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Too few dividends? Groups' tunneling through chair and board compensation ☆

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ABSTRACT

Group affiliation increases boards' compensation in countries as different as Korea, India, Hong Kong and Italy. In this paper, I examine a 6-year sample of controller-dominated, concentrated-ownership firms in Chile in search of a rationale for these results.

I show that, for group-affiliated companies, controllers' presence on the board of directors is associated with a strong negative relation between chair and board compensation and controllers' cash-flow rights. Furthermore, I show that controllers of group-affiliated companies prefer to increase chair and board compensation rather than dividends as their cash-flow rights decrease.

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1. Introduction

While there is significant research into boards' compensation in both the US and the UK, much less is known about that in countries characterized by controller-dominated, concentrated-ownership firms, the main finding being that group affiliation increases board compensation. In countries as different as India, Hong Kong, Italy and Korea, group-affiliated companies' boards receive higher pay than those in non-group-affiliated companies. In this paper, I look at why group-affiliated companies increase their boards' pay.

Using a 6-year sample of Chilean firms, this paper shows both that there is no relation between boards' pay and companies' performance and that, whenever groups' controllers are board directors, they tunnel company resources through chair and board compensation. Following [Bertrand and Mullainathan \(2000, 2001\)](#), I regress chair and board compensation against companies' performance and ownership structure variables, splitting the sample between group and non-group companies.

The results, obtained through fixed-effects panel regressions, show a strong negative relation between chair and board compensation and the controller's cash-flow rights in group-affiliated companies. Furthermore, this relation is caused by group controllers' presence. In other words, as group controllers reduce their cash-flow rights, they tend to increase both chair and board compensation. Chair and board compensation are, moreover, not related to gross or net accounting returns and are set independently of company performance ([Bertrand and Mullainathan, 2000, 2001](#)). As expected, these results are supported by the fact that group controllers prefer to increase chair and board compensation rather than dividends as their cash-flow rights decrease.

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The paper also shows that, although institutional investors are commonly regarded as one of minority shareholders' main corporate governance devices (Hartzell and Starks, 2003), their presence on company boards is strongly related to increases in both chair and board compensation.

Assembling two different strands of recent corporate governance literature (board pay and tunneling), I show how, in a common and systematic way, group controllers tunnel out company resources through chair and board compensation. These results provide a rationale for empirical findings in countries like India (Fagernäs, 2008), Korea (Kato et al., 2007), Hong Kong (Cheung et al., 2005), and Italy (Barontini and Bozzi, 2008), who find that group-affiliated firms' board compensation is higher than non-group-affiliated boards. In addition, they support previous findings on how groups tunnel company resources, such as Bertrand et al. (2002) who demonstrate how Indian group-affiliated companies do this through pyramids, Bae et al. (2002) who show how Korean *chaebols*' related acquisitions benefit their controllers, and Baek et al. (2006) who find that *chaebols* set the price of private security offerings to benefit their controllers. Finally, I show how the presence of pension funds increases both chair and board compensation, producing the opposite effect to that which would be expected.

The rest of the paper is set out as follows: Section 2 describes the conceptual framework and working hypotheses; Section 3 describes the data; Section 4 presents empirical findings; and Section 5 the conclusions.

2. Conceptual framework and working hypotheses

There is significant evidence throughout the world showing that group affiliation increases board compensation. In countries like India, Italy, Hong Kong and Korea, researchers find that group-affiliated companies' boards have higher compensation than in non-group-affiliated companies. These results not only provide a valuable insight into group affiliation effects but also enable us to see how CEOs' pay behaves once they control the pay-setting process, which has been the main focus of US/UK board compensation recent literature. Although US/UK CEOs may control the pay-setting process, they still face several restrictions when setting their salary. Weisbach (2007) points out that shareholders can sue the board and vote down stock option plans and that market forces such as the managerial labor market and potential hostile takeovers also act as a restriction.

Countries with controller-dominated, concentrated-ownership firms provide a laboratory in which to test how controllers set their salary. In these countries, companies' controllers, who often act as CEOs, are able to take most key business decisions, including board compensation, without suffering the aforementioned restrictions. They are, thus, able to set their pay at the level of their choice, providing a unique laboratory to see how CEO/board pay behave in the absence of the restrictions faced by CEOs in the US/UK.

However, as shown by previous research, controller-CEOs do not explain why group affiliation increases board compensation. Groups' effects on their companies are twofold: firstly, groups arise as a substitute for labor and financial markets (Leff 1978) and (Khanna and Palepu, 1997, 1999) and, second, groups arise in countries with poor shareholder protection because controllers are able to tunnel out company resources (Almeida and Wolfenzon 2006). Tunneling, as described by Johnson et al. (2000), is the transfer of assets and profits out of companies for the benefit of their controllers. However, because tunneling activities are illicit, there are few papers showing how groups achieve this. Bertrand et al. (2002) demonstrate that the controllers of Indian groups divert resources from companies that are low in the pyramid towards companies that are high in the pyramid; and, for Korean *chaebols*, Bae et al. (2002) show that, while a related acquisition by a Korean group means a loss for minority shareholders, other companies in the *chaebol* benefit because the acquisition enhances their value. Baek et al. (2006) find that *chaebols* set the price of private security offerings to benefit their controllers. In the case of board compensation, Kato et al., (2007) find that, in Korean *chaebols*, this is not related to companies' performance. Other studies take a different approach and try to relate board compensation to ownership concentration: in a sample of Hong Kong companies, Cheung et al. (2005) find that group control is associated with lower compensation when the CEO and chairman hold a small proportion of firms' shares and with higher compensation when they have a significant stake in the firm, though the authors do not document whether CEOs and chairmen are members of the controlling group. In a similar vein, using a sample of Indian companies, Fagernäs (2008) finds that group-related CEOs receive higher compensation and that this is even higher if they own a significant stake in the firm. Similarly, in a sample of Italian firms, Barontini and Bozzi (2008) not only find that board compensation is higher for family companies but also that cash-flow rights are negatively related to board compensation in family and widely-held firms. However, despite all this evidence, it still remains unclear whether groups expropriate minority shareholders through chair and board compensation.

