborator_i , an indicator for board members who had collaborated with the Pinochet regime before 1988, and we interpret it as the average appointment premium of a collaborator. The vector x_i contains indicators for university degree. Importantly, λ_t is a year indicator, and η_j is a firm-level fixed effect. Given the observed differences among firms where collaborators were appointed, controlling for firm-level unobserved differences is crucial. Finally, we estimate standard errors by clustering at the individual level.

Note that, when we estimate Eq. (1) using board compensation as dependent variable, we collapse observations in 1986 and 1987 to a single cross-section to increase efficiency due to missing observations. In addition to the previously discussed specification, we also present results of a potential heterogeneous premium by splitting collaborators by their type of collaboration, i.e. militaries and civilians.

Table 3 presents results. Columns 1–4 show that dictatorship collaborators were appointed to 0.18 more boards per year and 0.24 more high-positions per year, differences that correspond to increases of 16 and 114 percent respectively when compared to the average board member. These differences are relatively higher among civilians and more imprecisely estimated in the case of military collaborators. Columns 5–8 show that collaborators earned on average between \$4,000 and \$5,400 more in compensation than other board members in the same firm, which implies a compensation premium between 13 and 18 percent. The compensation premium appears similar across military and civilian collaborators although the imprecision in our estimates does not allow us to reach a solid conclusion in this dimension. Given the differences in the few characteristics we can measure across collaborators and non-collaborators (see Table A.1), this appointment premium appears sizable.

All in all, we conclude that the data suggests the existence of an appointment premium for board members who had collaborated with the Pinochet regime. This premium translates into participation in more boards, in higher positions, and with a higher compensation. In what follows, we estimate how these appointments changed after democratization.

4.2. Participation in boards after democratization

Did collaborators remain in their appointments as board members after democratization? We now estimate how the appointment of collaborators to boards changed after 1988 using all data between 1986 and 1994. In particular, we estimate

Table 4
Dictatorship collaborators after democratization.

	Appointed in board				Appointed in high-position at board			
	Indicator		Number of boards		Indicator		Number of boards	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collaborator × Democracy	−0.106**		−0.226***		−0.138***		−0.227***	
	(0.044)		(0.083)		(0.042)		(0.062)	
× Transition	−0.050		−0.111		−0.094**		−0.151***	
	(0.050)		(0.080)		(0.038)		(0.051)	
Military × Democracy (α_1)		−0.246***		−0.377***		−0.179**		−0.252**
		(0.077)		(0.139)		(0.076)		(0.123)
× Transition (α_2)		−0.158**		−0.249**		−0.115*		−0.162
		(0.073)		(0.119)		(0.065)		(0.098)
Civilian × Democracy (β_1)		−0.063		−0.172*		−0.126***		−0.218***
		(0.046)		(0.099)		(0.045)		(0.071)
× Transition (β_2)		−0.017		−0.061		−0.087**		−0.148**
		(0.058)		(0.097)		(0.039)		(0.059)
Board members	1111	1111	1111	1111	1111	1111	1111	1111
Observations	13,698	13,698	9999	9999	13,698	13,698	9999	9999
p -value: $\alpha_1 = \beta_1$		0.03		0.22		0.52		0.81
p -value: $\alpha_2 = \beta_2$		0.10		0.21		0.66		0.90
R-squared	0.605	0.606	0.789	0.789	0.734	0.734	0.813	0.813
Mean of dependent variable	0.847	0.847	1.150	1.150	0.142	0.142	0.192	0.192
Fixed effects	x	x	x	x	x	x	x	x

Notes: Each observation corresponds to a *board member-firm-year* triple. All specifications include firm-board member fixed effect, industry-transition, and industry-democracy fixed effects. The mean of the dependent variable is computed based on non-collaborators during the dictatorship period. Robust standard errors are doubly clustered by board member and firm. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. See Section 4.2 for details.

