

Unionized Employees' Influence on Executive Compensation: Evidence from Korea

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Abstract

This article explores the relationship between executive compensation and employee voice using a panel dataset from Korean firms. It was found that the existence and rate of labour unionization are both negatively associated with executive compensation payment, and that the negative association is progressively stronger for upper percentile executive pay. Labour union existence also has a strong negative correlation with stock option use in executive compensation packages, but unionization rate does not, implying that union existence is more critical in shaping executive compensation structures than the strength of the union. Membership of large family-owned business conglomerates (chaebol), high financial risk and high employee wages are identified as channels that reinforce the negative influence of labour unions on executive compensation.

1. Introduction

A number of corporations have revealed that during the financial crisis of the late 2000s, they paid extremely high compensation packages to managers whose business decisions caused severe pain to other stakeholders as a result of plummeting share prices and increasing layoffs. Since then, discussion on how executive pay is decided continues. Although research on managerial compensation has been largely skewed to shareholder–manager relationships based on agency theory, CEO pay is no longer a private matter between principals and agents, as publicly disclosed information on executive pay affects many aspects of corporations such as governance and culture (Jensen and Murphy 1990). Other stakeholders such as labour unions, consumers, government and the media have access to this information, and therefore, have the potential to affect executive compensation, either directly or indirectly. In

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particular, since the recent financial crisis, the role of employees has attracted much attention in the debate on executive compensation. Based on concerns about fairness, disparities between executives and employees are frequently discussed, as chief executives take on large compensation packages, while their employees endure wage concessions or are made redundant.

As suppliers of labour, employees provide the most critical input for a firm and have potential to influence executive compensation in various ways. First, employees can be active monitors of managerial misbehaviour (given that their interest is closely linked to how their firm is managed). Second, because demotivated workers who feel disadvantaged and unfairly treated cause productivity concerns (Adams 1966; Hatfield and Sprecher 1984), managers have an incentive to care about the upper and lower level employee wage disparity.

In this study, I utilize the presence and rate of labour unionization (using Korean data) as measures of employee voice and power within a firm to explore theoretical predictions that employee voice influences executive compensation. Korean data provide a unique opportunity to explore the topic in a specific context, as Korean labour unions have maintained their original roles as monitors of corporate management relatively well and as strong opposition voices on corporate misbehaviour. Today, labour unions in most developed countries have lost their sense of solidarity and influence. In addition, while the level of economic development in Korea allows comparison with findings from more frequently studied countries such as the United States, Korea's unique corporate governance characteristics (such as the strong presence of large family-owned business conglomerates known as chaebol) enable exploration of cross-sectional differences of influence for labour unions on executive compensation in a different type of corporate governance. An additional major difference is that, unlike most studies that focus on CEO's compensation only in the United States, I examine compensation of all executives' in Korean companies. Thus, I explore the broader context of the pay gap between executive-level workers and employees in contrast to those studies that focus on just one CEO at the top.

The data were analysed by running regressions with industry or firm and year fixed effects using 11 years of panel data from 242 Korean firms, controlling for business circumstances and corporate governance structure. I found that the presence and rate of labour unionization were both negatively associated with executive cash compensation: when an increasing number of employees become organized, executives are likely to be paid less. In addition, using unconditional quantile regression, I demonstrated that this negative association is progressively stronger for the upper percentile executive pay. This implies that labour unions play a role in compressing the range of executive cash compensation, and in maintaining a higher level of equality with regard to employee payments. I also found that a union presence is a more critical determinant of reduced stock option use, while unionization rate is not, which means as long as a firm has an organized union, adopting a new method of compensating executives becomes more difficult. The negative

effects are stronger in chaebol firms (which traditionally pay much higher compensation to their directors), as well as in firms with high financial risk and high employee wages, showing that labour unions function as monitors of management misbehaviour and contribute to improved equality in pay in the workplace. However, it was found that labour intensity did not play a mitigating role regarding labour union influence over executive compensation, although labour-intensive operation might imply strong labour voice. This could be because today most Korean firms operate more in capital- or technology-intensive industries and relative increase in labour intensity does not reinforce labour union voice.

The rest of the article is presented as follows. Section 2 consists of a literature review concerning the relationship between employee voice, labour union and executive compensation and background knowledge of labour unions in Korean firms. Section 3 describes the dataset and methodology. Section 4 presents the findings of this article. Section 5 concludes.

2. Literature review

Employees and Executive Compensation

Theoretical arguments predict that unions can potentially both increase (Mahoney 1979; Simon 1957) and decrease CEO compensation (Jensen and Murphy 1990). The former can happen because of the social norm that there has to be a fair degree of difference between lower and upper level employee pay (the ratchet effect). Conversely, employees pressure executives by negotiating pay concessions through collective bargaining and public exposure to debate on executive pay, aiming at a higher level of equity (the braking or dampening effect).

A limited number of empirical studies have presented mixed results. DiNardo *et al.* (1997) found that in the United States and Europe, fewer managers are employed in unionized firms, concluding that unions redistribute rents towards workers by reducing the number of managers instead of the amounts of their pay. Using American data, Gomez and Tzioumis (2006) found a negative effect for labour unions on executive pay, which becomes progressively stronger for higher pay groups, while performance sensitivity in relation to pay remained constant. Similarly, Banning and Chiles (2007) showed that CEOs in union firms are paid less but experience lower risk in terms of the composition of their pay as a trade-off. Huang *et al.* (2017) show that labour unions in the United States curb CEO compensation, especially prior to those union contract negotiations when unions are in strong bargaining positions. However, Singh and Agarwal (2002) identified the ratchet effect in Canadian metal-mining firms, whereby executive pay is significantly higher in unionized firms.

When observing workplaces, there are more reasons to predict a negative relationship between strong employee power and executive compensation. Employees as stakeholders are active monitors of managers, given their close

interest in how managers operate their firm. If managerial misbehaviour creates economic difficulties (such as increased layoffs and reduced workers' wages), employees are the first to experience the effects. Therefore, less senior employees often engage in invigilating executives with the support of employee stock ownership (ESO) and union representation in annual meetings. Such systemized and institutionalized employee voice enables them to request corporate information and limit executive power (Bebchuk and Fried 2003).

Organized employees also aim to achieve higher levels of equity. Dornstein (1991) found that less senior employees' feelings of inequity lead them to act through absenteeism, strikes, vandalism and violence (Martin 1982; Staw 1984) and made them less supportive of the goals of a better rewarded group, which resulted in decreased productivity and efficiency (Hatfield and Sprecher 1984). Given that executives' long-term compensation or job security depends on firm performance, managers might forego excessive pay voluntarily to remove the elements that obstruct productivity. DeAngelo and DeAngelo (1991) and Huang *et al.* (2017) show supporting evidence that CEOs receive lower compensation for their union-negotiation years to demonstrate their sacrifice to employees.

To maintain recognition and bargaining rights, labour unions need to mobilize members (Crouch 1982) through common interests (Traxler 1995) such as executive pay. When employees have sufficient power (such as through readily marketable skills), labour unions need to generate extra demand for unionization that is more generalizable to all workers Marsden (2013). Using topical issues such as executive pay helps labour unions with their organizational imperative to create such demand, which means greater pressure on management and shareholders to reduce pay.

Some anecdotal evidence supports the phenomena explained previously. In Korea, Kook-Min bank's CEO was criticized by the banks' labour union regarding his excessive stock option reward, which did not match his performance contributions. In 2007, the labour union mobilized itself to vote against the CEO serving consecutive terms and induced their bank to revise its overall CEO remuneration system. Following these initiatives, other mega-size banks (such as Shin-Han Bank and Hana Bank) also adjusted down their CEO's stock option rewards. Moreover, in the United States, when American Airlines gave its CEO a 10 per cent salary increase in 2010 (while resisting wage increases for its employees), the labour union planned to exert public pressure through media exposure and strikes. This was the labour union's expression of concern about fairness as well as sincere monitoring of the company's business operation, as it was the only major US airline company to lose money at that time (Koenig 2011). The labour union of the Motion Picture and Television Fund reported similar complaints in 2013, stating that their CEO was being paid excessively while employees were asked to make concessions (Ellingson 2013). Such anecdotes illustrate that organized employees actively monitor their executives and express concerns for unfairness with regard to payments. This might foster an organizational imperative in labour unions and increase solidarity among members who share similar viewpoints.

Various channels exist through which employees can affect top executive pay. Employees can request an executive pay concession directly through institutionalized voice and industrial action based on general preference for equal pay and fairness (Gomez and Tzioumis 2006), especially when workers are asked to bear such changes (Singh and Agarwal 2002). Indirectly, organized employees can influence executive compensation through their negative influence on a firm's profitability (Banning and Chiles 2007) and financial market performance (Gomez and Tzioumis 2006). Abowd and Farber (1990), Becker and Olson (1989) and Bronars and Deere (1994) show that collective bargaining by employees can have a negative impact on stock prices and can eventually reduce the value of executives' stock options. Executives may also voluntarily decide to withhold excessive pay due to employee pressure based on an implicit regulation hypothesis (Jensen and Murphy 1990). Employees perceive high executive pay as an indicator of the firms' financial health, and thus, demand wage increases for employees. To avoid coping with such negotiation attempts, executives could choose to have less in the first place (Gregg and Machin 1988; Huang *et al.* 2017; Singh and Agarwal 2002).

Employee Voice and Labour Union

In this study, I measured employee voice and bargaining power by the labour union presence and unionization rate, which are proven in previous empirical studies (Klasa *et al.* 2009) to be useful proxies. In this section, I provide the theoretical link between labour unionization and employee power.

Employees can do one of two actions when they are not satisfied with their firm: leave their job or voice concern as an attempt to fix the problem (Freeman and Medoff 1984; Hirschman 1970). Leaving is only possible when jobs are available outside their firm. Voice can be classified as either individual or collective, and individual voice is available only when employees have job opportunities elsewhere (Freeman and Medoff 1984). This is because the identity of the individual is easily exposed by them voicing concerns, and management might find it more efficient to remove or penalize the individual rather than making changes to the workplace. Therefore, a collective voice such as a labour union is likely to be the main locus of available action for the majority of employees (Dundon *et al.* 2004; Marchington and Wilkinson 2005).

