

## GENDER DIVERSITY, CORPORATE GOVERNANCE AND FIRM PERFORMANCE IN MAJOR ASIAN ECONOMIES

**Hashim Khan**, Assistant Professor, COMSATS University Islamabad, Pakistan. Email: [hashimkhan@comsats.edu.pk](mailto:hashimkhan@comsats.edu.pk)

**Muhammad Asif**, Assistant Professor, City University of Science & Information Technology, Peshawar, Pakistan. Email: [asifbaloch@cusit.edu.pk](mailto:asifbaloch@cusit.edu.pk)

**Muhammad Zahid**, Associate Professor, City University of Science & Information Technology, Peshawar, Pakistan. Email: [zahid@cusit.edu.pk](mailto:zahid@cusit.edu.pk)

**Haseeb-ur-Rahman**, Director, Institute of Management Sciences, University of Science & Technology, Bannu, Pakistan. Email: [haseebbabo@gmail.com](mailto:haseebbabo@gmail.com)

**Amanda Duan**, Lecturer of Beifang University of Nationalities, China. Email: [duanweihua@nun.edu.cn](mailto:duanweihua@nun.edu.cn)

---

**Abstract.** *This study analyzes the effects of gender diversity and corporate governance on firms' performance in Asian major economies. The study finds a positive and significant impact of gender diversity on firms' performance. Besides, the study explored the significant role of executive female directors as compared to non-executive female directors. The impact of board characteristics and ownership structure on firms' performance were also examined and found the evidence of positive association of them with firm's performance in most cases except India (where the state ownership exhibited negative impact on firm's performance). The study also provides a comparative analysis of developed and developing economies in Asia and reported the significant role of female representation in emerging markets as compared to developed and overall market results. Lastly, the study also confirms the non-existence of reverse causality between gender diversity and firms' performance by applying t-tests and breaking down the sample according to women's participation in the corporate board. The results confirm the role of female representation on firm performance from tokenism to critical mass. Consequently, the results strongly suggest that gender diversity in firms' boards needs to be enhanced, compulsory laws being a key determinant to achieve the desired results in the Asian context.*

Received 2 October 2020 Accepted 8 December 2020
---

---

**Keywords:** Board Characteristics, Female Directors, Firm Performance, Ownership Structure, Tokenism

## 1. Introduction

The gender diversity in corporate board composition has got tremendous importance among corporations and reviewed extensively by researchers (Li & Chen, 2018; Terjesen, Aguilera, & Lorenz, 2015). The researchers from the developed markets (e.g. Conyon & He, 2017; Mohammad, Abdullatif, & Zakzouk, 2018; Post & Byron, 2015) have debated whether female representation on corporate board has enhanced firm's performance? However, the empirics' verdicts on gender issues seem rather ambiguous and inconsistent. For instance, Kim and Starks (2016) and Post and Byron (2015) reported a positive impact of gender diversity on firms' performance; whereas, Adams and Ferreira (2009) and Terjesen, Couto, and Francisco (2016) concluded a negative relationship between the two. These opposing findings might be attributed to the different data spans, contexts, and measures used for firms' performance (Ferreira, 2015; Joecks, Pull, & Vetter, 2013). Besides, the researchers refer to female presence as tokenism (Torchia, Calabrò, & Huse, 2011), as it refers to members meeting the ceremonial requirements; however, not fulfilling basic features that are required for a board member. Hence, their contribution remains limited as they are only hired for legal compliance (Torchia *et al.*, 2011).

### 1.1 State of gender diversity in Asia

In Asia, it is of specific significance as female representation among higher management remains below par (Dezsö & Ross, 2012). According to the Gender Diversity Index report, 60 countries have endorsed gender diversity and highlighted that female member occupy only 15% representation on boards globally. This explains a positive tendency as female representation as executives and board chairperson hikes; it is more probable to spur higher diversity. Nonetheless, the women percentage as Chief Executive Officers and board chair is only 4% worldwide. Though the percentage of women on corporate board is increasing in Asia (7.8%); however, this increase is substantially slow as compare to the developed regions of the world including 14.5 % in the US and 22.6% in Europe. Despite the existing literature that has proven the significant impact of gender diversity on firms' performance, customers' sensitivity, and strong governance, the Asian firms still lag behind the international counterparts to place women in executive positions. Table 1 reports the statistics of the sample of the study as per Global diversity index 2018.

Table 1 *Gender Diversity Rank and Score of the Selected Countries*

Variables		China	India	Japan	Korea	Singapore	Thailand
<b>Global index</b>	rank	100	108	114	118	65	75
	score	0.68	0.67	0.66	0.65	0.70	0.69
<b>Economic participation and opportunity</b>	rank	86	139	114	121	27	24
	score	0.65	0.38	0.58	0.53	0.75	0.77
<b>Educational attainment</b>	rank	102	112	74	105	94	106
	score	0.96	0.95	0.99	0.96	0.98	0.96
<b>Health and survival</b>	rank	144	141	1	84	101	51
	score	0.92	0.94	0.98	0.97	0.97	0.98
<b>Political empowerment</b>	rank	77	15	123	90	101	127
	score	0.16	0.41	0.08	0.13	0.11	0.07
<b>GDP growth in billions of USD</b>		23,159	9,459	5,405	2,029	4,879	1,261

*Source:* constructed from Global diversity index 2018 and IMF report

Terjesen and Singh (2008) find a high correlation between the female numbers of the board to the structures of individual economy, hence the degree to tokenism and ability to participate vary from culture to culture. To address the concern of tokenism in Asia, it's very important to test the prevalence of tokenism in each economy separately rather than on a collective sample. Moreover, as reported by the Asian Corporate Governance Association (ACGA), Asia lagged from the other developed economies as for the corporate governance standards are concerned.

From the research perspective, the role of the Board of Directors (BoD) has remained the main concern for researchers (Wirtz, 2011). Hence, many features connected to board composition and its structure are considered by researchers as the key features of an operational governance mechanism being able to improve firms' performance (Achim, Borlea & Mare, 2016). However, the academic debate on the linkage between them is quite open. The scholars are unable to conclude this complexity (Dalton & Dalton, 2011; McGuire, Dow & Ibrahim, 2012) and reported multiple contradictory linkages including executives and non-executive directors, their remunerations, meeting behaviors, and their linkages to other board (Sanjai Bhagat & Black, 2001). Yet, researchers are unable to collectively control board structure, remuneration, and ownership distribution.

The study also considers ownership dispersion as the determinant of firms' financial performance in Asia following the concepts visualize by existing researchers (Konijn, Kräussl, & Lucas, 2011; Post & Byron, 2015). Besides, the study applies board characteristics and measures of ownership structures to

offer new insight in the Asian context following previous researchers from the western market (Hermalin & Weisbach, 2001; Sanjai Bhagat & Black, 1999). Finally, Asia is the home of several diverse religions, customs, and beliefs. Moreover, these diversities are critical to comprehend as they have a great influence on the ways businesses are done and the market reacts. The governance structure, ownership concentration, and diversity law are systematic factors and it's very important to analyze them separately because the impacts of these variables may be diverse based on each economy (Post & Byron, 2015). Besides, the adoption of diversity law in each country varies across times and even some countries included in the sample don't have diversity law, generation dummy for meta-analysis makes the outcomes more confusing. So the study prefers country-level analysis over meta-analysis and provides quite a significant contribution in prevailing literature.

The subsequent sections include a literature review and hypotheses development, data characteristics, methodology, empirical findings, discussion, and conclusion.

## **2. Literature Review and Hypotheses Development**

The subsequent text addresses the issue in detail.

### **2.1 Gender diversity on board and performance of firms**

The board diversity continues to grow as a major concern for the corporate board as it may influence firm-level outcomes (Terjesen *et al.*, 2015); however, the existing literature on board diversity is inconclusive (Finegold, Benson & Hecht, 2007). For instance, a positive relationship of board diversity and firm's performance is reported by Campbell and Mínguez-Vera (2008) for Spanish firms, Carter *et al.* (2010) for Fortune 1000 firms; Erhardt, Werbel, and Shrader (2003) for US firms; and Julizaerma and Sori (2012) for Malaysian firm's performance. In contrast, Wang and Clift (2009) find that larger Australian firms are inclined to more female board members but report an insignificant relationship between board diversity and firms' performance. A negative relationship for the same variables is reported by Adams *et al.* (2015), they argue that women's representation on corporate boards leads to excess monitoring of firms that are already not exposed to governance issues and this leads to poor performance. Similarly, Darmadi (2011), and Marimuthu and Kolandaisamy (2009) and conduct their research on Malaysian and Indonesian firms respectively, and report the insignificant impact of gender diversity on firms' performance. Post and Byron (2015) reported the potential causes for these inconclusive findings i.e. diversity of the country, time periods, estimation techniques, and the existence of possible endogeneity between the two. Moreover, Wang and Clift (2009) criticize several empirical approaches

that could weaken earlier results. So, considering these pieces of evidence, the following hypothesis is suggested.

