Financial Performance and Compensation Alignment of CEOs - Evidence from the USA

Shahnaz Abdullah and Lal C. Chugh

Abstract

Largest U.S, companies have for years sought to tie executive pay to financial and stock market results. Using data from selected Fortune 500 companies over a decade, this paper documents CEOs' compensation is positively related to firm's accounting based performance. However, the study finds CEO compensation and market based performance still lacks alignment.

Additionally, the study investigates the financial performance of U.S companies both with and without women on their board. This in-depth study explores the theories of agency problem and empirically argues that increasing female directors on board composition can partially resolve agency problem as our results indicate adding women to the board maximizes the shareholder's value.

I. Introduction

The fierce debate among professionals and researchers about how well companies tie pay to performance became more intense at the brink of a financial crisis that began in 2007. In 2008, the crisis in the subprime market, the bankruptcy of the Lehman Brothers, and the collapse of the world's largest insurance company AIG caused a financial crisis in the US and is considered by most economists to be the worst financial crisis since the Great Depression. At times of financial crisis, corporate America's governance, chief executive officer (CEO) performance and leadership ability received paramount importance. The corporate compensation committee typically considers stock market performance when determining pay (Core et al., 2003). With the volatile stock market performance during the course of financial crisis, the alignment between CEOs pay and firm's performance became a question. In the corporate sector, shareholders are deemed to be the owners. Board of directors is selected/elected to enhance the wealth of owners, whereas, management including CEOs and other executives are the agents of owners. The agents are expected to maximize shareholder wealth. Although in some cases managers have their self-interests to maximize their remuneration, and perks, for example, personal use of corporate jets, payment of false relocation expenses, investment in luxury corporate hangers and empire building (Markham, J.W., 2007). It creates what has been called agency problem. In addition to the ongoing controversy of agency problem, some public corporations attracted a lot of media attention by hiring female CEOs during or after the crisis in 2007.

Using compensation data of selected Fortune 500 companies over a decade, the present article investigates the following issues: (1) whether or not the present compensation structure is tied to financial performance of the company (2) whether or not companies with female CEOs perform better (worse) than the companies without female CEOs. (3) The impact of board gender

Assistant Professor, Department of Accounting and Finance, Alabama A&M University, 4900 Meridian St N, Huntsville, AL 35811, USA
Professor of Finance, Department of Accounting and Finance, University of Massachusetts Boston, 100 Morrissey Boulevard, Boston, MA 02125, USA. We thank Dr. Barbara Jones for her valuable comments.

diversity on the performance of firm's financial performance. Since, the stock market and public corporations are extremely sensitive to the business cycle, an unique approach has been used in this paper to evaluate the CEOs pay for performance in two separate time periods, before the housing market crash (Pre- Lehman crisis 2003-2007) and after the crash (Post - Lehman crisis 2007-2013).

Previous research identifies two opposing views related to an agency problem. The first view, optimal contracting theory emphasizes designing compensation schemes to maximize shareholders value. The agency theory suggests that the most effective means for shareholders to ensure that managers take optimal actions is to tie executive pay to the performance of their firms (Aggarwal, R.K. and Samwick, A.A., 1999). The second view, the managerial power approach (Arye and Fried, 2003), asserts that CEOs and management teams may have considerable influence over the boards because of the important role CEOs play in reappointing the board of directors, directorship offers a well-paid salary along with valuable business and social connections. Thus, CEOs may have the discretion to negotiate their own compensation with the approval of a board; the board also have an incentive to favor the CEO. Under this approach, the high- powered managers influence their own compensation package; reflecting managerial rent seeking rather than the provision of efficient incentives (Yermack, 1997). According to this managerial power approach compensation is not only an instrument to solve the agency problem – but also could be a part of agency problem itself. Turning to the predictions of their managerial power model, Bebchuk, L. A., & Fried, J. M. (2004) asserts that managers may use their influence not only to claim more pay, but also to structure a compensation package that is less sensitive to performance. This type of compensation practice may increase the agency cost, managerial gains may exceed shareholders loss.

An optimum compensation package reflects CEO's power, and that CEOs with more power get more pay, but this does not necessarily lead to the conclusion that CEO pay is not optimized for shareholders (Core et al., 2005). Previous research in agency theory suggest that CEO compensation should be tied to financial performance so that CEOs will be encouraged to simultaneously maximize shareholder's as well as their own wealth (Stroh et al., 1996) and it will therefore minimize agency cost (Coombs et al., 2005).

Improved financial performance is the desired upshot of sound corporate governance. Irrespective of the composition of the board, who sits on the board and the CEO's gender, a failure to achieve an improved financial performance will have no practical value of appointing women either on the board or as a CEO of the company (Brown 2002). Again, regardless of the gender, a CEO or a board member should be selected based on their qualifications and, a systematic exclusion of the most able candidate based on their gender has the effect of damaging the financial performance of the firm (Brammer et al., 2007).

In this paper, we add a new dimension in the agency theory – the role of woman CEOs and female directors on company's performance. To date, there has been little empirical analysis of the cross-sectional structure of corporate performance, CEO gender and compensation policies.

The remainder of the article is organized as follows. Section I reviews the related literature on managerial compensation, agency theory and impact of CEO gender to compensation parameters. Section II presents the empirical results showing an association between CEO compensation and company performance thus examining the alignment of CEOs pay to performance. It also presents results about the impact CEO's gender as well as board's diversity on the company's financial performance. Section III presents the conclusions and policy recommendation.

II. Literature Review

A. Agency theory revisited

Agency theory predicts that compensation policy will be structured to give managers incentive to identify and implement actions that increase shareholders wealth, as such, compensation policy can provide value increasing incentives including performance based bonus and salary revisions (Jensen, M.C. and Murphy, K.J., 1990). However, it is not always the case. Recently Wall Street Journal reported that the companies that perform best do not always pay the CEOs the most (Theo, 2017). Using stock market return and CEO compensation data of 423 U.S companies over the period of 2006 to 2015, investment research firm MSCI Inc., found a weak correlation between stock market performance and CEO compensation; also identify that many of the best and worst performers simply paid average compensation.

The factors influencing the performance of a company have been the focal point of many studies. The last few decades witnessed an increase in the volume of empirical research and theories in the field of agency theory. When manager incentives are based on their companies' accounting performance, it may be in their self-interest to magnify the better performance through earnings management. In public companies, CEOs are compensated both directly (salary and bonus) and indirectly (in terms of prestige, negotiation for better compensation, and job security) depending on a firm's earnings performance relative to some pre-established benchmark (Xie, B. et al, 2003). The management's discretion over reported earnings and the effect these earnings have on their compensation leads to a potential agency problem.