Chilean companies, as in many other countries with poor shareholder protection, have both high ownership concentration and group affiliation (Lefort and Walker, 2000). Also, Chilean boards are dominated by companies' controlling shareholders: Silva et al. (2006) find that, in a sample of 114 Chilean group-affiliated companies, 22% of both board members and CEOs are controlling shareholders or members of their families. Accordingly, Lefort and Urzúa (2008) find that, in a 4-year sample of 160 Chilean companies, 70% of board members are related to the controlling shareholder.

Given that most board members are either the controller, members of the controller's family or insiders nominated by the controller, I follow Bertrand and Mullainathan (2000, 2001) (henceforth BM) and examine whether Chilean groups use chair and board compensation to tunnel company resources. BM (2000, 2001) find that CEOs whose companies lack block holders set their own pay regardless of company performance. In a similar vein, I look at whether group controllers also set their pay as chairmen and board members independently of company performance. Furthermore, and like Barontini and Bozzi (2008), I study whether groups' chair and board compensation are negatively or positively related to controllers' cash-flow rights. A negative relationship means that, as cash-flow rights decrease, group controllers tend to increase their pay as chairmen and board members.¹

¹ Under Chilean law, the chairman and CEO cannot be the same person.

Hypothesis 1. Group controllers tunnel company resources through chair and board compensation.

One obvious implication of this hypothesis is that, if controllers' cash-flow rights are too small, they will increase their pay as chairmen and board members. This scenario would imply a change in the dividends controllers decide to pay, thus supporting the rent-seeking theory on payout policies, also supported by Gugler and Yurtoglu (2003) for Germany, Bena and Hanousek (2006) for the Czech Republic and Lefort (2008) for Chile.²

Hypothesis 2. As group controllers' cash-flow rights decrease, they will increase both chair and board compensation at the expense of dividends.

3. Data and variables

3.1. Data sources and description

Data on chair and board compensation was manually collected from the yearly statements filed with the SVS (the main Chilean securities market regulator) by 157 non-financial companies between 2000 and 2005. However, information for most companies was available only from 2003 onwards.

Companies use three types of board compensation: variable, as a proportion of net profits or dividends; fixed, as a monthly fee; and per assistance, on a basis of a monthly board meeting. The specific combination of these three types of compensation varies widely.

It can also be seen from the available data that, unlike CEO compensation in the US, Chilean chair and board compensation does not depend on stock options or any kind of market incentive.

According to the data, chair compensation usually doubles that of other directors: for instance, if the board is composed of five directors, the proportion of net profits corresponding to the board is divided by 6.5, with the chair taking 2 parts and the vice-chair 1.5; the chair's monthly and assistance fees are also double those of other directors. In addition, some chairmen increase their compensation by working as consultants to their own companies.

Unfortunately, most controllers are reluctant to disclose the composition of their chair and board compensation. Data is, however, available because, under Chilean law, companies are obliged to publish each director's compensation.³

Table 1 sets out statistics for chair and board compensation, as well as some details of compensation composition. Values are in constant 2005 thousand US dollars.

As the data was collected, companies in which the controllers were also chairmen were identified as well as those in which, although not occupying the chair, the controller or members of the controlling group were members of the board. Table 2 shows the number of companies in which the controllers occupied the chair and/or were board members.

It is readily seen from Table 2 that most companies in which the controllers are chairmen or board members are group-affiliated and that, within group-affiliated companies, the proportion of companies with the controllers as chair or board members shows an upward trend.

Finally and following BM (2001), chair and board compensation variables are constructed as follows:

$$\text{Chair} = \log(\text{Chair compensation})$$

$$\text{Board} = \log(\text{Board compensation})$$

3.2. Ownership variables

Since this study's main hypothesis is that, whenever group controllers receive a small proportion of a company's dividends, they will increase their pay as chair and board members, the main variable considered, along with chair and board compensation, is the proportion of dividends the controller finally receives, also known as the controller's cash-flow rights. This variable comes from Claessens et al. (2002), who control for both ownership concentration and the separation of cash and control rights in order to identify the incentive and entrenchment effects that controllers have in East Asian corporations.

In order to accurately calculate controllers' cash-flow rights (or the proportion of dividends the controller finally receives), I “follow up” controlling pyramids, multiplying successive controller ownership concentration until arriving at their summit (the closed company). For instance, if company A2 is controlled with an ownership concentration of 70% by company A1, which is also controlled with an ownership concentration of 70% by firm A0, a closed company entirely owned by a pyramid's controller, and assuming neither A2 nor A1 have debt nor any kind of expenses, then whenever A2 pays \$100 in dividends, the pyramid's controller (A0) finally receives \$49 (70%*70%*\$100).

Thus, the proportion of dividends the controller finally receives is constructed as follows:

$$\text{Controller's cash-flow rights} = \prod_{i=1}^n \text{Ownership Concentration}_i$$

² For a more detailed discussion of dividend theories, see Lefort (2008) and Bena and Hanousek (2006).

³ Chilean Securities Law (18,046), article 33.

