

Women on the Board and Firm Performance of Thai Publicly Listed Companies in the SET100, 2008-2017

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Abstract

This study aims to examine the relationship between firm performance and women on the board of directors of the top 55 non-financial public companies listed in the Thailand Stock Exchange (SET) over the past 10 years (2008-2017). The regression results suggest that women inclusion on the board as well as the ratio of women contributes positively to firm performance as measured by Tobin's Q and return on assets (ROA), but not on the return on common equity (ROE). The study also finds that women on the board as an independent or non-executive director may be related to better corporate performance. However, there is no evidence that women directors' networking capacity and/or foreign education contribute to better firm performance. Overall, this study seems to indicate that having women on the board may help firm performance by mitigating agency problems, but not through resource capacity nor the supposedly less-risky behavior of women on the board.

Keywords: Women on the Board, Board Composition, Firm Performance, Thailand SET100

Board Composition and Gender Diversity

"Refreshing the board" has become a popular phrase in corporate governance recently (PwC Governance Insight Center, 2017). Faced with the ever-increasing demands of globalization that is characterized by the sheer volume and speed of transactions of goods and services across ever thinning national borders under rapid and transformational technological change, the modern company's board of directors and their top management are in constant pressure to upgrade their skills, knowledge and re-shape business strategies to sustain their company's long-term value creation in the fast-changing business environment.

Within the general discussion of how to increase board effectiveness, there are now several studies that view gender roles and gender diversity in the boardroom as important factors towards improving corporate governance (Pesonen, Tienari & Vanhala, 2009; Post & Byron 2015; MSCI report, 2016; Garner, Kim & Kim, 2017). Although without consensus as yet, some authors have explored the benefits of a mix-gender in the boardroom, especially focusing on women's inclusion on the board and company's performance (Willows & Linde, 2016; Gordini & Rancati, 2017; Gomez & Blanco 2018). In practice, however, gender diversity in the board remains a discussion point mainly in large international corporations, but women representation in the boardroom remains relatively low or absent (Fernandez, Jimenez & Ortiz, 2015).

Asian companies have been somewhat slow to take on woman on the board, and, to a larger extent, many companies would consider gender as not a main issue for director's selection as long as directors demonstrate superior firm performance and can provide dynamic direction

guidance moving ahead (Pesonen et al., 2009). Be as it may, there is some evidence in the literature that find Asian companies can benefit from having women on the board. For example, Horak & Cui (2016) studied the gender diverse board and firm's financial performance in the Chinese automotive industry, although not entirely conclusively, these companies did show signs of favorable financial outcome compared to companies without women participation in the board. Low, Roberts & Whiting (2015) looking at four major countries (Korea, Hong Kong, Malaysia and Singapore) confirmed a positive impact on companies' returns on equity when at least one woman was present in the boardrooms. Nguyen, Locke & Reddy (2015) explored publicly listed companies in Vietnam which found that women on the board would produce somewhat superior financial return.

The board of directors of any corporation is considered as the main pillar of the corporate governance framework. OECD's key issues for the board of directors are to ensure effective monitoring, hold strategic actions accountable as well as responsible to company's shareholders (OECD, 2015). Thus, intuitive judgments are extremely important and must be exercised with care. Board gender diversity is one way to enhance good corporate governance practice, especially in terms of improving the boards' decision-making with of diverse set of talents and gaining reputation as well as enhancing stakeholders' participation (Byron & Post, 2015). In addition, the increased diversity in the boardroom should augment creativity, innovation and better problem-solving, which finally would translate into increased firm value (Garner et al, 2017). In addition, there is some evidence that there is a positive reaction from investors when they learn about women's appointment to the board (Rose, 2007; Kang, Ding & Charoenwong, 2009). Despite widespread discussion on women in business over the past several decades, and pressure for corporations to comply to "good" corporate governance practices by which some empirical research has shown women's significant positive effects on firms' economic and social benefits, the corporate world remains somewhat slow to opening up and accepting more women in top positions (Solimene, Colucci & Fontana, 2017).

Women on the Board in Thai listed Companies

In Thailand, the board composition in publicly listed companies is predominated by male directors. This is not surprising since the Thai society is largely dominated by the male, who traditionally is the main breadwinner of the family and is therefore more intimately engaged with the Thai business environment (Pimpa, 2012).

According to the Corporate Governance Code for Thai listed companies (latest revised edition 2017), there is only some suggestion that listed companies should consider issues of board diversity in term of gender, education background and relevant experiences. Unlike some countries in Europe such as Norway and France which have mandated all publicly listed companies to maintain a women ratio of no less than 40% or even ASEAN country like Malaysia which requires 30% women on the board (Deloitte Global Center for Corporate Governance, 2016), Thailand has not set any minimum requirements on the number or ratio of women directors but has merely encouraged boards to consider having a woman director in the boardroom.