As outlined in the optimal contract theory, agency problem may exist when the board does not know exactly what the agent has done in-terms of future investment. Given the self-interest of the agent, the CEO may or may not have behaved as agreed. Previous research also finds that weak corporate governance creates misalignment of performance and incentives resulting in excessive executive compensation (Brick et al., 2006).

The board of directors is most influential in making decisions to hire and fire a CEO, monitor the CEO's performance and determine CEOs compensation levels. However, managerial power approach dictates, greater the manager's power, greater their ability to rent - seeking, and negotiating higher pay package. Previous research also shows an alignment between the board and CEOs for various reasons.

The second line of research emphasizes the relationship of compensation to the stock price, which is the goal of stockholders. Some papers find a positive relationship between the executive compensation (including options and restricted stock) and stock returns, proving that

incentive compensation can be a useful vehicle for aligning shareholder interests and interests of management. However, recently there have been academic papers, which dispute these findings (Cooper et al., 2014).

B. Agency problem, CEO's Gender and Gender Diversity of Board of Directors

The overall percentage of Fortune 500 board seats occupied by women is 21% in 2016 vs. 19.6% in 2015. The percentage of companies with just one female board member in 2016 is 22% vs. 28% in 2015. Women still only hold 4.6% of CEO positions in S&P 500 companies (Catalyst 2016).

Previous research show stockholders respond more negatively to the announcement of female CEO appointments than to male CEO appointments (Lee, P.M. and James, E.H., 2007). Usually a board member is selected from the ranks of existing CEOs, however, as most of the CEOs are men (Gutner, 2001), selection of board members leans more towards men.

A firm can achieve competitive advantage through proper alignment of managerial preferences and actions towards shareholder-beneficial results. It can positively affect firm's performance and therefore reduce agency cost (Nyberg et al., 2010). Viewed this way, agency cost could be reduced by the gender- inclusive policy. If hiring a woman CEO or inclusion of women in the board of directors (diversity, on one side) significantly enhances firm's performance and maximizes shareholders wealth (shareholders benefit, on other side) agency costs would be reduced.

Previous academic studies, and popular media reports show an inconsistent pattern of relationship between woman CEOs and inclusion of women on boards on the performance of the company. The phenomenon of the CEO gender and the inclusion of women in corporate boards encompass at least two significant, and interrelated propositions. The first viewpoint holds that women are appointed to the leadership positions when company's performance is in turmoil. The second proposition suggests that gender of the CEO and gender diversity of the board results in better (worse) governance, which causes the business to be more (less) profitable or stock price performance.

Using data from London Stock Exchange, Ryan and Haslam (2005) found that companies, which appointed men to their boards, the performance of those companies was relatively stable, both before and after the appointments. Ryan et al., (2005) in the same study found that in a time of a general financial downturn in the stock market, companies that appointed women had experienced consistently poor performance in the months preceding the appointment, nevertheless, their stock market performance improves after the appointment. On the contrary, when the stock market was stable, companies that appointed women to their boards experienced positive but fluctuating stock performance after the appointment. Ryan and Haslam (2005, 2007) raised the possibility that, rather than women's appointment in leadership position causing poor performance of a company, a poor performing company might deliberately choose to appoint a woman to leadership position. Ryan et al., (2005, 2007) introduced a new theory

called "glass cliff" where women are hired to the leadership positions in times of corporate stress and hence it was more difficult for them to perform well.

The theory was challenged by Adams, Gupta and Leeth (2009) using data from US stock market over twelve year period. The study analyzed three key indicators of performance – return on assets (ROA), returns on equity (ROE) and earnings per share (EPS) and found no reliable evidence of the difference in companies' performance before or after the appointment of women and men. Adams et al (2009) concluded that poor financial health of the firm was not one of the factor that influences a board to appoint a woman CEO and thus providing no support for the glass cliff hypothesis that proclaim that female leader are over-represented at firms in times of financial crisis.

Haslam et al (2010) conducted another study using data from UK stock market and examined the impact of women board members on ROE, ROA and Tobin's q. The study found no significant relationship between gender of board members on ROE and ROA, however, the findings displayed a significant negative correlation between both the presence and percentage of women on company boards and Tobin's q. Haslam et al (2010) concluded that companies with male-only boards enjoyed a valuation premium of 37% over otherwise similar firms with one or more women on the board. Presence of women in the board is perceived by investors as a signal of organizational crisis and declining value of the company, and may set a precipitation of falling stock price. In same line of research, Carter et al (2010) using data from the S&P on 5,500 directors of both genders found significant and positive relationship between women on the boards and ROA without adversely affecting Tobin's q. The findings of the study do suggest that inclusion of women on the board may improve financial performance of a firm.

Another study (Adams and Ferreira, 2009) finds that women directors are more likely to sit on corporate governance committees than male directors, and less likely to sit on compensation committees and thus have less influence over the design of compensation package than their male counterparts. Interestingly, this study found that diverse boards are more likely to hold CEOs accountable for poor stock price performance and align with shareholder's interests. CEO turnover was found to be more sensitive to stock price performance in firms with relatively more women on the corporate board. However, an earlier study of appointing females either on the board or as a CEO of the company suggests that it does not improve the performance of a firm (Bertrand and Shoar 2003). This study infers that past experience and managerial style, not gender is important for success.

A study by McKinsey (2007) on 89 European countries found that companies with most gender diverse boards have higher financial performance in terms of return on equity (ROE), Earning Before Interest and Tax (EBIT) and stock price growth compared to the average of the entire sector. Another study by Lückerath-Rovers, M., (2013) using 116 Dutch companies found a statistically significant positive relationship between the presence of one or more women on the board and return on equity. Interestingly, using a of the 2500 largest Danish firms over the period 1993-2001 Smith et al., (Smith, N., Smith, V. and Verner, M., 2006) show the a positive performance effect of female CEOs for Danish firms. However, this positive effect gets stronger for the female executives and directors who also have higher education as compered to female executives who have less or no education. As different countries have different policies and agendas regarding appointing of female directors, it is therefore prudent to have a cross country

analysis to find the impact of board diversity on performance. A study by Terjesen et al., (2016) using data from 3,876 public firm in 47 countries asserts that firms with more female directors have higher firm performance by market (Tobin's q) and accounting measures (return on assets).