*H<sub>1</sub>: The gender diversity on board has a significant impact on firms' performance in Asian Markets.*

## **2.2 Women executive and non-executive directors and firm's performance**

The Agency theory (Eisenhardt, 1989; Jensen & Meckling, 1976), explains the role of an agent in favor of the principal; however, if the interests of both parties are opposing then this becomes a source of conflict, as the board of directors might not perfectly act in the best interest of principals (Walsh & Seward, 1990). The directors are in a fiduciary relationship with a firm and the literature provides debatable and controversial pieces of evidence for the association between directors' position and firms' performance (Hillman & Dalziel, 2003; Goergen & Renneboog, 2014; Park & Shin, 2004). A corporate board generally includes both executive and non-executive directors and these executives work besides the board to establish the organizational strategic plan. These executive directors not only develop a positive organizational culture but also motivate other employees of an organization to oversee all the matters of operation of the organization effectively (Adams & Ferreira, 2009; Carter *et al.*, 2010). Furthermore, these directors are elected from the competitive economic market (Kaplan & Rauh, 2013). In the market, both male and female members are available; however, concerning various personality features, leadership, and management, both the counterparts are different from each other (Sorensen & Sorenson, 2007). So it's very important to highlight the role of female executive directors on firm performance. As for the role of non-executive directors is concerned, they are mainly responsible for monitoring the performance of executive management that they contribute towards achieving the firm's goals (Carter *et al.*, 2010). Experts believe that firms with female non-executive directors deal more effectively with the corporate board (Wintoki, Linck, & Netter, 2012) and incline to emphasize long-term priorities and enhance firms' performance. Women directors are likely to be more in tune with the concept of whistle-blowing than men, which helps develop a successful corporate board (Adams *et al.*, 2015; Carter *et al.*, 2010). Similarly, if managed effectively, women executives play a positive role in the boardroom and organization (e.g., Kosnik, 1990). Many researchers highlighted the difficulties faced by women in obtaining executive positions in comparison to non-executive directors and term this phenomenon as "double-glass-ceiling" (Saeed, Belghitar, & Yousaf, 2016). In light of these pieces of evidence, the following hypothesis is developed:

*H<sub>2</sub>: The women executive directors have a significant impact on a firm's performance in Asian markets.*

### **2.3 Family ownership and firm's performance**

According to Jensen and Meckling (1976), family ownership is the agency conflict where they manipulate personal gains at the cost of the minority. For instance, they may waste the resources on lucrative projects to please their non-pecuniary reward (Demsetz, 1983); and treat the company as a personal asset (Shleifer & Vishny, 1997). They can occupy high positions instead of employing competent professionals on board (Carney & Gedajlovic, 2002). Such firms are more likely to underperform those with dispersed shareholding pattern (DeAngelo, DeAngelo, & Stulz, 2006). On the contrary, according to the "Stewardship theory" managers act as stewards, despite agents, get advanced utility from pro-organizational, collectivistic activities in contrast to idiosyncratic, self-serving behavior assumed in agency theory (Morck & Yeung, 2004; Lane *et al.*, 2006). In the recent past, the researchers also reported about firms with family-ownership that produced high value and better performance as compared to their counterparts (Anderson & Reeb, 2003; Yammeesri & Lodh, 2004; DeAngelo *et al.*, 2006). Moreover, Yammeesri and Lodh (2004) reported that founding family firms will perform better when agency conflicts are too severe and legal protection is quite poor or even moderate. Hence, the study offers the following hypothesis:

*H<sub>3</sub>: Family ownership has a significant impact on firms' performance in Asian markets.*

### **2.4 Institutional ownership and firm's performance**

Institutional ownership can affect firm performance from three different perspectives. As per the "active monitoring" view, they minimize not only the asymmetric level of information but also the problem of agency through monitoring mechanism and improve firm performance (Burkart, Panunzi, & Shleifer, 2003). They apply their high skills, professional expertise, and voting powers to inspire management and enhance both firms' performance and governance. Similarly, institutional investors use their financial sources in expansion if needed (Elyasiani & Jia, 2010). Secondly, as per the "passive monitoring" view, they are treated as short-term investors who are opportunist and interested in speculative trading profits based on insider information (David, Kochhar, & Levitas, 1998) to gratify their portfolio returns (Elyasiani & Jia, 2010) in place of improving corporate governance and firm performance. Hence, the researcher may expect weak or no association of institutional investors and a firm's performance (Duggal & Millar, 1999). Thirdly, the "exploitation" view states that institutional investors may exploit

the minority shareholders' rights through their influence over management and impair firm performance. Particularly, it is expected that they may overlook managers' manipulation as long as they are benefited. Ultimately, this attitude may negatively impact a firm's performance (Elyasiani & Jia, 2010). Nevertheless, the literature provides inclusive pieces of evidence on the association of institutional investors and firms' performance (Gompers & Metrick, 2001). Due to these inconclusive pieces of evidence, the study offers the following hypothesis:

*H<sub>4</sub>: Institutional investors have a significant impact on a firm's performance in Asian markets.*

## **2.5 Government ownership and firm's performance**

It is believed that private firms outperform state-owned firms in competitive markets (Megginson & Netter, 2001), as state-owned firms dearth adequate entrepreneurial ambition and incline to be politically instead of economically driven, which may cause low financial performance (Mak & Li, 2001). In China, the state-owned firm earned 50% lower profit than the private firms as they are sheltered from competitive pressures and some other reasons listed by Kowalski, Büge, Sztajerowska, and Egeland (2013). However, other researchers believe that state-owned firms are less likely to face the issue of information asymmetry (Eng & Mak, 2003) and such firms can generate financing from different sources easily as compared to a private firm (Grosvold & Brammer, 2011). These firms also encounter fewer regulatory issues and focus more on accounting choices that enhance their performances (Aljifri & Moustafa, 2007). The empirics highlight quite contradictory results for the association of state ownership and a firm's performance (Ang & Ding, 2006). This study puts the following hypothesis in this regard:

*H<sub>5</sub>: State ownership has a significant impact on a firm's performance in Asian countries.*

## **2.6 Board interlock and firm's performance**

The "Resources Dependence Theory" explains the reasons for board interlocking among firms (Hillman & Dalziel, 2003). The interlocking may provide benefits to firms, including resources (Hillman, Cannella, & Paetzold, 2000), strategic support from important external agents; legitimacy to their organizations (Haunschild, 1993; Shropshire, 2010), and obtaining performance (Kim, 2005). Kim (2005) explored the association between board interlocking and performance using social networks in Korean companies and found positive impacts of the density of corporate networks on firm performance. Generally, when board members are interlinked, they observe the

actions of other board members (Filatotchev & Toms, 2003; Hillman & Dalziel, 2003), and these results in a significant organizational learning process, specifically concerning firms' performance (Bhimani, 2008). Interlocks can diminish incentives for resourcefulness by aggregating the shared flow of information among exchange partners. Studies reported the significant relation of interlocking directorates in terms of the flow of firm business practices and strategic outcomes, like implementing a poison pill takeover guard (Westphal & Zajac, 1995) the multi-divisional form (Rubach & Picou, 2005), and attaining external financing (Mizruchi & Stearns, 2003). Consequently, based on resource-dependence theory, the following hypothesis is suggested.

*H<sub>6</sub>: The average numbers of interlocking directors have a significant impact on a firm's performance.*

## 2.7 Variable description

In-line with the existing literature (e.g., Haslam *et al.*, 2010; Joecks *et al.*, 2013) that used return on equity (ROE) and Return on Assets (ROA) as proxies for the performance of firms and corporate profitability with gender diversity, this study also used ROE and ROA as dependent variables. Both ROE and ROA data were extracted from "Thomson Financial DataStream". This research also applies Tobin-Q as a firm performance measure for robustness test as it is considered the most suitable proxy for firm performance (Adams *et al.*, 2015; Garcia-Castro, Ariño, & Canela, 2010). The women representation on board is explained as the number of woman directors to total directors with variable F-power. This is applied as a proxy of board size relative to the fraction of women on the board. For gender diversity, the study uses three different measures. Firstly, the study used the percentage of women to total board's size and it is represented by P-women. Secondly, the study calculates two more variables for measuring gender diversity that takes into accounts both the gender representation and the evenness of the distribution of board members between them (Campbell & Mínguez-Vera, 2008). To determine the combination of these attributes of gender diversity, the study attempts to balance and variety into "dual concept" measures of both diversity (Reguera-Alvarado *et al.*, 2017). This study calculates two variables of diversity based on this concept of the Blau and Shannon indices. This study measures the Blau index as  $1 - \sum_{i=1}^n p_i^2$  to where  $P_i$  is the representation of the percentage of each category on the board and  $n$  represents the total number of members from the board. The value of the Blau index is always between 0 and 0.5. It is equal to 0 when there is no female presentation and 0.5 in the case of gender parity. Similarly,  $-\sum_{i=1}^n p_i^2 \ln p_i^2$  where  $p_i$  and  $n$  terms as the same in the equation



of Shannan index. The value ranges from 0 to 0.69 as the minimum value is in event of no woman representation and maximum in event of parity.