Table 1

Chair and board compensation data and composition

<i>Chair compensation averages by firm size quintiles</i>						
Values in thousand constant 2005 US dollars						
	1	2	3	4	5	<i>n</i>
2000	2.60	22.89	77.38	90.34	119.04	53
2001	16.73	16.36	65.70	116.13	136.00	60
2002	27.96	11.96	66.14	107.68	167.32	68
2003	15.91	22.53	60.63	67.32	257.55	116
2004	26.31	52.94	60.06	104.34	167.45	134
2005	26.06	51.75	74.98	136.53	184.70	137
<i>Board compensation averages by firm size quintiles</i>						
Values in thousand constant 2005 US dollars						
	1	2	3	4	5	<i>n</i>
2000	93.88	141.83	174.49	464.62	561.28	57
2001	89.93	85.23	273.22	514.86	693.53	62
2002	173.36	126.79	157.58	556.96	707.94	73
2003	80.52	100.28	254.20	471.86	852.93	120
2004	102.62	138.67	245.68	513.51	706.83	141
2005	91.24	179.06	303.04	750.87	590.82	140
<i>Board compensation's composition averages</i>						
	Yes	No	Average	# of chair who receive the double		
	Number of companies					
Fixed monthly income per director (in thousand 2005 US dollars)	384	144	1.39	268		
Assistance fee (in thousand 2005 US dollars)	293	195	0.03	167		
Board's proportion of net profits	260	334	1.01%	151		
Board's proportion of dividends	59	–	3.10%	18		

This table shows chair and board compensation and composition averages in constant 2005 US dollars for a sample of 157 Chilean firms (excluding financial institutions) from 2000 to 2005.

It can be seen from Appendix A that, as most Chilean group-affiliated companies are controlled through pyramidal schemes (Lefort and Walker, 2000), there are significant differences between trends in group and non-group controllers' cash-flow rights. Appendix A also sets out definitions and statistics for other control variables.

4. Empirical analysis

4.1. Controllers' cash-flow rights and chair and board compensation

In order to adequately measure whether groups tunnel resources through chair and board compensation, I follow the empirical literature on CEO compensation and estimate the following equations (see BM 2001):

$$\text{Chair}_{it} = \beta_1 * \text{ROE}_{it} + \beta_2 * \text{CCFR}_{it} + \beta_3 * \text{PFD}_{it} + \beta_4 * \Lambda_{it} + \lambda_i + \varphi_t + \varepsilon_{it} \quad (1)$$

$$\text{Board}_{it} = \beta_1 * \text{ROE}_{it} + \beta_2 * \text{CCFR}_{it} + \beta_3 * \text{PFD}_{it} + \beta_4 * \Lambda_{it} + \lambda_i + \varphi_t + \varepsilon_{it} \quad (2)$$

Where Chair and Board are the log of chair and board compensation in constant 2005 Chilean pesos for company *i* at time *t*, ROE is the company's gross and net accounting returns on equity,⁴ CCFR is the controller's cash-flow rights, PFD is a pension fund board member dummy, Λ are company variables such as board size, company size and leverage, λ are company fixed effects and φ are time fixed effects.

Estimations for Eqs. (1) and (2) are performed separately for group and non-group-affiliated companies, following the BM (2000, 2001) methodology.

Before moving on to regression analysis, I show the differences between average chair compensation in group and non-group companies. Fig. 1 shows that, from 2000 to 2005, this is always larger in group companies than in non-group companies.

In Fig. 2, I also compare these results with the differences between average board compensation for group and non-group companies. Again, board compensation is always larger for group than for non-group companies. This is similar to results from Kato et al. (2007), Cheung et al. (2005), Fagernäs (2008) and Barontini and Bozzi (2008).

⁴ As Chilean companies seem to avoid rewarding directors with stock options, share price or other market indicators are not used as a measure of company performance.

Table 2

Controllers as chair or board's member

Complete sample						
	Is the controller also chair?		Is the controller also board's member?		Group's controllers as chair over controllers as chair ratio	Group's controllers as board member over controllers as board members ratio
	Yes	No	Yes	No		
2000	78	63	104	37	66.7%	66.3%
2001	79	62	104	37	68.4%	66.3%
2002	85	56	104	37	69.4%	67.3%
2003	87	57	108	36	70.1%	68.5%
2004	93	53	114	32	73.1%	69.3%
2005	95	53	114	34	73.7%	69.3%
Non group affiliated companies						
	Is the controller also board's member?		Is the controller also chair?		Controllers as chair ratio	Controllers as board members ratio
	Yes	No	Yes	No		
2000	26	16	35	7	61.9%	83.3%
2001	25	18	35	8	58.1%	81.4%
2002	26	17	34	9	60.5%	79.1%
2003	26	17	34	9	60.5%	79.1%
2004	25	17	35	7	59.5%	83.3%
2005	25	16	35	6	61.0%	85.4%
Group affiliated companies						
	Is the controller also chair?		Is the controller also board's member?		Controllers as chair ratio	Controllers as board members ratio
	Yes	No	Yes	No		
2000	52	47	69	30	52.5%	69.7%
2001	54	44	69	29	55.1%	70.4%
2002	59	39	70	28	60.2%	71.4%
2003	61	40	74	27	60.4%	73.3%
2004	68	36	79	25	65.4%	76.0%
2005	70	37	79	28	65.4%	73.8%

This table shows the number of companies in which the controller acts as chair and/or board's member for a sample of 157 Chilean firms (excluding financial institutions) from 2000 to 2005.

While the differences between group and non-group chair and board compensation are significant when performing a t test, Appendix B shows further details on groups and non-groups' boards compensation. However, the differences may have other causes and one alternative explanation is that group-affiliated companies are larger than non-group companies and, thus, pay higher compensation. So, in order to correctly identify the reasons behind these differences, I run the regressions on Eqs. (1) and (2)) while splitting the sample between group and non-group companies for both chair and board compensation.

Table 3 shows regressions on chair and board pay after controlling for accounting returns, controllers' cash-flow rights and the pension fund board member dummy, which controls for companies in which pension funds can elect a board member.⁵

Pension funds, as generally in the case of institutional investors, exercise most of their control through the board of directors (Black 1992) and should have incentives to reduce CEO compensation (Hartzell and Starks 2003). As can be seen from Table 1, boards on average receive 1% of net profits and 3% of company dividends.

