

Compensation Committee Gender Diversity and CEO Pay-Performance Link: Evidence from Australia, China, and Pakistan

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Article History

Received: 11 Nov 2019 Revised: 21 Oct 2020 Accepted: 04 Nov 2020 Published: 31 Dec 2020

Abstract

In this study, we examine the crucial question whether the presence of female directors in the compensation committee (CC) improves the committee objectivity (i.e., paying executives for performance) in context of three countries namely Australia, China, and Pakistan. Using the data of public listed companies of these countries we find mixed results. Our results suggest that firms with gender-diverse CC strengthen the CEO pay-performance link only in Chinese listed firms. Our findings remain consistent even after controlling for possible issue of endogeneity. Overall, this paper highlights the diversity practices of China, Australia and Pakistan and provides empirical evidence to corporate world and regulatory bodies.

Keywords: gender diversity, compensation committee, female executives, CEO pay, pay-performance link.

1. Introduction

Recently, regulatory bodies around the globe are introducing soft or hard policies to promote gender diversity at corporate level. For example, sixteen countries encourage female representation in boards (e.g., Australia, Sweden, Canada, United Kingdom) while fourteen countries have a certain mandatory quota (e.g., Belgium, Italy, Spain, France, Malaysia, India, Norway) (Terjesen et al., 2016). In addition, corporate failures like

Enron and WorldCom have risen a question what if more women executives were present in corporate boards? Given this increased attention, the studies exploring the consequences of gender diverse board are increasing (Kılıç and Kuzey, 2016; Usman et al., 2019; Amorelli and García-Sánchez, 2020). Previous studies have documented that firms with female directors decrease shareholder's dissent via say-on-pay (Kent et al., 2018; Alkalbani et al., 2019) and increase firm value (Carter et al., 2003). In addition, female executives are better monitors and have few attendance problems (Adams and Ferreira, 2009), take interest in board's strategic control (Luanglath et al., 2019; Turban et al., 2019), make less risky investment decisions (Sila et al., 2016) and increase firm performance (Francoeur et al., 2008; Herring, 2009; Joecks et al., 2013; Sarhan et al., 2019).

Since most decisions are made within smaller groups like board of directors sub-committees rather than at large, it is more suitable to focus on these smaller groups (Kesner, 1988). Most of previous studies were focused on the presence of female directors in audit committee. For example, Pucheta-Martínez et al. (2016) used data from Spanish listed firms and documented that female directors presence in audit committee reduce the chance of mistakes and omission of evidence. Aldamen et al. (2018) used data of 624 Australian listed firms and found that addition of female executives in audit committee improve external audit quality. Other researchers investigated the relation between gender diverse audit committee and its operations (see e.g., Ammer and Ahmad-Zaluki, 2017; Velte, 2018). Most of the earlier researches were conducted for exploring the effect of female presence in CC on CEO pay (see e.g., Newman and Mozes, 1999; Pucheta-Martínez and Narro-Forés, 2014; Usman et al., 2018b; Kanapathippillai et al., 2019). Other studies explored how the independence of CC affects CEO pay (Newman and Mozes, 1999; Reddy et al., 2015; Benkraiem et al., 2017). However, the exact impact of female directors in CC on CEO pay-performance link is mainly unobserved except by few studies. For instance, Using data of Chinese listed firms from 2006 to 2015 Usman et al. (2018b) documented that presence of female executives in CC limits CEO total pay and strengthens the positive relation between CEO pay and firm performance. Therefore, in this study we explore the effect of CC gender diversity on CEO pay-performance link.

This paper has two contributions. First, in alignment with agency theory (Jensen and Meckling, 1976), and optimal contracting theory (Murphy, 1999), this paper investigates the question whether female executives presence in CC results in increased committee objectivity in designing optimal compensation contracts for CEOs. The evidence documented does complement these two theories that gender diversity in governance committees is helpful in reducing agency conflicts and designing optimal compensation contracts by tying CEOs pay to firm performance. Second, this paper extends the literature beyond developed countries because most of previous studies were done in the settings of developed countries. Preceding researches i.e. Conyon and Murphy (2000) and Firth et al. (2006) concluded that CEO pay may be different in different countries because of difference in country specific institutional factors like ownership concentration, regulatory framework, and governance mechanism. Moreover, the corporate governance in developing countries like China and Pakistan is not very strong. For example, in developed countries (e.g., USA, Australia, UK) the code of corporate

governance encourages firms to have majority of independent members in CC. As a result, literature from developed countries may not be practical for those countries which are still in developing phase. Therefore, this study complements these studies by examining whether the effect of female executives on CEO pay-performance relation varies in different countries. This study offers a unique insight on gender diversity and CEO pay-performance relation from developing countries like China and Pakistan.

2. Institutional Background

All listed firms in Australian Stock Exchange (ASX) are regulated by Australian Corporation Act 2001. The Australian Securities and Investment Commission (ASIC) oversee the administration of this Act. In 2003 the ASX issued good corporate governance recommendations. One of these endorsements is to fairly compensate executives in light of their performance. There were not many changes in governance principles issued in 2003 except the statement “best practices” was removed to avoid any misunderstanding that these principles are the best. Since then, ASIC encourages firms to “comply or explain” the good corporate governance principles. Regarding gender diversity in Australian listed firms the principles of corporate governance encourages firms to have minimum of 30 percent females in board of directors. In addition, Australian code of corporate governance encourages the formation of CC having minimum of three members and most of the members are required to be independent and the head of committee should be an independent director. These suggestions were made to encourage transparent and objective determination of CEO pay. Australian regulatory bodies mandated the disclosure of top executive’s compensation in Company law review act 1988, revised in May 1999 (Australian Securities and Investment Commission, 1998). Section 300A obligate listed firms to disclose executive remuneration after financial year 1 July 1998. This act requires firms to disclose five most highly paid executives’ remuneration and to reveal information on collective pay of all executives whose pay is \$100,000 (Australian Accounting Standard Board (AASB) (1999) 1034).