### 3. Methodology

The data on the board's composition and firm's characteristics are obtained from the OSIRIS databases compiled by Bureau van Dijk (BvD). The rest of the data on directors' position, ownership structure, and gender diversity, is extracted from the company's financial reports for the period from 2007 to 2018. After excluding the firms with missing data on variables constructed for the study, the finding sample included 248 firms from India, 286 from China, 182 from Japan, 174 from Singapore, 168 from Korea, and 136 firms from Singapore. These firms almost cover 40% and above of the market capitalization of each country. Finally, the study produced 14328 firm-year observations. Statistics of the main data are shown in table 2. The average displays that the ratio of female directors is above 8% for Thailand, India, China, and Singapore; whereas, in Japan this average is the lowest among others.

Table 2 *Percentage of Women Directors (Yearly)*

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Ave.
<b>China</b>	6.44	7.47	7.52	7.51	7.51	7.72	8.71	8.66	9.66	9.66	8.68	8.68	8.19
<b>India</b>	7.14	7.01	8.52	8.01	7.04	8.03	8.99	8.94	9.01	9.11	9.17	9.18	8.35
<b>Japan</b>	5.49	6.18	7.57	7.53	6.41	6.88	6.98	6.99	7.61	8.56	8.18	8.31	7.22
<b>Korea</b>	6.05	7.08	7.13	7.12	7.12	7.33	8.32	8.27	9.27	9.27	8.29	8.29	7.80
<b>Singapore</b>	6.44	7.47	7.52	7.51	7.51	7.72	8.71	8.66	9.66	9.66	8.68	8.68	8.19
<b>Thailand</b>	6.83	7.86	7.91	7.9	7.9	8.11	9.1	9.05	10.05	10.05	10.07	10.07	8.58

#### 3.1 Construction of instrumental variables for study

There exists a serious concern of potential endogeneity and reverse causality problems in the case of gender diversity and firms' performance (Gul, Srinidhi, & Ng, 2011; Adams *et al.*, 2015). To address this, the study defines instrumental variable which is insignificantly correlated to firm's performance but with control variables. Moreover, it is also vital that these instrumental may correlate with endogenous variables. For this study, it is expected that instrumental variables predict rationally endogenous variables (W-Power, B-index, and S-index) but having an insignificant correlation with disturbance term in the study model (ROE). Therefore, the study applied three instrumental variables to address these two conditions; visibility of the firm (F-visibility), enforcement of gender representation law (GR), and the compensation paid to outside directors (NED-compensation).

In literature, the measures of a firm's visibility are quite mixed. The study operationalized the firm's visibility by using a dummy variable = 1 if a firm is listed on IBEX in India, Nikkei 225 in Japan, otherwise zero. The listing of firms on these listing agencies helps the firms to be explored by investors, different media, and other activists (Garcia-Castro *et al.*, 2010). The second measure relates to the effects of the implementation of mandatory law. For the last two to three decades, many countries in Asia implemented law obligating firms to have minimum numbers of females on their boards. As the implementation of this law encourages female representation on board, the probability of higher female representation is also quite higher. To investigate the effect of the law on gender diversity, the variable law takes the value of zero before implementation otherwise 1. This divides the period into two sub-periods that is before the enactment of the law of equality and after its promulgation. The third variable represents the directors' compensation. The literature highlighted the significance of moderate directors' compensation associated with high performance (Garcia-Castro *et al.*, 2010). The study takes the natural logarithm of directors' compensation (NED-compensation) as instrumental variables.

### 3.2 Model specification for OLS and GMM regression

To serve the afore-mentioned objectives, two different techniques are used. The main reason behind this division is the causality and potential endogeneity associated with the expected relationship of gender diversity and firm performance. Moreover, to assume from theoretical perspectives that this relationship is endogenously determined, the study uses the 1<sup>st</sup>-difference "Generalized Method of Moments (GMM)" as mentioned in earlier studies (Baum, Checherita-Westphal, & Rother, 2013; Wintoki *et al.*, 2012). During the execution of the 2-stage instrumental variables regression, the study assumes that there is a possibility to determine gender diversity in terms of a set of variables that has a significant correlation with the diversity variable but not with the dependent variable. For this purpose, the study uses the following equation.

$$\begin{aligned}
 ROA_{it} = & \beta_0 + \beta_1 * \text{gender diversity}_{it} + \beta_2 * \text{ownership structure}_{it} \\
 & + \beta_3 * \text{board characteristics}_{it} + \beta_4 \\
 & * \text{controle variables}_{it} + \beta_5 \\
 & * \text{country dummy}_{it} + \mu_i \dots \dots \dots \text{Eq I}
 \end{aligned}$$

Where ROA is the dependent variable, a proxy for financial performance, gender diversity represents three measures of diversity namely women's power (W-power), Blau index (B-index), and Shannon index (S-index). The study also uses three measures of ownership structure; namely, Family, institutional, and state ownership. Board characteristics comprise of board size, board

remuneration, board meeting, female executive/non-executive directors, and board interlock. The control variables are the firm's size, age, financial leverage, asset tangibility, research and development expenditure, product market share, and two macro-economic variables (GDP and exchange rate). Lastly, the country dummy is used to capture the country's effects and  $\mu_i$  represents the error term.

### 3.3 Estimation of instrumental variables

Following literature (Baum, Schaffer, & Stillman, 2007; Campbell & Minguez, 2008; Gul *et al.*, 2011), the endogeneity test is applied to assess its existence between gender diversity and a firm's performance. The results in Table 3 show significance for this test, which validates the existence of endogeneity in the case of all six selected economies. So, the results advocate the validity of variables constructed for gender diversity (women power, Blau and Shannon indices). The study addresses the endogeneity and causality issues and considers instrumental and control variables as predictors following Adams and Ferreira (2009).

Table 3 Results of the Endogeneity Test

	w-power	B-index	S-index
<b>Country</b>	<b>China</b>		
<b>Value test</b>	5.809**	3.901**	4.671**
<b>P-value</b>	0.020	0.0486	0.0163
	<b>Korea</b>		
<b>Value test</b>	1.926**	2.15**	2.078**
<b>P-value</b>	0.0103	0.315	0.0514
	<b>India</b>		
<b>Value test</b>	1.020*	1.876**	0.875*
<b>P-value</b>	0.0740	0.0291	0.0976
	<b>Singapore</b>		
<b>Value test</b>	6.092**	5.89**	3.092***
<b>P-value</b>	0.0311	0.0152	0.0041
	<b>Japan</b>		
<b>Value test</b>	5.761**	4.862**	3.910**
<b>P-value</b>	0.023	0.0187	0.0401
	<b>Thailand</b>		
<b>Value test</b>	2.043**	1.923*	1.0072*
<b>P-value</b>	0.052	0.0701	0.0691

Further, this study considers instrumental and control variables as predictors to address the endogeneity and causality issues (Adams & Ferreira,

2009). The findings from the 1<sup>st</sup> stage instrumental variables estimation are presented in appendix 1. The study regresses three different models due to the high correlation between these measures. The results of the women executive and non-executive directors are significant in model 2 and model 3 respectively, so the study presents their results in these two models only. The value  $R^2$  is average 40% for China, 62% for India, 49% for Japan, 36% for Korea, 42% for Singapore, and 32% for Thailand. Concerning instrumental variables, the variable firm's visibility and board remuneration are significant and the coefficient values follow our prediction. Importantly, the results also show positive and significant impacts of last year's performance on gender diversity in all three measures. For the variable of law, the findings showed a significant association between law and gender diversity in the case of Japan, India, and Singapore. These results support our initial prediction.

### **3.4 Regression results of GMM model**

The GMM regression results are presented in Table 4 below. The findings from the SARGAN test of over-identifying restrictions do not reject the validity of the instrument. Moreover, the test of second-order correlation and the statistic of second-order serial correlation of error term confirm the non-existence of second-order correlation. The study discusses the country-wise results as under. In the second stage of analysis, this study analyzes the effects of three diversity measures (w-power, B-index, and S-index) on a firm's performance- female diversity has already been instrumented by using firm visibility, law, and board remuneration. According to table IV, the results depict a positive association between gender diversity (w-power, B-index, and S-index) and firm performance in the case of all six economies. Asian firms are likely to have fewer females on corporate boards as compared to European firms; however, the link between diversity and performance is positive. The findings hence validate the study hypothesis  $H_1$  and in-line with earlier studies (e.g., Baum *et al.*, 2013; Câmara, Chung, & Wang, 2009; Post & Byron, 2015), that gender diversity significantly impacts firm performance because of the different perspective and experience it offers to the corporate board. Despite variation in significance level, the results reveal the importance of gender diversity on corporate boards in Asia.

