

The Impact of Directors' External Connections on Their Compensation

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ABSTRACT

Based on a large sample of directors, I find that directors' external connections are positively associated with the level of their compensation, suggesting that directors are compensated for the value they bring to the firm through their external connections. This association holds after controlling for the various factors such as firm and CEO characteristics, board related governance characteristics, directors' attributes such as experience and education, industry and year fixed effects, used in prior studies. I also find that the association between the components of external connections and compensation is different for different types of directors.

Keywords: Director Compensation; External Connections

1. INTRODUCTION

Directors of publicly traded companies are traditionally viewed as custodians of the shareholders' interests, whose responsibilities include monitoring top management and ensuring that all major decisions are congruent with increasing shareholder value.¹ However, an alternative view of the director's role comes from resource dependence theory which suggests that board members may also have an advisory or resource provision role, which may be directly related to firm performance (Pfeffer, 1972).² In this paper I investigate whether directors' external network connections, as a proxy for their ability to provide advisory services or facilitate resource acquisition influence directors' compensation.

Resource dependence theory argues that the board's function as a link to the external environment is important in that directors bring essential resources to the firm in the form of advice and counsel, channels of information flow, and preferential access to resources through linkages to the external environment (Pfeffer & Salancik, 1978). Directors also potentially increase access to key constituents such as suppliers, buyers, lenders, and public policy decision makers (Hillman, Cannella, & Paetzold, 2000), resulting in reducing dependency between the firm and external contingencies, diminishing uncertainty for the firm, lowering transaction costs, and ultimately aiding in the survival of the firm (Hillman & Dalziel, 2003).

Directors' linkages to the external environment are primarily through their external connections. A board with well-connected directors can facilitate access to resources such as capital and improved terms of contracts, link the firm to important stakeholders, and aid in the formulation of strategy or other important decisions.³ Moreover, directors' external connections could potentially affect the flow and the quality of information available to managers, create links among decision makers across firms, and influence the corporate decision making process, leading to better management practices, and improved firm performance. Corroborating this argument, Kim (2018), Larcker, So and Wang (2013), and Omer, Shelley and Tice (2014) among others document that directors' external connections are positively associated with firm performance.

¹ See Monks and Minow (2011) for a discussion of directors' role in monitoring.

² Peng (2004, p. 455) states that "it [i.e., resource dependence theory] predicts that the more resource-rich outside directors are on the board to help bring in needed resources, the better the firm performance."

³ A growing body of literature (e.g., Hwang and Kim (2009), Fracassi and Tate (2012), and Lee, Lee and Nagarajan (2014), documents that directors' internal connections, i.e., the connections with management are associated with increased managerial entrenchment and negative value consequences for the firm.

Given the importance of directors' external connections to firm performance, I should expect that these connections are valued by the firms and the labor market. Specifically, drawing on the prior empirical evidence which shows that directors' external connections are associated positively with firm performance, I argue that directors' external connections should be reflected in their compensation. Consistent with prior literature, which finds that CEO networks are positively associated with CEO compensation (Engelberg, Gao, & Parsons, 2013; Geletkanycz, Boyd, & Finkelstein, 2001; Liu, 2010), I find that directors' external connections are positively associated with their compensation levels indicating that firms value these connections (Geletkanycz & Hambrick 1997). This association holds after controlling for the various factors such as firm and CEO characteristics, board related governance characteristics, directors' attributes such as experience and education, and industry and year fixed effects, used in prior studies. I measure three different aspects of external connections - professional, educational, and other. I find that for outside directors only the professional connections are important determinants of pay, but for employee directors both educational as well as professional connections are significantly associated with their compensation, suggesting that different employee directors and outside directors contribute differently to firm value.

The prior literature focuses primarily on how director-CEO relations and the directors monitoring role affect board compensation. For example, Ryan and Wiggins (2004) document that firms with more outsiders on the board award directors more equity-based compensation. They also find that when CEOs have more power over their boards, such as when there are more inside directors and/or when CEOs are entrenched, directors are less likely to get equity-based or shareholder-friendly pay structures. My approach focusing on the role of director external connections is quite different to the previous literature. Using the detailed biographical data available for the entire network of over 393,000 board level directors and executives provided by the BoardEx database, I construct a measure of directors' external connections. While interlocks capture only current direct ties among directors and executives, my external connection measure captures indirect ties as well as direct ties developed in the past and present.

My paper contributes to the literature on director compensation in several ways. First, extant empirical research on director compensation has been largely grounded in agency theory perspectives (e.g., Brick, Palmon, & Wald, 2006; Bryan, Hwang, Klein & Lilien, 2000; Farrell, Friesen, & Hersch, 2008; Ryan & Wiggins, 2004). While I also provide some insight into how director independence contributes to the level and structure of director compensation, I identify an important attribute in a director that explains director compensation. Examining how directors' external connections affect director compensation provides additional insights, increasing our understanding of director compensation. I show that directors are compensated for their resource provision role as well – directors' external connections are significantly and positively associated with their compensation. In addition, my results extend the prior literature that shows that CEOs with larger networks of personal connections to those outside the firm earn more than those with smaller networks (Engelberg et al., 2013).

This paper also contributes to the existing literature that investigates the determinants of the selection of individual directors. Using a subsample of directors who leave their firms, I provide evidence that the external connections of these directors increase the likelihood of their getting new board seats. This result extends extant literature that documents that CEOs play a key role in selecting new board members (Lorsch & MacIver, 1989), or find that directors who serve larger firms and sit on larger boards are more likely to attract additional directorships (Ferris, Jagannathan, & Pritchard, 2003). My result also complements the prior literature that finds an outside CEO candidate benefits significantly by having connections to the board of the hiring firm (Liu, 2010).