However, the iron law of oligarchy that bureaucratic and corrupt power arises in any kind of organization is often levelled against labour union leaders. When union leaders stay closer to management and seek self-interests (such as taking bribes from firms to exercise their authority against members' interests), union activities may not be an effective threat to management (Hyman 1975). Also, as the nature of work has diversified from manufacturing to services and from full-time to part-time, it became harder for unions to negotiate various workers' interests collectively. Disney *et al.* (1996) showed

that in the United Kingdom, a shift away from traditional workplaces with homogenous worker interests (such as in the mining industry) resulted in a dramatic decrease in labour union powers.

In Korea where labour unions have a relatively short history of legal recognition and are still actively involved in manifesting workplace discontent, conflict between union leaders and members rarely arises as a serious issue. With regard to diverging interests among employees, whether the union is already formally organized should show whether employees have a mechanism for their voice to be heard. If unions are already organized (overcoming the initial costs of structuring a group and building capacity for collective action), this implies that they have great potential to pose a credible threat to management (Kelly 1998). In addition, in countries such as Korea where there are no other representative forms of organizations for employees (such as works councils in Germany), labour unions provide a sole collective voice and this helps unions to maintain their power.

One of the issues on which organized employees have recently raised their voice is executive compensation. For example, in the United Kingdom, the Trades Union Congress (TUC) challenged executive pay, pointing out that executives continued to receive austerity-busting pay when employees' families were struggling to cope with the biggest squeeze on their incomes. The TUC asked government to allow workers to sit on companies' pay committees to limit the executive pay (Neville 2013). In the United States, the American Federation of Labour and Congress of Industrial Organizations (AFL-CIO) created a web page to provide extensive statistical and graphical information on the gap between executive pay and employee wages (AFL-CIO 2013). In Switzerland, labour unions have criticized executive salaries, pointing out the large discrepancies between executive and employee pay. In Korea where company-level unions are more active than confederations, the issue was raised frequently by company-level unions (Choi 2013; Hong 2010). Given the theoretical and anecdotal evidence, here I adopt labour union as a proxy for employee power.

Labour Union and Executive Compensation in Korea

Corporate governance in Korea is different from that in Anglo-Saxon countries. In more than 80 per cent of large firms, the controlling shareholders are among the top executives (Claessens *et al.* 2000) due to the tradition of owner-manager status and due to the Korean Government's financial and regulatory protection towards owners of core industry conglomerates in the 1960s and 1970s. Together with a lack of powerful monitoring, minor shareholders are often overlooked (Jang and Kim 2002) and a substantial gap emerges between cash-flow rights and control rights. As a result, owner-managers retain substantial power and hired CEO's decision-making rights are limited.

While the protection of minor shareholders is relatively weak, labour unions draw high levels of attention. Despite having a short history since 1987,

Korea labour unions have become strong and active and this is explained by government policies, economic environment and social changes during that time. Korean unionism started as a social movement that followed the French style, but over time, it developed more in line with Japanese-style unionism, where company-level unions have the most negotiating power. During Korean industrial development in the 1960–1987, the government restricted labour union activities with extremely repressive labour laws and pro-capital policies that assisted the establishment of large chaebol groups (Kwon and O'Donnell 1999). Consequently, wages and working environment were set by employers, not by negotiation, and there was widespread exploitation of employees' labour. From 1988, when given the freedom to organize labour unions, workers could finally raise their voice about working conditions. If a company-level union decided to be incorporated into industry unions, it was no longer recognized as an autonomous union and lost its right to settle negotiations within individual firms. Therefore, company unions became more popular. In the first year of organization, unions secured 15–20 per cent wage increases, along with various improvements in company welfare provisions (Koo 2000). Since then, Korean labour unions have continued to be strong and systemized such that just a decade after their introduction, they were able to lead a massive nationwide strike in 1997 in protest against new labour laws. The strike mobilized three million workers and shut down production in major industries including automobile and ship building, and disrupted services in hospitals, subway operations and television news broadcasting for three weeks (Koo 2000).

Labour unions temporarily lost power during the Asian Financial Crisis of 1998. Required by the IMF as a condition to receive bailout finance, the government had to implement neoclassical economics-type labour regulations and allow companies to lay off a large number of employees. As a result, 40,000 union members were fired between 1999 and 2001. However, as Korea overcame the crisis, the unionization rate recovered to its earlier level until the rate declined again from the mid-2000s. An increase of temporary and part-time workers (not eligible to sign up as union members), increased in the work environment, and industrial changes from manufacturing to service- and knowledge-based sectors are possible reasons (Seoul Economy 2011). Although their activity reduced, reflecting the experience of being oppressed and exploited by managers in the period of pro-capital policies, Korean labour remains relatively strong compared to Western countries and they often react aggressively concerning perceived issues of fairness (Jin 2013).

In this study, I expect there to be a negative relationship between employee power and executive compensation given the activeness of labour unions and high level of equity concerns in Korean firms. I also expect a negative correlation between labour unions and stock option use based on frequent media coverage of the labour unions' resistance to the idea of introducing stock options in firms. A stock option is a relatively new way of paying executives in Korea, and was officially introduced in 1997; however, its use

is not very widespread as only 29.3 per cent of the largest 200 firms were using executive stock options by 2008. When firms consider adopting executive stock option, labour unions tend to resist the idea, arguing that it only increases the total compensation of executives while its usefulness as an incentive is ambiguous at best.

I also expect that labour union influence will interact with the characteristics of a firm. The most notable characteristic within the Korean business scene is the strong presence of chaebol groups, which traditionally exploited employees through military-style human resource management (Kwon and O'Donnell 1999). Furthermore, chaebol is a type of corporate governance prone to promoting the entrenchment of directors and executives through their close shareholder–management relationship. Frequent debates and scandals regarding excessive executive pay among chaebol firms highlight these problems. Given that labour unions are expected to monitor corporate misbehaviour, I expect that labour union presence would mitigate chaebol firm's excessive executive pay. Other characteristics that could be explored are financial risks that affect firms' financial health (Banning and Chiles 2007), employees' wages indicating the degree of equal pay (Singh and Agarwal 2002) and labour intensity of a firm's operation that indicates the strength of employee voice in a firm.

3. Empirical design

Data Sources

I constructed an unbalanced panel dataset of Korea Composite Stock Price Index (KOSPI) 200 index firms for the period of 1998–2008. Firms that had been included in the KOSPI 200 index in any year during the period were used except for financial industry firms. Because the Asian financial crisis period was only likely to introduce downward bias (due to the weakened labour union at that time), I did not exclude the period. The resulting dataset contained 1,328 observations from 242 firms.

Executive compensation and union status were collected manually from each company's annual report filed with the Financial Supervisory Service of Korea. The reports disclose the total amount of cash compensation paid to all executive directors, and I constructed figures for the average compensation per executive director. Regarding stock options, whether they were included in executive pay was also recorded. Annual reports provided data on the existence of firm-level labour unions, numbers of union members and the total number of employees. The number of shares owned by board members, the number of board members and independent directors were also hand-collated from annual reports as control variables. I collected the following additional control variables from the Korean database, KisValue: total assets, employee wages, Tobin's Q, stock returns, return on assets (ROA), stock return volatility and ownership concentration.

Construction of Variables

The outcome variables were executive directors' average cash compensation or stock option use. Average cash compensation (total executive director's compensation divided by the number of executive directors) is the only known form of executive compensation in Korea, and a similar structure of variable is used in studies for countries where individual compensation data are not available; for example, Kubo (2003) for Japan, Kato and Long (2006) for China and Kato *et al.* (2007) for Korea. With regard to stock options, following Kato *et al.* (2007), I coded a binary variable for whether the firms used the option payment method.

The explanatory variables were firm-level labour union presence and unionization rate. Union presence was recorded as a binary variable and unionization rate was the percentage of union members among total number of employees.

Economic control variables were the total assets as a proxy for firm size, Tobin's Q as a proxy for market-based performance, stock return as a proxy for stock market performance, ROA as a proxy for accounting performance and stock return volatility as a proxy for firm risk. Corporate governance controls were an average of employee wages, board ownership, ownership structure and board size. All continuous variables were winsorized at the top and bottom 1 per cent to remove extreme outliers. Table 1 presents the definitions and summary statistics of the variables, and Table 2 provides the correlation matrix.

Empirical Design

To test the link between labour union presence or strength and executives' cash compensation, I ran the following regressions with variations in models and samples:

$$y_{it} = \alpha + \beta \cdot Union_{it} + \gamma \cdot Z_{it} + s_{it} \quad (1)$$

$$y_{it} = \alpha + \beta \cdot UniRate_{it} + \gamma \cdot Z_{it} + s_{it} \quad (2)$$

where y_{it} is the log-transformed average executive cash compensation in firm i in year t , $Union_{it}$ is a dummy variable for labour union presence, $UniRate_{it}$ is the unionization rate and Z_{it} is a vector for controlling variables. First, I ran an ordinary least squares (OLS) regression with year and industry fixed effects and by clustering standard errors by firm. Then, I used union presence and unionization rate (lagged by one year) to avoid a potential reverse causality issue and to account for the possible time difference in changes in unionization and executive compensation. Endogeneity issue that less talented managers are forced to choose unionised firms and are paid lower compensation, however it is less of an issue in Korean firms. As most executives are long-term employees who are either members of the owner family or someone who

TABLE 1
 Unionization Rate by Industry and Year

<i>Panel A: Variable definition</i>				
<i>Variable</i>	<i>Definition</i>			
Average Executive Compensation	Total cash compensation to executive directors divided by the number of executive directors			
Stock option use	A binary variable equal to 1 if stock option is used in executive compensation, 0 otherwise			
Union presence	A binary variable equal to 1 if the firm is unionized, 0 otherwise			
Union rate	Ratio of union member to total employees, 0 if a firm is not unionized			
Tobin's Q	Ratio of the firm's market value (sum of market value of equity and book value of debt) to its book value			
Stock return	End of the year stock price divided by beginning of the year stock price minus one			
ROA	Net income over total assets			
Volatility	Standard deviation of daily stock returns in a year multiplied by a square-root of the number of trading days			
Board ownership	Percentage of shares held by board members among total number of shares outstanding			
Ownership structure	Sum of three largest shareholders' ownership			
Board size	Total number of all board members			
<i>Panel B: Summary statistics</i>				
	<i>Mean</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Total Assets (KRW, bn)	2,481.11	6,615.18	10.88	72,519.22
Average Executive Compensation (KRW, mm)	328.65	594.72	3.99	13,300
Stock Option Use	0.28	0.45	0.00	1.00
Union Presence	0.74	0.44	0.00	1.00
Unionization Rate: All Firms (%)	33.53	28.95	0.00	86.63
Unionization Rate: Unionized Firms (%)	45.52	24.33	0.06	86.63
Average Employee Wage (KRW, mm)	38.43	13.10	8.24	96.14
Tobin's Q	1.07	0.53	0.21	5.07
Stock Return	0.25	1.11	-0.97	19.00
ROA	0.02	0.21	-4.85	1.09
Volatility	53.97	20.37	0.00	244.99
Board Ownership (%)	10.75	12.62	0.00	55.41
Ownership Concentration (%)	39.88	15.84	6.52	99.05
Board Size	8.14	2.75	2.00	23.00
Observations	1,745			

Note: The sample consists of a balanced panel of 242 Korean public firms for the period 1998–2008.

climbed up the career ladders inside the firm, it is unlikely that they self-select themselves into union or non-union firms at the executive level.