The results show that group-affiliated companies tunnel resources. In these companies, both chair and board compensation are always negatively and significantly related to controllers' cash-flow rights while, in non-group companies, they are not related. The results imply that a 10% reduction in controllers' cash-flow rights increases average chair and board compensation by at least 100% in group-affiliated companies. These results both confirm and provide a rationale for the aforementioned results on board compensation in India, Hong Kong, Italy and Korea.

Another striking result from Table 3 is that board members elected by pension funds appear to have an effect opposite to that expected (Hartzell and Starks 2003), with their presence being positively and significantly related to both chair and board compensation. A possible explanation for this surprising result is that, although pension fund board representatives are carefully elected, they may not have sufficient incentive to try to reduce chair and board compensation since they receive the same compensation as other board members. In fact, they could have an incentive to increase chair compensation because, since this tends to be double that of other board members, their compensation also rises with that of the chair.

⁵ Pension fund data was partly provided by Cristián Rodríguez of AFP Habitat (the second largest Chilean pension fund) or taken from the public database of the SAFF (the industry regulator).

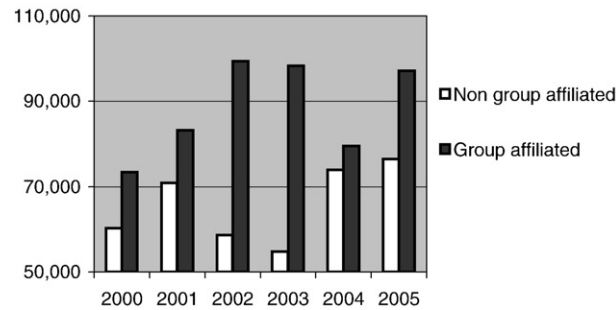


Fig. 1. Chair compensation averages. The figure shows chair compensation averages for group and non-group affiliated companies. The sample is composed of 157 non-financial Chilean firms from 2000 to 2005. Values are in constant 2005 USD.

Another interesting result seen in Table 3 is the absence of a consistently significant relation between company performance and chair and board compensation, meaning that chairmen and board members are paid like bureaucrats. Company size is positively and significantly related to board compensation while leverage seems to be negatively related.

Following Petersen (forthcoming), I strengthen these results by running fixed-effect panel data with robust and clustered standard errors on Eqs. (1) and (2). The regressions' main results (not shown) confirm the negative and significant relation between chair and board compensation and controllers' cash-flow rights.

However, an alternative explanation arises since these results may reflect the presence or absence of the controllers on company boards. In this case, cash-flow rights would be negatively related to both chair and board compensation only when controllers are board members, instead of whenever companies are group-affiliated. To test this hypothesis, I run fixed-effects regressions on Eqs. (1) and (2) while splitting the sample between group and non-group companies and controllers' presence/absence for both chair and board compensation.

Table 4 shows fixed-effects regressions for chair and board compensation on controllers' cash-flow rights and control variables while splitting the sample between group and non-group companies and controllers' presence/absence on company boards.

Two conclusions from Table 4 confirm the hypothesis that group-affiliated companies' controllers use chair and board compensation to tunnel resources out of companies. First, controllers' cash-flow rights are only negative and significantly related to both chair and board compensation for group-affiliated companies and, second, controllers' cash-flow rights are not related to board compensation when controllers are not board members in group-affiliated companies. However, why would group controllers be interested in increasing chairmen's pay when they do not occupy this position? One possible explanation may be that, as the chairman's compensation usually doubles that of directors, groups' controllers have an incentive to increase chair compensation as their pay will increase too. These results further support and explain findings from countries such as Korea, India, Hong Kong and Italy, where group affiliation increases board compensation.

Although controllers' cash-flow rights are positively and significantly related to board compensation for non-group companies when the controller is not a board member, this result should be treated with caution since lack of data makes it difficult to obtain reasonable coefficients.

Table 4 also confirms previous findings on the pension fund board member dummy, showing that, regardless of group affiliation and controllers' presence/absence, the pension fund dummy is positively and significantly related to both chair and board compensation, exactly the opposite result to that expected (Hartzell and Starks, 2003).

Confirming the above results, both chairmen and board members seem to be paid as bureaucrats since neither gross nor net accounting returns are consistently related to their compensation. Interestingly, leverage is negatively and significantly related to

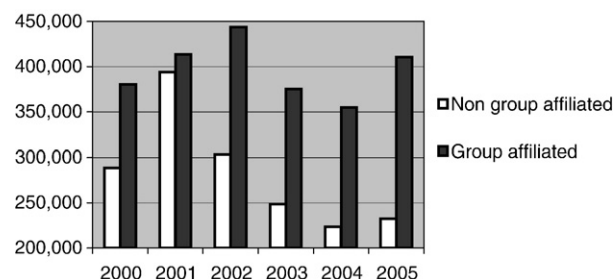


Fig. 2. Board's compensation averages. The figure shows board compensation averages for group and non-group affiliated companies. The sample is composed of 157 non-financial Chilean firms from 2000 to 2005. Values are in constant 2005 USD.