Based on a survey by the Institute of Thai Directors in August 2017, the total board of director's seats of all 620 companies listed in the SET are 6,144 of which 1,164 or 18.9% are held by women directors (Thai IOD, 2017). The average percentage women directors for a company's board stood at 19.3% (with one board having a maximum of 62.5% women representation in the boardroom). The services sector held the highest ratio of women on the board. It is reported that 316 companies have at least one female director in their boardroom, 29 companies have a woman as the chairperson of the board and 73 have females as CEOs. However, in Thailand, whether and to what extent women on the board contribute to

corporate governance effectiveness is not yet well understood.

There have been only a few empirical studies in Thailand attempting to determine women on the board and their impact on firm performance. Among the earliest paper is Connelly & Limpaphayom (2004), who study corporate governance in the life insurance industry in Thailand in 2000 and 2001. Pathan, Skully & Wickramanayake (2007) looks at a slightly longer period, 1999 to 2003, taking board size and independence as determinants of firm performance in Thai commercial banks. They find that firm performance was negatively related to board size but positively related with board independence. However, Yammesri & Herath (2010) using 2004 data found that non-executive directors as well as independent directors did not impact firm performance compared to inside directors. Sitthipongpanich & Polsiri (2013) using data from 2001 to 2005 looked at how different characteristics among the board of directors in Thai listed companies may affect firm value. By looking at employment age, gender, education, professional background and international exposure as factors to impact firm performance, they found that age, study major and alumni network were keys factors that impacted firm value favorably.

Research Objectives

The objective of this paper is to better understand the relationship between women's presence in the boardroom and corporate performance among the largest Thai companies listed under the Stock Exchange of Thailand (SET). In the process, this study also aims further to determine what key attributes or channels provided by female board of directors for boardroom's accomplishments under the Thai business context.

Literature Review

Garner et al. (2017) and Post & Byron (2015) review previous literatures and classified the board of directors' roles into two main functions: (1) board monitoring and advising role, and (2) board strategic involvement to maintain corporate long-term value. The former authors documented the effectiveness of board monitoring and advising as relates to the degree of board diversity in terms of experiences and skillsets, while the latter authors define board monitoring as how much boards of directors engage and oversee activities of the corporation (in the same vein as Adam & Ferreira 2009). Board strategy involvement is based on decision-making and strategic advising on company's strategies in which the usual outcome is gauged by company's financial performance (Post & Byron, 2015). Theoretically speaking, there is no single theory in corporate governance that could explain or support the relationship between women on the board and company's financial performance (Carter, Souza, Simkins & Simpson, 2010). There are many compelling reasons why the women can be good for the boardroom, but here we will focus on just two general theories found in the literature.

Agency theory

Here, the basic argument is that women may possess a unique skillset favorable for effective corporate governance. For example, good corporate governance involves effective monitoring to mitigate agency problems (Jensen & Meckling, 1976). Based on the Upper Echelons Theory (UET) of Post & Byron (2015), Hambrick (2007) for example argues that cognitive differences among directors of different gender especially in such aspects as information seeking and information evaluating processes may be expressed in different ways thereby influencing a company's outcome and performance. Hence, in the context of corporate governance, board diversity can be viewed as an improvement of information and the channel of accessing information, and here the women board of directors may prove essential to management's policy initiation and strategic decision-making (Cater et al, 2010).

Furthermore, women directors could help fulfill board roles more effectively such as by frequently attending board meetings and closely monitoring management's behavior thereby helping to reduce agency costs (Adam & Ferreira, 2009; Fernandez et al, 2015).

Regarding women and their firm's strategy involvement, Mathisen, Ogaard & Marnburg (2013) and Davies (2011) suggest that women add value to the boardroom by enlarging different experiences, views and perspectives, thereby translating to increased superior decision-making. Empirical evidence by Kim & Starks (2016) also support the presence of women directors in their contribution of diverse skills and expertise for better board performance. Dezso & Ross (2012) provide positive evidence on women's strategic decision-making which they argue is varied depending upon different circumstances but impacts companies that are especially innovation driven. Such strategic decision-making consequently influences the degree of risk-taking and companies' risk-taking alternatives (Sila, Gonzalez & Hagendorff, 2016).