Recent years experienced a tremendous growth in Chinese economy. In year 2001 the China’s regulatory entities became active to reinforce the corporate governance reforms in country. In year 2001 China joined World Trade Organization and implemented the Principles of Corporate Governance which was established and published by Organization for Economic Cooperation and Development (OECD). Shortly after the code of corporate governance was announced jointly by CSRC and Chinese National Economic and Trade Commission for the first time for Chinese listed firms. This code encouraged Chinese firms to have sound corporate governance mechanism such as more independent directors and separation of duality role, having CC and more information disclosure regarding firm’s internal governance. Unlike (Belgium, Italy, Spain, France, Malaysia, India, Norway) Chinese regulatory bodies did not announced a certain quota for female directors. In other word female representation in Chinese corporate boards is purely voluntary. Moreover, the Chinese Security Regulation Committee (CSRC) has taken several steps to progress the structure and information disclosure of top management pay. The early CSRC recommendations does not require to disclose top management compensation but since 2006 it is mandatory to disclose information about

each board member compensation. In 2007 the CSRC introduced new regulations which allowed firms to offer stock options to top executives and to disclose information about stock options offered to executives.

Pakistan's code of corporate governance mandated the addition of one female director in 2017. In early 2002 the Securities and Exchange Commission of Pakistan (SECP) took major steps in reforming code of corporate governance. These reforms include many recommendations according to best international practices. The major reforms are related to board of directors and more disclosure about internal governance. The code of corporate governance commends that board should have two independent directors, separation of duality role and executives' directors should not hold more than one third of board of directors. Moreover, the Pakistani code of corporate governance requires the establishment of policies to set individual executive pay and these regulations provides an option for board to hire an independent consultant for setting top executive pay. The regulations also require that in directors report the directors shall state the remuneration policy for executives including independent directors. Moreover, the SECP recommends firms to reveal information related to CEO and executives' pay in their annual reports. In Pakistan, stock options or restricted stock options are not offered but instead bonuses and allowances are awarded to CEO's based on their performance. SECP encourages firms to disclose different components of CEO pay separately i.e., allowances, bonuses and benefits etc.

3. Literature Review

3.1 Female Directors and Corporate Governance

Measuring the aspects of gender diversity is quite difficult because many scholars do not have access to evidence which is necessary to effectively study the concept of gender diversity. Therefore, academics and researchers have focused on characteristics difference of gender in governance. For example, women are very effective in team working and their participation in decision making enhance the quality of decisions made within a group (Rogelberg and Rumery, 1996). Females are more confident in decision making because they do not feel limited by rules, regulations and traditions as compared to males (Bart and McQueen, 2013). Female tend to work together rather than working alone and increase team performance (Hoogendoorn et al., 2013; Nielsen et al., 2017). Similarly, Boulouta (2013) established that female are considered more better executives because they pay due attention to stakeholder's interest and make fair decisions when stakeholder's interest is at stake. Likewise, females are more innovative (Díaz-García et al., 2013), increase firm value (Agyemang-Mintah and Schadewitz, 2019) and consider their duties more seriously (Liao et al., 2015). Moreover, females tends to avoid risk (Sila et al., 2016) and gender diverse board decrease the chance of mistakes and frauds in financial reporting (Cumming et al., 2015). Females are more greener (Liu, 2018) and make decisions which increases sustainability reporting quality (Al-Shaer and Zaman, 2016; Zahid et al., 2020). In addition, firms have more dividend payouts if they have more female on board (Byoun et al., 2016; Ye et al., 2019), improve firm governance and occupational well-being (Fine et al., 2020) and increase profitability (Francoeur et al., 2008; Herring, 2009; Joecks et al., 2013).

Similarly, Adams and Ferreira (2009), documented that female executives play an active role in monitoring groups, their attendance behavior is better than male executives, improve the attendance performance of male executives and directors receive more equity based compensation. Li et al. (2017) documented that female presence in corporate boards results in improved environmental policies, while Kim and Starks (2016) documented that women bring additional expertise to board of directors. According to Konrad et al. (2008) there were numerous times when only female objected in CEO pay setting process and female directors also asked tougher questions which no one else from male side cared to ask. There is no empirical indication as to why females ask more tough questions but two possible reasons support this behavior. First, female directors worked hard to achieve their position in board of directors (Carli and Eagly, 2016) and second that their presence in board is legal or company requirement so they do not feel being indebted to CEO for their position in board. In addition, del Carmen Triana et al. (2019) documented that addition of female executives in governance enhances firm's strategic change and makes firm's more productive (Luanglath et al., 2019; Turban et al., 2019). In summary, women directors are better monitors (Báez et al., 2018) and strengthen internal governance by reducing earning management (Gull et al., 2018). Given the traits role of female directors, we posit that the presence of female directors in CC strengthens the positive relation between CEO pay and firm performance.