In the context of corporate governance, this study finds a significant impact of executive female directors on a firm's performance in Asia. Executive directors have profound business and industry knowledge with business strategy and direction; so, capable to face competitive pressures. Similarly, they possess technical know-how in their functional area and have greater access to company information than non-executive directors. The results confirm their fiduciary relation to acting in a manner that is legally befitting of

their role as a director and which places the interests of the firm ahead of their own. The female executive directors enhance the value of boards via their deep understanding of the business and industry, strategy, competitive pressures, technical expertise in their field, and superior relative information about the firm. So, having a thorough understanding of these important issues, the female executives are in a better position to make informed and effective decisions. This results in the improvement of firm performance. In contrast, the female non-executive director has an insignificant role in firm performance in the case of China, Japan, and Singapore (see e.g., Ben-Amar *et al.*, 2013; Erhardt *et al.*, 2003). For the last few years, an increasing trend of posting female members on the non-executive positions has been evident; however, the executive positions are still dominated by male members in these countries. So appointing females as non-executive directors does not serve the purpose and it seems that these firms are only playing the number game. However, the role of board independence is significant in these economies which justifies. The independent directors have more confidence and self-esteem and openly share his or her opinion in front of the board. They are capable to boost the motivation of managers' commitments to fulfill the stakeholders' objectives. Similarly, they enhance the reliability of firms' disclosures to the public that give positive signals to stock markets. This is true in the Asian context as board independence is an important determinant of performance. The insignificance of female non-executive directors in these three economies shows that men-only as executive and not executive directors on corporate boardrooms alive and well in China, Japan, and Singapore, while the female only as executive directors.

In the case of India, Korea, and Thailand, the role of the executive, non-executive directors, and board independence is positively significant in firms' performance in line with hypotheses 1, 2, and 3. This significance level may be an outcome of different actions and law amendments relating to empowering females in a different field. In the case of Korea, female participation remained below par since democratization. Against the backdrop of South Korea's dramatic parliamentary last elections, female representation in South Korea's highest legislative body took a significant positive step forward, which represents the largest number of female representatives in both total number (51) and percentage (17%) in South Korean history. This female representation in the national assembly is almost near to average of the Asian region (19.2%) but lags behind the world average (22.8%). Although the proportional female representation in the National Assembly lags behind the world average (22.8%) and the Asian region (19.2%), recent history shows significant progress for South Korean female legislators. The implementation of gender laws,

government measures are taken and gender awareness empowers the female voices that ultimately may add to the role of women directors both at the executive and non-executive director's levels.

Despite the cultural barriers in Thailand, it is quite evident that females are equally treated there. They enjoy a high status and equal rights in this country. They also contribute significantly to the screen in this economy. In Asia-Pacific countries, Thailand has the second-highest proportion of leadership roles held by women (37 percent) following the Philippines (39 percent). The implementation of Thailand's Gender Equality Act of 2015 also encourages female participation in corporate sectors. This may add to the value of the role of both types of female directors. In the case of India, these findings may be the results of the various acts such as 'Protection of Women from Domestic Violence' Act (2005); 'Sexual Harassment of Women at Workplace' Act (2013); and the 'Hindu Succession' Act (2005). India is among the first of developing economies that imposed a quota of one woman director on the board (at minimum), under the legal framework.

Board size and board interlock also have a positive impact on the firm's performance in Asian firms. Though these results are in-line with existing literature (e.g., Filatotchev & Toms, 2003; Hillman *et al.*, 2000; Lipton & Lorsch, 1992; Terjesen & Singh, 2008; Veprauskaitė & Adams, 2013), but these contradict with some earlier studies (such as Cheng & Liu, 2016; Lin, 2011; Nguyen, Locke, & Reddy, 2015). In the case of Thailand, the impact of board size is negative on firms' performance implying higher board is exposed to complex issues that may delay decisions and opportunities go begging. Secondly, in a larger board, it is very hard to align the interest of different stakeholders and this may harm the efficient decisions (Cheng & Liu, 2016; Ehikioya, 2009; Lin, 2011). The board meeting also positively impacts a firm's performance in Asia.

The results also highlight the effects of various ownership structures on the firms' performances in the Asian major economies. For instance, institutional investors influence firms to be operated under effective governance. They also make sure that the organization along with pursuing the long-term goals must act in the best favor of shareholders. More importantly, they possess the necessary expertise and experience of running the business and hence can effectively monitor the management of the firm. Therefore, it is argued that large institutional investors are better in any case and have more respect and importance than minority shareholders. In contrast, some researchers also exhibited the flipside of institutional investors (Boubaker & Labégorre, 2008; Anderson & Reeb, 2003). So, in contrast to the signaling advantage of resource-dependency theory, the study observed a negative impact of state

ownership on firms' performances of Indian firms. In an emerging market like India, the negative association can be due to serving other objectives like employment, government control. At the same time, the poor governance mechanism like ineffective monitoring, poor transparency, and ambiguous accountability generally lead to a decline in performance. Similarly, the association of state ownership and firms' performance remains significant as per agency theory for other economies.

The results show a positive impact of family ownership on firms' performance in Asian economies. In Asian societies where family ownership is very common in small and medium firms, this relationship is more prominent. Family-owned firms are free from outside investors and hence, plan for the long term. Another important aspect of these enterprises is that they want to survive in the long term to support their next generations and communities. For the remaining control variables, the findings were in-line with the existing literature.

*Table 4 Results of Dynamic Panel GMM (Dependent variable Tobin Q)*

	<b>China</b> (three different panels)		
	(F-director)	(B-index)	(S-index)
F-director	0.395**		
B-index		2.0651*	
S-index			1.876**
F-E-director		0.0143**	
F-N-E-director			0.0343
board-size	0.275**	0.063*	0.0550**
b-independence	0.002*	0.0221*	0.4481*
b-meeting	0.061*	0.1945*	0.1023**
b-interlock	0.0532	0.0094*	0.0761*
I-ownership	0.081	0.0023	0.3564
s-ownership	0.092*	0.0564	0.0191*
F-ownership	0.5643**	0.980**	1.082**
Control variable	Included	Included	Included
<b>India</b>			
F-director	1.0923*		
B-index		5.764*	
S-index			2.764**
F-E-director			0.543**
F-N-E-director		0.0431**	
board-size	0.012*	0.1671*	0.005**
b-independence	0.201**	0.543*	0.502*

b-meeting	0.018**	0.1441**	0.033**
b-interlock	1.928**	1.187**	1.432**
I-ownership	0.0861	0.187**	0.012*
s-ownership	-0.0822*	-0.187**	-0.0342**
F-ownership	3.876***	2.080**	1.896***
Control variable	Included	Included	Included
<b>Japan</b>			
F-director	0.0876*		
B-index		1.804*	
S-index			2.756*
F-E-director		0.9645**	
F-N-E-director			0.013
board-size	0.038*	0.674*	0.067*
b-independence	0.040**	0.563**	0.017**
b-meeting	0.015**	0.098*	0.016**
b-interlock	0.075**	0.654**	0.195**
I-ownership	0.106*	0.252**	0.102*
s-ownership	0.0214*	0.054*	0.0443*
F-ownership	0.0065**	0.0876**	0.0656**
Control variable	Included	Included	Included
<b>Korea</b>			
F-director	0.934**		
B-index		1.0491**	
S-index			1.143**
F-E-director		0.185***	
F-N-E-director			0.0029*
board-size	0.220**	0.156*	0.028**
b-independence	0.3817*	0.0765	0.7025*
b-meeting	0.1932**	0.242**	1.004*
b-interlock	0.218***	0.4261**	0.0675**
I-ownership	0.0601**	0.0564**	0.0312**
s-ownership	0.013	0.0092	0.0065
F-ownership	0.6536***	0.187***	0.0548***
Control variable	Included	Included	Included
<b>Singapore</b>			
F-director	0.176*		
B-index		1.1024**	
S-index			1.1516**
F-E-director		0.0858***	
F-N-E-director			0.0321
board-size	0.0961*	0.0513*	0.0654*



b-independence	0.0373**	0.0486**	0.029**
b-meeting	0.112**	1.0879**	0.2187**
b-interlock	0.2064**	0.1765**	0.1602**
I-ownership	0.0357**	0.0764**	0.0589**
s-ownership	0.004*	0.0476	0.0032
F-ownership	0.25646**	0.0654**	0.226**
Control variable	Included	Included	Included
<b>Thailand</b>			
F-director	1.273**		
B-index		2.205**	
S-index			3.243**
F-E-director		0.0231**	
F-N-E-director			0.0012*
board-size	-0.172*	-0.049**	-0.059*
b-independence	0.0083	0.0087*	0.016*
b-meeting	0.0626*	0.0555*	0.0251**
b-interlock	0.0901*	0.04848**	0.1771**
I-ownership	0.00645	0.0065	0.0099
s-ownership	0.0050***	0.0013**	0.056**
F-ownership	3.017***	1.045***	2.0659**
Control variable	Included	Included	Included

\*\*\*, \*\*, and \* indicate a significance of less than 1 %, less than 5 %, and less than 10 %, respectively

#### 4. Analysis and Findings

The subsequent text aimed at elaborating the findings.