Arguably, women tend also to be more eager to join board-monitoring activities, are highly committed to fiduciary responsibility and are relatively more risk-averse (Adam & Ferreira, 2009; Chapple, Kent & Routledge, 2012). In addition, women are believed to be more into strategic involvement because of their different cognitive frames in term of their knowledge pool and experiences (Post & Byron, 2015). Groysberg & Bell (2013) further suggest that women directors tend to develop good skills in marketing and sales and engage in social interests such as philanthropy and CSR activities. Hence, the women's contribution to the boardroom through the lens of agency theory is by their effective monitoring, strategic advising and improved engagement in corporate and public matters.

Resource dependence theory

Based on economics and sociological disciplines, the resource dependence theory proposed by Pfeffer and Salancik (1978) and others posits that organizations need to depend on others and the external environment to survive (Zahra & Pearce, 1989). Resource dependence theory can be linked with the appointing of outside directors, in particular, the appointment of non-executives board of directors (NED) and/or independent directors who are expected to provide their network value, skills and external relationships to help management including the CEO to achieve firm's strategy successfully (Reguera-Alvarado, Fuentes & Laffarga, 2017).

Breton & Dicko (2015) classified network of directors into three main types: (1) economic connections, (2) political connections, and (3) social connections. Each contributes differently to the corporation depending upon the nature of the industry. For example, former executives from banking and financial institutions can provide economic connections; former politicians or government lobbyist have political networks which can be exploited by the corporation; while those having experiences in NGOs, universities, or formerly were professionals can provide social connections (Dicko & Breton, 2013).

Definitions of Key Terms and Variables Used

Women on the board referred to in this study include female directors taking up executives, non-executives or independent positions on a company's board of directors (Willows & Linde, 2016; Post & Byron, 2015). We are interested in accessing the relationship on firm performance of not only the presence of a woman on the board of directors, but also the ratio of women directors to the overall number of directors in a corporation.

Firm performance can be viewed in two ways (Post & Byron, 2015); (1) accounting performance, and (2) market performance. To measure accounting performance, studies often employ key financial ratios like the return on assets (ROA) and return on equity (ROE), while the Tobin's Q ratio is mostly used to proxy a firm's market performance (Ming & Eam, 2016; Willow & Linde, 2016).

Table 1 Variables and Description

Variables	Description
<i>Dependent variable</i>	
Return on Assets (ROA): %	Return on assets is measured by net income divided by total assets
Return on Common Equity (ROE): %	Return on equity is measured by net income divided by total shareholders' equity
Tobin's Q:	Tobin's Q is measured by market value to the book value of assets, where market value is the book value of assets minus the book value of equity plus the market value of equity
<i>Independent variables</i>	
Woman on the board (<i>femboard</i>):	Indicator variable taking values 1 if at least one woman on the board, 0 otherwise
Ratio of women on the board (<i>femRatio</i>):	Number of women on the board divided by total number of people on the board
Leverage (<i>leverage</i>): %	Total firm's liabilities/Total assets
Sales revenue (<i>revenue</i>):	Total sales revenues (millions of Baht)
Market Capitalization (<i>MktCapi~n</i>):	Stock price on a closing day of a year \times Total number of shares' outstanding (millions of Baht)
Boardroom size (<i>boardNum</i>):	Total number of persons in the board of directors
Foreign education indicator (<i>ForeignEduc</i>):	Indicator variable taking values 1 if woman on the board has had formal education abroad, 0 otherwise
Network indicator (<i>NetworkDum</i>):	Indicator variable taking values 1 if woman on the board has some network capacity, 0 otherwise
Non-executive director indicator (<i>NonexecDum</i>):	Indicator variable taking values 1 if woman on the board is assigned as a non-executive director, 0 otherwise
Independent director indicator (<i>IndepDum</i>):	Indicator variable taking values 1 if woman on the board is assigned as an independent director, 0 otherwise
<i>Control variables</i>	
(used in all regressions):	Year Dummies (2018-2017), Sector Dummies (6 sectors), Firm Age, and Age of Woman Director

Source: All data are from SET 100 companies' annual reports

Research Methodology and Summary Statistics

Research methodology had been started by compiling detailed information on board composition and the characteristics of women on the board for 65 publicly listed corporation in the SET100; companies that were listed for at least 7 years between 2008 to 2017. In the actual regression analysis, for comparability of balance sheet information, the study drops some 10 financial firms and looked mainly at 55 non-financial companies that were active in 6 sectors, classified as Agro & Food (3 companies), Industrials (6), Property & Construction (19), Resources (5), Services (12) and Technology (9).