Table 3

Panel fixed effects regressions for chair and board compensation on gross and net accounting returns and controller's cash flow rights Chair Board

	Chair				Board			
Group affiliated company?	No	No	Yes	Yes	No	No	Yes	Yes
Gross accounting returns	-1.161 33.0%		-0.814 55.3%		-6.805 6.8%		3.230 5.2%	
Net accounting returns		-0.625 37.4%		-0.045 84.2%		1.798 0.0%		-0.047 89.0%
Controller's cash flow rights	1.269 30.9%	1.252 31.7%	-8.484 0.0%	-8.502 0.0%	-1.016 78.7%	0.845 30.6%	-7.186 0.0%	-7.342 0.0%
Pension fund's board member	1.720 0.0%	1.730 0.0%	1.315 0.1%	1.325 0.1%	1.006 45.2%	0.747 1.3%	1.314 1.8%	1.247 2.6%
Board size	-0.070 55.4%	-0.090 45.2%	-0.022 87.3%	-0.013 92.1%	0.080 80.5%	0.034 63.2%	0.250 20.7%	0.208 29.5%
Company's size	0.067 76.4%	0.105 65.5%	0.946 0.0%	0.906 0.0%	1.418 3.9%	-0.253 10.3%	0.752 5.3%	0.949 1.3%
Leverage	-0.109 53.2%	-0.117 50.8%	-0.110 26.7%	-0.129 17.6%	-0.617 25.1%	0.037 75.3%	-0.933 0.0%	-0.849 0.0%
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample size	111	111	386	386	120	120	399	399
F	4.770	4.750	7.850	7.820	1.100	152.240	7.710	7.270
Prob > F	0.0%	0.0%	0.0%	0.0%	37.1%	0.0%	0.0%	0.0%

Statistical significance on italic. Significant results (at 5% or better) are shown in boldface.

This table presents the results from the following regressions:

Chair compensation_{it} = b1ROE_{it} + b2CCFR_{it} + b3PFD_{it} + b4Firm Variables_{it} + b5Fixed Effects + b6Time dummies + ε_{it}. Board compensation_{it} = b1ROE_{it} + b2CCFR_{it} + b3PFD_{it} + b4Firm Variables_{it} + b5Fixed Effects + b6Time dummies + ε_{it}.

The dependant variables are chair and board compensation. ROE is both gross and net accounting returns. CCFR are controllers' cash flow rights. PDF is a dummy that equals 1 when one of company's board member was elected with pension fund votes. Firm variables are firm size (in log), board size and leverage. The sample is divided between group and non-group affiliated companies and comprises 157 non-financial Chilean companies from 2000 to 2005.

groups' board compensation. Since, as seen in Table 3, company leverage has the same effect on board compensation and, in particular, on groups' board compensation, these results seem to indicate that company debt is one of the main devices used to discipline management, confirming the free-cash flow theory (Jensen, 1986).

Endogeneity concerns should not be an issue due to theoretical reasons. Almeida and Wolfenzon (2006) argue that controllers' cash-flow rights are determined by firms' profitability, required investments and tunneling possibilities. While board compensation is one of the many ways in which controllers tunnel companies, it is unlikely to be the main one and, thus, significantly determine controllers' cash-flow rights in the firm. A clear example showing that controllers' cash-flow rights determine board compensation and not vice versa comes from Soquimich, a leading international producer of fertilizers, iodine and lithium. This Chilean company is controlled through a pyramid starting in SQ Holding, a closed company, followed by a sequence of control through Norte Grande, Oro Blanco and Pampa Calichera, with the latter finally controlling Soquimich through half of its board electing-class shares. With the exception of SQ Holding, all of these are listed companies. In 2002, Norsk Hydro, a Norwegian company, acquired a 49% stake in SQ Holding through a private equity increase, after which the cash-flow rights of Soquimich's controller were reduced by almost half. The same year, the controller joined the boards of Norte Grande, Oro Blanco and Pampa Calichera as chairman, increasing the compensation received by Norte Grande's chairman threefold (the chairman receives 6 times a director's compensation) and, in Oro Blanco, from zero to CLP 15 million (the chairman receives 12 times a director's compensation). Furthermore, he also increased his pay as chairman in Soquimich and also joined the board of a subsidiary.

There is, however, still an alternative hypothesis on groups' chair and board compensation that needs to be examined. The differences in both chair and board compensation may reflect managerial characteristics (such as MBA degrees in Bertrand and Schoar, 2003), with groups employing chairmen and board members who are more highly qualified than their non-group equivalents. There are, however, some indications that this is not the case. First, if groups' controllers have better managerial characteristics, controllers' cash-flow rights should not be related to chair and board compensation. Second, a survey of Chilean boards carried out by MV-Amrop in 2005 found that only 78 directors from a sample of 153 listed companies had graduate degrees such as MBAs or PhDs. Since, in 2005, Chile's group-affiliated companies had a total of 760 board members (and board overlap is not that large), it can be deduced that the higher compensation of board members in group-affiliated companies is not explained by their better managerial characteristics. For this to be the case, the 78 board members identified in the survey as having graduate degrees would have had to hold some 10 seats each. Third, Silva et al. (2006) find that, in a sample of 114 Chilean group-affiliated companies, 22% of both board members and CEOs are on average controlling shareholders or members of their families. Moreover, as shown in Table 2, groups' controllers participate in nearly 70% of their companies' boards. In a related study, Pérez-González (2006) finds that, in a sample of CEO succession processes in US companies, newly-appointed CEOs, promoted because of family ties rather than on merit, significantly under-perform as regards both accounting and market returns compared to companies appointing unrelated CEOs. If related CEOs under-perform their unrelated peers in US firms, why would Chilean groups' controller-related board members over-perform non-

Table 4

Panel fixed effects regressions for chair and board compensation on ownership and control variables