The remainder of the paper is organized as follows. Section 2 reviews the background literature. Section 3 describes the data, variable construction, research design and econometric models used in the paper. Section 4 provides descriptive statistics on directors' external connections and compensation and presents empirical results on director compensation including several robustness tests. Section 5 provides concluding remarks.

2. LITERATURE REVIEW

The literature on directors' incentives has general focused on the impact of director compensation structure on firm value and decision making and also the determinants of director compensation. Bhagat, Carey, and Elson (1999) examine the relationship between outside director stock ownership and effective monitoring and firm performance. They find that outside director stock ownership is significantly associated with firm performance and the likelihood

that executives are replaced following poor performance. Perry (2000) examines whether the structure of director compensation affects CEO turnover and finds that equity-based compensation increases the level of monitoring and the likelihood of CEO turnover following poor performance. Fich and Shivdasani (2005) examine the market reaction to the adoption of equity-based director incentive plans. They show that firms with high market-to-book ratios are more likely to utilize option compensation for their directors than firms with low market-to-book ratios. They also find that the market reacts positively to the adoption of a director stock option plan.

Bryan and Klein (2004) examine whether there is an association between director stock option grants and managers taking on more risky, higher net present value projects. They find significantly positive associations between stock option compensation for directors and future investments, volatility of returns and firm performance. Becher, Campbell, and Frye (2005) examine how regulatory changes affect equity-based compensation for non-employee directors. They find that deregulation within the banking industry is associated with an increase in the use of equity-based compensation for bank directors and that this increase accompanies improved accounting profitability. Adams and Ferreira (2008) document a positive association between board meeting fees and outside directors' attendance records.

The determinants of director compensation have been relatively less explored. Vafeas (1999) finds that a significant predictor of the adoption of equity-based director incentive plans is the proportion of outside directors. Bryan, Hwang, Klein, and Lilien (2000) find that board compensation is structured to mitigate agency problems inherent in firms whose management control is separated from ownership. Thus, compensation packages paid to outside directors are designed to resemble compensation packages paid to the CEO. Yermack (2004) investigates the incentives received by outside directors. He finds that "outside directors receive positive performance incentives from compensation, turnover, and opportunities to obtain new board seats" (p. 2282). Linn and Park (2005) find that elements of outside director compensation are significantly related to the investment opportunity set. Firms with more investment opportunities pay a higher level of compensation to their outside directors than firms with fewer investment opportunities. In addition to paying more total compensation, firms with greater investment opportunities compensate directors more heavily with stock-based forms of compensation than with cash. They also document a positive relation between total compensation of outside directors and firm size. They conclude that firms pay more and emphasize incentive-based compensation to motivate outside directors to act in the interests of shareholders when the costs of monitoring are high. Linck, Netter, and Yang (2009) find significant increases in director pay and overall director costs post Sarbanes-Oxley (SOX), particularly among smaller firms.

Other studies have focused on the association between director compensation and board independence. Ryan and Wiggins (2004) find that director compensation is determined by the board's power relative to that of the CEO, and varies with barriers to effective monitoring, suggesting that powerful managers may be able to structure directors' compensation to reduce pay sensitivity to overall firm performance, thereby also reducing directors' incentives to monitor managers. Brick et al. (2006) find CEOs and directors indirectly influence their own pay and CEO pay tends to be higher when director pay is higher, suggesting that the positive relationship between CEO and director excess compensation may be due to mutual back scratching.

The recent literature in finance investigates the impact of CEO's social connections on CEO labor market outcomes. Hwang and Kim (2009) measure social ties between CEOs and outside directors at Fortune 100 firms and examine the effect of social ties on executive compensation. They find that CEOs with social ties to board members receive more compensation. Overall, this literature looks at director compensation from the agency theoretic framework of the monitoring role of directors.

I investigate whether director compensation is influenced by the resource provision role of directors. Engelberg et al. (2013) is perhaps most closely related to my study. They find that CEOs with large networks of external personal connections earn more than those with smaller networks. I extend this literature by providing results which show that directors with more extensive external connections earn more than those with more limited connections, thus supporting the resource theory argument that directors' external connections are valuable to the firm.

3. DATA AND RESEARCH DESIGN

3.1. Data selection

The primary data source for this study is the BoardEx database. This database covers over 393,000 directors and executives of over 15,000 publicly quoted and large private companies. It contains biographical information of directors and executives, including current and past employment history, educational background, and other activities like memberships in general social associations, organizations, or charitable groups, and directors' qualification such as CPA, CFA, or JD.

I utilize three measures for external connections of directors: *Professional*, *Educational*, and *Other* connections. The *Professional* connections category consists of the directors and executives whom the director has worked with, or associated with in the past either as a member of the same board of directors or as part of the top management group of the same company at the same time. The *Educational* connections category consists of the directors and executives who attended the same school as the director and graduated within two years of his or her graduation with the same undergraduate, professional, masters or doctorate degree. The *Other* connections category consists of the directors and executives with whom the director shares memberships in general social associations, organizations or charitable groups.⁴

I obtain director compensation data for the period 2000 to 2010 from three sources, ExecuComp, BoardEx, and company proxy statements. I collect compensation data for outside directors and employee directors (defined as directors who are also officers of the firm) separately since these two types of directors are compensated differently. For example, depending on the firm, outside directors may receive an annual cash retainer, meeting fees, committee fees and equity awards. However, employee directors are not compensated for their service on the board. According to definitions stated in the Combined Code (2003), I classify non-employee directors who have personal or commercial ties with the firm or executives as grey directors and all other directors as outside directors. Cash compensation received by each outside director is the sum of fees earned in cash and all other cash compensation, whereas equity-based compensation received by each outside director is the sum of stock and option awards. Employee directors' cash compensation comprises of salary, bonus, and all other cash compensation, whereas their equity-based compensation is the sum of the total value of option and restricted stock grants and long-term incentive payouts.