Evidence from empirical studies regarding board diversity and firm performance around the globe has been positive (study in Turkey by Kılıç, et al., 2016, study in Mauritius by Mahadeo et al. (2012). However some studies have found negative or inconclusive results (Ahern and Dittmar 2012 in Norway; Shrader et al. 1997 in US; Rose 2007 in Denmark; Haslam et al. 2010, UK, Wellalage et al., 2013 in Sri-Lanka). Using data from German firms Joecks and Vetter (2013) indicates a positive link between gender diversity and firm performance, only when a firm reached board composition of 30 percent of women as compared to no women on the board.

III. Data and sample selection

This study analyzes the link between CEO compensation and the firm's performance using sample of 34 firms with female CEOs from Fortune 500 companies and *a* pooled matching data with male CEOs in the same industry. All data was extracted from the Center for Research in Security Prices (CRSP), Value Line and Compustat databases, using the time period of 2003-2013.

Executive compensation has received an additional examination by the academic researchers and popular business press during the time of Lehman Crisis in 2008, which created a substantial drop in stock prices and widening pay gap between the highest and lowest paid employee. To examine if compensation alignment with performance varies after and before the financial crisis, this study divides the sample into two-time periods Pre (2003-2007) and Post (2008-2013) Lehman crisis. Same methodology was used by Erhardt et al., (2003), indicating inclusion of performance indicators from two different points in time can be helpful to control the changes in the market and bring a smoothing effect on the data.

Research methodology

Hypothesis 1: Higher percentage of women on the board of directors can positively affect the company's performance in both pre and post - Lehman periods.
Hypothesis 2: Gender of CEO may affect firm performance in both pre and post - Lehman periods.
Hypothesis 3: On average, firms will demonstrate financial alignment in the form of a positive relationship between CEO compensation and firms accounting as well as market based performances.

The following 4 models are tested to identify the impact of CEO compensation and gender of CEO and board members on firm's accounting and market performance indicators.

$$ROA = \alpha_i + \beta_{1i}Gender + \beta_{2i}Compensation + \beta_{3i}EBIT + \beta_{4i}Sales + \beta_{5i}\ EBITDA + +\beta_{6i}Beta + \beta_j \sum_{j=1}^{N} Year\_dummy_j + \varepsilon_i \quad (1)$$

$$ROE = \alpha_i + \beta_{1i}Gender + \beta_{2i}Compensation + \beta_{3i}EBIT + \beta_{4i}Sales + \beta_{5i}EBITDA + +\beta_{6i}Beta + \beta_j \sum_{j=1}^{N} Year\_dummy_j + \varepsilon_i \quad (2)$$

$$TSR = \alpha_i + \beta_{1i}Gender + \beta_{2i}Compensation + \beta_{3i}EBIT + \beta_{4i}Sales + \beta_{5i}EBITDA + +\beta_{6i}Beta + \beta_j \sum_{j=1}^{N} Year\_dummy_j + \varepsilon_i \quad (3)$$

$$Tobin\ Q = \alpha_i + \beta_{1i}Gender + \beta_{2i}Compensation + \beta_{3i}EBIT + \beta_{4i}Sales + \beta_{5i}EBITDA + \beta_{6i}Beta + \beta_j \sum_{j=1}^{N} Year\_dummy_j + \varepsilon_i \quad (4)$$

Measurement of the dependent variables

In this context, it is appropriate to provide the definitions of the dependent variable used in the above four models: return on assets (ROA), return on equity (ROE), total stockholder returns (TSR), and Tobin's q. The former two variables are based on the firm's accounting performance whereas the latter two variables are based on the firm's market performance.

Accounting based performance measures

According to agency theory, managers are likely to dissipate profits and mishandle earnings, thus leaving fewer returns for the shareholders. It is measured through several methods such as return on assets (ROA). The return on asset shows capacity and capability of the management to use the corporate assets. A lower rate of ROA will reflect the inefficiency in managing operations (Javed et al, 2013); on the contrary a higher rate will show optimum utilization of the assets. Maximizing shareholders wealth should be the goal of a public limited company; the ROE is a measure to indicate the return on shareholder investment that a firm generates. It is calculated by dividing net income by the book value of equity. Return on equity (ROE) is commonly used accounting measure in performance evaluation.
Where,

$$ROE_{it} = \frac{Net\ Income_{it}}{Common\ Equity, Total_{it}} * 100$$

$$ROA_{it} = \frac{Net\ Income_{it}}{Total\ Assets_{it}} * 100$$

Market based performance measures

The study uses two indicators TSR and Tobin's q as the dependent variables.

$$TSR_i = \frac{price_{end} - price_{beg} + dividends}{price_{beg}} * 100$$

Tobin's q is calculated as firm's market value divided by the firm's book value (Adams and Ferreira 2009). Firm's market value is defined as firm's total assets minus book value of common equity plus market value of common equity. The return data is taken from CRSP and includes dividends.

Measurement of independent variables

Our variable of interest, *female CEO* is a dummy variable, which takes a value of 1 if the CEO is a female and 0 for a male CEO. *Woman ratio* is the gender diversity index of the board and is calculated as the number of female members/board size.

Total compensation (TDC1), taken from ExecuComp, is defined as "Total compensation for the individual year, comprised of the following: Salary, Bonus, Other Annual, Total Value of Restricted Stock Granted, Total Value of Stock Options Granted (using Black-Scholes), Long-Term Incentive Payouts, and All Other Total." EBIT stands for earnings before interest and tax (EBIT) and EBITDA is earnings before interest, tax depreciation and amortization (EBITDA). In order to control for different sizes of earnings we use natural logarithm of both variables. Sales are natural log annual sales. Beta measures the firm's systematic risk with the overall market and is defined as follows:

$$Beta_{it} = \frac{COV(Firms\ Daily\ Return, S\&P\ 500\ Daily\ Return)}{Var(S\&P500\ Daily\ Return)}$$

Following the common practice in finance and accounting literature, all continuous variables are winsorized, which reduces the impact of large outliers on the regression results (Gul et al., 2011). It is widely distributed set of firms across various industries SIC (list with SIC codes is in the appendix).