the following regression equation:

$$Y_{ijkt} = \beta_1 \cdot (C_i \times \text{Transition}_t) + \beta_2 \cdot (C_i \times \text{Democracy}_t) + \lambda_{ij} + \zeta_{kt} + \varepsilon_{ijkt} \quad (2)$$

where Y_{ijkt} is an outcome of individual i , appointed to firm j , which operated in industry k , measured in year t . The indicator C_i takes the value of one for dictatorship collaborators, Transition_t is an indicator variable for years 1989 and 1990, and Democracy_t is an indicator variable for years 1991–1994. Additionally, λ_{ij} and ζ_{kt} are individual-firm and industry-year fixed effects which capture unobserved heterogeneity across board positions (individual-firm pairs) and industry unobserved shocks every year in our data. Finally, ε_{ijkt} is an error term clustered by both individual and firm levels, capturing correlation of outcomes within individuals over time and within a board in a firm. We are interested in the parameters β_1 and β_2 , which capture differences among dictatorship collaborators after Chile's democratization.

We use four appointment outcomes to measure participation in the business elite and two different variables to identify collaborators. The first outcome is an indicator that takes the value of one if an individual was appointed to at least one board, and the second is the number of boards in which he was appointed at. The third outcome is an indicator that takes the value of one if an individual was appointed to at least one high-position (i.e. president or vice-president of a board), and the fourth outcome is the number of high-positions he was appointed at. Regarding our identification of collaborators, as before, we use an indicator for those who worked for the Pinochet regime, and also two indicators for different military and civilian to explore heterogeneous effects.

Table 4 presents results. In column 1, we observe a statistically significant decrease of 11 percentage points in the probability that dictatorship collaborators were part of the business elite in democracy. The coefficient associated to the transition period is also negative but smaller and not statistically significant at conventional levels. Column 2 reveals that the decrease in appointments in democracy is mostly driven by military collaborators, who also left boards relatively more during the transition period (p -value < 0.05). Columns 3 and 4 use the total number of boards as dependent variable and a similar picture arises, but now the military and civilians appear to be appointed to fewer boards in democracy. Columns 5–8 examine their appointments to high-positions and the same pattern emerges. All in all, this table suggests that dictatorship collaborators left their positions in the business elite after democratization, particularly after the new democratic government took office in 1990.

Fig. 1 complements previous results with estimates of a flexible version of regression equation (2) to test for parallel trends and dynamic adjustments. The estimated coefficients show that our findings are robust and not driven by a particular year. Moreover, the differences we have documented in board participation across collaborators and other board members before democratization (Table 3, columns 1–4) are *not* changing between 1986 and 1987. In this sense, Fig. 1 constitutes suggestive evidence supporting the parallel trends assumption in differences-in-differences methods.¹⁴

¹⁴ Fig. A.2 presents estimates using an extended sample until the year 2000. The results suggest that the years of the first democratic government (Patricio Aylwin, 1990–1994) is when most of the adjustment took place.