3.2 Gender Diverse CC and CEO pay

Recently, CEO pay has gained the attention of investors and regulatory bodies around the world market. There are two reasons behind this awful attention. First, there is an unjustified constant growth in CEO pay around the globe. For example, Murphy (2012) documented that in Standard & Poor's (S&P) top 500 firms median CEO pay increased from 2.9 million dollars in 1992 to 9.0 million dollars in 2011. Similarly, Hay group (a global consulting group) reported that top management remuneration has significantly increased 3.5 times between 2001 to 2011. Likewise, between 1993 and 2007 Australian executive compensation in 50 to 100 biggest firms has increased as much as 300 percent (Fels, 2010). Second, there is generally held observation that pay for performance link is either weak or broken (Bebchuk and Fried, 2003). However, supporters of optimal contracting theory believe in existence of strong CEO pay-performance relation. This theory recognizes the agency issue and seek to eliminate these agency issue by providing executives with adequate incentives and rewards. According to this theory, the board or CC participates in arm's length negotiations with executives to set their pay.

To eliminate agency problems, optimal contracting theory suggest that CEO total pay should be linked to firm performance. Therefore, the main theme of agency theory is CEO pay-performance relation. It means how much a firm is successful in reducing the agency conflicts between agents and principal. Previous studies investigated the relation between CEO total pay and firm performance but the evidence is mixed as some documented positive relation (Sigler, 2011; Scholtz and Smit, 2012; Aguinis et al., 2018) while others found no or negative relation (Boschen and Smith, 1995; Jeppson et al., 2009; Gigliotti, 2013). The reason behind these inconsistent results maybe be because of

different countries data, different time periods, different measurement of variables and different methodology (Gomez-Mejia and Wiseman, 1997).

Therefore, in this decade the performance of CC has become under increased inspection. The main accusations on CC are overpaid top management, weak, negative or no link between CEO total pay and firm performance (Gigliotti, 2013; Usman et al., 2015), CEO excessive compensation (Bugeja et al., 2016; Dah and Frye, 2017) and increased pay gap between CEO and executives (Bugeja et al., 2016; He and Fang, 2016; Vo and Canil, 2016). To be an effective CC, the committee should have more independent directors so that it can objectively and independently set CEO pay and do not grant excessive pay. Furthermore, an independent CC aligns the benefits of executives with owner by tying agent's compensation with firm performance (optimal compensation contract) so in order to earn more the agents needs to deliver more performance. Therefore, the advocates of optimal contracting theory argue that an independent and objective CC facilitates in arm's length dealing with executives to achieve optimal compensation contracts.

Several earlier studies examined the effect of different characteristics of CC (e.g., CC size, percentage of non-executive directors, CEO presence in CC) on CEO compensation (Newman and Mozes, 1999; Pucheta-Martínez and Narro-Forés, 2014; Reddy et al., 2015; Kanapathippillai et al., 2019). The focus of most of previous studies were on independence of CC because of much attention given to independence in corporate governance. However, Capezio et al. (2011) argue that focus on independence committees is because of strong internal governance and independent determination of executive pay but this perspective have not been validated empirically. Therefore, having high proportion of independent directors on the CC is just a regulatory belief rather than validated fact. Majority of previous studies documented no influence of CC independence on CEO total pay or no relation between independent CC and CEO pay-performance relation (Gregory-Smith, 2012; Cybinski and Windsor, 2013; Conyon, 2014).

However, studies on gender diverse CC are limited. Some studies investigated the factors of female presence on CC (Bilimoria and Piderit, 1994; Reddy et al., 2015; Kanapathippillai et al., 2019). For instance, Bilimoria and Piderit (1994) used sample of US Fortune 300 firms to investigate the gender based biasness against female at the time of selecting executives for board sub-committees (for example, CC, nomination committee, audit committee, fiancé committee, public affairs committee). After controlling for executive's experience, they documented that gender-based bias exist. They found that females executives are less likely to be selected in governance committees like CC but more likely to be selected for public relations such as public affair committee. Based on gender diversity literature this paper provides three possible explanations as why female presence in committee advances committee's governance. First, because female executives face social processes which works as a motivator for them to enhance their governance attribute. Very few women are in top management, so their scarcity makes them visible to others. According to Ragins (1989) this visibility of female act as a motivator to play their governance role more effectively and efficiently. Second, previous studies documented the difference in gender behavior that support the idea that female executives are tougher monitors. Finally, female presence is legal or company requirement, so they do not feel indebted to anyone in board and because of this

reason they govern better than male directors. Given effective traits of female directors, this paper expects that addition of women directors in CC increases committee's objectivity in designing optimal compensation contracts for CEOs. Therefore, following are hypotheses of the research study:

- **H₁**: Addition of female directors in CC supports the positive relation between CEO pay and firm performance in Chinese listed firms.
- **H₂**: Addition of female directors in CC supports the positive relation between CEO pay and firm performance in Australian listed firms.
- **H₃**: Addition of female directors in CC supports the positive relation between CEO pay and firm performance in Pakistani listed firms.

4. Data, Summary Statistics and Statistical Methodology

The data used for analysis in this paper is obtained from China's stock market and accounting research (CSMAR) database and from annual reports of listed firms in Pakistan and Australia. The initial sample consists of firms listed in Shenzhen, Shanghai Stock Exchanges, Pakistan Stock Exchange and Australian Stock Exchange for the year of 2014. In line with previous studies this study excluded those firms which reported zero CEO total compensation and those firms whose data is missing for the variables of interest. The final sample used in this study is 2532 observations from China, 1621 observations from Australia and 160 observations from Pakistan.