An important issue in this model is the possibility that unionization and the level of executive compensation were simultaneously influenced by a third factor; for example, if executive pay is lower in firms with poor performance giving a rise to employee discontent and unionization at the same time, the coefficients in the model would be misleading. Other examples would be economic distress or management dedication. To minimize the possibilities, I controlled for possible third factors. Firm size, Tobin's Q, ROA and stock

TABLE 2
Correlation Table

	Exec Comp	Stock Option Use	Union Presence	Union Rate	Emp Wage	Total Assets	Tobin's Q	Yearly Stock Return	ROA	Volatility	Board Ownership	Ownership Concentration	Board Size
Exec Comp	1.000												
Stock Option Use	0.271*** (0.000)	1.000											
Union Presence	-0.132*** (0.000)	-0.244*** (0.000)	1.000										
Union Rate	-0.110*** (0.000)	-0.212*** (0.000)	0.693*** (0.000)	1.000									
Emp Wage	0.337*** (0.000)	0.117*** (0.000)	0.132*** (0.000)	0.168*** (0.000)	1.000								
Total Assets	0.517*** (0.000)	0.144*** (0.000)	0.055* (0.023)	0.139*** (0.000)	0.298*** (0.000)	1.000							
Tobin's Q	0.190*** (0.000)	0.198*** (0.000)	-0.094*** (0.000)	-0.159*** (0.000)	0.186*** (0.000)	0.059* (0.020)	1.000						
Yearly Stock Return	-0.006 (0.802)	0.006 (0.792)	0.089*** (0.000)	0.046 (0.061)	-0.006 (0.798)	-0.007 (0.773)	-0.024 (0.342)	1.000					
ROA	0.087*** (0.000)	-0.035 (0.139)	0.054* (0.025)	0.032 (0.180)	0.143*** (0.000)	0.048* (0.044)	0.040 (0.111)	0.111*** (0.000)	1.000				
Volatility	-0.120*** (0.000)	-0.011 (0.662)	-0.029 (0.249)	-0.049 (0.054)	-0.242*** (0.000)	-0.124*** (0.000)	0.103*** (0.000)	0.025 (0.317)	-0.224*** (0.000)	1.000			
Board Ownership	-0.136*** (0.000)	-0.106*** (0.000)	-0.108*** (0.000)	-0.111*** (0.000)	-0.264*** (0.000)	-0.210*** (0.000)	-0.071** (0.005)	-0.062* (0.015)	0.081** (0.001)	-0.019 (0.446)	1.000		
Ownership Concentration	-0.167*** (0.000)	-0.099*** (0.000)	0.102*** (0.000)	0.182*** (0.000)	0.107 (0.047)	-0.049 (0.073)	-0.027 (0.328)	-0.019 (0.485)	0.101*** (0.000)	-0.062* (0.024)	0.080** (0.003)	1.000	
Board Size	0.128*** (0.000)	-0.007 (0.766)	0.243*** (0.000)	0.184*** (0.000)	0.121*** (0.000)	0.339*** (0.000)	0.051* (0.045)	0.025 (0.307)	0.113*** (0.000)	-0.121*** (0.000)	-0.011 (0.672)	-0.002 (0.951)	1.000

Note: The table presents Pearson's correlation coefficients between pairs of variables. Standard errors are in parentheses.

*** $p < 0.01$,

** $p < 0.05$,

* $p < 0.1$.

return volatility were controlled to reflect economic and business conditions. High ownership concentration implies strong monitoring by shareholders and high board ownership implies that executives have a large stake in the firm, and therefore, both controlled for executives' improved commitment to the firm.

For unionization rate, I ran an additional model using firm fixed effects to address the concern that unionization can be endogenous to omitted time-invariant firm characteristics. For equation (2), I ran regressions using all firms as well as using only unionized firms. Because the unionization rate for non-unionized firms was coded as 0 in all samples models, separating the unionized firms from all sample enabled testing the pure effect of increasing unionization rate after excluding the effect coming from the conversion from non-unionized to unionized firms. This model was not applicable for the union presence variable, due to minimal changes in a firm's union presence over time.

I repeated the analyses for stock option use. Because the stock option use was coded as a binary variable, I estimated the following linear probability model:

$$Stock_{it} = \alpha + \beta \cdot Union_{it} + \gamma \cdot Z_{it} + s_{it} \quad (3)$$

where $Stock_{it}$ is a dummy variable. The analysis was repeated with unionization rate in place of union presence.

To explore cross-sectional differences between labour union's influence and executive compensation, I considered the following four aspects of firm characteristics: chaebol group membership, firms' level of financial risk, employee wages and the level of labour intensity. To test whether these characteristics mitigated the effect of labour unions on executive compensation, I included an interaction term between characteristics variables and the labour union variable as demonstrated in the following model:

$$y_{it} = \alpha + \beta_1 \cdot Union_{it} \cdot X_{it} + \beta_2 \cdot Union_{it} + \beta_3 \cdot X_{it} + \gamma \cdot Z_{it} + s_{it} \quad (4)$$

X_{it} is one of the following characteristics variables: chaebol group membership that is equal to 1 if a firm belongs to a chaebol group; financial risk that is equal to 1 if a firm's cash-flow volatility measured by quarterly cash flows is above median in a given year; employee wage that is equal to 1 if a firm paid their employees above the industry median in a given year; and level of labour intensity that is equal to 1 if a firm's net sales over total number of employees is below the industry median.

4. Results

Cash Compensation

(a) Labour union presence, unionization rate and executive compensation

For all results, the tables with coefficients for control variables are presented in the Appendix and only shortened versions are reported due to limited space.

TABLE 3
Labour Union Presence and Cash Compensation

	<i>Ln (Executive Compensation)</i>	
	(1)	(2)
Union Presence (1 if exist)	-0.344*** (0.087)	
Union Presence at ($t-1$)		-0.361*** (0.092)
Constant	0.840 (1.618)	0.110 (1.801)
Observations	1,321	1,103
Controls, Year & Industry FE	Y	Y
Adjusted R^2	0.614	0.607

Note: This table presents the regression results of executive compensation on union presence. Dependent variable is log-transformed average executive cash compensation. Independent variable of interest is union presence that is equal to 1 if the firm is unionized. Column (1) is using current year's union presence, while column (2) is using previous year's union presence. Standard errors are clustered by firm and presented in parentheses.

*** $p < 0.01$,

** $p < 0.05$,

* $p < 0.1$.

The first analysis from equation (1) shows that executives in unionized firms are paid significantly less than those in non-unionized firms. In Table 3, column (1), the presence of unions correlates with 34.4 per cent lower cash compensation for executives, and is statistically significant at a 1 per cent level after including controls and industry and year fixed effects. Further, the result is robust when the previous year's union status is used (column (2)). Although the magnitude of reduction appears large, given that the level of executive compensation in Korea is significantly lower than in other countries, the absolute value of reduction is, in fact, more realistic. To illustrate, the average executive compensation is 328 million KRW (approximately 328,000 USD) in the sample, and the result implies that executives in unionized firms will be paid 215 million KRW instead. Because very few rigorous changes were found in firm-level union status over time, firm fixed-effect model was not used for models with union presence.

According to Table A1, which reports coefficients for control variables, employee wage was found to be strongly linked to executive compensation, showing that executives' compensation and employees' pay move together, sharing the risks or benefits in firms. This is similar to findings presented by Kubo (2003) in Japan, who argued that the strong link between employee and executive pay stems from the emotional tie between employees and executives. Such solidarity is found in Korean firms as well, and it strengthens the hypothesis that Korean executives would be responsive to employees' complaints about pay differentials.

I investigated the relationship through the unionization rate, which is the percentage of employees registered as union members as a proxy for unions'

TABLE 4
Labour Union Rate and Cash Compensation

<i>Panel A: All firms</i>				
	<i>Ln (Executive Compensation)</i>			
	(1)	(2)	(3)	(4)
Union Rate: All Firms (%)	-0.006*** (0.001)	-0.003** (0.001)		
Union Rate at (t-1): All Firms (%)			-0.006*** (0.001)	-0.003* (0.002)
Constant	-0.461 (1.647)	4.875*** (1.590)	-1.707 (1.845)	4.643*** (1.787)
Observations	1,310	1,310	1,103	1,103
Adjusted R ²	0.617	0.866	0.607	0.887
<i>Panel B: Unionized firms</i>				
	<i>Ln (Executive Compensation)</i>			
	(1)	(2)	(3)	(4)
Union Rate: Unionized Firms (%)	-0.004** (0.002)	-0.003* (0.002)		
Union Rate at (t-1): Unionized Firms (%)			-0.003* (0.002)	-0.003* (0.002)
Constant	1.746 (1.803)	6.584*** (2.082)	0.316 (2.041)	4.156* (2.210)
Observations	1,000	1,000	847	847
Adjusted R ²	0.572	0.836	0.557	0.860
Controls & Year FE	Y	Y	Y	Y
Industry FE	Y	N	Y	N
Company FE	N	Y	N	Y

Note: Panel A presents the regression results of executive compensation on unionization rate. Dependent variable is log-transformed average executive cash compensation. Independent variable of interest is unionization rate that is proportion of unionized employees. Columns (1) and (2) are using current year's unionization rate, while columns (3) and (4) are using previous year's unionization rate. Panel B replicates the analysis in Panel A using unionized firm sample only. Standard errors are clustered by firm and presented in parentheses.