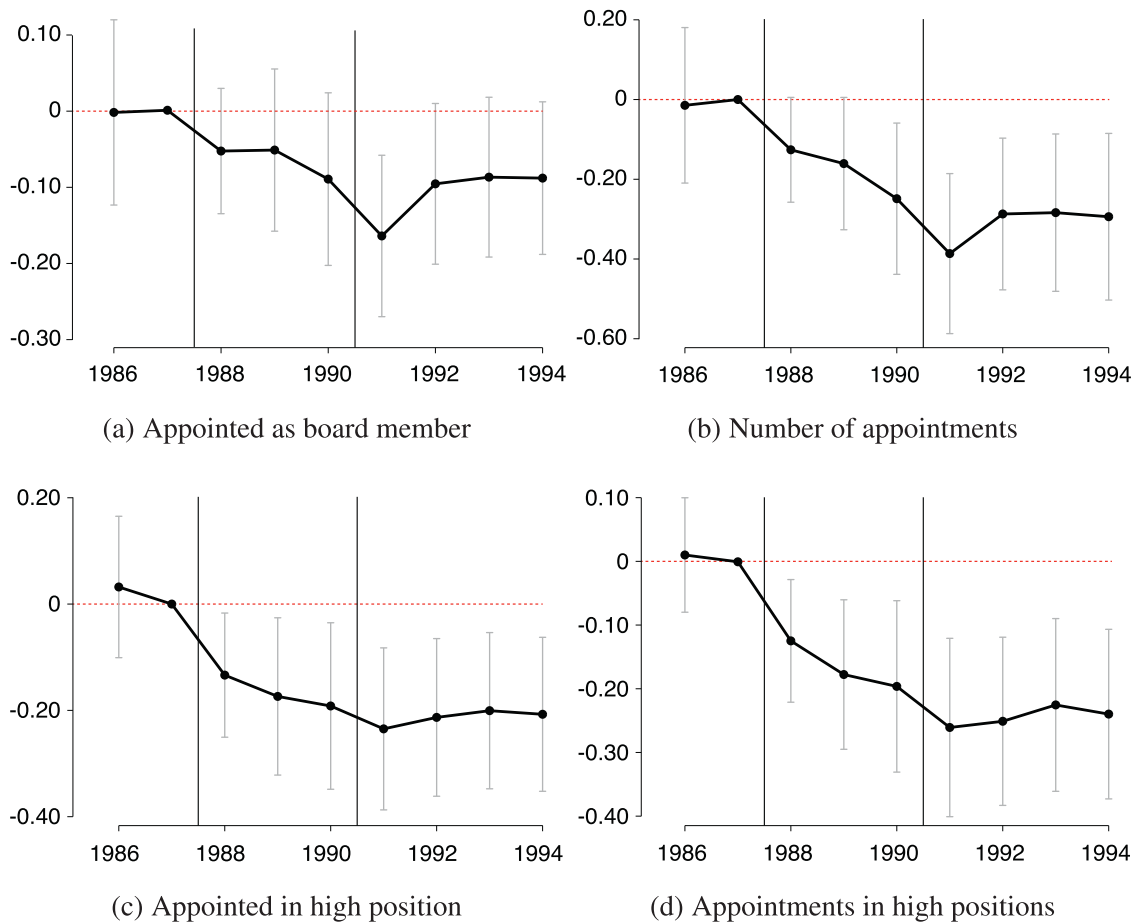


Fig. 1. Dictatorship collaborators after democratization.

Notes: This figure shows estimates of a dynamic version of Eq. (2). Panel A shows estimates using an indicator for an appointment as board member as dependent variable, Panel B uses the number of appointments as board member, Panel C uses an indicator for an appointment as president or vice-president, and Panel D uses the number of appointments as president or vice-president. In grey we present the 95% confidence intervals.

The appendix shows that the differential participation of collaborators in the business elite after dictatorship is a robust finding. We obtain similar results when we restrict attention to individuals appointed only to high-positions (see Table A.3) and when we control for firm-level variables (indicator for privatized firms, board size) and individual-level characteristics (age, degree) interacted with an indicator for the period after 1988 (see Tables A.4 and A.5). Results are also robust when we collapse our annual panel to three periods (dictatorship, transition, and democracy) to deal with serially correlated outcomes (Bertrand et al., 2004, see Table A.7).

A word of caution is necessary to interpret these results. Even though collaborators exited boards after dictatorship, this finding does not necessarily imply they suffered an economic loss. It is certainly possible that they were appointed or became employed in a different sector of the economy or in smaller firms. Unfortunately, there is no way of tracking the complete labor history of individuals with our data. However, because board members are responsible for managing the largest firms in the economy, we believe exiting these boards *does* imply a decrease in the economic power of this group. In fact, when combined with the compensation patterns we describe in the next section, we believe the evidence suggests a significant economic loss of collaborators.

4.3. Board compensation after democratization

An additional margin that may have affected collaborators after the transition is their compensation. Did dictatorship collaborators experience changes in their board compensation after democratization? To answer this question, we estimate regression (2) but using the logarithm of board compensation as dependent variable, and grouping years into three periods – i.e. dictatorship, transition, and democracy – due to data availability. In this case, all estimates have to be interpreted as conditional on the set of board members who remained in their appointments.