4.1 Variables

4.1.1 CEO Compensation

Like previous studies (e.g., Usman et al., 2015; Bugeja et al., 2016; Strobl et al., 2016; Usman et al., 2018b), this paper uses CEO total cash remuneration (which includes basic salary, incentives, cash bonuses, perks etc.) because equity-based remuneration like stock option are rarely offered in China and Pakistan. Moreover, to lessen the impact of heteroscedasticity and extent of difference in CEO total cash compensation across different firms and to make sure that results are valid and robust, this study transforms CEO total cash remuneration by taking log (Pay). The mean CEO total cash remuneration is 690251 RMB, \$751250 and 15600000 PKR in China, Australia and Pakistan (Table 2).

4.1.2 Firm Performance

Following previous literature on CEO compensation (Kent et al., 2018; Usman et al., 2018b), this study uses the measure return on asset (ROA) to measure firm performance. The average ROA is 2 percent in China, -43 percent in Australia and 7 percent in Pakistan (Table 2).

4.1.3 Gender Diverse Compensation Committee

The main variable of current study is CC gender diversity. Following prior researches on the presence of female executives in CC (Strobl et al., 2016; Usman et al., 2018b), this study measures presence of female through three different measures (i.e., CFD, CFN, and CFP). CFD is a dummy variable which takes the value of 1 if one female executive is present on board's CC and 0 otherwise. CFN is a discrete variable which is calculated as

total number of female executives present in CC. CFP is a continuous variable which refers to proportion of female executives in CC.

Table 2 provides the descriptive statistics of gender diverse CC. On average 38 percent Chinese firms, 20 percent Australian firms and 21 percent Pakistani firms have a minimum of one female director present in CC. Proportion of female directors is 16 percent, 12 percent and 8 percent in China, Australia and Pakistan respectively.

4.1.4 CEO, Board, CC and Firm Level Control Variables

Like previous studies (Core et al., 2008; Bugeja et al., 2016; Usman et al., 2018b) this paper classifies control variables into four categories. The first category is related to CEO power i.e., CEO tenure and CEO duality (CTen, Dual). The second category is related to board structure i.e., board size and board independent directors' proportion (Bsize, Bind). Third category is related to structure of CC i.e., CC size, CC independence proportion and CC CEO presence (Csize, Cind, Cpres). Fourth category is related to firm level variables i.e., firm size and financial leverage (Fsize, Lev).

Table 2 provides the descriptive statistics of all variables. The average CEO tenure is 4.18 years, 4.24 years and 5.68 years in Chinese, Australian and Pakistani listed firms. On average 30 percent of firms in China, 15 percent firms in Australia and 9 percent firms in Pakistan have CEO as CEO and chairman of board. Board of directors comprises of 10.62 members in China, 5.38 members in Australia and 8.10 members in Pakistan. The proportion of independent directors on board is 40 percent in China, 50.83 percent in Australia and 14 percent in Pakistan. Table 2 shows that the mean size of CC in Chinese listed firms is 3.37 members, 1.68 members in Australian listed firms and 3.42 members in Pakistani listed firms. CC independence proportion is 67 percent, 34 percent and 13 percent respectively. On average 26 percent of Chinese listed firms, 28 percent of Australian firms and 53 percent of Pakistani firms have CEO as CC member.

Table 1: Measurement of Variables

Variable	Description
Pay	Defined as “log of CEO total cash compensation”.
ROA	Defined as “net profit divided by total assets”.
CFD	Defined as “dummy variable which equals to 1 if at least 1 female executive is present in CC and 0 otherwise”.
CFN	Defined as “total number of female executives present in CC”.
CFP	Defined as “total number of female executives in CC divided by total number of executives in CC”.
Dual	Defined as “if CEO is also chairperson of a firm”.
CTen	Defined as “number of years a CEO served as a CEO”.
Bsize	Defined as “total number of directors in board of directors”.
Bind	Defined as “number of independent directors in board divided by total number of directors in board”.
Csize	Defined as “total number of directors in CC”.
Cind	Defined as “independent directors in CC divided by total number of directors in CC”.
Cpres	Defined as “dummy variable which equals to 1 if CEO is also a member of CC and 0 otherwise”.
Fsize	Defined as “log of total sales of a firm”.
Lev	Defined as “long term debt of firm divided by total equity”.

Table 2: Descriptive Statistics

	China	Australia	Pakistan
Variable	Mean	Mean	Mean
Pay	690251.00	751250.00	15600000.00
CTen	4.18	4.24	5.68
Dual	0.30	0.15	0.09
Bsize	10.62	5.38	8.10
Bind	0.40	50.83	0.14
Csize	3.37	1.68	3.42
Cind	0.67	33.95	0.13
Cpres	0.26	0.28	0.53
CFD	0.38	0.20	0.21
CFN	0.54	0.27	0.28
CFP	0.16	0.12	0.08
Fsize	21.98	17.37	22.45
Lev	0.46	0.15	2.28
ROA	0.02	-0.43	0.07

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Table 3, 4 and 5 provides the correlation matrix of all variables. The correlation coefficient between all independent variables is below the acceptable range of 0.70 except CC gender diversity measure, which shows that there is problem of multicollinearity in our data. To address this issue this study estimates separate regression for each CC gender diversity measure.