*** $p < 0.01$,

** $p < 0.05$,

* $p < 0.1$.

power to mobilize employees. The results from both OLS and firm fixed-effect regressions showed that as unions get stronger, executives receive lower compensation. In this analysis, the results of firm fixed-effects regressions were also meaningful, because although not radical, the union rate in firms changes every year. Table 4, Panel A, presents all samples in which the unionization rate was coded as 0 per cent for non-unionized firms. In column (2), where all time-invariant-omitted variables are controlled by firm fixed effect, I found that a 10 per cent increase in the union rate is associated with a 3 per cent decrease in executive cash compensation ($p < 0.05$) and these results are consistent across models.

In Table 4, Panel B, the analysis is repeated using only unionized firms to exclude the effect coming from the difference between non-union and union firms. I found that the change in the level of union power matters, and the results in Panel A are not driven solely by the difference between non-union and union firms. In the firm fixed-effect model (column (2)), a 10 per cent increase in the unionization rate is associated with 3 per cent decrease in executive cash compensation ($p < 0.10$). The overall results confirm the theoretical prediction.

(b) Executive compensation level and labour union: quantile regression

In this section, I investigated whether there was heterogeneity in union influence at different levels of executive pay through quantile regressions. Following the recent trend in econometrics, I used unconditional quantile regression based on the re-centred influence function (RIF). According to Firpo *et al.* (2009), this improves the previous method for measuring the coefficients of unconditional means and addresses the concern that the results are interpretable only within the sample in use. In Table 5, Panel A, I found that executives who are paid higher compensation are more likely to be affected by labour union presence compared to those with lower compensation. An executive in a unionized firm who is paid at the 95th percentile of the conditional distribution is likely to be paid 96.2 per cent less compared to his counterpart in a non-unionized firm ($p < 0.01$), while an executive who is paid at the 25th percentile will receive 11.9 per cent lower compensation ($p < 0.10$). At the 5 per cent percentile, there is no statistically significant difference. Using union rate in Panel B, I found that executive compensation at the 95th percentile is lower by 8.81 per cent when union rate goes up by 10 per cent ($p < 0.01$), while it is 3.94 per cent lower at the 25th percentile ($p < 0.01$), showing similar patterns to union presence.

These findings provide evidence that unions compress executive compensation range. Together with the findings of Card (1996) who showed that labour unions have stronger positive effect on lower quantile employee wage, it particularly shows that unions achieve higher level of overall pay equity at work (the quantile regression of employee wage in Korea is consistent to the findings of Card (1996) and the table is presented in Table A6). One possible reason is that organized employees are less tolerant of high-income disparity and act vigorously against it. Another reason (following from the first) is that executives in unionized firms understand the implicit regulation (Jensen and Murphy 1990) and voluntarily withdraw from being paid excessively.

Stock Option

Although the amount of stock option paid to executives is not available, whether firms use stock option in compensation package allows an analysis of stock option use likelihood in firms. The linear probability model in Table 6 shows that executives in unionized firms are less likely to be paid with stock options. In Table 7, Panel A, using all sample's unionization rate, I found that

TABLE 5
Quantile Regression: Level of Executive Compensation

<i>Panel A: Union presence</i>					
	<i>Ln (Executive Compensation)</i>				
	<i>Q(0.05)</i>	<i>Q(0.25)</i>	<i>Q(0.5)</i>	<i>Q(0.75)</i>	<i>Q(0.95)</i>
Union Presence (1 if exist)	-0.0582 (-0.97)	-0.119* (-2.13)	-0.164** (-2.75)	-0.527*** (-6.70)	-0.962*** (-5.58)
Constant	9.365*** (4.77)	2.194 (1.33)	-0.440 (-0.29)	-4.774** (-2.76)	3.603 (1.09)
Observations	1,321	1,321	1,321	1,321	1,321
Adjusted <i>R</i> ²	0.145	0.308	0.375	0.397	0.181
<i>Panel B: Union rate</i>					
	<i>Ln (Executive Compensation)</i>				
	<i>Q(0.05)</i>	<i>Q(0.25)</i>	<i>Q(0.5)</i>	<i>Q(0.75)</i>	<i>Q(0.95)</i>
Union Rate (%)	0.0000508 (0.05)	-0.00394*** (-4.30)	-0.00398*** (-4.35)	-0.00809*** (-6.63)	-0.00881*** (-3.50)
Constant	8.916*** (4.31)	2.168 (1.34)	-1.904 (-1.24)	-6.915*** (-3.90)	1.256 (0.36)
Observations	1,310	1,310	1,310	1,310	1,310
Adjusted <i>R</i> ²	0.145	0.319	0.383	0.397	0.160
Controls, Year & Industry FE	Y	Y	Y	Y	Y

Note: This table presents unconditional quantile regression results of union presence or union rate on executive compensation. Dependent variable is log-transformed average executive cash compensation and independent variable of interest is a binary variable that indicates union presence in Panel A and unionization rate in Panel B. Each column measures the effect of union on executive compensation in the corresponding quantile group. For example, column *Q(0.05)* presents the effect of union presence on executive compensation that is in the lowest 5 percentile. Standard errors are clustered by firm and presented in parentheses.

*** $p < 0.01$,

** $p < 0.05$,

* $p < 0.1$.

the probability of stock option use decreases with unionization rate increase; however, the results are significant only in OLS models and not in firm fixed-effects models. Moreover, when the sample was limited to unionized firms in Panel B, no significant difference was found. This implies that union presence is a more critical determinant for the adoption of new methods of payment for executives, rather than the size of unions. This shows that as long as unions can be organized, investing the initial costs of gathering employees and establishing a structure, they can pose a credible threat to management even with a lower rate of membership.

Cross-Sectional Variation in the Union's Influence

In this section, I explore four potential firm characteristics that may mitigate labour union influence on executive compensation: chaebol group

TABLE 6
Union Presence and Stock Option Use

	<i>Stock option use</i>	
	(1)	(2)
Union Presence (1 if exist)	-0.291*** (0.068)	
Union Presence at ($t-1$)		-0.304*** (0.072)
Constant	-1.632 (1.476)	-1.433 (1.742)
Observations	1,321	1,103
Controls, Year & Industry FE	Y	Y
Adjusted R^2	0.197	0.217

Note: This table presents the regression results of stock option use in executive compensation on union presence. Dependent variable is a binary variable that is equal to 1 if the firm uses stock option to pay executives, and 0 otherwise. Independent variable of interest is union presence that is equal to 1 if the firm is unionized. Column (1) is using current year's union presence, while column

(2) is using previous year's union presence. Standard errors are clustered by firm and presented in parentheses.

*** $p < 0.01$,

** $p < 0.05$,

* $p < 0.1$.

membership, level of financial risk, employee wages and the level of labour intensity. By including the interaction terms between these variables and labour union variables, I separated the effects that were attributed to these channels from the total effect of labour unions.

In Table 8, which presents the results of cross-sectional analyses, OLS regression is used for union presence models and firm fixed-effect regressions for unionization rate models. Panel A shows that a union's negative influence over executive compensation is amplified in chaebol firms. Chaebol membership of a firm is associated with 40 per cent higher executive compensation; however, if labour unions exist, executive compensation is lower by 36.8 per cent, almost cancelling the chaebol effect (column (1), $p < 0.05$). Moreover, a 10 per cent increase in unionization rate is associated with an 11 per cent decrease in cash compensation (column (2), $p < 0.01$). Regarding stock options, the mitigating effect of chaebol membership is weaker, but is consistently negative (columns (3) and (4)). Chaebol firms are known to be vulnerable to management–shareholder entrenchment which results in excessive executive pay, but the findings imply that labour unions mitigate such problems.

Panel B shows that firms' financial risk measured by above median industry cash-flow volatility also works as a channel to reduce executive compensation, although not as robustly as chaebol membership. Firms' financial risk itself is not a significant influencing factor for executive compensation; however, when combined with an organized labour union, firms with a weak financial position tend to pay their executives less by 32.9 per cent.

TABLE 7
Union Rate and Stock Option Use

<i>Panel A: All firms</i>				
	<i>Stock option use</i>			
	(1)	(2)	(3)	(4)
Union Rate: All Firms (%)	-0.004*** (0.001)	-0.000 (0.002)		
Union Rate at (t-1): All Firms (%)			-0.004*** (0.001)	0.001 (0.001)
Constant	-2.423 (1.497)	-1.070 (1.775)	-2.652 (1.692)	-1.653 (1.770)
Observations	1,310	1,310	1,103	1,103
Adjusted R ²	0.174	0.879	0.186	0.923
<i>Panel B: Unionized firms</i>				
	<i>Stock option use</i>			
	(1)	(2)	(3)	(4)
Union Rate: Unionized Firms (%)	-0.001 (0.001)	0.000 (0.003)		
Union Rate at (t-1): Unionized Firms (%)			-0.001 (0.001)	0.003** (0.001)
Constant	-0.613 (1.602)	-2.954 (2.275)	-0.886 (1.694)	-2.219 (2.534)
Observations	1,000	1,000	847	847
Adjusted R ²	0.167	0.863	0.175	0.909
Controls & Year FE	Y	Y	Y	Y
Industry FE	Y	N	Y	N
Company FE	N	Y	N	Y

Note: Panel A presents the regression results of stock option use in executive compensation on unionization rate. Dependent variable is a binary variable that is equal to 1 if the firm uses stock option to pay executives, and 0 otherwise. Independent variable of interest is unionization rate that is proportion of unionized employees. Columns (1) and (2) are using current year's unionization rate, while columns (3) and (4) are using previous year's unionization rate. Panel B replicates the analysis in Panel A using unionized firm sample. Standard errors are clustered by firm and presented in parentheses.