I obtain firm-specific financial data from COMPUSTAT, stock price data from CRSP and restated quarterly and annual reports data from Audit Analytics. The key firm identification variable in BoardEx is "Company ID". Since there is no existing link between "Company ID" as reported in BoardEx and identifiers from other commonly used databases (Engelberg, Gao, and Parsons 2013), I follow Engelberg et al. (2013) to create links between the BoardEx database and other databases. BoardEx provides ticker symbols and CUSIP numbers which are derived from the International Security Identification Number (ISIN) for companies that are currently trading. First, I match "Company ID" as reported in BoardEx with GVKEY (S&P identifier) by ticker symbol and CUSIP. Second, for companies in the BoardEx database without ticker symbols and CUSIPs, I match the company name recorded in BoardEx with the name of a company on COMPUSTAT and CRSP using the name matching algorithm in SAS. All matches are manually checked.

For the director compensation analysis, my final sample is the intersection among BoardEx, EXECUCOMP, COMPUSTAT, and CRSP. This results in 36,676 director-year observations for 6,699 unique directors.

⁴ Following Fracassi (2008), I also construct a total measure of directors' external connections, constructed as the sum of all the three connections mentioned above. While not shown in the tables, our results using this single measure of external connections instead of the three components remain the same.

3.2. Research Design

To examine the impact of external connections on director compensation, following prior studies, I estimate ordinary least squares (OLS) regressions of director compensation on directors' external connections and other control variables. First, I investigate the relationship between directors' external connections and total compensation, and then analyze two compensation components, cash compensation and equity-based compensation separately. I also use natural logarithmic transformations to control for skewness in the directors' external connections. Because there is a possibility that the external connection variable is correlated with other determinants of directors' compensation such as education, intelligence, skill, charisma, industry experience (Engelberg et al., 2013), I include a number of control variables related to directors' human capital such as industry experience, graduate degrees, and elite educational institutions. *Industry experience* is a dummy variable that equals one if the director has past experience in the same industry as that of his or her current company and zero otherwise. *Graduate degrees* is a dummy variable that equals one if the director holds a graduate degree such as MBA, Masters, JD, MD, or PhD and zero otherwise. *Elite education* is a dummy variable that equals one if the director graduated from an Ivy League undergraduate school and zero otherwise.

Given that directors could negotiate their pay packages with the CEO or the board, following Ryan and Wiggins (2004, p. 498) I include control variables related to the CEO and governance characteristics of the directors' firms such as CEO tenure, CEO ownership, whether the CEO is also the chairman, tenure of directors, board size, proportion of inside directors, connections with CEO and/or other directors, and an indicator variable for the director's type, which equals one if the outside director is an independent director, or equals zero if the outside director is a grey director in the conventional classification. I also control for firm characteristics such as size, firm performance, growth opportunity, and risk and also year and industry fixed effects. Finally, given the large difference between the mean and median values of director compensation in my sample, I perform median regressions of director compensation on external connections.

4. RESULTS

4.1. Descriptive Statistics

Panel A of Table 1 presents summary statistics on the external connections of directors. On average, a director has about 372 (213 median) external network connections to all other corporate executives covered by BoardEx. These external connections vary by types of directors. An employee director has an average of 247 (123 median) external network connections. A grey director (an affiliated non-executive director)⁵ has an average of 327 (167 median) external network connections. Independent directors have the biggest network connections, with an average (median) of approximately 418 (255) external network connections. This panel also shows the statistics for the three components of external connections – professional, educational and other.

Panel B of Table 1 presents the compensation summary for the total and individual components of compensation for different director types. The average total compensation for outside directors is \$277,000. The grey directors earn an average of \$721,000, whereas the independent directors earn an average of \$244,000. In contrast the employee directors earn an average of \$12.4 million. The breakup of total compensation suggests that cash compensation for outside directors consists of less than 25% of the total compensation, whereas for employee directors that proportion is less than 20%. The median total compensation is much lower than the average suggesting skewness in the data.

Panel C of Table 1 presents summary statistics for the other key variables used in my models. The average total assets of the firms in my sample are approximately \$49.3 billion. The median total assets are \$10.5 billion. The average market-to-book asset ratio is 3.08, and the median market-to-book asset ratio is 2.31. The return on assets (ROA) is 0.054 on average, and the median is 0.050. The average stock return is 0.003, and the median is 0.009. The average

⁵ According to definitions stated in the Combined Code (2003), grey directors have personal or commercial ties with the firm or executives. Such ties are inferred where the non-executive director is related to any of the firm's directors, advisors or senior employees, has served on the board for more than nine years, was formerly an employee of the company or group, has received additional remuneration apart from director's fees, has any material business relationships with the company, represents a significant shareholder, or is part of an interlocking director arrangement.

tenure of a director is approximately 8 years, and the median is 6 years. Approximately 40 percent of the directors have a social tie with the CEO of the firm for which the director serves. The average number of directors per firm is 11. A firm has approximately 22 percent of inside directors on the board on average, and the median is 18 percent. The average tenure of CEOs is approximately 6.5 years, and the median is 4.8 years. Approximately 80 percent of the CEOs are also the chairpersons of the board.

