

EVIDENCE ON BOARD SIZE AND ITS IMPACT ON CEO PAY- PERFORMANCE SENSITIVITY - A SYNOPSIS OF SOME PRELIMINARY FINDINGS

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ABSTRACT

We use a sample of more than 1000 U.S. firm-year to investigate if optimal board size has any association with effective and efficient decision-making process. In particular, we examine if board size is sensitive towards compensation for CEOs. We construct a sensitivity measure of CEO compensation by using a value added model to link CEO's pay with wealth added to shareholder. Our preliminary findings indicate that firms with smaller board size tend to be more sensitive towards CEO compensation. Our results support the assertion that small boards are more effective and efficient in aligning CEO compensation with shareholder wealth added.

INTRODUCTION

In early 2007 the Congress was in discussion to pass a bill that gives shareholders the ability to cast non-binding votes on executive pay amid recent infamous compensation packages in corporate America. This attempt marks the legislation's diminishing trust in the board of directors by returning some power to shareholders. Hence, the proposal exerts unprecedented pressure on boards to be more vigilant when it comes to executive compensation. Regardless whether top executives are over-compensated or not, theoretically if the board is vigilant as a monitor, CEO compensation should be sensitive to shareholder wealth added.

Extensive research has worked on the structure and feature of a corporate board. In general, conventional wisdom believes outside and independent directors are better directors. Nevertheless, little is known and conclusive on a board structure in addition to the mix of insiders and outsiders. We argue among all features, board size is arguably the easiest and most economic aspect of a board structure that can be altered to improve the efficiency and effectiveness of decision-making.

Many believe board size affects firm performance [2] [5] [8]. In fact, Yermack (1996) finds that smaller boards are associated with higher firm performance. His findings are echoed by others that use international data to test the theory [6]. Contrary to Yermack's assertion, some argue that since boards are to counsel top managers, hence there is a necessity to have a bigger pool of directors [1]. Furthermore, Raheja (2005) believes that optimal board size is related to the industry the company is working in and that it is a tradeoff between the incentive of insiders to reveal information and the cost of outside directors to coordinate information.

Our study examines how board size as one of the determinants in board structure to impose corrective actions on executive compensation in relation to shareholder wealth added or lost. We conjecture that if

a board is operating at its optimal size, the cost of coordinating and sharing information is low, resulting a high level of sensitivity towards CEO's pay based on his performance to add value to shareholders. While examining the association between board size, board's efficiency and effectiveness in making decision and CEO compensation, we face an empirical difficulty in identifying the "optimal" board size.

DATA AND METHODOLOGY

Data and Sample Selection

We examine U.S. public companies from the year 1996 to 2005. We omit all firms in the utilities or financial services industry because of their highly regulated environment. We identify CEO compensation data from *Standard & Poor's Compustat Executive Compensation* (ExecuComp) database and obtain 19,130 firm-year data. We collect information on board features and director characteristics from the *Investor Responsibility Research Center* (IRRC). We merge the two data groups and form our final sample of a total 12,443 firm-year. Stock data are from *The Center for Research in Security Daily Prices* (CRSP) and financial data are from *Standard & Poor's Compustat* (Compustat).

We restrict our analysis to only CEO's compensation because of its availability through public records and also CEOs are arguably the most important and influential decision makers in corporations. Hence, CEO compensation is adopted as a fair proxy for top executive pay.

Variables Description

We follow the method used in Jensen and Murphy (1990), to classify compensation into seven categories as identified in the Summary Compensation Tables of the proxy statements. They are salary, bonus, other annual compensation (including perquisites and amounts for reimbursed for payment of taxes), restricted stock awards, options or stocks appreciation rights (SARs), long-term incentive plan payouts (LTIP), and "all other compensation". We construct two measures of compensation: current compensation including salary and bonus (TCC) and total compensation including options exercised (TDC2).