<i>Chair compensation</i>								
Controller as chairman?	Yes	Yes	No	No	Yes	Yes	No	No
Group affiliated company?	No	No	No	No	Yes	Yes	Yes	Yes
Gross accounting returns	–1.434 10.6%		–2.099 47.7%		1.133 49.1%		–6.331 1.0%	
Net accounting returns		–0.317 48.4%		–3.317 21.1%		0.011 96.1%		0.851 55.1%
Controllers' cash flow rights	1.027 17.0%	1.150 13.4%	1.651 82.6%	1.575 82.1%	–5.304 0.0%	–5.254 0.0%	–12.013 0.0%	–11.254 0.0%
Pension fund's board member	2.714 0.0%	2.778 0.0%	0.412 76.3%	0.515 68.6%	0.233 60.9%	0.199 66.0%	5.763 0.0%	6.106 0.0%
Board size	–0.152 6.6%	–0.178 4.6%	0.125 78.2%	0.143 74.1%	–0.109 52.9%	–0.109 53.1%	–0.036 85.7%	0.134 49.7%
Company's size	0.053 72.6%	0.103 54.0%	1.083 23.6%	1.187 16.8%	0.348 25.1%	0.425 13.4%	2.261 0.0%	1.942 0.1%
Leverage	–0.191 5.9%	–0.193 7.4%	–2.798 18.7%	–2.888 15.6%	–0.060 62.8%	–0.056 65.3%	0.063 69.0%	–0.193 12.2%
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample size	72	72	37	37	232	232	153	153
F	19.630	18.430	1.230	1.470	2.020	1.980	17.980	16.370
Prob > F	0.0%	0.0%	35.4%	25.5%	2.9%	3.4%	0.0%	0.0%
<i>Board compensation</i>								
Controller as board member?	Yes	Yes	No	No	Yes	Yes	No	No
Group affiliated company?	No	No	No	No	Yes	Yes	Yes	Yes
Gross accounting returns	–7.846 13.3%		–0.380 76.3%		4.317 0.7%		–7.401 13.3%	
Net accounting returns		1.809 0.0%		–1.416 33.6%		0.146 63.7%		–1.136 62.3%
Controllers' cash flow rights	–1.457 74.5%	1.214 11.9%	1202.099 2.3%	933.382 8.3%	–3.685 4.0%	–3.638 4.8%	–1.264 81.1%	2.264 67.2%
Pension fund's board member	1.376 46.1%	1.223 0.0%	191.222 2.3%	148.772 8.1%	0.004 99.5%	–0.082 87.7%	13.848 0.0%	15.574 0.0%
Board size	0.036 93.0%	0.001 98.9%	0.543 32.1%	0.362 46.5%	0.089 66.3%	0.040 84.7%	–0.103 78.9%	0.011 97.7%
Company's size	1.700 7.1%	–0.429 1.3%	0.949 8.3%	1.213 4.7%	0.403 30.0%	0.682 7.5%	2.615 5.1%	2.456 6.9%
Leverage	–0.630 32.9%	0.019 86.0%	–0.242 86.1%	–1.151 47.2%	–1.109 0.0%	–1.012 0.0%	0.190 48.3%	–0.094 64.7%
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample size	95	95	23	23	288	288	110	110
F	0.940	194.740	6.310	7.680	9.700	8.710	9.510	9.070
Prob > F	51.3%	0.0%	2.8%	1.8%	0.0%	0.0%	0.0%	0.0%

Statistical significance on italic. Significant results (at 5% or better) are shown in boldface.

The basic regression is the same as in Table 4. The only difference is that this table splits the sample between group and non group affiliated companies, and controllers' presence/absence on company's board. The sample comprises 157 non-financial Chilean companies from 2000 to 2005.

group boards? And if, as expected from Pérez-González (2006), groups' board members do not over-perform non-group boards, why would they have better managerial characteristics than non-groups? And finally, why would they be more highly rewarded than non-group board members?

Therefore, while on the one hand, groups' controllers tunnel company resources by increasing their chair and board compensation as their cash-flow rights decrease, on the other, non-group companies pay their chairmen and boards as bureaucrats since better-performing companies do not increase their directors' pay.

4.2. Are dividends an issue?

As most of this analysis is supported by the fact that chair and board compensation increase whenever controllers' cash-flow rights decrease or, in other words, when controllers receive a small proportion of company dividends, two further questions are raised. Are dividends and chair and board compensation mutually exclusive and do company controllers with low cash-flow rights prefer chair and board compensation over dividends? And, secondly, are chair and board compensation economically significant as compared to dividends?

Before using regression analysis, I look at whether chair and board compensation are economically significant as compared to dividends. In order to adequately assess their significance, I show the ratio of both chair and board compensation to dividends. In

Table 5

Chair and board compensation over dividends statistics

	Non-group affiliated companies		Group affiliated companies	
	Chair compensation over dividends ratio	Board compensation over dividends ratio	Chair compensation over dividends ratio	Board compensation over dividends ratio
	Excluding >1 ratios	Excluding >1 ratios	Excluding >1 ratios	Excluding >1 ratios
Mean	3.63%	8.42%	1.72%	5.09%
Median	0.52%	2.34%	0.52%	2.13%
Stan dev	9.45%	16.16%	6.33%	9.68%
Max	71.29%	86.65%	77.41%	81.24%
Min	0%	0%	0%	0%

Chair and board compensation over controllers' dividends				
	Non-group affiliated companies		Group affiliated companies	
	Chair compensation over dividends ratio	Board compensation over dividends ratio	Chair compensation over dividends ratio	Board compensation over dividends ratio
	Excluding >1 ratios	Excluding >1 ratios	Excluding >1 ratios	Excluding >1 ratios
Mean	4.51%	9.39%	3.14%	9.81%
Median	0.73%	2.82%	0.93%	3.96%
Stan dev	9.87%	15.05%	6.93%	15.37%
Max	74.55%	80.42%	55.04%	99.49%
Min	0%	0%	0%	0%

This table shows the average for both chair over dividends ratio and boards' compensation over dividends ratio, while splitting the sample between group and non-group affiliated companies. Below the Table shows the same ratios although that instead of dividends, I use the dividends the controller effectively receives. Both chair, board compensation and dividends are in log. The sample comprises 157 Chilean firms (excluding financial institutions) from 2000 to 2005.

addition, since most group-affiliated companies are controlled through pyramids, thus further separating cash and control rights, I show both chair and board compensation over controllers' dividends. It is important to mention that, for Chilean listed companies with positive net profits, a 30% dividend payout ratio is mandatory.