##### 4.1 Comparison of developing and developed market

Developing economies experience the phase of development and their market structure, behavior, and measure of the performance vary across the board. Therefore, it is critical to examine the finding of the study across these segments of economies (the findings are given in Table 3). The study divided the sample into three different groups (all economies, developed markets, and emerging markets) and three models are regressed.

The results showed a significant association between gender diversity variables (W-power, B-index, and S-index) and the firm's performance in all three models. At the same time, the study observed a higher significance level for emerging markets indicating that gender diversity has a more important role to play in economies where governance mechanisms and shareholders protection are on the weaker side. This study also highlighted the role of the

female executive and non-executive directors and found the significant association of female non-executive directors in the case of overall and emerging markets. Nonetheless, the role of non-executive directors is insignificant in developed economies. This may be because agency conflicts are not prominent in developed markets and shareholders have other mechanisms to control management interest. Board independence has an insignificant impact on firm performance in the case of developed markets. This is in line with the notion that an independent board is not expected to have a stake in the firm's business (Fama & French, 2001; Williamson, 1984). As the ownership concentration is among the main factors of firms' performance, the effects of board independence on firms' performance in highly concentrated ownership structure linger uncertain (Klein, Shapiro, & Young, 2005; Lefort & Urzúa, 2008) like Asian developed countries.

Additionally, a positive role of state ownership in a firm's performance in a developed market and a negative role of the same variable in emerging markets is found. There is a greater scope of government intervention in these markets because there are many more market failures. At the same time, the higher cost of interventions may be a result of poor governance and more prevalent corruption (Stulz, 2005). There often exists the "twin agency" problem of expropriation by insiders and the government that destabilize the investment.

Table 5: *Comparison of Three Different Samples (all Firms, Developed and Developing Market Firms)*

	<b>Results of all countries analysis</b>		
	(F-director)	(B-index)	(S-index)
F-director	0.934*		
B-index		0.0911*	
S-index			0.073**
F-E-director			0.0172*
F-N-E-director		0.01765*	
board-size	0.020*	0.156*	0.028**
b-independence	0.3817*	0.0765	0.7025*
b-meeting	0.134**	0.142**	0.904***
b-interlock	0.0808*	0.0261*	0.0675*
I-ownership	0.0023*	0.0076	0.157**
S-ownership	0.013	0.0092	0.0065
F-ownership	0.0222***	0.070**	0.0548*
A-tangibility	0.0555*	0.0145*	0.0672*
F-size	0.0561*	0.0671*	0.035**
f-age	0.0352	0.0798	0.1128
R&D Exp	0.0053*	0.0201*	0.0014
F-leverage	-0.0015	-0.0004	0.0009

P-M-share	0.231**	0.312**	0.761**
GDP	0.0546*	0.0561*	0.06
Exchange rate	-0.099*	-0.0310*	-0.0010*
<b>Results of developed countries analysis</b>			
F-director	0.0765*		
B-index		0.1024*	
S-index			0.1516**
F-E-director		0.0858*	
F-N-E-director			0.0391
board-size	0.0961*	0.0513*	0.0654*
b-independence	0.0373	0.0486	0.0292
b-meeting	0.112***	1.0879**	0.2187**
b-interlock	0.5001**	0.1046**	0.0602**
I-ownership	0.00708	0.0531*	0.0361**
S-ownership	0.034*	0.0456	0.0652
F-ownership	0.040**	0.0604**	0.226**
A-tangibility	0.0465**	0.0208*	0.0541*
F-size	0.0098	0.00100*	0.07103
f-age	0.1654*	0.0093*	0.0187*
R&D Exp	0.002*	0.0087*	0.021**
F-leverage	0.0061	0.0065	0.0068
P-M-share	0.144**	0.1667*	0.143**
GDP	0.0056*	0.018*	0.0046
Exchange rate	-0.0216*	-0.021*	-0.0161*
<b>Results of Emerging Countries Analysis</b>			
F-director	2.271**		
B-index		1.092**	
S-index			1.094**
F-E-director		0.5231***	
F-N-E-director			0.0112*
board-size	0.17255	0.04978	0.0595
b-independence	0.0545**	0.0677**	0.349***
b-meeting	0.0626*	0.0555*	0.0251**
b-interlock	0.0911*	0.048**	0.053**
I-ownership	0.00312*	0.1116*	0.0506**
S-ownership	-0.0167*	-0.0213	-0.056*
F-ownership	2.001***	1.056**	2.065***
A-tangibility	0.0164*	0.0065*	0.0182**
F-size	0.0091**	0.012	0.001*
f-age	0.0311	0.009	0.0677*

R&D Exp	0.005*	0.0143*	0.059*
F-leverage	-0161*	-0.0134*	-0.0132*
P-M-share	0.235**	0.067*	0.185**
GDP	0.0681**	0.0870*	0.0867**
Exchange rate	-0.0091	0.00301	0.0301

#### 4.2 Robustness test (alternative measure of firm performance)

This study also tested the sensitivity of finding to the use of Tobin Q of another proxy of firm performance following existing literature (Campbell & Mínguez-Vera, 2008; Adams & Ferreira, 2009; Garcia-Castro *et al.*, 2010). For this purpose, the study re-estimated the results with three different techniques. Firstly, the study applied the pool Ordinary least Square technique. The results in the un-tabulated table depict a similar coefficient sign with a slight change in value as reported by GMM results with ROA. Secondly, the study regressed the fixed effect model based on Hausmann selection criteria and the results of the fixed effect model also confirm our earlier finding. The study found only differences in the level of significance for family ownership, board interlock, and female non-executive directors which are quite negligible in this case. As a result, the study can sum up the results as, "robust" and free from self-selection biases. The results are not presented only due to words limitation.

#### 4.3 Effect of the law on board gender diversity

Being a woman on the corporate board is not easy; as issues related to gender parity and diversity seem to plague the corporate sector. And despite some laudable efforts, firms are a long way off from closing this diversity gap. The implementation of diversity law and governance mechanism put companies under increasing pressure to enter more females on their governing boards. The diversity law exists almost in all economies but it does not bind the firm to follow the strict rule of diversity. Out of the six countries included in the sample, the diversity law exists in Thailand and India, where a firm is required to have a specific number of females in the boardroom. In India, the government implemented a quota requiring firms at minimum one woman director on board. Likewise, in 2015, Thailand's "Gender Equality Act" comes into effect. This is a legitimate tool that requires a firm to have at least one member on board. It's very important to investigate the impacts of diversity law on woman representation in the boardroom. The study presents the results in table VI below. The study highlights the significance of mandatory law concerning female representation in the boardroom. The results show a significant association between the implementation of law and diversity measures (W-power, B-index, and S-index). These results confirm that the promotion of mandatory law is a key factor for contributing higher presence of women on board. According to the finding of the study, this mechanism needs

to be employed in countries which lag behind the existence of woman on board.

Table 6: *Implementation of Mandatory Law and Gender Diversity*

	Thailand			India		
	W-Power	B-Index	S-Index	W-Power	B-Index	S-Index
<b>Law</b>	1.21**	0.33*	0.14**	2.29***	1.64***	1.57***
<b>Adj. – R<sup>2</sup></b>	0.021	0.023	0.022	0.017	0.019	0.011
<b>F-Test</b>	4.65**	3.01*	5.16**	4.07***	6.56***	6.65***
<b>Haussmann Test</b>	0.04	0.09	0.02	0.01	0.00	0.05

The coefficient sig. level 1%, 5% and 10% is indicated by \*\*\*, \*\* and \* respectively.

#### 4.4 Tokenism and firm performance

Despite strong urgings for a greater number of females in corporate boards (Burkart *et al.*, 2003; Singh & Zammit, 2006), their role is still as tokens (Daily, Dalton, & Cannella Jr, 2003; Singh & Zammit, 2006; Terjesen *et al.*, 2015). There are empirics on female directors but it's very difficult to find a direct correlation of gender diversity with firms' performance (Terjesen *et al.*, 2015). Therefore, the study shows an interesting aspect of the association between gender diversity in corporate boards to the firm's performance. Based on "Critical Mass Theory", the study investigates the role of female directors on firms' performance in Asia. Hence, it's an effort to reveal that the majority employs more effect in a group than the minority does, by virtue of their higher number. Minorities are simply marginalized if they have a modest presence in a larger group and the concept of tokenism prevails (Gordini & Rancati, 2017). The question arises whether the gender ratio on the boardroom improves the firm performance or not. Secondly, diversity may be caused by reverse causality. The study removes the possibility of any reverse causal relationship by constructing instrumental variables. Some of the researchers do believe that more women on the board mean chosen more forward-thinking business practices generally (Torchia *et al.*, 2011). For this purpose, the study applied a t-test; as the output from independent samples t-test informs us how far the mean value of one sample is from the mean of the other group. This reports the mean of each group, the average difference between the groups, and the significance of this difference. The main objective of this research is to examine tokenism and study for the purpose, the study divides the samples into different groups (females = 0; females ≤ 5%; females ≤ 10%; females ≤ 15%;

females  $\leq$  20%; females above 20%). Through this differentiation, we can justify the results of whether tokenism persists in Asia or not.