Table 1. Descriptive Statistics of Key Variables

Panel A: Directors' External Connections by Types of Directors and Types of Connections

Type of Director	N	Mean	Median	Max	StdDev
Employee Directors	79,667				
Total External Connections		247.0	123	3,038	315.2
Professional Connections		99.2	34	1,191	155.4
Educational Connections		21.7	6	273	41.9
Other Connections		126.0	48	2,039	223.7
Grey Directors	47,220				
Total External Connections		326.8	167	4,563	419.1
Professional Connections		139.3	44	1,953	122.8
Educational Connections		32.9	8	1,032	26.8
Other Connections		154.6	64	2,803	189.8
Independent Directors	266,594				
Total External Connections		417.7	255	4,688	477.7
Professional Connections		179.8	57	1,964	231.8
Educational Connections		58.0	11	900	71.8
Other Connections		179.9	82	2,946	304.4
All Directors	393,481				
Total External Connections		372.2	213	4,688	447.9
Professional Connections		143.2	54	1,673	224.1
Educational Connections		39.0	13	407	61.1
Other Connections		190.0	73	3,150	329.0

Panel B: Director Compensation by Types of Directors

Type of Director	N	Mean	Median	Q1	Q3	StdDev
Total Compensation (\$1000s)						
Outside Directors	30,743	277	178	113	253	1,726
Grey Directors	2,136	721	149	80	257	3,320
Independent Directors	28,607	244	180	116	253	1,537
Employee Directors	5,933	12,410	7,416	3,678	14,728	24,348
Excluding CEO	1,917	8,092	4,404	2,227	9,146	11,596
Cash Compensation (\$1000s)						
Outside Directors	30,743	63	54	30	82	116
Grey Directors	2,136	128	40	25	68	397
Independent Directors	28,607	59	55	30	83	48
Employee Directors	5,933	1,781	1,100	779	1,898	2,666
Excluding CEO	1,917	1,598	914	600	1,575	2,602
Equity-based Compensation (\$1000s)						
Outside Directors	30,743	211	108	60	182	1,700
Grey Directors	2,136	585	88	42	177	3,134
Independent Directors	28,607	183	109	61	183	1,537
Employee Directors	5,933	10,592	5,899	2,430	12,357	23,733
Excluding CEO	1,917	6,471	3,228	1,370	7,556	10,646

*For Outside Directors: Total Compensation = Cash Compensation + Equity-Based Compensation + All Other Compensation; Cash compensation = Fees Earned in Cash; Equity-based Compensation = Stock Awards + Option Awards;

*For Employee Directors: Total Compensation = Cash Compensation + Equity-Based Compensation + All Other Compensation; Cash compensation = Salary + Bonus; Equity-based Compensation = Option Pay;

(Table 1, Panel C continued on next page)

(Table 1 continued)

Panel C: Descriptive Statistics of Other Key Variables

Variable	Mean	Median	StdDev	Q1	Q3
Total Assets (\$ millions)	49,347	10,536	3,862	28,926	172,935
Market-to-Book	3.083	2.308	1.517	3.732	19.673
ROA	0.054	0.050	0.022	0.092	0.079
Stock return	0.003	0.009	-0.015	0.029	0.065
Leverage	0.645	0.239	0.092	0.646	2.105
Board Size	11.299	11.000	9.000	13.000	2.658
CEO tenure (years)	6.501	4.800	2.100	8.900	5.972
CEO ownership (%)	0.729	0.000	0.000	0.086	3.272
Number of Independent Directors	8.858	9.000	7.000	10.000	2.541
% of Inside Directors	21.538	18.182	10.000	28.571	0.134
Director tenure (years)	8.161	6.300	2.900	11.300	7.117
CEO/Chair Duality (%)	79.897				
Tie to the CEO (%)	39.516				
Intra-Board Ties (%)	10.980				
Industry Experience (%)	26.778				
Graduate Degree (%)	55.410				
Elite Education (%)	40.302				

* Market-to-book is the ratio of market to book equity. ROA is net income before extraordinary items and discontinued operations divided by the book value of assets. Stock return is measured as annual stock return plus dividends reinvested. Leverage is the ratio of total debt to firm assets. Firm age is calculated as current year minus year of founding. Board size is the number of directors on the board. CEO tenure is the time since the executive became CEO at the firm. The fraction of independent directors is calculated as the percentage of directors defined as independent directors. The fraction of busy directors is calculated as the percentage of directors holding more than two directorships. CEO/Chair Duality is a dummy variable that takes the value one when CEO is serving as chairman of the board. Intra-Board Ties are measured by the number of pairs of connected directors scaled by the number of pairs of board members. Tie to the CEO is measured by the fraction of the independent directors having social tie to the CEO. Director tenure is the time since the director became director at the firm. Industry experience is the proportion of the board members possessing the same industry experience. Board experience is the sum of the cumulative years directors have served as a director scaled by the number of board members. Graduate degrees is the fraction of directors holding graduate degrees such as MBA, Master, JD, MD, or PhD degree on the board. Elite education is measured by the percent of directors who graduated from Ivy League undergraduate schools.

Table 2 provides a correlation matrix for the key variables used in the analysis. Although directors' external connections variable has a significant positive correlation with most of the other variables, the magnitude is higher with firm and board sizes, market-to-book, industry experience, and ROA. External connections are also significantly negatively correlated with CEO tenure and stock ownership, percentage of inside directors and director tenure. This suggests that less experienced CEOs with less power in the firm are more likely to have outside directors on the board with more external connections.