Table 5 shows that, when excluding ratios of larger than 1 (corresponding to companies with negative or very low net profits that still paid both chair and board compensation), the average ratio of chair and board compensation to dividends is economically significant, with controllers' compensation reaching as much as 3.6% in non-group-affiliated companies and 1.7% in group-affiliated companies. In order to adequately measure chair and board compensation for company

Table 6

Panel fixed effects regressions for chair and board compensation over dividends ratio on ownership and control variables

	Chair/dividends				Board/dividends			
	No	No	Yes	Yes	No	No	Yes	Yes
Group affiliated company?	–0.041				–0.278		0.027	
Gross accounting returns	57.4%		–0.192		16.6%		70.4%	
Net accounting returns		–0.088		–0.027		0.074		–0.027
		20.8%		0.8%		0.0%		6.1%
Controllers' cash flow rights	0.008	–0.009	–0.295	–0.313	–0.077	0.041	–0.226	–0.248
	91.5%	90.4%	0.0%	0.0%	71.5%	57.8%	0.6%	0.3%
Pension fund's dummy	0.079	0.075	0.072	0.074	0.078	0.051	0.071	0.070
	0.3%	0.5%	0.0%	0.0%	27.5%	4.5%	0.4%	0.4%
Board size	0.008	0.005	–0.001	0.001	0.005	0.004	0.012	0.012
	42.8%	62.4%	88.9%	86.8%	81.3%	54.6%	16.2%	16.5%
Company's size	–0.006	0.000	0.003	–0.004	0.127	–0.006	–0.013	–0.008
	79.4%	98.2%	80.9%	71.1%	1.9%	74.6%	44.2%	61.1%
Leverage	0.003	0.001	0.004	–0.001	–0.026	0.007	–0.029	–0.029
	79.6%	93.8%	36.6%	88.4%	40.4%	52.5%	0.0%	0.0%
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample size	86	86	369	369	93	93	380	380
F	2.340	2.530	7.090	6.820	1.110	41.170	6.860	7.260
Prob>F	2.3%	1.4%	0.0%	0.0%	37.5%	0.0%	0.0%	0.0%

The basic regression is the same as in Table 4. The difference being that instead of chair and board compensation as dependant variable, I use chair over dividends and board compensation over dividends ratio. Again, I split the sample between group and non group affiliated companies. The sample comprises 157 non-financial Chilean companies from 2000 to 2005.

Statistical significance on italic. Significant results (at 5% or better) are shown in boldface.

controllers, both chair and board compensation are divided by the dividends the controller effectively receives, that is, the product of the controller's cash-flow rights and the company's dividends. As expected, the average ratio increases for both group and non-group companies, although it is almost twice as large for group companies because groups do separate cash and control rights. These results imply that chair and board compensation are economically important relative to dividends.

The fact that the non-group ratio is larger than the group ratio is explained by the fact that, as can be seen in Appendix A, the sum of the market and book value of debt for group companies is, on average, 3 times larger than for non-group companies. Therefore, although the ratio is smaller for group-affiliated companies, they pay higher chair and board compensation.

To answer the question of whether chair and board compensation and dividends are mutually exclusive, fixed-effects regression analysis was performed on the ratio of chair and board compensation to dividends, constructed as follows:

$$\text{Chair}/\text{DIV} = \log(\text{Chair compensation})/\log(\text{dividends}) \qquad \text{Board}/\text{DIV} = \log(\text{Board compensation})/\log(\text{dividends})$$

Table 6 shows fixed-effects regressions for the ratio of chair and board compensation to dividends on controllers' cash-flow rights and control variables while splitting the sample between group-affiliated and non-group companies. The results show that, although controllers' cash-flow rights are always negatively related to any kind of compensation, this is significant only in the case of group-affiliated companies, apparently supporting previous findings that groups tunnel company resources through chair and board compensation. However, does this mean that groups pay higher compensation or that they pay lower dividends? Lefort (2008) shows that, for a sample of Chilean companies from 1994 to 2002, the average payout ratio in group-affiliated companies was 42.6%, and, in non-group companies, 31.5%. Therefore, the evidence from Table 6 means that group controllers prefer both chair and board compensation over dividends when confronted with low cash-flow rights, supporting the hypothesis that groups tunnel company resources through chair and board compensation when their controllers receive a low proportion of company dividends.

Although presumably to the distaste of group controllers, both gross and net accounting returns are negatively and significantly related to the ratio of chair compensation to dividends for group-affiliated companies. In other words, well-performing companies increase dividends, setting an upper limit on chair compensation and, thus, on tunneling through this mechanism. These latter results show that, despite controllers being able to set their salary at the level of their choice due to the apparent lack of constraints, they do have restrictions. One of them may be the argument of BM (2001) that CEOs (in this case, groups' controllers) increase their compensation while avoiding drawing public attention to this fact.

In the case of pension funds, the regressions show that their presence on company boards is positively and significantly related to the chair and board compensation/dividends ratio both for group-affiliated and non-group companies. In other words, they appear to be ineffective against company controllers on the issue of board compensation.

Finally, and again following Petersen (forthcoming), I replicate Table 6's equations by running fixed-effects panel data with robust and clustered standard errors. Unlike previous regressions, the results (not presented here) show that companies' performance is significantly and negatively related to chair compensation, and that leverage is significantly and negatively related to board compensation, thus weakening the hypothesis that both chair and board compensation and dividends are mutually exclusive. For pension funds, the regressions show that their presence is still associated with increases in both chair and board compensation, although these results are only significant for board compensation in non-group-affiliated companies.

5. Conclusions

Recent research in countries like India, Hong Kong, Italy and Korea shows that group-affiliated companies' boards receive higher pay than the boards of non-group-affiliated companies.