The results have been shown in Table. These provided quite interesting facts for Asian economies. In group I, the firms are divided into two samples; i.e. firms having no woman director and firms having at least one woman director or above. The results of the first group show a significant difference in the means value of ROA at 10% of the two samples. This shows firms having female representation on board having more return on assets as compared to their counterpart. Similarly, there is a significant difference in board size at the 5% level for firms having at least one female on their board. The level of board independence for diversified firms is also on the higher side with a significance level of 1%. The study also explores the number of meetings is statistically significant in diversified board and the results confirmed the significant difference in a meeting where female representation is prominent. The results of board interlock are statistically different for firms having more female representation on their corporate board (for 20% or above and 15% female representation).

In the case of ownership structure, the study found a statistically significant difference between the means value of state ownership of diversified and non-diversified firms. In contrast, family ownership has negative statistical value with significant impacts showing that gender diversity is negatively related to family ownership. Lastly, the study found no significant difference in the means value of institutional ownership in Asian countries. Similarly, the study found a statistically significant difference in the case of firm size, research and development expenditures, and product market shares of firms. However, financial leverage is quite lower in firms where female ownership is significant in terms of their representation. The study proves their significant role rather than tokenism. This shows their significant role in the corporate board rather than tokenism.

Table 7 *Group Comparison*

	<b>Group 1</b>		Difference t-test
	female=0	female $\geq$ 1	
ROA	6.13	6.577	-1.762*
board-size	9.97	10.76	-2.50**
b-independence	2.13	3.57	-7.96***
b-meeting	7.519	8.23	-2.192**
b-interlock	0.0096	0.01064	0.0271
I-ownership	0.185	0.8612	0.116
S-ownership	0.18821	0.177	1.672*
F-ownership	0.143	0.172	-1.909*

F-size	9.95	9.053	0.0897 <sub>a</sub>
f-age	31.07	26.55	-2.78**
A-tangibility	0.652	1.17	-1.39
R&D Exp.	0.089	0.054	0.923
F-leverage	0.0011	0.0091	-0.421
P-M-share	0.7656	1.6964	1.662*
No of firms	450	744	
<b>Group II</b>			
	Female above 20%	15% < female ≤ 20%	Difference t-test
ROA	8.084	6.562	4.652***
board-size	11.48	11.25	-0.932
b-independence	2.02	2.46	-0.684
b-meeting	7.12	6.08	2.082***
b-interlock	0.0095	0.0023	3.026**
I-ownership	0.23	0.12	0.052
S-ownership	0.0824	0.1936	-1.720*
F-ownership	0.266	0.242	0.0432
F-size	6.84	8.943	4.028** <sub>a</sub>
f-age	24.64	26.56	11.44***
A-tangibility	1.024	1.932	-0.625
R&D Exp.	0.964	0.561	2.8101***
F-leverage	0.0121	0.0071	0.0761
P-M-share	2.675	1.763	5.671***
No of firms	31	37	
<b>Group III</b>			
	15% < female ≤ 20%	10% < female ≤ 15%	Difference t-test
ROA	7.062	5.652	6.782***
board-size	9.65	10.44	-1.886*
b-independence	2.282	2.68	1.468
b-meeting	8.12	7.22	2.717**
b-interlock	0.011	0.013	1.692*
I-ownership	0.882	0.65	0.667
S-ownership	0.0642	0.9978	-3.768**
F-ownership	0.1624	0.142	0.051
F-size	8.083	7.092	1.871* <sub>a</sub>
f-age	22.53	23.02	1.674*
A-tangibility	0.838	0.932	-0.226
R&D Exp.	0.174	0.054	1.766*
F-leverage	0.007	0.00812	-0.132

P-M-share	1.6753	0.9873	2.6754**
No of firms	37	41	
<b>Group IV</b>			
	10% < female ≤ 15%	5% < female ≤ 10%	Difference t-test
ROA	8.02	6.467	3.652**
board-size	9.86	9.65	0.657
b-independence	5.02	5.46	-0.684
b-meeting	8.409	8.12	0.082
b-interlock	0.0085	0.00954	0.026
I-ownership	0.542	1.06	-2.50**
S-ownership	0.07821	1.067	-3.062***
F-ownership	0.153	0.142	1.719*
F-size	9.84	8.943	1.65* <sub>a</sub>
f-age	30.96	26.44	11.67**
R&D Exp.	0.075	0.7512	0.006
F-leverage	0.067	0.079	0.0152
P-M-share	0.053	-0.015	-0.06
No of firms	41	45	
<b>Group V</b>			
	5% < female ≤ 10%	1 < female ≤ 5%	Difference t-test
ROA	9.194	7.672	2.769**
board-size	8.59	9.36	-1.854*
b-independence	2.13	2.57	1.694*
b-meeting	7.23	6.19	1.919*
b-interlock	0.0106	0.0034	0.0271
I-ownership	1.134	2.042	-0.015
S-ownership	0.1924	0.2036	-4.78**
F-ownership	0.176	0.352	5.17**
F-size	6.95	9.053	4.13*** <sub>a</sub>
f-age	24.75	26.67	3.55**
R&D Exp.	0.64	0.33	0.162
F-leverage	0.281	0.273	0.191
P-M-share	0.067	0.04	0.012
No of firms	83	102	
<b>Group VI</b>			
	female = 1	female = 0	Difference t-test
ROA	7.172	7.062	1.892*
board-size	10.76	9.55	1.694*
b-independence	2.392	1.79	6.67***
b-meeting	8.23	7.33	1.627



b-interlock	0.0121	0.0141	0.0271
I-ownership	0.948	1.042	-0.116
S-ownership	0.1742	1.1078	-2.658***
F-ownership	0.1724	0.152	1.761*
F-size	7.193	4.202	-2.78** <sub>a</sub>
f-age	22.65	23.13	-0.0584
R&D Exp.	0.992	0.76	0.777
F-leverage	0.081	0.173	0.091
P-M-share	0.066	0.054	0.008
No of firms	405	450	

## 5. Discussion on Findings

The findings show different pertinent conclusions. Firstly, the study highlights the positive significant impact of gender diversity (more female as board members) on firms' performances in Asia, this is in line with the earlier findings (e.g., Bonn & Fisher, 2005; Campbell & Mínguez-Vera, 2008; Carter *et al.*, 2010). Furthermore, the fact that gender diversity adds value to a firm is also consistent with the "resource-based perspective". Consequently, the female presence on board is required to be promoted by external intimidating measures (like mandatory laws) and from within firms because of labor and social justice. So, it is beyond dispute that their presence on board may offer firms and society with extensive social and ethical advances (Harjoto, Laksmana, & Lee, 2015) because this act enhances the actual parity between women and men. Despite a shift in national policies and socio-cultural norms, women across Asia still have a low proportion as compare to men in the labor force. Moreover, female quality of participation is highly diverse, as, despite their significant role in economic development, they lag behind men in the formal sector and more directed toward the informal sector. Discrimination, unpaid care work and family responsibilities, harassment, stereotypes, and gender gaps in voice, representation, and leadership in the world of work are some of the obstacles women face in moving into better quality jobs and opportunities.

Besides, in the context of the "Law of Equality", the findings show a significant increase in female participation on corporate boards due to the enactment of this compulsion. The findings suggest that compulsory regulations are powerful mechanisms to attain effective gender diversity enforcing the execution of the recommendation of mandatory laws in Asia. Specifically, the descriptive statistics show a significant increase in female representation once the law is enforced in India and Thailand. Hence, the study proposes that firms need to have a more effective policy of hiring more females

on the corporate board. This would not only enhance their performance but will also ensure resource-based views and social visibility.

Moreover, the study depicts the significant role of female executive directors in Asian economies included in the sample size. The results of board structure are also significant for board meetings and board interlock. Moreover, to this, results also found a significant impact on family and institutional ownership on firm performance. It's very important to consider the ownership structure in the case of firms' performance. The results predict a significant role of family and institutional ownership in the performance of most of the economies included in the sample. However, the results depicted an inverse impact of state ownership on firms' performance in the case of India while contrasting findings have been observed in the case of Thailand. This adds to the controversies of state ownership in the case of Asian economies.

In the next stage, the study compares the developed and developing markets and finds quite a significant difference between developed and developing markets in Asia. Firstly, gender diversity variables have a significant direct effect on firms' performances in developed and developing economies. Secondly, the study significant role of woman executive directors with a significance level of 1% for emerging markets as compared to 10% in the developed market. The female non-executive directive has an insignificant role in firm performance in developed markets as compared to emerging markets. In developed markets, the board meetings and board interlock have a significant role to play in firm performance as their significance level is quite higher (1%) when compared to developing markets. State ownership indirectly affects the firm financial performance in the case of developing economies. The study attributes results in the inefficient state mechanism in emerging markets that requires directive and controlling policies.