IV. Results and Discussion

Table 1 reports the distribution of female CEOs according to year and industry. Panel A reports female CEO distribution by year. In total, we have 283 firm-years including 62 female CEO firm-years. 2012 has the highest number of CEO presence in our sample. 10 CEOs in 2012 are employed, whereas only 2 female CEOs were employed in 2005, the lowest number of female CEO employment in our sample period. Panel B shows the industry wise distribution of female CEOs. The research uses Fama-French industry classification in dividing industries in ten categories. Female CEOs have the highest presence in business equipment (computers, software and electronic equipment) industry (19 out of 68 observations). However, as percent of overall data consumer non-durable industry has the highest percentage of female CEOs (37.50%) years. Industries such as consumer durables and oil, gas, and coal extraction & products have no presence of female CEOs in our study period.

Table 1: Distribution of CEOs

Panel A: Distribution of female CEOs by year

Year	Female CEO	Total	Female CEOs (%)
2003	3	25	12.00%
2004	3	24	12.50%
2005	2	24	8.33%
2006	3	28	10.71%
2007	5	26	19.23%
2008	6	29	20.69%
2009	7	27	25.93%
2010	7	27	25.93%
2011	7	28	25.00%
2012	10	29	34.48%
2013	9	16	56.25%
Total	62	283	21.91%

Panel B: Distribution of female CEOs by industry

Fama-French industry code (10 industries)	No. of firm-years	% of firm-years	Female CEO	% of firm-years for industry
Consumer Non-Durables	48	16.96	18	37.50%
Consumer Durables	6	2.12	0	0.00%
Manufacturing	20	7.07	2	10.00%
Oil, Gas, and Coal Extraction & Products	20	7.07	0	0.00%
Chemicals and Allied Products	31	10.95	9	29.03%
Business Equipment -- Computers, Software and Electronic Equipment	68	24.03	19	27.94%
Telephone and Television Transmission	15	5.3	5	33.33%
Utilities	45	15.9	1	2.22%
Wholesale, Retail, and Some Services	19	6.71	6	31.58%
Healthcare, Medical Equipment, and Drugs	11	3.89	2	18.18%
Total	283	100	62	21.91%

For industry classification, see http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/Data_Library/det_49_ind_port.html.

Table 2: Sample Statistics for The dependent and Independent Variables

Panel A: Pre-Lehman Crisis Period (2003-2007)

Variable	N	Mean	Std. Dev.	Min	Max
(1) Dependent Variable ROA	127	7.516	6.709	-26.020	22.260
ROE	127	25.903	28.961	-72.390	179.050
TSR	102	9.324	24.075	-49.073	99.363
Tobin's q	127	2.202	1.330	0.976	8.645
(2) Control Variable Female CEO	127	0.126	0.333	0.000	1.000
Woman ratio	127	0.195	0.104	0.071	0.545
Ln of TDC1	127	8.840	1.815	-6.908	10.798
Ln of EBIT	123	7.998	1.153	4.405	10.962
Ln of EBITDA	127	8.253	1.249	4.030	11.155
Ln of sales	127	10.015	1.378	5.778	12.790
Beta	127	0.871	0.311	0.220	1.960

Panel B: Post-Lehman Crisis Period (2008-2013)

Variable	N	Mean	Std. Dev.	Min	Max
(1) Dependent Variable ROA	156	7.596	6.936	-33.890	24.290
ROE	156	72.242	562.222	-56.380	7038.460
TSR	154	5.507	34.668	-85.709	190.693
Tobin's q	156	1.841	0.858	0.894	4.976
(2) Control Variable Female CEO	156	0.295	0.457	0.000	1.000
Woman ratio	156	0.238	0.110	0.063	0.500
Ln of TDC1	155	8.553	3.232	-6.908	10.763

Ln of EBIT	155	8.271	1.153	6.241	11.102
Ln of EBITDA	155	8.601	1.090	6.715	11.273
Ln of sales	156	10.245	1.163	7.658	12.980
Beta	156	0.812	0.286	0.210	1.700

Table 2 describes the descriptive statistics of the sample as presented by panel A. Pre Lehman time period (2003 – 2007) and panel B, the Post- Lehman time period (2008-2013). The number of observations in Post Lehman time period is slightly higher than in Pre-Lehman time period. The average value of women being CEOs and Woman ratio both are slightly increasing in Post Lehman time period. Average value of accounting indicators are higher in Post – Lehman time but the mean value of market based indicators are lower in Post – Lehman time period indicating a better Accounting performance and deteriorating market performance in general during the Post Lehman period. The declining market value of stock based indicators show the general fall in stock price during Post Lehman time period. Mean value of Tobin's q is higher than one 1 both Pre and Post Lehman time period which is consistent with the values obtained by Campbell and Minguez- Vera (2007) in Spanish market and Demsetz and Villalonga (2002) for the US market both are higher than 1. However, the value of Tobin's q is less in Post- Lehman time period than in Pre-Lehman time period showing a declining market value of the firms under the study; this could be due to after effect of financial crisis.

Table 3: Regression Estimate of the Relationship between Percent of Women Directors and Firm Performance: Pre-Lehman Crisis Period (2003-2007)

Independent Variable	Model 1 ROA Dependent Variable	Model 2 ROE Dependent Variable	Model 3 TSR Dependent Variable	Model 4 Tobin's Q Dependent Variable
Woman ratio	10.096**	64.558***	-35.321	2.488***
	(2.58)	(2.84)	(-1.43)	(2.90)
Total Compensation	-0.12	0.618	-4.224***	-0.180***
	(-0.52)	(0.46)	(-3.17)	(-3.57)
Ln of EBIT	17.970***	52.486***	-10.521	3.590***
	(8.62)	(4.34)	(-0.67)	(7.86)
Ln of EBITDA	-14.878***	-53.112***	5.525	-3.218***
	(-6.99)	(-4.30)	(0.35)	(-6.90)
Ln of Sales	-1.257*	1.523	8.718*	-0.207
	(-1.69)	(0.35)	(1.76)	(-1.27)
Beta	0.941	-6.938	-12.094	0.248
	-0.59	(-0.75)	(-1.13)	(0.71)
Constant	-0.79	22.685	12.08	3.037***
	(-0.23)	(1.12)	(0.54)	(3.99)
Year Dummies	Yes	Yes	Yes	Yes
R-squared	0.502	0.27	0.169	0.488

N	123	123	99	123

***, **, * represent 10%, 5%, and 1% statistical significance, respectively.

Table 4: Regression Estimate of the Relationship between Percent of Women Directors and Firm Performance: Post Lehman Crisis Period (2008-2013)