Table 2. Pearson Correlations of Key Variables

Variable	1	2	3	4	5	6	7	8	9	10	11
1. External Connections											
2. Total Compensation	0.09***										
3. Cash Compensation	0.10***	0.39***									
4. Equity-Based Compensation	0.08***	0.99***	0.28***								
5. Total Assets	0.21***	0.02***	0.06***	0.01***							
6. Market to Book	0.02***	0.01*	0.00	0.01*	-0.02***						
7. ROA	0.06***	0.03***	0.01*	0.03***	-0.10***	0.11***					
8. Stock Return	0.02***	0.02***	0.02***	0.02***	0.00	0.04***	0.28***				
9. Leverage	0.00	0.00	0.03***	-0.01	0.22***	-0.03***	-0.22***	-0.49***			
10. Volatility	-0.08***	-0.02***	-0.01**	-0.02***	-0.01*	-0.03***	-0.08***	-0.01**	0.04***		
11. Board Size	0.12***	0.01**	0.03***	0.01*	0.28***	-0.04***	-0.07***	0.00	0.05***	-0.07***	
12. CEO Tenure	-0.06***	-0.06***	-0.07***	-0.06***	-0.04***	0.01	0.03***	0.00	-0.01*	0.00	0.00
13. CEO Ownership	-0.03***	0.04***	0.02***	0.04***	-0.04***	0.00	0.03***	-0.03***	0.08***	-0.03***	-0.09***
14. # of Independent Directors	0.15***	-0.02***	-0.04***	-0.02***	0.29***	-0.03***	-0.09***	-0.01	0.05***	-0.06***	0.77***
15. % of Inside Directors	-0.10***	0.05***	0.09***	0.04***	-0.08***	0.00	0.04***	0.02***	-0.02***	0.00	0.02***
16. Director Tenure	-0.06***	0.03***	0.04***	0.03***	-0.06***	0.00	0.06***	0.00	-0.01*	0.01	-0.02***
17. CEO/Chair Duality (%)	0.05***	0.03***	0.04***	0.02***	0.03***	0.00	0.08***	0.01**	0.01	-0.04***	0.09***
18. Tie to the CEO	0.15***	0.05***	0.07***	0.04***	0.08***	-0.02***	-0.08***	-0.03***	0.06***	-0.01*	0.15***
19. Intra-Board Ties	0.26***	-0.04***	-0.06***	-0.03***	0.12***	0.00	0.02***	0.02***	0.01	-0.02***	0.05***
20. Industry Experience	0.14***	0.10***	0.13***	0.09***	0.02***	0.00	0.05***	0.04***	-0.03***	-0.02***	-0.04***
21. Graduate Degree	0.13***	-0.03***	-0.06***	-0.03***	0.05***	0.01	0.05***	0.03***	-0.03***	-0.01	0.00
22. Elite Education	0.10***	0.00	-0.01**	0.00	0.03***	0.00	0.02***	0.01**	-0.01**	-0.01	-0.01***

*, **, and *** indicate correlation is significant at 10%, 5%, and 1% level respectively.

Variable	12	13	14	15	16	17	18	19	20	21	22
1. External Connections											
2. Total Compensation											
3. Cash Compensation											
4. Equity-Based Compensation											
5. Total Assets											
6. Market to Book											
7. ROA											
8. Stock Return											
9. Leverage											
10. Volatility											
11. Board Size											
12. CEO Tenure											
13. CEO Ownership	0.05***										
14. # of Independent Directors	-0.01	-0.16***									
15. % of Inside Directors	0.00	0.15***	-0.60***								
16. Director Tenure	0.69***	0.07***	-0.05***	0.05***							
17. CEO/Chair Duality (%)	0.05***	0.05***	0.04***	0.05***	0.05***						
18. Tie to the CEO	0.01***	0.00	0.11***	0.01***	0.05***	0.04***					
19. Intra-Board Ties	0.04***	0.00	0.09***	-0.08***	0.03***	0.01	0.34***				
20. Industry Experience	-0.05***	0.01***	-0.03***	0.00	0.01***	-0.01*	0.02***	0.10***			
21. Graduate Degree	0.05***	-0.02***	0.07***	-0.12***	0.02***	-0.03***	-0.03***	0.16***	0.06***		
22. Elite Education	0.01***	0.00	0.01	-0.03***	0.02***	-0.01**	0.00	0.13***	0.12***	0.10***	

*, **, and *** indicate correlation is significant at 10%, 5%, and 1% level respectively.

4.2. Empirical Results

Table 3 reports my regression results on the relationship between the components of outside directors' external connections and compensation. The results shown are based on a linear model specification where the raw value outside director compensation is regressed on various determinants identified in prior studies of director

compensation. For brevity, I do not present the results of log-linear specifications, which remain similar to those presented in the paper. Column (1) reports the relationship between components of outside directors' external connections and total compensation. I expect the coefficients of directors' connections to be positive. My results show that the estimated coefficient of outside directors' professional connection is positive and statistically significant ($p < 0.01$). The point estimate of this coefficient implies that an additional professional connection is worth roughly \$230 (0.13% of median total compensation). Column (2) and (3) show the results from regressing cash and equity compensation of outside directors on external connections. The coefficient of outside directors' professional connections in both regressions are also positive and significant ($p < 0.01$), suggesting that cash and equity components of compensation of outside directors with extensive professional connections are higher than that of outside directors with limited connections.