*** $p < 0.01$,

** $p < 0.05$,

* $p < 0.1$.

Panel C shows that firms with above industry median employee wages tend to pay lower executive cash compensation when they have an organized union. High employee wage is associated with high executive compensation, proving a ratchet effect. However, when labour union co-presents with high employee wages, executives are paid 28.1 per cent less, improving overall fairness at work. The interaction effect is not significant for unionization rate or stock option use.

I explored whether a firm's level of labour intensity matters for labour union's voice over executive compensation. When a firm operates with a labour-intensive business model, workers naturally have higher voices for

TABLE 8
Mitigating Effects of Chaebol Membership, Financial Risk, Employee Wage and Labour Intensity

<i>Panel A: Chaebol membership</i>				
	<i>Ln(Executive Compensation)</i>		<i>Stock option use</i>	
	(1)	(2)	(3)	(4)
Union Presence × Chaebol	-0.368** (0.160)		-0.246* (0.132)	
Union Rate × Chaebol		-0.011*** (0.004)		-0.005* (0.003)
Union Rate		0.002 (0.003)		0.002 (0.002)
Union Presence (1 if exist)	-0.187** (0.094)		-0.138 (0.091)	
Chaebol	0.403** (0.160)		0.281** (0.130)	
Constant	1.128 (1.750)	5.371* (3.036)	-1.479 (1.483)	-1.144 (1.657)
Observations	1,282	1,271	1,282	1,271
Adjusted R ²	0.631	0.868	0.211	0.880
<i>Panel B: Financial risk</i>				
	<i>Ln(Executive Compensation)</i>		<i>Stock option use</i>	
	(1)	(2)	(3)	(4)
Union Presence × Financial Risk	-0.329** (0.152)		-0.029 (0.121)	
Union Rate × Financial Risk		-0.003 (0.002)		-0.001** (0.001)
Union Presence (1 if exist)	-0.178* (0.098)		-0.274*** (0.086)	
Union Rate		-0.002 (0.003)		0.001 (0.002)
Financial Risk	0.087 (0.138)	0.054 (0.071)	-0.029 (0.113)	0.049* (0.026)
Constant	0.109 (1.882)	6.482* (3.328)	-2.605 (1.624)	-2.204 (1.871)
Observations	1,203	1,192	1,203	1,192
Adjusted R ²	0.615	0.867	0.183	0.879

(Continued)

important issues. However, as shown in Panel D, using the labour intensity measure that is net sales over total number of employees, I did not find that firms with above industry median labour intensity reacted differently to labour union's presence or rate. This is because during the sample period, most Korean firms operated in high-technology industries and labour intensity was no longer a determining factor of how strong labour union should be in a firm.

TABLE 8
Continued*Panel C: High employee wage*

	<i>Ln(Executive Compensation)</i>		<i>Stock option use</i>	
	(1)	(2)	(3)	(4)
Union Presence × High Employee Wage	-0.281** (0.119)		-0.114 (0.102)	
Union Rate × High Employee Wage		0.002 (0.001)		-0.000 (0.001)
Union Presence (1 if exist)	-0.195** (0.088)		-0.229** (0.089)	
Union Rate		-0.004 (0.003)		-0.000 (0.002)
High Employee Wage	0.393*** (0.109)	-0.047 (0.063)	0.116 (0.098)	-0.005 (0.030)
Constant	4.492** (1.829)	4.731 (3.183)	-1.032 (1.518)	-1.219 (1.900)
Observations	1,321	1,310	1,321	1,310
Adjusted <i>R</i> ²	0.622	0.867	0.199	0.879

Panel D: Labour intensity

	<i>Ln(Executive Compensation)</i>		<i>Stock option use</i>	
	(1)	(2)	(3)	(4)
Union Presence × Labour Intensity	-0.094 (0.071)		-0.068 (0.056)	
Union Rate × Labour Intensity		-0.002 (0.001)		-0.002* (0.001)
Union Presence (1 if exist)	-0.311*** (0.088)		-0.280*** (0.073)	
Union Rate		-0.005*** (0.001)		-0.003** (0.001)
Labour Intensity	-0.000 (0.000)	-0.000 (0.000)	-0.000** (0.000)	-0.000** (0.000)
Constant	-0.177 (1.806)	-1.133 (1.744)	-2.716* (1.510)	-3.734** (1.502)
Observations	1,321	1,310	1,321	1,310
Adjusted <i>R</i> ²	0.615	0.618	0.212	0.193
Controls & Year FE		Y	Y	Y
Industry FE	Y	N	Y	N
Company FE	N	Y	N	Y

Note: This table presents the mitigating effects of four aspects of firms over union's influence on executive compensation. They are Chaebol membership, financial risk, employee wage and labour intensity. Dependent variable is either log-transformed average executive compensation or a binary indicator whether the firm uses stock option. Independent variable of interest is union variables (union presence or unionization rate) interacted with Chaebol membership, financial risk, employee wage or labour intensity. Chaebol membership is equal to 1 if a firm belongs to a Chaebol group. Financial risk is equal to 1 if a firm's cash-flow volatility is above median in a given year. High employee wage are equal to 1 if a firm's employee wage is above industry median in a given year. Labour intensity is equal to 1 if a firm has below median production per labour, which is calculated as net sales divided by total number of employees. Standard errors are clustered by firm and presented in parentheses.

*** $p < 0.01$,

** $p < 0.05$,

* $p < 0.1$.

Discussion

I found that the labour union's presence was negatively associated with both the amount of executive cash compensation and the likelihood that executives would be paid with stock options. Union effect was progressively stronger for executives with upper tail cash compensations and such negative association strengthens with the labour union rate in case of cash compensation, but not in stock option use. In cross-sectional analyses, a firm's membership in chaebol groups, financial risk and high employee wages are identified as factors that reinforce labour union's negative influence over executive compensation.

First, these findings provide empirical evidence for numerous discussions that presume the labour unions' role in reducing executive compensation, allowing us to conclude that the theoretically presented channels such as labour unions' direct request or executives' voluntary withdrawal from excessive pay in unionized firms are working effectively in reality. As possible mechanisms, the results show that labour unions' influence is stronger in chaebol-linked firms, when firms are with high financial risk, and when employees are paid highly.

Second, the heterogeneous effect at upper and lower percentile executive cash compensation implies that unions accept the pay differential between executives and employees and focus on acting against what they consider to be excessive pay, in line with Jensen and Murphy (1990)'s argument. This also supports the implicit regulation hypothesis that executives avoid excessive pay in unionized firms due to the concerns about productivity and efficiency issues that arise among unhappy employees, in line with Gomez and Tzioumis (2006)'s findings.

Third, the results show lower pay-performance sensitivities in Korean unionized firms from two aspects. One is that labour unions truncate the upper tail of executive compensation, therefore not allowing a strong linkage between performance and pay as Jensen and Murphy (1990) predict, and the other is that unionized firms use stock option less frequently, which is different from Gomez and Tzioumis (2006)'s finding that American labour unions do not affect pay-performance sensitivities. Possible implications of the lack of pay-performance sensitivity in unionized firms call for further scrutiny.

Fourth, the fact that the unionization rate does not have a significant relation with stock option use implies that the organization of unions is enough to bar the adoption of new methods of payment. This is in line with Dial and Murphy (1995), suggesting that companies replace a controversial bonus payment with conventional stock option payment in the United States when they experience political pressures on pay. The adoption of stock option is a controversial topic in Korea, and many unionized firms experience resistance when they try to adopt executive stock options. The results replicate this phenomenon.

Fifth, union effect on executive pay could appear stronger than in the United States due to Korea's unique culture reflected in employment relations. Employment relations in Korea are characterized by the presence

of paternalistic leadership through which employers take responsibility for their employees under the concept of family (Kim and Bae 2004). Moreover, the strong collectivism that prioritizes internal solidarity and collective goal is commonly found in Korean organizations (Cho and Yoon 2001). Such cultural characteristics might lead executives to react more sensitively to their employees' opinions and adjust their preferences more proactively.

5. Concluding remarks

This article explored whether stakeholders other than shareholders or managers would influence executive compensation decisions, focusing on employees. Employees were chosen as they have enough incentive to monitor their firm's financial soundness and organizational fairness. Based on the assumption that employees' voice and power is best exercised when it is organized into a labour union, the relationship between union organization and executive compensation was tested empirically.

The results showed that executives' cash compensation is lower and the stock options are less likely to be included in their compensation scheme when employees are organized into a union. The findings of this article show that employees influence executive compensation when they have systematic monitoring and an organized voice. This suggests the policy implication that employee representation on executive remuneration committees, recently suggested by think tanks (Carley 2011; High Pay Commission 2011; PIRC 2013), may not be a strict regulatory requirement in countries with strong firm-level labour unions.

Related topics could be discussed further following this article, such as the question of whether this is beneficial or detrimental for shareholders. Although additional monitoring of managerial misbehaviour could be interpreted as positive, employees' intentions or purposes are unclear and possible spillover effects such as their impact on firm performance have not been directly tested. Future research could be designed to see whether labour unions damage incentives for executives. In addition, whether such a reduction in cash compensation is applied to all executive directors or only to a particular group of executives was not tested here, due to data limitations on executive compensation, which provided only average cash compensation per executive. For example, academics in Korea who request the disclosure of individual executives' compensation criticize that companies disguise unfair executive pay through collective compensation reports (Ahn 2011). Examples of this include executives who are relatives of an owner-manager being paid extremely high compensation, or that a controlling shareholder-manager who is not a member of board takes extreme payments without reporting. If a controlling shareholder has considerable power in compensation decisions and if there is indeed serious pay discrimination between owner family members and hired executives, it is also possible that employees' roles in limiting executive pay may affect only hired executives. Such dimensions

should be further studied when more detailed executive pay data become available.