In this paper, following Bertrand and Mullainathan (2000, 2001), I use a 6-year sample of Chilean firms in an attempt to explain why group-affiliated companies increase their boards' pay. I show that, in these companies, controllers' presence on the board of directors is associated with an increase in both chair and board compensation as controllers' cash-flow rights decrease. These results are supported by the fact that groups prefer to increase chair and board compensation rather than dividends as the controllers' cash-flow rights decrease and that, in other words, they tunnel company resources through chair and board compensation.

The latter results provide a rationale for results in India (Fagernäs, 2008), Korea (Kato et al., 2007), Hong Kong (Cheung et al., 2005) and Italy (Barontini and Bozzi, 2008), who find that group-affiliated firms' board compensation is higher than in non-group-affiliated boards. In addition, they support previous findings on how groups tunnel company resources, such as Bertrand et al. (2002) who demonstrate how Indian group-affiliated companies tunnel resources through pyramids, Bae et al. (2002) who show how Korean *chaebols*' related acquisitions benefit their controllers, and Baek et al. (2006) who find that *chaebols* set the price of private security offerings to benefit their controllers.

Further research should explore two areas: first, it should focus on the value effects on companies of chair and board compensation and, second, it should further analyze chair and board compensation in group-affiliated companies so as to better understand the functioning of groups' boards.

Appendix A

Descriptive statistics and main variables' description

Descriptive statistics						
	Mean	Stand. dev.	Max.	Min.	Group average	Non-group average
Chair compensation	14.1	6.6	20.7	0.0	14.2	13.9
Board compensation	15.5	6.9	21.7	0.0	15.6	15.1
Chair/dividends ratio	66.8%	28.4%	118.2%	0.0%	65.4%	71.2%
Board/dividends ratio	73.5%	29.9%	143.8%	0.0%	72.3%	77.2%
Gross accounting returns	12.0%	30.5%	400%	–429%	12.3%	11.1%
Net accounting returns	6.8%	62.0%	1011%	–1000%	5.2%	10.6%
Controllers' cash flow rights	58.9%	24.1%	100.0%	4.8%	53.2%	71.8%
Ownership concentration	69.9%	18.5%	99.0%	17.4%	68.8%	72.3%
Pension fund's board member	62.9%	48.3%			67.6%	52.2%
Board's size	6.9	1.4	11	5	7.0	6.7
Companies' size	25.5	1.8	30.2	19.3	25.8	24.6
Leverage	1.3	7.2	210.4	0.0	1.5	1.0
Description of main variables						
Chair compensation	Log of chair compensation in 2005 constant Chilean pesos.					
Board compensation	Log of total board compensation in 2005 constant Chilean pesos.					
Chair/dividends ratio	Log of Chair compensation divided by log of company's dividends.					
Board/dividends ratio	Log of Board compensation divided by log of company's dividends.					
Gross accounting returns	Gross income divided by book value of assets.					
Net accounting returns	Net income divided by book value of assets.					
Ownership concentration	Proportion of shares directly and indirectly owned by the controller.					
Controller's cash flow rights	Proportion of dividends the controller finally receives. Product of successive controller's ownership concentration in pyramidal structures.					
Control minus cash rights	Ownership concentration minus controller's proportion of dividends.					
Pension fund's board member	Dummy for pension fund's board member. 1 if pension funds can elect a board member; 0 otherwise.					
Board's size	Total number of boards' directors.					
Companies' size	Log of market value of company's equity plus book value of debt.					
Leverage	Capital structure of company. Book value of debt divided by book value of equity.					

This table shows descriptive statistics for the whole sample. It also shows variables' averages for group and non group affiliated companies. The sample is composed of 157 Chilean firms (excluding financial institutions) from 2000 to 2005.

Appendix B

Descriptive statistics of compensation variables

Complete sample								
	Group affiliated firms				Non-group affiliated firms			
	Mean	Stand. dev.	Max.	Min.	Mean	Stand. dev.	Max.	Min.
Chair compensation	89.9	141.5	1807.0	0.0	67.5	101.5	566.8	0.0
Board compensation	391.5	571.2	4244.5	0.0	264.9	534.4	4788.8	0.0
Group affiliated firms								
	Controller as chairman				Non-controller chairman			
	Mean	Stand. dev.	Max.	Min.	Mean	Stand. dev.	Max.	Min.
Chair compensation	115.7	172.0	1807.0	0.0	52.4	61.2	310.3	0.0
Board compensation	505.7	676.2	4244.5	0.0	222.6	290.8	1324.5	0.0
	Controller as board member				Non-controller board members			
	Mean	Stand. dev.	Max.	Min.	Mean	Stand. dev.	Max.	Min.
Chair compensation	108.9	159.9	1807.0	0.0	42.7	56.0	278.9	0.0
Board compensation	473.4	636.5	4244.5	0.0	188.3	269.2	1178.5	0.0
Non-group affiliated firms								
	Controller as chairman				Non-controller chairman			
	Mean	Stand. dev.	Max.	Min.	Mean	Stand. dev.	Max.	Min.
Chair compensation	91.4	121.7	566.8	0.0	40.6	57.7	284.7	0.0
Board compensation	353.0	662.1	4788.8	0.0	153.2	243.8	1470.8	0.0

(continued on next page)

Appendix B (continued)

Non-group affiliated firms								
	Controller as board member				Non-controller board members			
	Mean	Stand. dev.	Max.	Min.	Mean	Stand. dev.	Max.	Min.
Chair compensation	80.4	111.5	566.8	0.0	32.1	45.6	159.4	0.0
Board compensation	315.5	599.1	4788.8	0.0	109.3	142.2	463.9	0.0

This table shows descriptive statistics for the whole sample, separating between group and non group affiliated companies, and between controllers' presence as both chairman and board member. The sample is composed of 157 Chilean firms (excluding financial institutions) from 2000 to 2005.

Values are in thousand constant 2005 USD.

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