Table 5
Compensation of collaborators after democratization.

	Two periods		Three periods		Difference (democracy – transition)
	(1)	(2)	(3)	(4)	
Collaborator × Democracy	–0.667*		–0.497		–1.00**
× Transition	(0.349)		(0.319)		
			0.506**		
			(0.200)		
Military × Democracy (α_1)		–0.833***		–0.101	–0.88***
× Transition (α_2)		(0.222)		(0.263)	
				0.782**	
				(0.337)	
Civilian × Democracy (β_1)		–0.654*		–0.573*	–0.96**
× Transition (β_2)		(0.366)		(0.337)	
				0.397	
				(0.250)	
Board members	353	353	353	353	
Board member-firm	430	430	430	430	
Observations	550	550	1135	1135	
<i>p</i> -value: $\alpha_1 = \beta_1$		0.56		0.16	
<i>p</i> -value: $\alpha_2 = \beta_2$				0.39	
Board member-firm fixed effects	x	x	x	x	
Industry-period fixed effects	x	x	x	x	

Notes: Each observation corresponds to a board member-firm-year triple. *Transition* is a dummy for the years 1988 to 1990, while *Democracy* is a dummy for the years post 1990. Column (5) presents a test for the difference between the transition and the democracy coefficients. Robust standard errors are doubly clustered at the board member and firm level. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. See Section 4.3 for details.

We begin by presenting estimates that omit the transition period because these years were of an arguably different nature as it was known that Pinochet was leaving power.¹⁵ Columns 1 and 2 in Table 5 present these estimates. When compared to the dictatorship period, collaborators experienced, on average, a decrease of 67 percent in their board compensation in democracy, which can be decomposed in a decline in the compensation of the military (83 percent) and civilians who participated in the regime (65 percent). Taken together, these two columns show that collaborators suffered a significant decrease in their compensation in democracy when compared to dictatorship.

Estimates including all periods are presented in columns 3 and 4. In contrast to the patterns in democracy, we observe an increase of 51 percent in the compensation of collaborators during the transition period (column 3, p -value < 0.05). This increase is larger among military collaborators (78 versus 40 percent). These variations in board compensation across periods are robust when we control for firm-level variables (indicator privatized firms, board size) and individual-level characteristics (age, university degree) interacted with an indicator for the period after dictatorship (see Table A.6). The last column in Table 5 presents compensation differences between the transition and the democracy periods. These columns reveal that the decline in the board compensation of collaborators in democracy is relatively uniform across type of collaboration and of significant economic magnitude.

The increase in board compensation among collaborators during the transition period deserves more explanation. During this period it was known that the opposition was probably going to win the 1989 presidential elections and therefore Pinochet would leave power (see González et al. 2018). The knowledge of a future political transition provides incentives for incumbent firms and incumbent politicians to act during this period. Albertus and Menaldo (2018) describe how incumbent politicians attempted to shield their political power by making constitutional amendments in the eve of democracy. In a similar vein, González and Prem (2018b) show theoretically and empirically how incumbent firms react during this period by getting more loans from the state bank and increasing their productive capacity. In this sense, it is sensible to believe that collaborators were more valuable during this period and hence we observe an increase in their compensation. However, we cannot definitely prove this and other mechanisms in the context of a dictatorship with an expiration date might be also relevant.

Summarizing, we observe an increase in the board compensation of collaborators in the transition period and a decrease in their compensation in democracy. Recall that these variations represent deviations from the average compensation in dictatorship. To get a sense of their magnitude, it is useful to compare these changes to the returns of education in dictatorship. While the compensation increase in transition corresponds to approximately the average return of graduating from college, the decrease in democracy is equivalent to graduating from high-school. We conclude that the observed variations after 1988 are economically meaningful.