Among three components, *Professional* and *Other* connections are significantly associated with outside directors' compensation, whereas *Educational* connection is not as significant. This finding is in contrast to Engelberg et al. (2013), who document that each of the three components of CEOs' external connection variable "*Rolodex*" is individually significant, with *Educational* connections being about four times as valuable as either *Professional* or *Other* connections. This result could be a result of the different roles that CEOs and directors play in a firm and are consistent with findings in Kim (2018), who documents that directors' professional connections are the ones that are more closely associated with a firm's performance and hence, are likely to benefit the firm the most. Hence, the firm may consider outside directors' professional connections more favorably than other connections in deciding their compensation. The impact of directors' other personal characteristics on their compensation is also interesting. While the effect of *Industry experience* on outside director compensation is not statistically significant, *Graduate degrees* and *Elite education* increase outside directors' compensation. These associations still hold after controlling for year and industry fixed effects. Overall, my results indicate that outside directors' external connections are significant determinants of director pay.

Table 3. The Relationship between External Connections of Outside Directors and Compensation

	Dependent Variable		
	Total Compensation	Cash Compensation	Equity-Based Compensation
Professional connections	0.231*** (9.17)	0.020*** (13.73)	0.207*** (8.32)
Educational connections	0.119* (1.92)	0.004 (1.20)	0.117* (1.90)
Other connections	0.120** (2.22)	0.009*** (2.97)	0.111** (2.08)
Log(Total assets)	-27.824** (-2.44)	3.867*** (5.83)	-32.462*** (-2.88)
Log(Market to book)	-4.891 (-0.24)	-2.764** (-2.30)	-2.970 (-0.15)
ROA _{t-1}	348.199** (2.05)	14.140 (1.43)	328.842* (1.96)
Stock Return _{t-1}	164.983 (0.63)	17.228 (1.12)	156.080 (0.60)
Director tenure	11.668*** (4.69)	2.626*** (18.13)	8.675*** (3.53)
CEO Connections	-22.790 (-0.88)	0.541 (0.36)	-23.803 (-0.93)
Intra-board connections	78.530** (2.06)	-5.107** (-2.31)	84.290** (2.24)
Independent director	-531.830*** (-11.27)	-68.755*** (-25.02)	-457.689*** (-9.80)
Industry experience	64.720** (2.36)	7.311*** (4.57)	54.462** (2.00)
Graduate degrees	90.393*** (3.90)	7.693*** (5.69)	83.022*** (3.62)
Elite education	71.601*** (3.16)	3.915*** (2.97)	67.583*** (3.02)
Log(Board size)	-51.477 (-0.81)	6.830* (1.84)	-58.648 (-0.93)
Proportion of inside directors	-196.057* (-1.70)	-5.809 (-0.86)	-186.533 (-1.63)
CEO tenure	-12.754*** (-4.66)	-2.685*** (-16.83)	-9.948*** (-3.67)
Dual CEO/Chair	-84.667*** (-2.97)	-17.598*** (-10.61)	-65.347** (-2.32)
Leverage	-1.420 (-0.25)	-0.667** (-2.03)	-0.752 (-0.13)
Regulation dummy	10.963 (0.27)	5.512** (2.29)	5.616 (0.14)
CEO ownership	0.758 (0.21)	0.682*** (3.19)	0.112 (0.03)
Year Fixed Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
Observations	27,656	27,656	27,656
R ²	0.0183	0.0951	0.0153

***, **, and * indicate significance at 1%, 5%, and 10% (two-tailed), respectively.

Next, I look at employee directors' compensation. Table 4 reports my regression results on the relationship between components of employee directors' external connections and compensation. Consistent with the results in Table 3, these results show that employee directors' professional and other connections are significantly associated with total as well as individual components of total compensation. The estimated coefficient of employee directors' professional connections on total compensation suggests that an additional professional connection is worth roughly \$1,900 (0.03%

of median total compensation) for an employee director. The estimated coefficient of employee directors' other connections on total compensation suggests that an additional other connection is worth roughly \$6,000 of total compensation for employee directors. The association of both professional and other connections of employee directors with their compensation indicates that the firm considers both professional and other connections as important determinants of pay for employee directors. Similar to the results with outside directors, while the effect of *Industry experience* on employee director compensation is not significant, *Graduate degree* and *Elite education* increase employee directors' compensation.

Table 4. The Relationship between External Connections of Employee Directors and Compensation

	Dependent Variable		
	Total Compensation	Cash Compensation	Equity-Based Compensation
Professional connections	1.914**	0.236***	1.697**
	(2.30)	(2.90)	(2.07)
Educational connections	5.677	0.611*	5.179
	(1.58)	(1.74)	(1.46)
Other connections	6.765***	0.874***	5.902***
	(3.07)	(4.06)	(2.72)
Log(Total assets)	3,915.346***	475.012***	3,400.884***
	(11.13)	(13.84)	(9.82)
Log(Market to book)	3,225.574***	37.637	3,145.189***
	(5.19)	(0.62)	(5.14)
ROA _{t-1}	10,422.943**	-90.462	10,422.394**
	(2.38)	(-0.21)	(2.42)
Stock Return _{t-1}	16,261.752**	1,244.695*	15,011.607**
	(2.21)	(1.74)	(2.08)
Director tenure	121.452**	0.679	115.590**
	(2.56)	(0.15)	(2.47)
CEO Connections	80.605	122.350*	-19.438
	(0.11)	(1.76)	(-0.03)
Intra-board connections	11,613.607***	693.638***	10,932.802***
	(4.57)	(2.80)	(4.37)
Industry experience	-590.108	-4.170	-590.819
	(-0.89)	(-0.06)	(-0.91)
Graduate degrees	4,238.696***	254.870***	3,974.332***
	(5.96)	(3.67)	(5.67)
Elite education	1,430.810**	12.005	1,412.106**
	(2.07)	(0.18)	(2.08)
Log(Board size)	-6,469.496***	-830.943***	-5,605.809***
	(-3.63)	(-4.78)	(-3.19)
Proportion of inside directors	-4,489.112	877.453***	-5,357.469*
	(-1.48)	(2.96)	(-1.79)
CEO tenure	-35.580	29.649***	-63.564
	(-0.40)	(3.39)	(-0.72)
Dual CEO/Chair	514.159	122.312	388.681
	(0.54)	(1.33)	(0.42)
Leverage	-103.977	73.625***	-175.478
	(-0.60)	(4.34)	(-1.03)
Regulation dummy	623.076	-177.426	811.533
	(0.50)	(-1.46)	(0.66)
CEO ownership	348.143***	-11.285	347.590***
	(4.34)	(-1.44)	(4.40)
Year Fixed Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
Observations	5,262	5,262	5,262
R ²	0.1182	0.2022	0.1055