## **6. Conclusion**

The study adds to the research on firm performance and women's presence on board in three different means. First, as to the best of our knowledge, the current study is the first comparative attempt in an Asian context considering the female role in firm performance in Asian major economies. For all economies, the study reported a significant direct impact of gender diversity on firms' performance. Secondly, the study also tested the effects of mandatory law on woman representation on board and found a significant association. The results strongly support the enactment of mandatory law to enhance gender diversity rather than it is treated as an act of ethics or other moral behaviors. Thirdly, the study empirically analyzes the endogeneity prospect in the association of firms' performance and gender diversity, by using the test of endogeneity based on literature support (A. Baum *et al.*, 2013). Fourthly, the

study compared the results of developing and developed markets and reports quite significant differences in results. Fifthly, the study uses a different approach to address the issue of tokenism by creating different samples based on female representation and applying t-tests. The results highlighted the female significance role in firms where they are in a higher ratio. The t-stats also show a significant difference in a board meeting and other governance variables where females have a significant representation of the boardroom. This supports the maxim of females from tokenism to critical mass. Sixthly, the study also highlighted the female role as executive and non-executive directors in Asian firms and found females are more influential in firm performance as executive directors. We can reap the benefits of female participation by hiring and promoting more women as part of the talent pool. Based on these findings, the study strongly affirms the regulatory interventions are pertinent assistance to upturn the women participation at corporate boards in Asia. As a result, the state can be described by a desire to preserve the historical status of male dominance as from financial perspectives, the results significantly recommend the direct effects of gender diversity on a firm's financial performance. The study has strong implications for governments, lawmakers, shareholders, and company management. These stakeholders are required to consider the findings to augment state policies and business decisions that support the incorporation of females in a board. Besides, these findings are also actually motivating for those countries where mandatory laws are not applicable to enhance the woman's existence on boardrooms, as results highlight positive outcomes- from both ethical and economic perspectives.

## **References**

- Achim, M.-V., Borlea, S.-N., & Mare, C. (2016). Corporate governance and business performance: Evidence for the Romanian economy. *Journal of Business Economics and Management*, 17(3), 458-474.
- Adams, R. B., de Haan, J., Terjesen, S., & van Ees, H. (2015). Board diversity: Moving the field forward. *Corporate Governance: An International Review*, 23(2), 77-82.
- 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.
- Aljifri, K., & Moustafa, M. (2007). The impact of corporate governance mechanisms on the performance of UAE firms: an empirical analysis. *Journal of Economic and Administrative Sciences*, 23(2), 71-93.

- Anderson, R. C., & Reeb, D. M. (2003). Founding-family ownership and firm performance: evidence from the S&P 500. *The Journal of Finance*, 58(3), 1301-1328.
- Ang, J. S., & Ding, D. K. (2006). Government ownership and the performance of government-linked companies: The case of Singapore. *Journal of Multinational Financial Management*, 16(1), 64-88.
- Baum, A., Checherita-Westphal, C., & Rother, P. (2013). Debt and growth: New evidence for the euro area. *Journal of International Money and Finance*, 32, 809-821.
- Baum, C. F., Schaffer, M. E., & Stillman, S. (2007). Enhanced routines for instrumental variables/generalized method of moments estimation and testing. *The Stata Journal*, 7(4), 465-506.
- Ben-Amar, W., Francoeur, C., Hafsi, T., & Labelle, R. (2013). What makes better boards? A closer look at diversity and ownership. *British Journal of Management*, 24(1), 85-101.
- Bhagat, S., & Black, B. (1999). The uncertain relationship between board composition and firm performance. *The Business Lawyer*, 921-963.
- Bhagat, S., & Black, B. (2001). The non-correlation between board independence and long-term firm performance. *J. Corp. l.*, 27, 231-245.
- Bhimani, A. (2008). Making corporate governance count: the fusion of ethics and economic rationality. *Journal of Management & Governance*, 12(2), 135-147.
- Bonn, I., & Fisher, J. (2005). Corporate governance and business ethics: Insights from the strategic planning experience. *Corporate Governance: An International Review*, 13(6), 730-738.
- Boubaker, S., & Labégorre, F. (2008). Ownership structure, corporate governance, and analyst following: A study of French listed firms. *Journal of Banking & Finance*, 32(6), 961-976.
- Burkart, M., Panunzi, F., & Shleifer, A. (2003). Family firms. *The Journal of Finance*, 58(5), 2167-2201.
- Câmara, A., Chung, S. L., & Wang, Y. H. (2009). Option implied cost of equity and its properties. *Journal of Futures Markets: Futures, Options, and Other Derivative Products*, 29(7), 599-629.
- Campbell, K., & Mínguez-Vera, A. (2008). Gender diversity in the boardroom and firm financial performance. *Journal of Business Ethics*, 83(3), 435-451.
- Carney, M., & Gedajlovic, E. (2002). The coupling of ownership and control and the allocation of financial resources: evidence from Hong Kong. *Journal of Management Studies*, 39(1), 123-146.

- Carter, D. A., D'Souza, F., Simkins, B. J., & 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.
- Cheng, A., & Liu, C. Z. (2016). The Unique Effect of Depreciation on Earnings Properties: Persistence and Value Relevance of Earnings. *Journal of Accounting & Finance* (2158-3625), 16(2).
- Canyon, M. J., & He, L. (2017). Firm performance and boardroom gender diversity: A quantile regression approach. *Journal of Business Research*, 79, 198-211.
- Daily, C. M., Dalton, D. R., & Cannella Jr, A. A. (2003). Corporate governance: Decades of dialogue and data. *Academy of Management Review*, 28(3), 371-382.
- Dalton, D. R., & Dalton, C. M. (2011). Integration of micro and macro studies in governance research: CEO duality, board composition, and financial performance: SAGE Publications Sage CA: Los Angeles, CA.
- Darmadi, S. (2011). Board diversity and firm performance: Indonesian evidence. *Corporate Ownership and Control Journal*, 8.
- David, P., Kochhar, R., & Levitas, E. (1998). The effect of institutional investors on the level and mix of CEO compensation. *Academy of Management Journal*, 41(2), 200-208.
- DeAngelo, H., DeAngelo, L., & Stulz, R. M. (2006). Dividend policy and the earned/contributed capital mix: a test of the life-cycle theory. *Journal of Financial Economics*, 81(2), 227-254.
- Demsetz, H. (1983). The structure of ownership and the theory of the firm. *The Journal of Law and Economics*, 26(2), 375-390.
- Dezsö, C. L., & Ross, D. G. (2012). Does female representation in top management improve firm performance? A panel data investigation. *Strategic management journal*, 33(9), 1072-1089.
- Duggal, R., & Millar, J. A. (1999). Institutional ownership and firm performance: The case of bidder returns. *Journal of Corporate Finance*, 5(2), 103-117.
- Ehikioya, B. I. (2009). Corporate governance structure and firm performance in developing economies: evidence from Nigeria. *Corporate Governance: the international journal of business in society*, 9(3), 231-243.
- Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review*, 14(1), 57-74.