Table 3: Correlation Matrix (China)

Variable	1	2	3	4	5	6	7
1.Pay	1						
2.CTen	0.106***	1					
3.Dual	-0.025	0.047**	1				
4.Bsize	0.053**	-0.056**	-0.111***	1			
5.Bind	0.004	0.119***	0.073***	-0.034	1		
6.Csize	0.076***	0.029	-0.119***	0.201***	-0.076***	1	
7.Cind	0.058**	-0.022	0.006	-0.033	0.062**	-0.364***	1
8.Cpres	-0.02	0.080***	0.118***	-0.032	0.024	0.142***	-0.218***
9.CFD	-0.011	0.048**	0.006	0.015	-0.028	0.140***	-0.059**
10.CFN	-0.01	0.032	0.02	0	-0.018	0.182***	-0.077***
11.CFP	-0.027	0.016	0.034	-0.029	-0.003	-0.014	0.003
12.ROA	0.027	0.021	-0.024	-0.023	0.002	0.003	-0.001
13.Fsize	0.352***	0.044**	-0.188***	0.256***	0.016	0.164***	0.074***
14.Lev	0.001	-0.032	0.005	0.065**	-0.018	0.02	0.003
Variable	8	9	10	11	12	13	14
1.Pay							
2.CTen							
3.Dual							
4.Bsize							
5.Bind							
6.Csize							
7.Cind							
8.Cpres	1						
9.CFD	0.061**	1					
10.CFN	0.009	0.879***	1				
11.CFP	-0.033	0.871***	0.952***	1			
12.ROA	0.009	0.01	0.012	0.013	1		
13.Fsize	-0.044**	-0.014	-0.044**	-0.072***	0.069***	1	
14.Lev	-0.021	-0.013	-0.018	-0.022	-0.958***	0.031	1

*** p<0.001, ** p<0.05, * p<0.09

Table 4: Correlation Matrix (Australia)

Variable	1	2	3	4	5	6	7
1.Pay	1						
2.CTen	0.098***	1					
3.Dual	-0.079**	0.007	1				
4.Bsize	0.429***	-0.011	-	1			
5.Bind	0.252***	0.075**	-0.052**	0.293***	1		
6.Csize	0.378***	0.094***	-	0.515***	0.298***	1	
7.Cind	0.343***	0.119***	-	0.435***	0.444***	0.729***	1
8.Cpres	-0.038	0.099***	0.168***	-	-0.031	-	-
9.CFD	0.325***	0.067**	-0.073**	0.376***	0.223***	0.318***	0.302***
10.CFN	0.336***	0.083***	-0.069**	0.399***	0.241***	0.333***	0.311***
11.CFP	0.255***	0.045	-0.051	0.304***	0.182***	0.106**	0.203***
12.Fsize	0.549***	0.101***	-	0.555***	0.330***	0.543***	0.497***
13.Lev	0.008	-0.037	0.013	0	-0.008	-0.053**	-0.022
14.ROA	0.114***	0.022	-0.031	0.122***	0.110***	0.190***	0.186***
Variable	8	9	10	11	12	13	14
1.Pay							
2.CTen							
3.Dual							
4.Bsize							
5.Bind							
6.Csize							
7.Cind							
8.Cpres	1						
9.CFD	-0.006	1					
10.CFN	-0.018	0.903***	1				
11.CFP	-0.011	0.872***	0.949***	1			
12.Fsize	-	0.401***	0.406***	0.336***	1		
13.Lev	-0.042	0.008	0.008	0.022	-0.001	1	
14.ROA	-0.021	0.136***	0.128***	0.107**	0.395***	-0.074**	1

*** p<0.001, ** p<0.05, * p<0.09

Table 5: Correlation Matrix (Pakistan)

Variable	1	2	3	4	5	6	7
1.Pay	1						
2.CTen	0.048	1					
3.Dual	-0.019	-0.05	1				
4.Bsize	0.11	-0.241**	-0.154**	1			
5.Bind	0.226**	-0.092	-0.177**	0.12	1		
6.Csize	0.215**	-0.046	-0.111	0.467***	0.172**	1	
7.Cind	0.204**	-0.077	-0.128*	-0.012	0.554***	0.052	1
8.Cpres	0.113	0.069	-0.038	-0.189**	0.096	-0.003	0.023
9.CFD	-0.044	0.160**	-0.026	-0.063	-0.242***	-0.005	-0.136*
10.CFN	-0.069	0.160**	0.01	-0.077	-0.251***	0.005	-0.146**
11.CFP	-0.094	0.131*	0.027	-0.093	-0.257***	-0.065	-0.145**
12.Fsize	0.419***	-0.145*	-0.104	0.373***	0.234**	0.330***	0.078
13.Lev	-0.091	-0.014	0.016	0.106	0.02	0.076	-0.115
14.ROA	0.192**	0.016	-0.017	0.049	0.191**	0.067	0.027
Variable	8	9	10	11	13	13	14
1.Pay							
2.CTen							
3.Dual							
4.Bsize							
5.Bind							
6.Csize							
7.Cind							
8.Cpres	1						
9.CFD	-0.018	1					
10.CFN	0.021	0.929***	1				
11.CFP	0.001	0.918***	0.982***	1			
12.Fsize	-0.01	-0.132*	-0.148**	-0.170**	1		
13.Lev	0.088	-0.014	0.013	0.016	0.017	1	
14.ROA	0.062	-0.061	-0.068	-0.083	0.247***	-0.038	1