***, **, and * indicate significance at 1%, 5%, and 10% (two-tailed), respectively.

Overall, my results suggest that similar to outside directors, the compensation of employee directors is higher when they have more external connections. Taken together, there is strong and consistent evidence that directors' external connections have significant impact on their compensation. The results presented in Tables 3 and 4 extend similar empirical results reported in Engelberg et al. (2013) that only consider CEO's compensation.

I ran a subsample analysis for outside directors excluding grey directors who were former CEOs of the firm and continue to serve on the board. In Table 5, I report that the subsample of independent directors shows similar results to those reported in Table 3. These findings suggest that outside directors with more extensive connections earn more than those with more limited connections, indirectly supporting the argument that directors' external connections are strategically valuable to firms and perhaps directors are being paid for such connections.

As discussed earlier, my sample data on directors' compensation appears to have right skewness (shown in Table 1) and there may be potential outliers. Following previous research (Aggarwal & Samwick, 1999; Hall & Liebman 1998; Milbourn, 2003), I repeat the analysis presented in Tables 3 and 4 using median regression to reduce the influence of outliers. Tables 6 and 7 present the results of the median regressions. My main findings documented earlier become stronger under this alternative model estimation and are consistent with Engelberg et al. (2013). The results based on the median regressions also suggest that after controlling for the governance-related determinants of director compensation, there is still a positive relation between directors' external connections and director compensation.

Table 5. The Relationship Between Outside Directors' External Connections and Compensation: A Subsample Analysis

	Dependent Variable		
	Total Compensation	Cash Compensation	Equity-Based Compensation
Professional connections	0.124*** (5.29)	0.009*** (14.82)	0.111*** (4.74)
Educational connections	0.098* (1.71)	0.002 (1.39)	0.097* (1.71)
Other connections	0.072 (1.44)	0.003** (2.30)	0.069 (1.38)
Log(Total assets)	-24.231** (-2.29)	3.954*** (14.45)	-28.309*** (-2.68)
Log(Market to book)	-3.533 (-0.18)	-2.134** (-4.28)	-1.939 (-0.10)
ROA _{t-1}	389.426** (2.46)	11.249*** (2.74)	376.947** (2.38)
Stock Return _{t-1}	96.546 (0.39)	5.866 (0.91)	94.503 (0.38)
Director tenure	1.593 (0.63)	1.025*** (15.74)	0.509 (0.20)
CEO Connections	-53.341** (-2.19)	-0.965 (-1.53)	-53.045** (-2.17)
Intra-board connections	169.870*** (4.86)	3.905*** (4.31)	165.916*** (4.74)
Industry experience	68.313*** (2.68)	3.016*** (4.57)	62.852** (2.47)
Graduate degrees	78.010*** (3.60)	4.126*** (7.36)	74.351*** (3.44)
Elite education	63.616*** (3.02)	1.103** (2.02)	61.926*** (2.94)
Log(Board size)	-75.576 (-1.27)	4.675*** (3.03)	-81.787 (-1.37)
Proportion of inside directors	-42.313 (-0.38)	2.443 (0.86)	-42.566 (-0.39)
CEO tenure	0.590 (0.22)	-0.592*** (-8.40)	1.013 (0.37)
Dual CEO/Chair	-6.430 (-0.24)	-5.633*** (-8.17)	0.118 (0.00)
Leverage	0.062 (0.01)	-0.441*** (-3.31)	0.449 (0.09)
Regulation dummy	-7.540 (-0.20)	2.747*** (2.77)	-9.878 (-0.26)
CEO ownership	-0.064 (-0.02)	0.636*** (7.20)	-0.587 (-0.17)
Year Fixed Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
Observations	25,761	25,761	25,761
R ²	0.0106	0.0924	0.0099

***, **, and * indicate significance at 1%, 5%, and 10% (two-tailed), respectively.

Table 6. The Relationship between External Connections of Outside Directors and Compensation: Median Regression