Parameter	Model 1 ROA Dependent Variable	Model 2 ROE Dependent Variable	Model 3 TSR Dependent Variable	Model 4 Tobin's Q Dependent Variable
Woman ratio	3.268	23.048	-44.719	1.939***
	(0.88)	(1.01)	(-1.89)	(3.82)
Total Compensation	-0.037	1.599**	-0.79	-0.043**
	(-0.30)	(2.15)	(-1.04)	(-2.61)
Ln of EBIT	19.419***	72.867***	17.985	2.785***
	(9.20)	(5.61)	(1.35)	(9.66)
Ln of EBITDA	-15.631***	-73.928***	-18.918	-2.275***
	(-7.37)	(-5.66)	(-1.40)	(-7.85)
Ln of Sales	-2.320***	1.815	-1.613	-0.460***
	(-3.24)	(0.41)	(-0.35)	(-4.70)
Beta	0.668	-22.425**	2.748	0.336*
	(0.48)	(-2.61)	(0.31)	(1.76)
Constant	4.962	41.122	69.359**	2.929***
	(1.16)	(1.56)	(2.48)	(4.99)
Year Dummies	Yes	Yes	Yes	Yes
R-squared	0.542	0.294	0.321	0.574
N	154	154	152	154

***, **, * represent 10%, 5%, and 1% statistical significance, respectively.

A. Impact of female directors on board and firm performance

We first analyze whether adding women on board of directors position have any impact on firm performance. Table 3 provides the results of the multivariate models for each of the dependent variable in Pre Lehman Crisis time period. Results show Woman ratio is positive and significant to all performance indicators except TSR indicating a higher percentage of female board of directors can improve firm's market and accounting based performances.

Table 4 provides the results of the multivariate models for each of the dependent variable in Post Lehman crisis period. Woman ratio is positive and significant to Tobin's q and positive but not significant to ROA and ROE.

Table 7 provides regression results of the multivariate models for each of the dependent variable in combined time period over a decade from 2003 to 2013. Again, Woman ratio is positively related to ROA (consistent with the findings by study by Vo, D. et al., 2013 conducted in Vietnam), ROE and Tobin's q but negative and significant to TSR. The finding of our paper that higher proportion of women in board increases the firms Tobin's q is consistent with the findings by Campbell and Minguez – Vera (2007).

B. Impact of Women CEOs and firm performance

Table 5: Regression estimate of Impact of CEO gender on Firm Performance
Pre-Lehman Crisis Period (2003-2007)

Independent Variable	Model 1 ROA Dependent Variable	Model 2 ROE Dependent Variable	Model 3 TSR Dependent Variable	Model 4 Tobin's Q Dependent Variable
Female CEO	0.415	-0.127	-4.236	0.106
	(0.48)	(-0.03)	(-0.78)	-0.84
Total Compensation	-0.227	0.791	-0.96	-0.063***
	(-1.96)	(1.26)	(-1.35)	(-3.77)
Ln of EBIT	10.142***	35.521***	-4.431	1.622***
	(6.73)	(4.32)	(-0.48)	(7.42)
Ln of Sales	-0.594	8.321*	3.356	-0.218*
	(-0.84)	(2.17)	(0.76)	(-2.13)
Ln of EBITDA	-7.954***	-42.308***	2.075	-1.373***
	(-4.81)	(-4.69)	(0.20)	(-5.72)
Beta	0.157	-21.876**	-6.33	0.317
	(-0.11)	(-2.75)	(-0.70)	(1.50)
Constant	0.892	29.572	-29.55	2.619***
	(0.26)	(1.61)	(-1.41)	(5.34)
Year Dummies	Yes	Yes	Yes	Yes
R-squared	41.60%	20.60%	29.20%	39.10%
N	167	167	164	167

***, **, * represent 10%, 5%, and 1% statistical significance, respectively.

Table 6: Regression estimate of Impact of CEO Gender on Firm's Performance: Post-Lehman Period (2008-2013)

Independent Variable	Model 1 ROA Dependent Variable	Model 2 ROE Dependent Variable	Model 3 TSR Dependent Variable	Model 4 Tobin's Q Dependent Variable
Female CEO	0.169	14.572*	-11.451	-0.097
	(0.17)	(2.40)	(-1.44)	(-0.31)
Total Compensation	-0.01	0.455	-3.036***	-0.079*
	(-0.10)	(0.71)	(-3.87)	(-2.40)
Ln of EBIT	21.340***	51.039***	5.997	5.267***
	(11.44)	(4.61)	(0.39)	(9.32)
Ln of Sales	-0.986	3.883	5.041	-0.636***
	(-1.71)	(1.14)	(1.05)	(-3.65)
Ln of EBITDA	-19.555***	-55.319***	-8.001	-4.811***
	(-9.89)	(-4.72)	(-0.50)	(-8.03)
Beta	0.808	-12.732	-8.251	0.936**
	(0.70)	(-1.86)	(-0.85)	-2.67
Constant	9.178***	47.759**	14.011	6.598***
	(3.55)	(3.12)	(0.68)	(8.43)
Year Dummies	Yes	Yes	Yes	Yes
R-squared	56.00%	23.30%	17.90%	47.40%
N	146	146	117	146

***, **, * represent 10%, 5%, and 1% statistical significance, respectively.

Table 5 provides the results of the multivariate models for each of the dependent variables in Pre Lehman time period. In Pre Lehman time period no significant relationship is reported between Female CEO and any of the company's performance variables. Our result is consistent with the finding by Albanesi (2015) suggests no significant difference in firm performance led by female executives.

Table 6 provides the multivariate regression estimate shows the impact of CEO gender on company's accounting and market-based performance in Post Lehman time period. The likelihood of adding a Female CEO is positive and significantly related to ROE. The evidence in table 6 suggests that an inclusion of a female CEO in C suite could increase the ROE of the company.

Table 7: Regression Estimate of the relationship Between Firm Performance and Percent of Women Directors Combined time period 2003-2013.