¹⁵ For these differences-in-differences specifications we restrict attention to individuals with compensation data in the dictatorship and transition periods. We do this to have enough variation to estimate the democratization effects. This restriction leaves us with 353 individuals and 430 individual-firm pairs in the dictatorship and transition periods. In democracy, we observe 221 individuals and 275 individual-firm pairs.

4.4. Productivity versus favoritism

Theoretically there are at least two mechanisms that can explain the existence of an appointment premium among collaborators in dictatorship, productivity and favoritism. On one hand, collaborators may have characteristics that are unobserved by the econometrician but observed by firms and these make them more productive, which translates into higher compensation. On the other hand, a dictatorship may show favoritism for firms with collaborators, increasing collaborator's value from the perspective of the firm. Our empirical analysis accounts for all characteristics that are constant across regimes and make individuals more productive. In addition we observe that, if anything, collaborators seem to be *less* educated than non-collaborators (see Table A.1). However, there may be unobserved characteristics that make individuals more productive in a specific regime.

Previous results are inconsistent with a productivity story related to characteristics that are fixed across regimes and, we argue, are relatively more consistent with a favoritism mechanism. If collaborators were more productive because of their skills, then we should observe them being appointed to the same number of boards and with the same compensation in democracy, because skills are relatively fixed over time. At the same time, because military collaborators appear to be relatively *less* educated and had arguably different managerial skills than civilian collaborators (see Table A.2), we should observe heterogeneous effects across both groups after democratization. However, we do not observe any of these implications derived from a higher productivity mechanism.¹⁶ If productivity is the mechanism behind the premium, collaborators should have unobservables that increase their productivity *only* within the dictatorship. Although we cannot completely rule out this possibility, we argue that differences in education across collaborators and non-collaborators (see Table A.1), and the following results, point towards favoritism being more relevant in this context.

To provide more insights about the mechanism, we explore the heterogeneity of results in four dimensions. First, we geocoded firms' headquarters to check if results are different depending on a firm's location. Geography might matter because of citizens' political support for the dictatorship. If favoritism is more relevant, we should expect collaborators to enjoy a higher premium in places where the dictatorship had higher political support because of a *quid pro quo* argument. Second, closeness to the capital could increase interactions with the regime. Third, we explore heterogeneous results among firms operating in the tertiary sector which has arguably more interaction with the state (Colonnelli and Prem, 2017). And fourth, we used historical sources to construct an original dataset of all members of the "Chicago Boys," a group of high-skill individuals who were Pinochet's advisors.¹⁷

Econometrically we estimate the following equation:

$$\begin{aligned}
 Y_{ijkt} = & \omega_1 \cdot (C_i \times \text{Transition}_t \times X_{i,j,k}) + \omega_2 \cdot (C_i \times \text{Democracy}_t \times X_{i,j,k}) \\
 & + \beta_1 \cdot (C_i \times \text{Transition}_t) + \beta_2 \cdot (C_i \times \text{Democracy}_t) \\
 & + \phi_1 \cdot (X_{i,j,k} \times \text{Transition}_t) + \phi_2 \cdot (X_{i,j,k} \times \text{Democracy}_t) + \lambda_{ij} + \zeta_{kt} + \varepsilon_{ijkt}
 \end{aligned} \tag{3}$$

where $X_{i,j,k}$ is one of the following cross-sectional variables: the percentage of voters who voted for Pinochet's continuation in office in the 1988 referendum in the county where the firm's headquarters was located; an indicator that takes the value of one if the firm's headquarters is located in Santiago, capital of Chile; an indicator for firms operating in the tertiary sector; or an indicator for board members known to be a part of the Chicago Boys.¹⁸ The remaining variables are defined as before. The coefficients of interest are ω_1 and ω_2 and measure the differential response within a subgroup of interest.