*** p<0.001, ** p<0.05, * p<0.09

4.2 Statistical Methodology

Following (Usman et al., 2018b) this paper also uses ordinary least square regression to estimate the equation 1 to examine the impact of gender diverse CC on CEO pay-performance link. Following is the main equation;

$$Pay = \beta_1 CCWomen_{it} + \beta_2 ROA_{it} + \beta_3 ROA_{it} * CCWomen_{it} + \sum_{i=1}^n B_n Controls_{it} + \varepsilon_{it}$$

Where Pay indicates CEO total pay (defined as log of CEO total cash remuneration); CCWomen refers to presence of female executives in CC i.e. CFD (a dummy variable which takes the value of 1 if a CC have minimum of 1 female director and 0 otherwise), CFN (defined as the number of female executives serving on CC) and CFP (proportion of female directors on CC measured as number of female executives in CC divided by total members of CC); ROA*CCWomen indicates interaction term between CC gender diversity measures and firm performance measure (i.e., ROA*CFD, ROA*CFN and ROA*CFP); Controls refers to CEO, Board, CC and Firm level control variables.

5. Data Analysis

Table 6 documents the regression results of H1, H2 and H3 in Chinese, Australian and Pakistani listed firms. Model 1 to Model 3 shows the results on H1. The beta coefficient of all interaction variables (ROA_CFD: 1.164 at $p < 0.01$; ROA_CFN: 1.123 at $p < 0.01$; ROA_CFP: 5.363 at $p < 0.01$) are positive and highly significant. These results are consistent with the findings of (Usman et al., 2018b). These findings suggest that the addition of female executives in CC strengthens the internal governance mechanism by making optimal compensation contracts for CEOs (Adams and Ferreira, 2009; Gul et al., 2011). In Chinese context gender diverse CC improves the committee's objectivity in designing optimal contracts for top managers. These findings are in line with agency theory and optimal contracting theory, which posits that the gender diverse CC improves the committee's independence and objectivity in designing optimal pay contracts for the top management. Model 4 to Model 6 in Table 6 provide the results on H2 of this study. The beta coefficient of all interaction variables is positive but insignificant ROA_CFD 0.0536; ROA_CFN 0.0421 and ROA_CFP 0.0184. These results depict that gender diverse CC is ineffective in linking CEO pay to firm performance in Australian listed companies. This is because there is a slight uptick in the proportion of females in corporate governance (Spender, 2012), and female face discriminatory behavior in Australia. For example, when females achieve higher position in management, they face male dominated boards who may help them but gives preference to male directors over female directors (White, 2001; Barrett and Hede, 2003; Still, 2006). Barrett and Hede (2003) provide further evidence of female secondary status by documenting that males are paid more as compared to females. Another reason is presence of "queen bee" in Australian boards, who does not feel helping other females because in their opinion if they can reach higher positions without anyone helping them then so can others (Rindfleish, 2000). Similarly, Model 7 to Model 9 provides the results on H3. The beta coefficient of all interaction variables is positive but insignificant ROA_CFD 0.751;

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ROA_CFN 1.286 and ROA_CFP 3.195. These results suggest female executives are not effective in designing optimal compensation contracts in Pakistani listed firms. These findings are consistent with the findings of previous study (Aslam et al., 2019). The reasons behind these insignificant results is that Pakistani firms are overwhelmed by directors which are selected from family or have close relation with block-holders (Javid and Iqbal, 2010). These directors simply do not have enough knowledge of their duties and consequently they fail to address the interest of their firms adequately. Similarly, CC composition and quality plays a significant role in linking CEO pay to firm performance link. Taken together, H₁ of the study is accepted and H₂ & H₃ are rejected.