We define CEO pay-performance sensitivity as the change in CEO compensation divided by the change in firm's market value added (MVA) per share. MVA is defined as the difference between the total market value of a firm and the book value as indicated on the balance sheet. The total value of any firm is the market value added (MVA) to common shareholders plus the book value of common stocks, preferred stock, and debts. From a value-based management model, the higher a firm's MVA, the better the job management is doing for the firm's shareholders. We factor into per shareholder's MVA is to provide a one-to-one comparison between individual CEO pay and a shareholder wealth change. Our main investigative variable is board size. We investigate the board size variable on two levels. First we examine the number of directors on board as of the annual meeting date during each fiscal year. Then we focus on the number of independent directors on board, which is defined as number of directors who are neither firm employees nor affiliated with the firm. We introduce CEO attributes, board structures, and firm characteristics as control variables in our model. CEO attributes include CEO age and number of directorships, board structure include whether the firm has a dual title for CEO/Chairman, and firm characteristics include market value of firm, firm's return on assets (ROA) and firm's industry category measured by its four-digit SIC code.

EMPIRICAL RESULTS

Based on agency theory, we expect a higher degree of elasticity in CEO compensation is associated with a board of optimal size than those of suboptimal size. We find that the two measures of CEO pay-performance sensitivity are statistically significantly negatively related to board size. We test our model on both current and prior periods. Our empirical results indicate similarity in both periods suggesting that board size is inversely related to CEO's pay-performance sensitivity. We also test a non-linearity by inputting a squared term of board size in our model. Our findings confirm a non-linear relation between board size and CEO pay-performance sensitivity. We argue that boards are more sensitive to CEO's compensation as they increase to a certain size. However, once the optimal size is met, boards become less sensitive to CEO's pay-performance.

CONCLUSION

We identify board size among all determinants in board structure as the main feature to better our understanding on how size affects the effectiveness and efficiency in decision-making process. We believe it is a cost and benefit tradeoff when companies voluntarily choose their board size, be it optimal or not [4]. Firms will choose such monitoring mechanisms if the benefits of doing so exceed the costs. For instance, a firm may find that the costs of suboptimal board size are far less than that the benefits of other features in the governance structure. Our empirical findings provide insight on why some firms' CEO compensations are more in alignment with shareholder wealth compared to those of others. While keeping board size static, we are able to examine the utility of board size in impacting CEO compensation. We find that smaller boards are often exhibited more sensitivity toward CEO's compensation based on his salary. In addition, our empirical finding indicates a non-linear relation between board size and CEO's pay-performance sensitivity.

REFERENCES

- [1] Dalton, Dan R.; Daily, Catherine M., Johnson, Jonathan L, and Ellstrand, Alan E. 1999. [Number of directors and financial performance: a meta-analysis](#). *Academy of Management Journal*, Vol. 42 Issue 6, p674-686.
- [2] Jensen, M. C., 1993, The modern industrial revolution, exit and the failure of internal control systems, *Journal of Finance* 48(3), 831-880.
- [3] Jensen, M. C., & Murphy, K. J., 1990. Performance pay and top manager incentives. *Journal of Political Economy*, 98, 225-264.
- [4] Keys, P. & Li, Joanne, 2005. Evidence on the Market for Professional Directors. *Journal of Finance Research*, *Journal of Financial Research*, Vol. 28(4), (Winter 2005), 575-589.
- [5] Lipton, Martin and Jay W. Lorsch, 1992, A modest proposal for improved corporate governance, *Business Lawyer* 48, no. I, 59- 77.
- [6] Mak, Y, T. and Kusnadi, Yuanto. 2005. [Size really matters: Further evidence on the negative relationship between board size and firm value](#). *Pacific-Basin Finance Journal*, Vol. 13 Issue 3, p301-318.
- [7] Raheja, Charu G., 2005. Determinants of Board Size and Composition: A Theory of Corporate Boards. *Journal of Financial and Quantitative Analysis*, 40, 283-306.
- [8] Yermack, D., 1996. Higher market valuation of companies with a small board of directors. *Journal of Financial Economics*, 40, 185-211.