Tables A.8 and A.9 present estimates of Eq. (3) using an indicator for collaborators and by type of collaboration respectively. Columns 1, 3, 5, and 7 use an appointment as dependent variable and columns 2, 4, 6, and 8 use board compensation. Overall, we observe suggestive evidence of favoritism being more important than skills. Collaborators were more likely to remain in their appointments during the transition in counties where the support for Pinochet was higher. When looking at estimates by type of collaboration we observe similar results than before, i.e. slightly larger results for military collaborators. The exception is that civilian collaborators were more likely to exit boards in democracy if their firm operated in the tertiary sector (i.e. services). The only pattern consistent with skills is that collaborators who were members of the Chicago Boys did not experience a decrease in their board compensation in democracy. However, these differences are rarely statistically significant.

Finally, a preferential treatment from the regime to collaborators creates rents for firms and individuals in a dictatorship, implying that firms should reoptimize their board composition in the way we observe empirically. To further explore the favoritism mechanism, we now look at the wages of military personnel before, during, and after dictatorship.

¹⁶ Although the larger coefficient for military collaborators in Table 4 might suggest a role for skills (see columns 2, 4, 6, and 8), these differences are small and generally not statistically significant at conventional levels.

¹⁷ We found 115 of 186 firms to have headquarters in the capital, 71 firms operated in the tertiary sector, and 9 of the 61 civilian collaborators were members of the Chicago Boys.

¹⁸ Note that $X_{i,j,k}$ varies either by individual (i), firm (j), or industry (k). In the latter the coefficients ϕ_1 and ϕ_2 cannot be estimated because these are collinear with the industry-period fixed effects.

5. The wage premium of military personnel

To shed more light on the mechanism behind previous findings, we study the wages of military personnel. The motivation is that the existence of a wage premium among a group of people, who worked closely with the Pinochet regime but was not part of any firm, implies that the regime was indeed treating their allies differently. We cannot, however, conclude in a definitive way that a preferential treatment in the military proves the existence of preferential treatment among board members who had collaborated with Pinochet. Nevertheless, taken together, results suggest that a preferential mechanism is relatively more important than productivity in explaining our findings.

5.1. Historical background

The military origins of Pinochet dictatorship suggest that individuals working in the armed forces might have experienced a differential treatment between 1973 and 1990. In Chile, the wage received by the military personnel is established by a set of laws. Recently, 150 classified laws and decrees enacted in the 1970s and 1980s were released to the public. These documents reveal how the Pinochet regime was able to transfer 442 million U.S. dollars from the Central Bank and the General Treasury to the armed forces (Dinges and Escalante, 2010b).¹⁹ No official reason has been given to justify the monetary transfer.²⁰ Classified decrees enacted in 1976 (Decrees N° 1589-90) mentioned that some of the monetary transfers were to be used to pay “bonuses” to the military personnel. This fact leads us to hypothesize that the Pinochet regime intended to increase the wages of the armed forces after 1973.

Theoretically there are at least two reasons why we think wage increasing could be an optimal strategy. First, in a model where the majority of individuals in the dictator’s network work in the armed forces – and assuming the dictator prefers his social network to have higher utility – increasing military wages is an optimal strategy. This is favoritism consistent with the findings in Hodler and Raschky (2014). Second, if the armed forces provide a threat to the stability of the dictator, then increasing their wages could be seen as a potentially useful strategy to decrease the probability of political unrest. Since Pinochet enjoyed considerable support among the armed forces, the former strategy is more likely to be relevant in this context.

5.2. Data and econometric strategy

Let the wage premium of military personnel ω_t to be defined as the logarithm of wages of individuals working in the armed forces, minus the logarithm of wages of individuals working in the public sector, the comparison group. Using the Occupation Survey, we estimate this wage premium for the period 1957–2010 and present it in Fig. 2. There is a large increase in the wage premium of military personnel after the 1973 coup d’etat. The increase in the wage premium stopped briefly at the time of the 1982 economic crisis, and disappeared with the arrival of the new democratic government in 1990. The wage premium remains large after the 1988 plebiscite.