Independent Variable	Model 1 ROA Dependent Variable	Model 2 ROE Dependent Variable	Model 3 TSR Dependent Variable	Model 4 Tobin's Q Dependent Variable
Woman ratio	6.893**	40.694**	-42.05**	2.129***
	(2.66)	(2.59)	(-2.20)	(4.53)
Total Compensation	-0.092	1.221**	-1.217*	-0.063**
	(0.91)	(2.01)	(-1.73)	(-3.44)
Ln of EBIT	18.07***	61.79***	5.47	3.07***
	(12.88)	(7.28)	(0.49)	(12.10)
Ln of EBITDA	14.58***	62.35***	7.33	-2.624***
	(10.27)	(7.26)	(0.65)	(10.20)
Ln of Sales	-1.7338***	2.237	1.347	-0.377***
	(3.46)	(.74)	(0.36)	(4.15)
Beta	0.382	-16.686***	-1.359	.335
	(0.38)	(2.75)	(0.18)	(1.84)
Fiscal Year	-0.017	-.363	0.799	-0.017***
	(3.88)	(0.68)	(1.14)	(3.88)
Constant	339.73	752.23	-1572.88	126.73***
	(1.93)	(.71)	(1.12)	(3.98)
R-squared	0.512	0.2552	0.321	0.49
N	251	277	251	277

***, **, * represent 10%, 5%, and 1% statistical significance, respectively.

Table 8 provides the regression results of the multivariate models for each of the dependent variables in the combined time period from 2003 to 2013 replacing Woman ratio is replaced with Female CEO in the list of independent variables. Result shows no significant relationship between the Female CEO dummy and the company's performance variables. This disproves our hypothesis 2 that gender of CEO may affect firm performance in both pre and post - Lehman periods.

Table 8: Regression Estimate of the impact of CEO gender on Firm's Performance Combined time period 2003-2013

Independent Variable	Model 1 ROA Dependent Variable	Model 2 ROE Dependent Variable	Model 3 TSR Dependent Variable	Model 4 Tobin's Q Dependent Variable
Female CEO	1.047	6.173	-3.32	0.221
	(1.58)	(1.54)	(.69)	(1.8)
Total Compensation	-0.082	1.28*	-1.32	-0.058**
	(0.81)	(2.10)	(-1.86)	(3.10)
Ln of EBIT	18.64***	65.118***	0.822	3.258***
	(13.37)	(7.73)	(0.07)	(12.62)
Ln of EBITDA	-15.32***	-66.73***	-0.884	-2.88***
	(11.03)	(7.95)	(0.08)	(11.21)
Ln of Sales	-1.689**	2.50	0.79	-0.352
	(3.33)	(0.82)	(0.21)	(3.74)
Beta	0.369	-16.757*	-2.089	.355
	(0.36)	(2.72)	(0.28)	(1.88)
Fiscal Year	-0.139	-0.1189	0.49	-0.048
	(1.57)	(0.35)	(0.69)	(2.93)
Constant	283.04	416.90	-970.53	100.40
	(1.59)	(.39)	(0.68)	(3.05)
R-squared	0.50	0.24	0.0238	0.446
N	277	277	251	277

***, **, * represent 10%, 5%, and 1% statistical significance, respectively.

A. Impact of CEO Compensation and firm performance

To capture the impact of CEO compensation on firm performance, we analyze both regressions estimates in Pre Lehman and Post Lehman time period. First, table 3 and table 5 present the findings of the impact of CEO compensation (TDC1) on firm performance in Pre Lehman time period. Table 3 indicates CEO Compensation is negative and significant to both TSR and Tobin's q. Although, CEO compensation is negative and significant to market based performance, it has no significant relation to any of the firm's accounting based performance. The regression result from table 5 also suggests a negative relation between CEO compensation and Tobin's q at 10% level of significance. In summary, in Pre Lehman time period CEO compensation has no meaningful impact on accounting based performance indicators and suggests higher compensation may worsen firm's market based performance. Second, Table 4

and Table 6 show the impact of CEO compensation (TDC1) on firm performance in Post Lehman time period. Table 4 exhibits in Post Lehman period, CEO Compensation is positive and statistically significant to return on equity at 10% level of significance indicating higher compensation can partially improve firm's accounting based performance. However, results also demonstrates that CEO compensation (TDC1) has a negative relation to Tobin's q at 10% level of significance indicating higher CEO compensation may lower company's market value in Pre Lehman time period. The results of table 6 also reveal a negative and significant relation between companies market based performance and CEO compensation.

Table 7 shows the combined regression estimate over the entire time period under study, indicating CEO compensation or executive compensation is positively related to ROE but negatively related to both of the market based indicators TSR and Tobin's q.

Table 8 shows the impact of CEO compensation on firm performance over the entire the decade of the study (2003-2013). The CEO compensation or executive compensation is positively related to return on equity at 1% level of significance, but negatively related to both of the market based indicators TSR and Tobin's q. Again, the results partially disproves the hypothesis 3 that on average firms will demonstrate financial alignment in the form of a positive relationship between CEO compensation and firms accounting as well as market based performances. Results show compensation is aligned with accounting based performance, however, higher compensation does not improve the firm's market based performance.

Table 8: Regression Estimate of the impact of CEO gender on Firm's Performance Combined time period 2003-2013

Independent Variable	Model 1 ROA Dependent Variable	Model 2 ROE Dependent Variable	Model 3 TSR Dependent Variable	Model 4 Tobin's Q Dependent Variable
Female CEO	1.047	6.173	-3.32	0.221
	(1.58)	(1.54)	(.69)	(1.8)
Total Compensation	-0.082	1.28*	-1.32	-0.058**
	(0.81)	(2.10)	(-1.86)	(3.10)
Ln of EBIT	18.64***	65.118***	0.822	3.258***
	(13.37)	(7.73)	(0.07)	(12.62)
Ln of EBITDA	-15.32***	-66.73***	-0.884	-2.88***
	(11.03)	(7.95)	(0.08)	(11.21)
Ln of Sales	-1.689**	2.50	0.79	-0.352
	(3.33)	(0.82)	(0.21)	(3.74)
Beta	0.369	-16.757*	-2.089	.355
	(0.36)	(2.72)	(0.28)	(1.88)

Fiscal Year	-0.139	-0.1189	0.49	-0.048
	(1.57)	(0.35)	(0.69)	(2.93)
Constant	283.04	416.90	-970.53	100.40
	(1.59)	(.39)	(0.68)	(3.05)
R-squared	0.50	0.24	0.0238	0.446
N	277	277	251	277

***, **, * represent 10%, 5%, and 1% statistical significance, respectively.

In summary, the impact of Women directors on firm's performance in Pre- Lehman time period as suggested from table 3 show a positive link between percentage of female board members and company's market based performance. Result shows a positive and statistically significant relationship between percent of females on the board of directors and all performance indicators in Pre-Lehman Crisis period except TSR. Also from table 7 it shows that over ten years sample period higher percentage of female board of directors may also improve firm's accounting and market based performance and therefore satisfies our hypothesis 1 that higher percentage of women on the board of directors can positively affect the company's performance in both pre and post - Lehman periods.