- Elyasiani, E., & Jia, J. (2010). Distribution of institutional ownership and corporate firm performance. *Journal of Banking & Finance*, 34(3), 606-620.
- Eng, L. L., & Mak, Y. T. (2003). Corporate governance and voluntary disclosure. *Journal of Accounting and Public Policy*, 22(4), 325-345.
- Erhardt, N. L., Werbel, J. D., & Shrader, C. B. (2003). Board of director diversity and firm financial performance. *Corporate Governance: An International Review*, 11(2), 102-111.
- Fama, E. F., & French, K. R. (2001). Disappearing dividends: changing firm characteristics or lower propensity to pay? *Journal of Financial Economics*, 60(1), 3-43.
- Ferreira, D. (2015). Board diversity: should we trust research to inform policy? *Corporate Governance: An International Review*, 23(2), 108-111.
- Filatotchev, I., & Toms, S. (2003). Corporate governance, strategy, and survival in a declining industry: A study of UK cotton textile companies. *Journal of Management Studies*, 40(4), 895-920.
- Finegold, D., Benson, G. S., & Hecht, D. (2007). Corporate boards and company performance: Review of research in light of recent reforms. *Corporate Governance: An International Review*, 15(5), 865-878.
- Garcia-Castro, R., Ariño, M. A., & Canela, M. A. (2010). Does social performance really lead to financial performance? Accounting for endogeneity. *Journal of Business Ethics*, 92(1), 107-126.
- Goergen, M., & Renneboog, L. (2014). Inside the board room. *Journal of Corporate Finance*, 28, 1-5.
- Gompers, P. A., & Metrick, A. (2001). Institutional investors and equity prices. *The Quarterly Journal of Economics*, 116(1), 229-259.
- Gordini, N., & Rancati, E. (2017). Gender diversity in the Italian boardroom and firm financial performance. *Management Research Review*, 40(1), 75-94.
- Grosvold, J., & Brammer, S. (2011). National institutional systems as antecedents of female board representation: An empirical study. *Corporate Governance: An International Review*, 19(2), 116-135.
- Gul, F. A., Srinidhi, B., & Ng, A. C. (2011). Does board gender diversity improve the informativeness of stock prices? *Journal of Accounting and Economics*, 51(3), 314-338.
- Harjoto, M., Laksmana, I., & Lee, R. (2015). Board diversity and corporate social responsibility. *Journal of Business Ethics*, 132(4), 641-660.
- Haslam, S. A., Ryan, M. K., Kulich, C., Trojanowski, G., & 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.
- Haunschild, P. R. (1993). Interorganizational imitation: The impact of interlocks on corporate acquisition activity. *Administrative Science Quarterly*, 564-592.
- Hermalin, B. E., & Weisbach, M. S. (2001). Boards of directors as an endogenously determined institution: A survey of the economic literature: National Bureau of Economic Research.
- Hillman, A. J., Cannella, A. A., & Paetzold, R. L. (2000). The resource dependence role of corporate directors: Strategic adaptation of board composition in response to environmental change. *Journal of Management Studies*, 37(2), 235-256.
- Hillman, A. J., & Dalziel, T. (2003). Boards of directors and firm performance: Integrating agency and resource dependence perspectives. *Academy of Management Review*, 28(3), 383-396.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Joecks, J., Pull, K., & 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.
- Julizaerma, M. K., & Sori, Z. M. (2012). Gender diversity in the boardroom and firm performance of Malaysian public listed companies. *Procedia-Social and Behavioral Sciences*, 65, 1077-1085.
- Kaplan, S. N., & Rauh, J. (2013). It's the market: The broad-based rise in the return to top talent. *Journal of Economic Perspectives*, 27(3), 35-56.
- Kim, D., & Starks, L. T. (2016). Gender diversity on corporate boards: Do women contribute unique skills? *American Economic Review*, 106(5), 267-271.
- Kim, Y. (2005). Board network characteristics and firm performance in Korea. *Corporate Governance: An International Review*, 13(6), 800-808.
- Klein, P., Shapiro, D., & Young, J. (2005). Corporate governance, family ownership, and firm value: the Canadian evidence. *Corporate Governance: An International Review*, 13(6), 769-784.
- Konijn, S. J., Kräussl, R., & Lucas, A. (2011). Blockholder dispersion and firm value. *Journal of Corporate Finance*, 17(5), 1330-1339.

- Kosnik, R. D. (1990). Effects of board demography and directors' incentives on corporate greenmail decisions. *Academy of Management Journal*, 33(1), 129-150.
- Kowalski, P., Büge, M., Sztajerowska, M., & Egeland, M. (2013). State-owned enterprises.
- Lane, S., Astrachan, J., Keyt, A., & McMillan, K. (2006). Guidelines for family business boards of directors. *Family Business Review*, 19(2), 147-167.
- Lefort, F., & Urzúa, F. (2008). Board independence, firm performance, and ownership concentration: Evidence from Chile. *Journal of Business Research*, 61(6), 615-622.
- Li, H., & Chen, P. (2018). Board gender diversity and firm performance: The moderating role of firm size. *Business Ethics: A European Review*, 27(4), 294-308.
- Lin, C.-J. (2011). An examination of board and firm performance: Evidence from Taiwan.
- Lipton, M., & Lorsch, J. W. (1992). A modest proposal for improved corporate governance. *The Business Lawyer*, 59-77.
- Mak, Y. T., & Li, Y. (2001). Determinants of corporate ownership and board structure: evidence from Singapore. *Journal of Corporate Finance*, 7(3), 235-256.
- Marimuthu, M., & Kolandaisamy, I. (2009). Ethnic and gender diversity in boards of directors and their relevance to financial performance of Malaysian companies. *Journal of Sustainable Development*, 2(3), 139-148.
- McGuire, J., Dow, S., & Ibrahim, B. (2012). All in the family? Social performance and corporate governance in the family firm. *Journal of Business Research*, 65(11), 1643-1650.
- Meggison, W. L., & Netter, J. M. (2001). From state to market: A survey of empirical studies on privatization. *Journal of Economic Literature*, 39(2), 321-389.
- Mizruchi, M. S., & Stearns, L. B. (2003). Social networks, CEO background, and corporate financing: a dyadic analysis of similarity of borrowing by large US firms, 1973-1993. *Department of Sociology, University of Michigan, Ann Arbor, MI. Unpublished manuscript.*
- Mohammad, S. J., Abdullatif, M., & Zakzouk, F. (2018). The Effect Of Gender Diversity On The Financial Performance Of Jordanian Banks. *Academy of Accounting & Financial Studies Journal*, 22(2).
- Morck, R., & Yeung, B. (2004). Family control and the rent-seeking society. *Entrepreneurship theory and practice*, 28(4), 391-409.



- Nguyen, T., Locke, S., & Reddy, K. (2015). Ownership concentration and corporate performance from a dynamic perspective: Does national governance quality matter? *International Review of Financial Analysis*, 41, 148-161.
- Park, Y. W., & Shin, H.-H. (2004). Board composition and earnings management in Canada. *Journal of Corporate Finance*, 10(3), 431-457.
- Porter, M. E., & Millar, V. E. (1985). How information gives you competitive advantage: Harvard Business Review Reprint Service.
- Post, C., & Byron, K. (2015). Women on boards and firm financial performance: A meta-analysis. *Academy of Management Journal*, 58(5), 1546-1571.
- Pucheta-Martínez, M. C., Bel-Oms, I., & Olcina-Sempere, G. (2016). Corporate governance, female directors, and quality of financial information. *Business Ethics: A European Review*, 25(4), 363-385.
- Reguera-Alvarado, N., de Fuentes, P., & Laffarga, J. (2017). Does board gender diversity influence financial performance? Evidence from Spain. *Journal of Business Ethics*, 141(2), 337-350.
- Rubach, M., & Picou, A. (2005). The enactment of corporate governance guidelines: an empirical examination. *Corporate Governance: the International Journal of Business in Society*, 5(5), 30-38.
- Saeed, A., Belghitar, Y., & Yousaf, A. (2016). Firm-level determinants of gender diversity in the boardrooms: Evidence from some emerging markets. *International Business Review*, 25(5), 1076-1088.
- Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *The Journal of Finance*, 52(2), 737-783.
- Shropshire, C. (2010). The role of the interlocking director and board receptivity in the diffusion of practices. *Academy of Management Review*, 35(2), 246-264.
- Singh, A., & Zammit, A. (2006). Corporate Governance, Crony Capitalism, and Economic Crises: should the US business model replace the Asian way of "doing business"? *Corporate Governance: An International Review*, 14(4), 220-233.
- Sorensen, J. B., & Sorenson, O. (2007). Corporate demography and income inequality. *American Sociological Review*, 72(5), 766-783.
- Stulz, R. M. (2005). The limits of financial globalization. *The Journal of Finance*, 60(4), 1595-1638.

- Terjesen, S., Aguilera, R. V., & Lorenz, R. (2015). Legislating a woman's seat on the board: Institutional factors driving gender quotas for boards of directors. *Journal of Business Ethics*, 128(2), 233-251.
- Terjesen, S., Couto, E. B., & 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., & Singh, V. (2008). Female presence on corporate boards: A multi-country study of environmental context. *Journal of Business Ethics*, 83(1), 55-63.
- Torchia, M., Calabrò, A., & Huse, M. (2011). Women directors on corporate boards: From tokenism to critical mass. *Journal of Business Ethics*, 102(2), 299-317.
- Veprauskaitė, E., & Adams, M. (2013). Do powerful chief executives influence the financial performance of UK firms? *The British Accounting Review*, 45(3), 229-241.
- Walsh, J. P., & Seward, J. K. (1990). On the efficiency of internal and external corporate control mechanisms. *Academy of Management Review*, 15(3), 421-458.
- Wang, Y., & Clift, B. (2009). Is there a "business case" for board diversity? *Pacific Accounting Review*, 21(2), 88-103.
- Westphal, J. D., & Zajac, E. J. (1995). Who shall govern? CEO/board power, demographic similarity, and new director selection. *Administrative Science Quarterly*, 40(1), 60.
- Williamson, O. E. (1984). The economics of governance: framework and implications. *Zeitschrift für die Gesamte Staatswissenschaft/Journal of Institutional and Theoretical Economics*(H. 1), 195-223.
- Wintoki, M. B., Linck, J. S., & Netter, J. M. (2012). Endogeneity and the dynamics of internal corporate governance. *Journal of Financial Economics*, 105(3), 581-606.
- Wirtz, P. (2011). Beyond agency theory: Value creation and the role of cognition in the relationship between entrepreneurs and venture capitalists *Advances in Entrepreneurial Finance* (pp. 31-43): Springer.
- Yammeesri, J., & Lodh, S. (2004). Is family ownership a pain or gain to firm performance? *Journal of American Academy of Business*, 4(1/2), 263-270.