In order to statistically test if wages were unusually high during Pinochet dictatorship, we estimate the difference in wages of military personnel and workers in the public sector over time using the following regression equation:

$$\log(w_{it}) = \beta \cdot (A_{it}T_t) + \delta A_{it} + \gamma X_i + \rho T_t + v_{it} \quad (4)$$

where w_{it} is the annual wage of person i , A_{it} is an indicator variable for individuals working in the armed forces, T_t is a set of indicator variables for political periods, and X_i is a matrix of individual characteristics (education categories, age, and age square). The error term v_{it} is assumed to have mean zero and it is clustered at the year level. The coefficients of interest are in the vector β , and measure the changes in the wage premium of the military personnel in different political periods. We consider the following political periods: before Frei’s government (1957–1965, the omitted category), Frei (1965–1970), Allende (1970–1973), Pinochet regime (1973–1990), and after dictatorship (1990–2010).

Column 1 presents estimates of Eq. (4). Two facts emerge from this column. First, during the Pinochet regime the wages of the military personnel more than doubled. Second, in democracy, the wage of the military remained 20 percent larger than the wages of workers in the public sector. In addition, columns 2 and 3 in Table 6 present results of a linear regression of (log) wages on an indicator variable for individuals in the armed forces using data for the years 1985–1988 and years 1990–1993 respectively. The coefficients show again that military personnel earned twice the wage of workers in the public sector and only 20 percent more during democracy. In column 4, we present results of estimating Eq. (4) but only in the period 1985–1993. Consistent with the estimates in previous columns, we again observe a significant decrease in the wages of military personnel in democracy.²¹

¹⁹ For example, instead of 10% of copper sales, the main revenue of the Chilean state, Decree 984 established a minimum of 90 million U.S. dollars in transfers from copper sales to the armed forces. In 1985, Law 18.445 doubled this minimum. In 1987, the regime established that investments from copper sales needed to be approved by the leaders of the armed forces (Dinges and Escalante, 2010a).

²⁰ The conflict between Chile and Argentina over a territory known as the Beagle Channel created a military tension that might justify some of the transfers. However, monetary transfers to the armed forces continued even after the Act of Montevideo in 1979 (Reserved Decree Law N° 3527 in 1980 and Secret Law N° 18.090 in 1981), in which both countries renounced the use of force.

²¹ Note that, consistent with Rodrik (1999), the wages of all workers in the public sector are significantly higher in democracy. This means that, in nominal terms, the wage of military personnel grew more slowly.

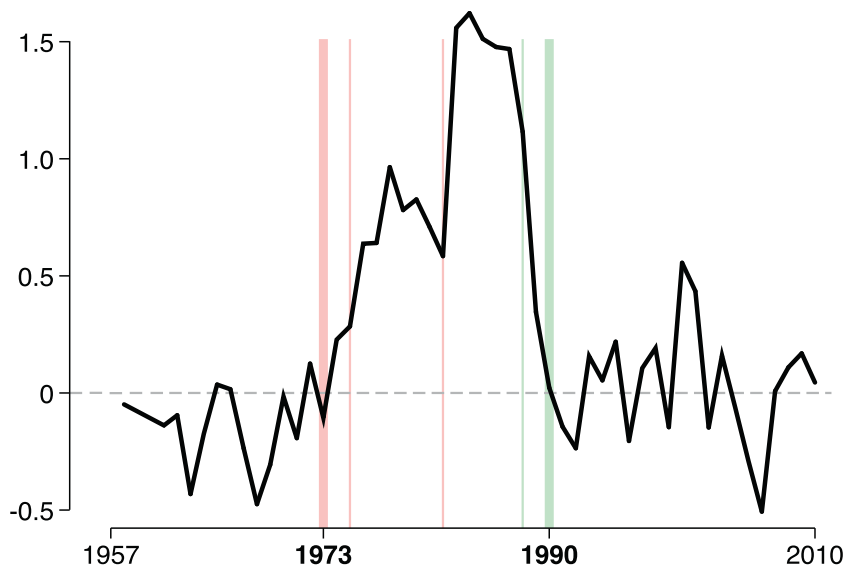


Fig. 2. Wage premium of military personnel.