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Appendix A: Additional Tables

TABLE A1
Labour Union Presence and Cash Compensation

	<i>Ln(Executive Compensation)</i>	
	(1)	(2)
Union Presence (1 if exist)	-0.344*** (0.087)	
Union Presence at ($t-1$)		-0.361*** (0.092)
Ln(Total Assets)	0.323*** (0.027)	0.330*** (0.030)
Ln(Employee Wage)	0.559*** (0.101)	0.585*** (0.113)
Tobin's Q	0.225*** (0.062)	0.218*** (0.065)
Stock Return	-0.015 (0.012)	-0.020 (0.013)
ROA	1.105*** (0.253)	1.069*** (0.325)
Volatility	-0.002 (0.002)	-0.001 (0.002)
Ownership Concentration (%)	-0.008*** (0.002)	-0.008*** (0.002)
Board Ownership (%)	0.001 (0.002)	0.001 (0.003)
Board Size	-0.021 (0.013)	-0.019 (0.014)
Constant	0.840 (1.618)	0.110 (1.801)
Observations	1,321	1,103
Controls, Year & Industry FE	Y	Y
Adjusted R^2	0.614	0.607

Note: This table presents the regression results of executive compensation on union presence. Dependent variable is log-transformed average executive cash compensation. Independent variable of interest is union presence that is equal to 1 if the firm is unionized. Column (1) is using current year's union presence, while column (3) is using previous year's union presence. Standard errors are clustered by firm and presented in parentheses.

*** $p < 0.01$,

** $p < 0.05$,

* $p < 0.1$.

TABLE A2
Labour Union Rate and Cash Compensation

	<i>Ln(Executive Compensation)</i>			
	(1)	(2)	(3)	(4)
Union Rate: All Firms (%)	-0.006*** (0.001)	-0.003** (0.001)		
Union Rate at (t-1): All Firms (%)			-0.006*** (0.001)	-0.003* (0.002)
Ln(Total Assets)	0.327*** (0.028)	0.282*** (0.043)	0.337*** (0.031)	0.263*** (0.050)
Ln(Employee Wage)	0.626*** (0.099)	0.322*** (0.072)	0.679*** (0.111)	0.366*** (0.084)
Tobin's Q	0.230*** (0.059)	0.182*** (0.037)	0.191*** (0.064)	0.166*** (0.036)
Stock Return	-0.019 (0.013)	-0.013 (0.009)	-0.022 (0.014)	-0.014 (0.009)
ROA	0.941*** (0.250)	0.850*** (0.157)	0.952*** (0.334)	0.832*** (0.193)
Volatility	-0.002 (0.002)	0.000 (0.001)	-0.002 (0.002)	0.000 (0.001)
Ownership Concentration(%)	-0.008*** (0.002)	0.000 (0.001)	-0.007*** (0.002)	0.004*** (0.002)
Board Ownership (%)	0.002 (0.002)	-0.002 (0.002)	0.002 (0.003)	-0.003 (0.002)
Board Size	-0.026** (0.013)	0.001 (0.008)	-0.025* (0.013)	0.002 (0.008)
Constant	-0.461 (1.647)	4.875*** (1.590)	-1.707 (1.845)	4.643*** (1.787)
Observations	1,310	1,310	1,103	1,103
Year FE	Y	Y	Y	Y
Industry FE	Y	N	Y	N
Company FE	N	Y	N	Y
Adjusted R ²	0.617	0.866	0.607	0.887

Note: This table presents the regression results of executive compensation on unionization rate. Dependent variable is log-transformed average executive cash compensation. Independent variable of interest is unionization rate that is proportion of unionized employees. Columns (1) and (2) are using current year's unionization rate, while columns (3) and (4) are using previous year's unionization rate. Standard errors are clustered by firm and presented in parentheses.

*** $p < 0.01$,

** $p < 0.05$,

* $p < 0.1$.

TABLE A3
Labour Union Rate and Cash Compensation: Unionized Firms Only

	<i>Ln(Executive Compensation)</i>			
	(1)	(2)	(3)	(4)
Union Rate: Unionized Firms (%)	-0.004** (0.002)	-0.003* (0.002)		
Union Rate at ($t-1$): Unionized Firms (%)			-0.003* (0.002)	-0.003* (0.002)
Ln(Total Assets)	0.284*** (0.026)	0.311*** (0.050)	0.296*** (0.029)	0.340*** (0.056)
Ln(Employee Wage)	0.549*** (0.111)	0.190* (0.099)	0.608*** (0.127)	0.292*** (0.105)
Tobin's Q	0.249*** (0.061)	0.200*** (0.045)	0.184** (0.073)	0.162*** (0.041)
ROA	0.691*** (0.236)	0.706*** (0.179)	0.727** (0.323)	0.599*** (0.223)
Volatility	-0.002 (0.001)	-0.001 (0.001)	-0.002 (0.002)	-0.001 (0.001)
Ownership Concentration (%)	-0.004* (0.002)	0.002 (0.002)	-0.003 (0.002)	0.006*** (0.002)
Board Ownership (%)	0.006** (0.003)	-0.002 (0.002)	0.007** (0.003)	-0.003 (0.003)
Board Size	-0.030** (0.013)	-0.002 (0.008)	-0.027* (0.014)	-0.004 (0.009)
Constant	1.765 (1.797)	6.221*** (2.069)	0.328 (2.049)	3.932* (2.195)
Observations	1,000	1,000	847	847
Year FE	Y	Y	Y	Y
Industry FE	Y	N	Y	N
Company FE	N	Y	N	Y
Adjusted R^2	0.572	0.836	0.557	0.860

Note: This table replicates the analysis in Table A2 using unionized firm sample only. Standard errors are clustered by firm and presented in parentheses.

*** $p < 0.01$,

** $p < 0.05$,

* $p < 0.1$.

TABLE A4
Quantile Regression: Level of Executive Compensation and Union Presence

	<i>Ln(Executive Compensation)</i>				
	(1) <i>Q(0.05)</i>	(2) <i>Q(0.25)</i>	(3) <i>Q(0.5)</i>	(4) <i>Q(0.75)</i>	(5) <i>Q(0.95)</i>
Union Presence (1 if exist)	-0.0582 (-0.97)	-0.119* (-2.13)	-0.164** (-2.75)	-0.527*** (-6.70)	-0.962*** (-5.58)
Ln(Total Assets)	0.124*** (5.08)	0.190*** (9.76)	0.294*** (14.46)	0.478*** (17.63)	0.527*** (7.95)
Ln(Employee Wage)	0.310** (2.61)	0.567*** (5.55)	0.616*** (6.13)	0.671*** (5.95)	0.204 (1.04)
Tobin's Q	0.0235 (0.55)	0.166** (2.90)	0.282*** (4.45)	0.291*** (3.61)	0.126 (1.14)
Stock Return	-0.0135 (-0.35)	0.00691 (0.33)	0.0103 (0.39)	-0.0498* (-2.46)	-0.0301 (-1.09)
ROA	1.839** (3.16)	0.919** (2.86)	0.640* (2.08)	1.049** (2.67)	1.595** (2.63)
Volatility	-0.00606** (-2.59)	-0.00322 (-1.73)	-0.000288 (-0.16)	0.00360 (1.66)	0.000335 (0.10)
Ownership Concentration (%)	0.00138 (0.80)	-0.00382* (-2.35)	-0.00853*** (-4.94)	-0.0140*** (-6.32)	-0.0101* (-2.58)
Board Ownership (%)	0.00407 (1.58)	0.00116 (0.52)	0.000213 (0.09)	-0.0000940 (-0.03)	-0.00262 (-0.76)
Board Size	-0.0402** (-3.20)	-0.00923 (-0.94)	-0.0223* (-2.05)	-0.0497*** (-3.62)	0.00122 (0.05)
Constant	9.365*** (4.77)	2.194 (1.33)	-0.440 (-0.29)	-4.774** (-2.76)	3.603 (1.09)
Observations	1,321	1,321	1,321	1,321	1,321
Year & Industry FE	Y	Y	Y	Y	Y
Adjusted R ²	0.145	0.308	0.375	0.397	0.181

Note: This table presents unconditional quantile regression results of union presence on executive compensation. Dependent variable is log-transformed average executive cash compensation and independent variable of interest is a binary variable that indicates union presence. Each column measures the effect of union presence on executive compensation in the corresponding quantile group. For example, column (1) presents the effect of union presence on executive compensation that is in the lowest 5 percentile. Standard errors are clustered by firm and presented in parentheses.

*** $p < 0.01$,
 ** $p < 0.05$,
 * $p < 0.1$.

TABLE A5
Quantile Regression: Level of Executive Compensation and Union Rate

	<i>Ln(Executive Compensation)</i>				
	(1) <i>Q(0.05)</i>	(2) <i>Q(0.25)</i>	(3) <i>Q(0.5)</i>	(4) <i>Q(0.75)</i>	(5) <i>Q(0.95)</i>
Union Rate (%)	0.000508 (0.05)	-0.00394*** (-4.30)	-0.00398*** (-4.35)	-0.00809*** (-6.63)	-0.00881*** (-3.50)
Ln(Total Assets)	0.119*** (4.66)	0.191*** (9.85)	0.300*** (14.79)	0.482*** (17.54)	0.529*** (7.75)
Ln(Employee Wage)	0.348** (2.83)	0.627*** (6.30)	0.663*** (6.62)	0.756*** (6.55)	0.301 (1.49)
Tobin's Q	0.0302 (0.63)	0.169*** (3.49)	0.301*** (5.15)	0.308*** (3.73)	0.152 (1.24)
Stock Return	-0.0175 (-0.44)	0.00355 (0.17)	0.0101 (0.37)	-0.0510* (-2.48)	-0.0490 (-1.82)
ROA	1.889** (3.13)	0.713* (2.27)	0.523 (1.69)	0.740 (1.88)	1.351* (2.22)
Volatility	-0.00673** (-2.71)	-0.00289 (-1.59)	-0.000316 (-0.17)	0.00283 (1.30)	-0.00259 (-0.75)
Ownership Concentration (%)	0.000467 (0.25)	-0.00331* (-2.01)	-0.00844*** (-4.78)	-0.0128*** (-5.68)	-0.00965* (-2.43)
Board Ownership (%)	0.00332 (1.19)	0.00138 (0.62)	0.00107 (0.47)	0.00106 (0.39)	-0.000357 (-0.11)
Board Size	-0.0417** (-3.25)	-0.00846 (-0.88)	-0.0270* (-2.50)	-0.0562*** (-4.19)	-0.0225 (-0.84)
Constant	8.916*** (4.31)	2.168 (1.34)	-1.904 (-1.24)	-6.915*** (-3.90)	1.256 (0.36)
Observations	1,310	1,310	1,310	1,310	1,310
Year & Industry FE	Y	Y	Y	Y	Y
Adjusted <i>R</i> ²	0.145	0.319	0.383	0.397	0.160

Note: This table presents unconditional quantile regression results of union presence on executive compensation. Dependent variable is log-transformed average executive cash compensation and independent variable of interest is a binary variable that indicates union presence. Each column measures the effect of union presence on executive compensation in the corresponding quantile group. For example, column (1) presents the effect of union presence on executive compensation that is in the lowest 5 percentile in its distribution. Standard errors are clustered by firm and presented in parentheses.