Table 6: OLS Regression. Effect of Female Executives in Compensation Committee on CEO Pay-Performance Link (China, Australia and Pakistan)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
CFD	-0.0625**			0.128***			-0.0676		
	(-1.979)			(-2.592)			(-0.184)		
ROA_CFD	1.164***			0.0536			0.751		
	(-5.348)			(-0.807)			(-0.207)		
CFN		-0.0523**			0.0679**			-0.175	
		(-2.320)			(-1.987)			(-0.745)	
ROA_CFN		1.123***			0.0421			1.286	
		(-5.76)			(-0.704)			(-0.591)	
CFP			-0.235***			0.208			-0.626
			(-3.137)			(-1.35)			(-0.869)
ROA_CFP			5.363***			0.0184			3.195
			(-6.9)			(-0.0375)			(-0.413)
CTen	0.0270***	0.0270***	0.0267***	0.0170***	0.0169***	0.0215***	0.0572	0.0581	0.0589
	(-5.746)	(-5.752)	(-5.716)	(-3.298)	(-3.261)	(-2.856)	(-1.501)	(-1.505)	(-1.557)
Dual	0.0499	0.0479	0.0459	-0.066	-0.0673	-0.0741	-0.142	-0.139	-0.136
	(-1.456)	(-1.4)	(-1.346)	(-1.314)	(-1.339)	(-0.794)	(-0.385)	(-0.377)	(-0.371)
Bsize	-0.00933*	-0.00935*	-0.00909*	0.0389***	0.0396***	0.0455***	0.062	0.0631	0.0615
	(-1.684)	(-1.689)	(-1.649)	(-3.449)	(-3.497)	(-2.819)	(-0.815)	(-0.827)	(-0.811)
Bind	-0.0483	-0.0576	-0.0625	0.00193**	0.00192**	0.00185	-0.0781	-0.125	-0.148
	(-0.246)	(-0.294)	(-0.320)	(-2.3)	(-2.289)	(-1.259)	(-0.0758)	(-0.121)	(-0.145)
Csize	0.0367*	0.0371*	0.0340*	0.0669***	0.0668***	0.0534*	-0.0546	-0.0586	-0.0546
	(-1.941)	(-1.95)	(-1.824)	(-4.401)	(-4.39)	(-1.766)	(-0.364)	(-0.387)	(-0.368)
Cind	0.476***	0.479***	0.480***	0.00151**	0.00154**	0.00116	0.567	0.543	0.527
	(-3.094)	(-3.116)	(-3.134)	(-2.338)	(-2.391)	(-1.319)	(-0.842)	(-0.801)	(-0.785)
Cpres	0.00365	0.00302	0.00163	-0.00085	0.0024	0.0158	0.289	0.286	0.287
	(-0.106)	(-0.0877)	(-0.0475)	(-0.0208)	(-0.059)	(-0.239)	(-1.297)	(-1.277)	(-1.291)
Fsize	0.240***	0.239***	0.238***	0.192***	0.193***	0.225***	0.270***	0.262***	0.262***
	(-18.31)	(-18.21)	(-18.18)	(-18.86)	(-18.96)	(-15.47)	(-3.373)	(-3.261)	(-3.272)
Lev	-0.225***	-0.223***	-0.215***	0.000479	0.000491	0.000229	-0.00438	-0.00419	-0.00408
	(-3.799)	(-3.761)	(-3.646)	(-0.445)	(-0.456)	(-0.196)	(-0.199)	(-0.190)	(-0.186)
ROA	-0.194***	-0.192***	-0.185***	-0.0574***	-	-0.0325	3.242***	3.149***	3.173***
	(-3.425)	(-3.391)	(-3.290)	(-3.811)	(-3.774)	(-0.926)	(-3.119)	(-3.026)	(-3.067)
Constant	7.520**	7.546***	7.578***	9.006***	8.989***	8.422***	8.706**	8.934**	8.950**
	(-25.57)	(-25.66)	(-25.79)	(-56.42)	(-56.03)	(-35.87)	(-4.953)	(-5.057)	(-5.101)
R-squared	0.183	0.185	0.191	0.482	0.481	0.457	0.241	0.244	0.245
Adj R-squared	0.17	0.18	0.18	0.47	0.47	0.44	0.16	0.17	0.17

t-statistics in parentheses. *** p<0.01, ** p<0.05, * p<0.1

5.1 Endogeneity

Previous literature on gender diversity at committee level show that gender diversity at committee level can be an endogenous variable (Liu et al., 2014; Faccio et al., 2016; Usman et al., 2018a; Usman et al., 2018b). Therefore, following previous studies (Liu et al., 2014; Usman et al., 2018a; Usman et al., 2018b) this study uses Two-Stage Least Square (2SLS) regression methodology as a remedy for possible endogeneity problem. In order to use 2SLS an instrumental variable is needed which is likely to meet the exclusion restriction (i.e., correlated with the decision to have female directors on CC but not with CEO pay). Following previous study of (Usman et al., 2018b) this study also uses industry average of women directors as instrumental variable. This instrumental variable meets the exclusion restriction because firm operating in female friendly industries seems to have more gender diverse CC.

Table 7 Panel A document the 2SLS results on the effect of CC female presence on CEO pay-performance link in Chinese, Australian and Pakistani context. The beta coefficients of all interaction variables in Model 1 to Model 3 (China) are all positive ROA_CFD (2.827; $p < 0.01$); ROA_CFN (2.740; $p < 0.01$); ROA_CFP (13.67; $p < 0.01$) and highly significant. Model 4 to Model 6 show the regression results of 2SLS for the firms listed in Australian Stock Exchange (ASX). The beta coefficients of all interaction variables are positive but not significant ROA_CFD (0.0598); ROA_CFN (0.0386) and ROA_CFP (0.488). Similarly, Model 7 to Model 9 (Pakistan) the beta coefficient of all interaction variables in all models are positive but not significant ROA_CFD (8.133); ROA_CFN (3.97) and ROA_CFP (2.640). These findings validate the findings documented in Table 6.

5.2 Cluster OLS

It may be possible that the results of OLS regression are misleading and the observations in data are not sufficiently independent. To eliminate this possible issue this study uses cluster OLS statistical technique to test the developed hypothesis by clustering standard errors. Table 7 Panel B depicts the results of cluster OLS for China, Australia and Pakistan. As shown in Table 7 Panel B the beta coefficients of all interaction variables in Model 1 to Model 3 (China) are positive and significant ROA_CFD (1.164 $p < 0.1$); ROA_CFN (1.123 $p < 0.05$) and ROA_CFP (5.363 $p < 0.01$). Model 4 to Model 6 (Australia) shows that all interaction variables are positive and insignificant ROA_CFD 0.0526; ROA_CFN 0.0321 and ROA_CFP 0.0184. Similarly, Model 7 to Model 9 (Pakistan) shows that all interaction variables are positive but not significant ROA_CFD 0.751; ROA_CFN positive 1.286 and ROA_CFP 3.195. Taken together the findings presented in Panel B validates the earlier findings of the study.