Notes: This figure presents the wage premium of military personnel in the period 1957–2010. The wage premium in year t is defined as: $\omega_t \equiv \log(w_t^{AF}) - \log(w_t^S)$ where w_t^{AF} is the average wage of military personnel and w_t^S is the average wage of workers in the public sector. *Thick* vertical lines denote the beginning (1973) and end (1990) of the Pinochet regime. *Thin* vertical lines denote the year political reforms began (1975), the 1982 economic crisis, and the 1988 plebiscite. Source: Occupation Survey, described in Section 3.2.

Table 6

Wage premium of military personnel.

	All (1957–2010)		Dictatorship (1985–1987)	Democracy (1991–1993)	Transition (1985–1993)
	(1)	(2)	(3)	(4)	(5)
Military Personnel (α)	-0.182*** (0.060)	0.117** (0.049)	1.042*** (0.060)	0.174*** (0.047)	1.072*** (0.056)
× Eduardo Frei X (1964–1970)	0.032 (0.110)	-0.308*** (0.080)			
× Salvador Allende X (1970–1973)	0.121 (0.090)	-0.101 (0.061)			
× Augusto Pinochet (β) X (1973–1990)	1.088*** (0.137)	0.589*** (0.097)			
× Democracy X (1991–2010)	0.195** (0.081)	0.066 (0.072)			-0.925*** (0.071)
$\alpha + \beta$	0.906***	0.706***			
Education and age controls	x	x	x	x	x
Time fixed effects	x	x	x	x	x
Observations	7543	7045	1229	555	1784
R-squared	0.939	0.962	0.625	0.501	0.771

Notes: This table shows the wage differences between military personnel and public sector employees. Each observation corresponds to an *individual-year* pair. The omitted category corresponds to public employees not in the armed forces. The dependent variable is the logarithm of wages. *Military Personnel* is a dummy for employees in the armed forces. The time dummies are constructed for each of the presidents between 1964 and 1990 and then after dictatorship. The omitted years are the ones from 1964 to 1957. Education controls include a dummy for finishing primary, secondary, university, technical education. Age controls include age and age squared. In columns 1–2, we present standard errors clustered at the year level in parentheses. In columns 3–5, we present robust standard errors in parentheses. Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. See Section 5 for details.

6. Conclusion

What is the value of political capital for individuals providing political connections? We have shown that board members who had previously collaborated with the Pinochet dictatorship in Chile, were appointed to the boards of more firms, in higher positions, and earned a higher compensation than their fellow board members before Chile's transition to democracy. These results suggest the existence of an economically meaningful premium for individuals with political capital. This premium disappeared after democratization, when the political capital of collaborators depreciated, suggesting it is not related to unobservable higher skill levels.

Our results complement the existing literature by showing that individuals providing connections between a dictatorship and the business world are compensated by it. The result of this is by no means a corollary of an increase in firm value due to the existence of political connections. Indeed, it is certainly possible that firms extract the entirety of the rents created by

political links, leaving individuals with political capital with nothing. One hypothesis is that *how* rents are divided between firms and individuals providing the links, is the consequence of a bargaining problem. Our analysis suggests that dictatorship collaborators have some bargaining power to extract rents in the context of a dictatorship.

If the existence of links between the state and the business world creates rents to be divided between firms and individuals, then our results need to be interpreted with caution when taken outside of the context of the Pinochet dictatorship. For example, the value of political capital may be different in dictatorships and democracies. Indeed, a very simple model in which more individuals work in the state apparatus in a democracy – when compared to the same number in dictatorship – can easily predict that firms receive a bigger share of the rents created by political connections because individuals providing the links are relatively abundant. In the same spirit, early and consolidated democracies may also affect the bargaining problem differently and the size of rents that are extracted can change how it is divided. Additional estimates of premiums arising from political connections are necessary to understand how rents are divided among firms and individuals.

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Supplementary material

Supplementary material associated with this article can be found, in the online version, at doi:[10.1016/j.jebo.2018.08.024](https://doi.org/10.1016/j.jebo.2018.08.024).

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