*** $p < 0.01$,

** $p < 0.05$,

* $p < 0.1$.

TABLE A6
 Quantile Regression: Level of Employee Wage and Union Rate

	<i>Ln(Employee Wage)</i>				
	(1) <i>Q(0.05)</i>	(2) <i>Q(0.25)</i>	(3) <i>Q(0.5)</i>	(4) <i>Q(0.75)</i>	(5) <i>Q(0.95)</i>
Union Rate: All Firms (%)	0.00161 (1.66)	0.000955* (2.10)	0.00177*** (4.43)	0.000467 (1.35)	0.000248 (0.58)
Ln(Total Assets)	0.0331* (1.96)	0.0809*** (9.11)	0.104*** (12.22)	0.0762*** (9.18)	0.0485*** (4.03)
Tobin's Q	0.0151 (0.28)	0.0269 (1.00)	0.0629* (2.50)	0.0346 (1.61)	0.0368 (1.43)
Stock Return	-0.0172 (-0.56)	-0.0122 (-1.03)	-0.0110 (-1.38)	-0.00532 (-0.81)	-0.00382 (-0.61)
ROA	0.361 (0.70)	0.317 (1.91)	0.682*** (4.76)	0.360** (3.12)	0.389** (3.02)
Volatility	-0.00194 (-0.75)	-0.000805 (-0.84)	-0.000442 (-0.55)	-0.000697 (-1.07)	0.00186* (1.97)
Ownership Concentration (%)	-0.000214 (-0.14)	0.000769 (0.96)	0.000952 (1.24)	0.00134* (1.99)	-0.00108 (-1.55)
Board Ownership (%)	-0.00925*** (-3.69)	-0.00280** (-2.67)	-0.00357*** (-3.59)	-0.00458*** (-5.40)	-0.00230** (-2.94)
Board Size	-0.00758 (-0.76)	-0.00582 (-1.19)	-0.00507 (-1.16)	0.000393 (0.10)	0.00192 (0.36)
Constant	15.22*** (21.79)	14.53*** (51.13)	13.92*** (45.92)	15.17*** (58.30)	16.14*** (47.52)
Observations	1,310	1,310	1,310	1,310	1,310
Year & Industry FE	Y	Y	Y	Y	Y
Adjusted <i>R</i> ²	0.118	0.280	0.362	0.292	0.120

Note: This table presents unconditional quantile regression results of union rate on employee wage. Dependent variable is log-transformed average employee wage and independent variable of interest is unionization rate. Each column measures the effect of union rate on employee wage in the corresponding quantile group. For example, column (1) presents the effect of union presence on executive compensation that is in the lowest 5 percentile in its distribution. Standard errors are clustered by firm and presented in parentheses.

*** $p < 0.01$,
 ** $p < 0.05$,
 * $p < 0.1$.

TABLE A7
 Union Presence and Stock Option Use

	<i>Stock option use</i>	
	(1)	(2)
Union Presence (1 if exist)	-0.291*** (0.068)	
Union Presence at ($t-1$)		-0.304*** (0.072)
Ln(Total Assets)	0.068*** (0.021)	0.071*** (0.023)
Ln(Employee Wage)	-0.011 (0.092)	-0.028 (0.111)
Tobin's Q	0.127** (0.049)	0.157*** (0.054)
Stock Return	0.007 (0.009)	0.007 (0.010)
ROA	-0.186 (0.208)	-0.361 (0.254)
Volatility	0.002 (0.001)	0.002 (0.002)
Ownership Concentration (%)	-0.001 (0.002)	-0.001 (0.002)
Board Ownership (%)	-0.003 (0.002)	-0.003 (0.002)
Board Size	-0.003 (0.010)	-0.008 (0.011)
Constant	-1.632 (1.476)	-1.433 (1.742)
Observations	1,321	1,103
Controls, Year & Industry FE	Y	Y
Adjusted R^2	0.197	0.217

Note: This table presents the regression results of stock option use in executive compensation on union presence. Dependent variable is a binary variable that is equal to 1 if the firm uses stock option to pay executives, and 0 otherwise. Independent variable of interest is union presence that is equal to 1 if the firm is unionized. Column (1) is using current year's union presence, while column.

(2) is using previous year's union presence. Standard errors are clustered by firm and presented in parentheses.

*** $p < 0.01$,

** $p < 0.05$,

* $p < 0.1$.

TABLE A8
Union Rate and Stock Option Use

	<i>Stock option use</i>			
	(1)	(2)	(3)	(4)
Union Rate: All Firms (%)	-0.004*** (0.001)	-0.000 (0.002)		
Union Rate at (t-1): All Firms (%)			-0.004*** (0.001)	0.001 (0.001)
Ln(Total Assets)	0.069*** (0.022)	0.012 (0.042)	0.075*** (0.024)	0.061 (0.048)
Ln(Employee Wage)	0.030 (0.093)	0.048 (0.067)	0.036 (0.108)	-0.001 (0.063)
Tobin's Q	0.136*** (0.052)	0.022 (0.031)	0.147*** (0.055)	0.017 (0.019)
Stock Return	0.003 (0.010)	0.005* (0.003)	0.005 (0.010)	-0.001 (0.003)
ROA	-0.295 (0.214)	0.165 (0.125)	-0.447* (0.261)	0.064 (0.120)
Volatility	0.001 (0.001)	-0.000 (0.001)	0.002 (0.002)	0.000 (0.001)
Ownership Concentration (%)	-0.001 (0.002)	0.001 (0.001)	-0.000 (0.002)	0.002 (0.002)
Board Ownership (%)	-0.003 (0.002)	-0.001 (0.002)	-0.003 (0.002)	-0.001 (0.001)
Board Size	-0.008 (0.010)	0.003 (0.005)	-0.014 (0.010)	0.005 (0.004)
Constant	-2.423 (1.497)	-1.070 (1.775)	-2.652 (1.692)	-1.653 (1.770)
Observations	1,310	1,310	1,103	1,103
Year FE	Y	Y	Y	Y
Industry FE	Y	N	Y	N
Company FE	N	Y	N	Y
Adjusted R ²	0.174	0.879	0.186	0.923

Note: This table presents the regression results of stock option use in executive compensation on unionization rate. Dependent variable is a binary variable that is equal to 1 if the firm uses stock option to pay executives, and 0 otherwise. Independent variable of interest is unionization rate that is proportion of unionized employees. Columns (1) and (2) are using current year's unionization rate, while columns (3) and (4) are using previous year's unionization rate. Standard errors are clustered by firm and presented in parentheses.

*** $p < 0.01$,

** $p < 0.05$,

* $p < 0.1$.

TABLE A9
 Union Rate and Stock Option Use: Unionized Firms Only

	<i>Stock option use</i>			
	(1)	(2)	(3)	(4)
Union Rate: Unionized Firms (%)	-0.001 (0.001)	0.000 (0.003)		
Union Rate at ($t-1$): Unionized Firms (%)			-0.001 (0.001)	0.003** (0.001)
Ln(Total Assets)	0.070*** (0.023)	0.044 (0.049)	0.077*** (0.024)	0.080 (0.062)
Ln(Employee Wage)	-0.082 (0.091)	0.098 (0.107)	-0.078 (0.097)	-0.000 (0.098)
Tobin's Q	0.109* (0.063)	0.040 (0.035)	0.113* (0.058)	0.017 (0.024)
Stock Return	0.011 (0.009)	0.002 (0.003)	0.013 (0.009)	-0.001 (0.003)
ROA	-0.132 (0.215)	0.127 (0.132)	-0.228 (0.261)	-0.032 (0.110)
Volatility	0.001 (0.002)	0.000 (0.001)	0.001 (0.002)	0.000 (0.001)
Ownership Concentration (%)	0.001 (0.002)	0.002 (0.001)	0.001 (0.002)	0.001 (0.002)
Board Ownership (%)	-0.003 (0.002)	-0.004* (0.002)	-0.004 (0.003)	-0.002 (0.002)
Board Size	-0.007 (0.011)	0.006 (0.005)	-0.013 (0.011)	0.007 (0.004)
Constant	-0.613 (1.602)	-2.954 (2.275)	-0.886 (1.694)	-2.219 (2.534)
Observations	1,000	1,000	847	847
Year FE	Y	Y	Y	Y
Industry FE	Y	N	Y	N
Company FE	N	Y	N	Y
Adjusted R^2	0.167	0.863	0.175	0.909

Note: This table replicates the analysis in A7 using only unionized firm sample. Standard errors are clustered by firm and presented in parentheses.

*** $p < 0.01$,

** $p < 0.05$,

* $p < 0.1$.