Table 7: 2SLS and Cluster OLS Regression. Effect of Female Executives in Compensation Committee on CEO Pay-Performance Link (China, Australia and Pakistan)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Panel A: 2SLS. Effect of female executives in compensation committee on CEO pay-performance link									
CFD	-			0.157***			-1.227		
	1.134***			-0.394			-0.0595		
ROA_CFD	2.827**			0.0598			8.133		
	*			-0.665			-0.0667		
							-8.737		
CFN		-.692***			0.0978***			-0.749	
		-0.224			-0.0371			-0.775	
ROA_CFN		2.740***			0.0386			3.976	
		-0.607			-0.0614			-4.069	
CFP			-2.559***			0.253			-2.435
			-0.846			-0.164			-2.64
ROA_CFP			13.67***			0.0357			11.27
			-3.15			-0.488			-13.63
Controls Included									
Constant	8.081***	8.096***	8.501***	9.013***	9.008***	8.440***	9.858***	9.783***	9.873***
	-0.417	-0.393	-0.486	-0.162	-0.161	-0.234	-2.138	-2.041	-2.149
R-squared	0.07	0.13	0.13	0.482	0.481	0.457	0.182	0.208	0.208
Panel B: Cluster OLS. Effect of female executives in compensation committee on CEO pay-performance link									
CFD	-0.0625			0.126**			-0.0676		
	-0.0391			-0.0565			-0.331		
ROA_CFD	1.164*			0.0526			0.751		
	-0.666			-0.058			-3.038		
CFN		-0.0523*			0.0677			-0.175	
		-0.0288			-0.0473			-0.13	
ROA_CFN		1.123**			0.0321			1.286	
		-0.522			-0.0532			-0.885	
CFP			-0.235**			0.208			-0.626
			-0.0914			-0.199			-0.366
ROA_CFP			5.363***			0.0184			3.195
			-1.671			-0.466			-3.289
Controls Included									
Constant	7.520***	7.546***	7.578***	8.989***	8.972***	8.422***	8.706***	8.934***	8.950***
	-0.36	-0.361	-0.359	-0.2	-0.203	-0.266	-1.356	-1.382	-1.405
R-squared	0.183	0.185	0.191	0.482	0.482	0.457	0.241	0.244	0.245

*** p<0.01, ** p<0.05, * p<0.1

6. Summary and Conclusion

This paper addresses the impact of female executives at committee level on CEO pay-performance relationship. Investigating the effect of women directors at committee level is more suitable because important corporate decisions are mostly made within smaller groups like board sub-committees. Studying effect of female presence at committee level provides useful insight to the part taken by female directors in governance. Specifically, this study addresses the question whether female executives' presence in CC supports the

positive relation between CEO pay and firm performance or not? This study uses data of firms listed in Shenzhen and Shanghai Stock Exchanges, Australian Stock Exchange (ASX) and Pakistan Stock Exchange (PSX) for the year of 2014. OLS regression technique is used to test the developed hypothesis. The paper documented that female presence in CC supports the positive association between CEO pay and firm performance in Chinese listed firms but fails to find any significant results of this relation in Australia and Pakistan. Based on the findings documented, the first hypothesis of this study is accepted and second and third hypotheses are rejected. These findings extend the findings of previous studies which only investigated the direct effect of female executives on CEO total pay but did not address the question whether presence of female executives in CC links CEO total pay to firm performance (Bugeja et al., 2016; Strobl et al., 2016).

6.1 Practical and Theoretical Contribution

This study makes three important contributions. First, this paper extends the literature beyond developed countries because most of previous studies were done in the settings of developed countries. As a result, literature from developed countries may not be practical for those countries which are still in developing phase. Therefore, the findings of this paper offer a unique insight on gender diversity and CEO pay-performance relation from developing countries like China and Pakistan. Second, this study has implications for agency theory which posit that there exists a struggle of interest between principal (owner) and agent (executives). This study establishes the evidence that presence of female executives in CC link CEO total pay to firm performance and consequently reduces the agency conflicts between principal and agent. Third, this paper also complements the optimal contracting view that a strong and independent CC makes objective decisions in designing optimal compensation contracts for executives. The evidence documented suggest that female presence in CC results in more committee's objectivity and designs optimal compensation contracts for executives.

The findings documented in this study raise some issues for policymakers and practitioners. First, many countries around the globe have paid attention to presence of gender diversity in corporate boards but much more consideration has been given to independence directors. As noted by Terjesen et al. (2016) all best code corporate governances require to have independent directors on corporate boards but less attention is given to gender diversity. Given the results of this study, it is suggested that corporate governance around the globe at least recommends female directors presence in corporate governance because female directors' presence results in strong internal governance. Second, the findings of this study contribute to the global debate on female presence in corporate boards. The significance of this study goes beyond just filling the gap in literature because this study considers the recent inclination of female directors' representation in corporate boards. Given the increased attention on gender diversity, clarifying the role of female directors in governance mechanism is useful for understanding that to what extent females are effective in governance roles. Finally, this study findings are consistent with Bugeja et al. (2016) who documented that female presence at committee level such as CC increases committee's objectivity in designing optimal compensation contracts for executives. Given these findings, this study suggest

that policy makers should recommend female directors presence in CC to increase objective decision-making regarding CEO pay.

6.2 Limitations and Future Research

This study has some limitations which can be addressed in future research. First, this study did not consider institutional factors in examining the impact of female directors on CEO pay-performance link. Future researches can investigate how institutional factors (e.g., family ownership, concentrated ownership and group-allied firms) affect the relation between female executives and CEO pay-performance link. Second, this study only considered gender diversity but there are other diversities such as national, cultural, racial, geographical diversity which may affect the relation between CEO total pay and firm performance. Future research needs to study these diversities effect on CEO pay-performance link. Third, this study addressed only quantitative aspect of gender diversity but future studies can examine the qualitative aspect of gender diversity.

Grant Support Details / Funding

This research work received no research grant.

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