	Dependent Variable		
	Total Compensation	Cash Compensation	Equity-Based Compensation
Professional connections	0.027*** (18.28)	0.004*** (8.15)	0.015*** (10.05)
Educational connections	0.022*** (5.25)	0.012*** (7.31)	0.010*** (2.72)
Other connections	0.016*** (6.10)	0.008** (2.05)	0.005** (2.01)
Log(Total assets)	9.136*** (20.03)	5.629*** (27.96)	4.666*** (10.31)
Log(Market to book)	-1.828 (1.44)	-2.232* (-1.93)	9.601** (2.05)
ROA _{t-1}	97.137*** (9.90)	25.942*** (6.20)	84.551*** (9.36)
Stock Return _{t-1}	14.812 (1.49)	-35.035*** (-7.04)	31.333*** (3.15)
Director tenure	1.340*** (10.48)	0.790*** (11.35)	0.163 (1.28)
CEO Connections	-23.941*** (-25.39)	-4.467*** (-9.18)	-17.678*** (-19.14)
Intra-board connections	83.464*** (36.36)	6.193*** (7.99)	73.335*** (28.74)
Independent director	-3.996 (-1.61)	-0.186 (-0.25)	-1.320 (-0.67)
Industry experience	70.830*** (41.08)	5.247*** (8.46)	62.179*** (31.90)
Graduate degrees	51.507*** (53.25)	11.041*** (21.11)	39.158*** (40.21)
Elite education	24.003*** (22.37)	2.731*** (5.11)	19.154*** (17.96)
Log(Board size)	-58.450*** (-21.42)	7.231*** (6.00)	-61.393*** (-25.18)
Proportion of inside directors	-53.378*** (-12.70)	-59.657*** (-35.18)	-6.710 (-1.58)
CEO tenure	-0.981*** (-7.31)	-0.398*** (-5.58)	-0.210 (-1.61)
Dual CEO/Chair	-15.555*** (-13.04)	-7.425*** (-12.60)	-5.336*** (-4.43)
Leverage	-2.343*** (-4.41)	-0.808*** (-3.76)	-1.694*** (-4.87)
Regulation dummy	-1.029 (-1.00)	1.178** (2.36)	-0.239 (-0.26)
CEO ownership	0.431** (2.48)	0.367*** (3.43)	-0.065 (-0.37)
Year Fixed Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
Observations	27,886	27,886	27,886

***, **, and * indicate significance at 1%, 5%, and 10% (two-tailed), respectively.

Table 7. The Relationship between External Connections of Employee Directors and Compensation: Median Regression

	Dependent Variable		
	Total Compensation	Cash Compensation	Equity Based Compensation
Professional connections	3.020*** (10.09)	0.321*** (9.95)	2.579*** (10.11)
Educational connections	2.546** (2.27)	0.683*** (4.57)	2.108** (2.20)
Other connections	1.812** (2.28)	0.108 (1.13)	0.913 (1.40)
Log(Total assets)	1,965.483*** (24.04)	147.626*** (13.58)	1,643.183*** (21.62)
Log(Market to book)	1,816.534*** (10.74)	21.312 (1.26)	1,926.061*** (11.81)
ROA _{t-1}	542.403 (0.45)	-39.664 (-0.46)	-552.345 (-0.48)
Stock Return _{t-1}	1,345.023 (0.81)	954.561*** (6.36)	-1,657.840 (-1.18)
Director tenure	-0.627 (-0.07)	5.559*** (3.74)	-3.980 (-0.45)
CEO Connections	-297.969* (-1.81)	-20.757 (-1.07)	-190.042 (-1.25)
Intra-board connections	6,048.761*** (5.81)	312.791*** (2.92)	5,067.444*** (6.49)
Industry experience	-94.067 (-0.57)	-12.342 (-0.70)	-117.231 (-0.73)
Graduate degrees	3,364.925*** (13.11)	53.539** (2.15)	2,971.868*** (12.22)
Elite education	162.379 (0.96)	-13.357 (-0.63)	86.551 (0.52)
Log(Board size)	-2,939.770*** (-7.16)	-38.269 (-0.72)	-2,532.480*** (-6.42)
Proportion of inside directors	-5,686.160*** (-11.23)	294.994*** (3.32)	-6,252.270*** (-11.27)
CEO tenure	8.587 (0.37)	-3.980* (-1.66)	-3.114 (-0.14)
Dual CEO/Chair	100.898 (0.53)	107.220*** (4.54)	-31.678 (-0.17)
Leverage	-103.395 (-1.41)	2.461 (0.29)	-131.872* (-1.96)
Regulation dummy	-244.220 (-1.35)	9.118 (0.44)	-81.842 (-0.54)
CEO ownership	2.644 (0.17)	5.537 (1.51)	-1.999 (-0.13)
Year Fixed Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes
Observations	5,307	5,307	5,307

***, **, and * indicate significance at 1%, 5%, and 10% (two-tailed), respectively.

5. CONCLUSIONS

In this paper, I assess whether directors' external connections influence director labor market outcomes, specifically, director compensation. I find that directors with more extensive external connections earn more than those with more limited external connections, supporting the argument that directors' external connections are strategically valuable to firms, thus, should be factored into director compensation (Geletkanycz & Hambrick, 1997). My findings show that the directors' external connections are positively associated with the level of director compensation. This association holds after controlling for directors' experience and educational attributes which are also potential determinants of

director compensation. It also holds after controlling for firm specific fixed effects. I also find that the level of compensation of grey directors is not different from that of independent directors when I control for grey directors who were former CEOs in the same firms for which they now hold director positions.

In further analysis, I find that professional connections are the most important determinant of pay for serving as a director for outside directors. However, I find that educational connections as well as professional connections are significantly associated with the level of compensation for employee directors. My robustness test shows that my primary results are unlikely to be confounded by CEO and board related governance characteristics. These results suggest that directors with more extensive connections earn more than those with more limited connections.

Although this paper focused on the association between the extent of directors' external connections and the level of director compensation and provided evidence that directors with more extensive connections earn more and firms are willing to pay for the connections, it would be interesting to expand the questions I posed in this paper by examining whether the way in which directors are compensated has to do with how to motivate directors to work hard as monitors and resource providers in the future research.

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