TABLE A10
 Union Rate and Stock Option Use: Mitigating Effect of Chaebol Membership

	<i>Ln(Executive Compensation)</i>		<i>Stock option use</i>	
	(1)	(2)	(3)	(4)
Union Presence × Chaebol	-0.368** (0.160)		-0.246* (0.132)	
Union Rate × Chaebol		-0.011*** (0.004)		-0.005* (0.003)
Union Rate: All Firms (%)		0.002 (0.003)		0.002 (0.002)
Union Presence (1 if exist)	-0.187** (0.094)		-0.138 (0.091)	
Chaebol (1 if Chaebol)	0.403** (0.160)		0.281** (0.130)	
Ln(Total Assets)	0.306*** (0.033)	0.276*** (0.076)	0.057** (0.027)	0.015 (0.037)
Ln(Employee Wage)	0.553*** (0.104)	0.307** (0.135)	-0.013 (0.094)	0.049 (0.066)
Tobin's Q	0.192*** (0.059)	0.167*** (0.053)	0.128*** (0.049)	0.017 (0.031)
Stock Return	-0.017 (0.012)	-0.011 (0.012)	0.005 (0.010)	0.005* (0.003)
ROA	1.055*** (0.270)	0.977*** (0.210)	-0.217 (0.226)	0.165 (0.137)
Volatility	-0.001 (0.002)	0.000 (0.001)	0.001 (0.001)	-0.001 (0.001)
Ownership Concentration (%)	-0.008*** (0.002)	-0.000 (0.003)	-0.000 (0.002)	0.001 (0.001)
Board Ownership (%)	0.004 (0.002)	-0.001 (0.003)	-0.002 (0.002)	-0.001 (0.002)
Board Size	-0.020 (0.012)	0.000 (0.011)	-0.003 (0.010)	0.004 (0.005)
Constant	1.128 (1.750)	5.371* (3.036)	-1.479 (1.483)	-1.144 (1.657)
Observations	1,282	1,271	1,282	1,271
Adjusted R ²	0.631	0.868	0.211	0.880
Controls & Year FE	Y	Y	Y	Y
Industry FE	Y	N	Y	N
Company FE	N	Y	N	Y

Note: This table presents the mitigating effects of a firm's Chaebol membership over union's influence on executive compensation. Dependent variable is either log-transformed average executive compensation or a binary indicator whether the firm uses stock option. Independent variable of interest is union variables (union presence or unionization rate) interacted with Chaebol membership that is equal to 1 if a firm belongs to a Chaebol group. Standard errors are clustered by firm and presented in parentheses.

*** $p < 0.01$,
 ** $p < 0.05$,
 * $p < 0.1$.

TABLE A11
 Union Rate and Stock Option Use: Mitigating Effect of Financial Risk

	<i>Ln(Executive Compensation)</i>		<i>Stock option use</i>	
	(1)	(2)	(3)	(4)
Union Presence × Financial Risk	-0.329** (0.152)		-0.029 (0.121)	
Union Rate × Financial Risk		-0.003 (0.002)		-0.001** (0.001)
Union Presence (1 if exist)	-0.178* (0.098)		-0.274*** (0.086)	
Union Rate		-0.002 (0.003)		0.001 (0.002)
Financial Risk	0.087 (0.138)	0.054 (0.071)	-0.029 (0.113)	0.049* (0.026)
Ln(Total Assets)	0.359*** (0.038)	0.267*** (0.081)	0.078*** (0.027)	0.020 (0.041)
Ln(Employee Wage)	0.540*** (0.110)	0.256* (0.143)	0.026 (0.102)	0.100 (0.081)
Tobin's Q	0.204*** (0.061)	0.194*** (0.055)	0.145*** (0.049)	0.021 (0.032)
Stock Return	-0.014 (0.012)	-0.008 (0.011)	0.007 (0.009)	0.004 (0.003)
ROA	0.955*** (0.244)	0.764*** (0.197)	-0.195 (0.214)	0.159 (0.132)
Volatility	-0.001 (0.002)	-0.001 (0.001)	0.002 (0.002)	-0.000 (0.001)
Ownership Concentration (%)	-0.008*** (0.002)	0.000 (0.003)	-0.001 (0.002)	0.001 (0.001)
Board Ownership (%)	0.002 (0.003)	-0.001 (0.003)	-0.002 (0.002)	-0.001 (0.002)
Board Size	-0.017 (0.013)	0.003 (0.012)	-0.004 (0.011)	0.003 (0.005)
Constant	0.109 (1.882)	6.482* (3.328)	-2.605 (1.624)	-2.204 (1.871)
Observations	1,203	1,192	1,203	1,192
Adjusted R ²	0.615	0.867	0.183	0.879
Controls & Year FE	Y	Y	Y	Y
Industry FE	Y	N	Y	N
Company FE	N	Y	N	Y

Note: This table presents the mitigating effects of a firm's financial risk over union's influence on executive compensation. Dependent variable is either log-transformed average executive compensation or a binary indicator whether the firm uses stock option. Independent variable of interest is union variables (union presence or unionization rate) interacted with financial risk that is equal to 1 if a firm's cash-flow volatility is above median in a given year. Standard errors are clustered by firm and presented in parentheses.

*** $p < 0.01$,

** $p < 0.05$,

* $p < 0.1$.

TABLE A12
 Union Rate and Stock Option Use: Mitigating Effect of Employee Wage

	<i>Ln(Executive Compensation)</i>		<i>Stock option use</i>	
	(1)	(2)	(3)	(4)
Union Presence × High Employee Wage	-0.281** (0.119)		-0.114 (0.102)	
Union Rate × High Employee Wage		0.002 (0.001)		-0.000 (0.001)
Union Presence (1 if exist)	-0.195** (0.088)		-0.229** (0.089)	
Union Rate		-0.004 (0.003)		-0.000 (0.002)
High Employee Wage	0.393*** (0.109)	-0.047 (0.063)	0.116 (0.098)	-0.005 (0.030)
Ln(Total Assets)	0.318*** (0.026)	0.288*** (0.078)	0.067*** (0.022)	0.011 (0.042)
Ln(Employee Wage)	0.342*** (0.112)	0.322** (0.147)	-0.048 (0.091)	0.058 (0.075)
Tobin's Q	0.220*** (0.061)	0.193*** (0.055)	0.127*** (0.048)	0.021 (0.031)
Stock Return	-0.018 (0.012)	-0.012 (0.012)	0.006 (0.010)	0.005 (0.003)
ROA	1.076*** (0.242)	0.826*** (0.208)	-0.200 (0.209)	0.170 (0.124)
Volatility	-0.002 (0.002)	0.000 (0.001)	0.002 (0.001)	-0.000 (0.001)
Ownership Concentration (%)	-0.008*** (0.002)	0.000 (0.003)	-0.001 (0.002)	0.001 (0.001)
Board Ownership (%)	0.001 (0.002)	-0.002 (0.003)	-0.003 (0.002)	-0.001 (0.002)
Board Size	-0.021* (0.012)	-0.000 (0.011)	-0.003 (0.010)	0.003 (0.005)
Constant	4.492** (1.829)	4.731 (3.183)	-1.032 (1.518)	-1.219 (1.900)
Observations	1,321	1,310	1,321	1,310
Adjusted R ²	0.622	0.867	0.199	0.879
Controls & Year FE	Y	Y	Y	Y
Industry FE	Y	N	Y	N
Company FE	N	Y	N	Y

Note: This table presents the mitigating effects of employee wage over union's influence on executive compensation. Dependent variable is either log-transformed average executive compensation or a binary indicator whether the firm uses stock option. Independent variable of interest is union variables (union presence or unionization rate) interacted with high employee wage that is equal to 1 if a firm's employee wage is above industry median in a given year. Standard errors are clustered by firm and presented in parentheses.

*** $p < 0.01$,
 ** $p < 0.05$,
 * $p < 0.1$.

TABLE A13
 Union Rate and Stock Option Use: Mitigating Effect of Labour Intensity

	<i>Ln(Executive Compensation)</i>		<i>Stock option use</i>	
	(1)	(2)	(3)	(4)
Union Presence × Labour Intensity	-0.094 (0.071)		-0.068 (0.056)	
Union Rate × Labour Intensity		-0.002 (0.001)		-0.002** (0.001)
Union Presence (1 if exist)	-0.311*** (0.088)		-0.280*** (0.073)	
Union Rate		-0.005*** (0.001)		-0.003** (0.001)
Labour Intensity	-0.000 (0.000)	-0.000 (0.000)	-0.000** (0.000)	-0.000** (0.000)
Ln(Total Assets)	0.328*** (0.028)	0.330*** (0.029)	0.074*** (0.022)	0.076*** (0.022)
Ln(Employee Wage)	0.610*** (0.106)	0.660*** (0.102)	0.043 (0.094)	0.096 (0.093)
Tobin's Q	0.211*** (0.061)	0.221*** (0.059)	0.117** (0.049)	0.121** (0.052)
Stock Return	-0.017 (0.012)	-0.020 (0.012)	0.005 (0.009)	0.001 (0.010)
ROA	1.144*** (0.255)	0.979*** (0.254)	-0.141 (0.208)	-0.228 (0.217)
Volatility	-0.001 (0.002)	-0.002 (0.002)	0.002 (0.001)	0.002 (0.001)
Ownership Concentration (%)	-0.008*** (0.002)	-0.007*** (0.002)	-0.001 (0.001)	-0.000 (0.002)
Board Ownership (%)	0.001 (0.002)	0.002 (0.002)	-0.003 (0.002)	-0.003 (0.002)
Board Size	-0.021* (0.013)	-0.025** (0.012)	-0.004 (0.010)	-0.008 (0.009)
Constant	-0.177 (1.806)	-1.133 (1.744)	-2.716* (1.510)	-3.734** (1.502)
Observations	1,321	1,310	1,321	1,310
Adjusted R ²	0.615	0.618	0.212	0.193
Controls & Year FE	Y	Y	Y	Y
Industry FE	Y	N	Y	N
Company FE	N	Y	N	Y

Note: This table presents the mitigating effects of employee wage over union's influence on executive compensation. Dependent variable is either log-transformed average executive compensation or a binary indicator whether the firm uses stock option. Independent variable of interest is union variables (union presence or unionization rate) interacted with labour intensity that is equal to 1 if a firm has below median production per labour. Production per labour is net sales divided by total number of employees. Standard errors are clustered by firm and presented in parentheses.

*** $p < 0.01$,

** $p < 0.05$,

* $p < 0.1$.