Taking all results together Tables 5, 6 and 8 show that gender of CEO has no effect on any of the performance variables, (except ROE in the Post-Lehman period) confirming that gender of the CEOs generally does not improve or worsen firm's performance. Table 6 shows positive and statistically significant relationship between female CEO and ROE during the Post-Lehman period. Previous research regarding "glass ceiling effect" and "presumed risk aversion" of females would predict lower financial performance for female CEO's in Post-Lehman time period. However this study suggests that gender of CEO may not matter much for stock price performance, as it does not influence the market based performance; however, having a female CEO may improve a company's accounting based performance.

Overall result suggests that there is a positive and significant relationship between compensation and ROE in both Pre – Lehman and Post Lehman periods (table 4) as well as in the combined time model (table 7, table 8). A study by Bertrand, M. and Schoar, A., (2003) found the same pattern that higher total compensation as well as the incentive pay increase firm's return of asset and therefore suggest that managers with higher performance receive higher salary compensation and these managers are more likely to be found in well- managed firms.

The results from table 7 show CEO compensation is negatively related to total stock return (TSR) and Tobin's q over the decade. Again, whereas managerial compensation including incentive payments intended to increase value for stockholders, however, our findings suggest to reduce Tobin's q. This can mean that stock price declines and /or book value increases, as the CEO's may be prone to empire building and acquire inefficient assets. This is consistent with the results found by Cooper et al, (2014) in their extensive study.

Before concluding we wish to acknowledge few limitations that point to future research directions. First, the study undertook relatively a small number of sample firms. In future we

may use the same framework, however, include all firms in S&P 500 and S&P 1500. Increasing sample size may provide greater insights into the proposed relationship. Inclusion of other control variables for example age, size of employees and education can add a new dimension into the research. Second, the present study did not take into account the qualitative variable to examine the interplay of power dynamics, gender roles, conflict as well as exploratory factors initiating women to take more leadership position, for example, women come from single headed households, ethnicity etc.

V. Discussion, implications and conclusion

The empirical findings of the present study suggest that gender diversity variable is important in determining the corporate performance in both Pre and Post-Lehman Crisis periods. Findings from the combined time period (2003-2013) show gender diversity in board has a positive impact on all three indicators return on asset, return on equity as well as Tobin's q. Overall findings suggest that greater gender diversity of the boards of directors in the corporate sector is not only a desirable goal by itself, but it ensures more efficient use of corporate resources.

The paper also examined the relationship between the impact of CEO gender and firm performance. It finds that gender of CEO has a neutral effect on firm's performance. In other words, female CEOs are equally likely to influence firm's performance as their male peers. It conforms the previous research by Abdullah et al., (2014) that finds no difference in the relative performance of female CEOs and male CEOs. However, it rejects the imbedded institutional mindset that women are too "risky" to promote to a top leadership position

Overall, the results indicate that CEO compensation is generally not aligned with firm's performances both in Pre and Post Lehman time. Actually, since Lehman Crisis, compensation packages have tended to reduce Total Stock Returns and Tobin's q. It reinforces the conclusion that current high compensation packages, which, consist of mostly convex payouts (options) do not provide incentives to maximize /increase shareholder wealth and agency problem persists.

In summary, the findings of this study confirm that gender diversity of the board of director's increases the firm's accounting and market based performances over the period of 2003-2013.

References

Abdullah, S. T., Chugh, L. C., & Talukdar, M. B. (2014). Do female CEOs add value for stockholders? A case study of Yahoo!. *Journal of Finance and Accountancy*, *16*, 1.

Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of financial economics*, *94*(2), 291-309.

Adams, S. M., Gupta, A., & Leeth, J. D. (2009). Are female executives over‐represented in precarious leadership positions?. *British Journal of Management*, *20*(1), 1-12.

Aggarwal, R. K., & Samwick, A. A. (1999). Executive compensation, strategic competition, and relative performance evaluation: Theory and evidence. *The Journal of Finance*,*54*(6).

Ahern, K. R., & Dittmar, A. K. (2012). The changing of the boards: The impact on firm valuation of mandated female board representation. *The Quarterly Journal of Economics*,*127*(1), 137-197.

Arye Bebchuk, L. and Fried, J.M., (2003) Executive compensation as an agency problem. *The Journal of Economic Perspectives*, *17*(3), 71-92.

Albanesi, S., Olivetti, C., & Prados, M. J. (2015). Gender and Dynamic Agency: Theory and Evidence on the Compensation of Top Executives☆. In *Gender in the Labor Market* (pp. 1-59). Emerald Group Publishing Limited.

Bebchuk, L., & Fried, J. (2005). Pay without performance: The unfulfilled promise of executive compensation International Company and Commercial Law Review, 16 (11). 461.

Bertrand, M. and Hallock, K.F., (2001) The gender gap in top corporate jobs. *ILR Review*, *55*(1), 3-21.

Bertrand, M. and Schoar, A., (2003) Managing with style: The effect of managers on firm policies. *The Quarterly Journal of Economics*, *118*(4), 1169-1208.

Brammer, S., Millington, A., & Pavelin, S. (2007). Gender and ethnic diversity among UK corporate boards. *Corporate Governance: An International Review*, *15*(2), 393-403.

Brick, I.E., Palmon, O. and Wald, J.K., (2006) CEO compensation, director compensation, and firm performance: Evidence of cronyism? *Journal of Corporate Finance*, *12*(3), 403-423.

Brown, D.A., Brown, D.L. and Anastasopoulos, V., (2002) Women on boards: Not just the right thing... but the" bright" thing. Conference Board of Canada.

Burgess, Z. and Tharenou, P., (2002) Women board directors: Characteristics of the few. *Journal of Business Ethics*, *37*(1), 39-49.

Campbell, K., & Minguez- Vera, A (2007). Gender diversity in the boardroom and firm financial performance. Journal of Business Ethics, 83, 435-451

Carter, D.A., D'Souza, F., Simkins, B.J. and Simpson, W.G., (2010) The gender and ethnic diversity of US boards and board committees and firm financial performance. *Corporate Governance: An International Review*, *18*(5), 396-414.

Catalyst (2016) Pyramid: Women in S&P 500 Companies. New York: Catalyst, September 19.

Cooper, M.J., Gulen, H. and Rau, P.R., (2014) Performance for pay? The relation between CEO incentive compensation and future stock price performance. *The Relation Between CEO Incentive Compensation and Future Stock Price Performance, October 1,*

Core, J.E., Guay, W.R., Thomas, R.S., Bebchuk, L. and Fried, J., (2005) Is US CEO compensation inefficient pay without performance? Cambridge: Harvard University Press.

Core, John E., Wayne R. Guay, and David F. Larcker. (2003) Executive equity compensation and incentives: A survey." *Economic policy review* 9, no. 1.

Coombs, J.E. and Gilley, K.M., 2005. Stakeholder management as a predictor of CEO compensation: Main effects and interactions with financial performance. *Strategic Management Journal*, *26*(9), 827-840.

Demsetz, H. and B. Villalonga: (2001) 'Ownership Structure and Corporate Performance' Journal of Corporate Finance 7, 209–233

Ellinger, A.D., Ellinger, A.E., Yang, B. and Howton, S.W., (2002) The relationship between the

learning organization concept and firms' financial performance: An empirical assessment. *Human resource development quarterly*, *13*(1), pp.5-22.

Erhardt, N.L., Werbel, J.D. and Shrader, C.B., (2003) Board of director diversity and firm financial performance. *Corporate governance: An international review*, *11*(2), 102-111.

Theo, Francis. "Companies That Perform Best Don't Pay CEOs the Most." The Wall Street Journal, Dow Jones & Company, 5 Oct. 2017. www.wsj.com/articles/companies-that-perform-best-dont-pay-ceos-the-most-1507194000

Gul, F.A., Srinidhi, B. and Ng, A.C., (2011) Does board gender diversity improve the informativeness of stock prices? *Journal of Accounting and Economics*, *51*(3), 314-338.

Gutner, T. (2001) 'Wanted: More Diverse Directors', *Business Week* (April 30), 134. https://hbr.org/2004/10/seven-surprises-for-new-ceos

Haslam, S.A., Ryan, M.K., Kulich, C., Trojanowski, G. and Atkins, C., (2010). Investing with prejudice: The relationship between women's presence on company boards and objective and subjective measures of company performance. *British Journal of Management*, *21*(2), 484-497.

Javed, M., Saeed, R., Lodhi, R.N. and Malik, Q.U.Z., (2013) The effect of board size and structure on firm financial performance: A case of banking sector in Pakistan. *Middle-East Journal of Scientific Research*, *15*(2), 243-251.

Jensen, M.C. and Murphy, K.J., (1990) Performance pay and top-management incentives. *Journal of political economy*, *98*(2), 225-264

Joecks, J., Pull, K. and Vetter, K., (2013) Gender diversity in the boardroom and firm performance: What exactly constitutes a "critical mass?"*Journal of business ethics*, *118*(1), 61-72.

Kılıç, M., Kılıç, M., Kuzey, C. and Kuzey, C., (2016) The effect of board gender diversity on firm performance: evidence from Turkey. *Gender in Management: An International Journal*, *31*(7), 434-455.

Lee, P.M. and James, E.H., (2007) She'-e-os: gender effects and investor reactions to the announcements of top executive appointments. *Strategic Management Journal*, *28*(3), 227-241.

Lückerath-Rovers, M., (2013) Women on boards and firm performance. *Journal of Management & Governance*, *17*(2), 491-509.

Mahadeo, J. D.; T. Soobaroyen and V. O. Hanuman (2012) 'Board Composition and Financial Performance: Uncovering the Effects of Diversity in an Emerging Economy', Journal of Business Ethics 105, 375-388.

Markham, J.W., (2007) Regulating Excessive Executive Compensation-Why Bother. *J. Bus. & Tech. L.*, *2*, 277.

McKinsey and Company (2007) *Women matter: Gender diversity, a corporate performance driver*. McKinsey. Available at: http://www.raeng.org.uk/publications/other/women-matter-oct-2007

Nyberg, A.J., Fulmer, I.S., Gerhart, B. and Carpenter, M.A., (2010) Agency theory revisited: CEO return and shareholder interest alignment. *Academy of Management Journal*, *53*(5), 1029-1049.

Ryan, M.K. and Haslam, S.A., (2005) The glass cliff: Evidence that women are over-represented in precarious leadership positions. *British Journal of management*, *16*(2), 81-90.

Ryan, M.K. and Haslam, S.A., (2007) The glass cliff: Exploring the dynamics surrounding the appointment of women to precarious leadership positions. *Academy of Management Review*, *32*(2),.549-572.

Shrader, C. B.; V. B. Blackburn and P. Iles: (1997) 'Women in management and firm financial performance: an exploratory study', Journal of managerial issues 9(3), 355-376.

Smith, N., Smith, V. and Verner, M., (2006) Do women in top management affect firm

performance? A panel study of 2,500 Danish firms. *International Journal of productivity and Performance management*, *55*(7), 569-593.
Rose, C., (2007) Does female board representation influence firm performance? The Danish evidence. *Corporate Governance: An International Review*, *15*(2), 404-413.
Stroh, L.K., Brett, J.M., Baumann, J.P. and Reilly, A.H., 1996. Agency theory and variable pay compensation strategies.*Academy of Management Journal*, *39*(3), 751-767.
Terjesen, S., Couto, E.B. and Francisco, P.M., (2016) Does the presence of independent and female directors impact firm performance? A multi-country study of board diversity. *Journal of Management & Governance*, *20*(3), 447-483.
Terjesen, S., Sealy, R. and Singh, V., (2009) Women directors on corporate boards: A review and research agenda. *Corporate governance: an international review*, *17*(3), 320-337.
Vo, D. and Phan, T. (2013) Corporate governance and firm performance: empirical evidence from Vietnam. *Journal of Economic Development*, *218*, 62-78.
Xie, B., Davidson, W.N. and DaDalt, P.J.,(2003) Earnings management and corporate governance: the role of the board and the audit committee. *Journal of corporate finance*, *9*(3),.295-316.
Wellalage NH, Locke S (2013) Women on board, firm financial performance and agency costs. Asian Journal of Business Ethics 2: 113–127.
Yermack, David. (1997) Good timing: CEO stock option awards and company news announcements. *The journal of Finance* 52.2, 449-476.