Table 2 Board Composition

	Mean	Standard Deviation	Min.	Max.	Obs.
Board composition					
No. of directors on board	12.03	2.60	3	19	537
% of firm-years with women directors	69.5%				537
% of women directors	10.2%	9.3%	0.0%	38.5%	537
% of women executive directors	48.5%				
% of women non-executive directors	33.8%				
% of women independent directors	15.8%				

Table 2 shows the board composition for the 55 non-financial companies in our study. All companies except 5 (AMATA, BLAND, CPALL, LH, LOXLEY) had women on their board for at least a year over the 10 year period. Overall, for our sample, 69.5% of 537 firm-years had women on the board. The average board size was about 12 persons and 10.2% were female.¹ Most women directors were executive directors (48.5%) compared to about 33.8% non-executive female directors and only 15.8% independent female directors.

166 women directors were identified. Their average age when serving on the board was found to be 59 years (youngest 32 years and oldest 93). In addition, 22.3% had a bachelor's degree as their highest formal education, while 62.7% had master's degree as their highest education. 10.8% of female directors had a PhD, while 4.2% did not graduate from university. Furthermore, the study also observed that 54.2% of female directors on the board had some formal education abroad.

The study also aims to identify and understand women networking and their capacity of providing external link of resources, by looking at individual resumes of the female directors, we found that 64.1% were former professionals, 24.4% of female directors were former government, police or military officers, and 15.4% were formerly in academia.

Table 3 Summary Statistics for Key Variables

	Mean	Standard Deviation	Min.	Max.	Obs.
Years listed on SET	17.6	7.32	1	42	528
Market Capitalization (m. Baht)	107429.6	172902.8	1395.2	1256772	525
Total Assets (m. Baht)	125856.3	260064.5	3522.89	2250351	528
Total Liabilities (m. Baht)	69000.5	136973.1	423.97	1195657	528
Leverage (%)	0.51	0.17	0.11	0.98	528
Sales Revenue (m. Baht)	114152.8	319268	1071	2866883	533
Return in Common Equity (ROE)	15.49	17.87	-130.8	118	533
Return on Assets (ROA)	8.12	8.51	-23.96	67.92	533
Tobin's Q	1.20	0.96	0.29	10.91	526

Table 3 summarizes variables used in our analysis for the 55 non-financial SET listed companies of our study. In the regressions that follow, all financial data from balance sheets are winsorized at 1% and 99%.

¹ Incidentally, this ratio was lower than companies in the financial sector, which had about on average 23% females represented on the board (with maximum of 44% and minimum of 6%).

Research Results and Discussion

We estimate separate sets of OLS regression for the 3 performance measures, namely, the Tobin's Q, the rate of return on common equity (ROE) and the return on assets (ROA) on the indicator of women on the board *femboard*, and the ratio of women to the total board size *femRatio*, as well as a set of other variables of interest and control variables.

Table 4 Regression with Tobin's Q

	TQfb1	TQfR1	TQfb2	TQfR2
femboard	0.319*** 0.069		0.979*** 0.223	
femRatio		1.925*** 0.443		3.016*** 0.657
leverage	-0.912*** 0.202	-0.792*** 0.189	-0.47** 0.218	-0.971*** 0.195
femXlev			-0.751*** 0.34	0.376* 0.214
revenue	-6.09e-07* 3.70e-07	-6.01e-07* 3.70e-07	-5.65e-07* 3.47e-07	-5.61e-07* 3.49e-07
MktCapi~n	2.76e-06*** 4.26e-07	2.81e-06*** 4.23e-07	2.91e-06** 4.05e-07	2.99e-06*** 3.94e-07
boardNum	-0.064*** 0.014	-0.06*** 0.014	-0.077*** 0.013	-0.061*** 0.011
ForeignEduc			-0.244** 0.1	-0.288*** 0.099
NetworkDum			-0.757*** 0.238	-0.702*** 0.24
NonexecDum			0.236** 0.117	0.142 0.105
IndepDum			0.459** 0.215	0.325 0.217
constant	1.835*** 0.215	1.771*** 0.21	1.716*** 0.21	1.797*** 0.2
Obs.	537	537	537	537
R-square	0.370	0.378	0.416	0.429

Controls: Year and Sector dummies

legend: coeff. / robust se; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4 shows that for all regressions, both the woman on the board indicator *femboard* and the ratio of women on the board *femRatio* variables are positive and statistically significant to the Tobin's Q, suggesting that corporations with women on the board do exhibit on average higher corporate market value than corporations without a woman on the board. Leverage is negative and statistical significant, which is typical (Rossi, Cebula & Barth, 2018; Mukarram, Ajmal & Saeed, 2017), while the interaction variable of leverage and woman on the board, captured by *femXlev* is negative and significant only for model TQfb2, suggesting that, for our sample, women on the board may not have mitigated the negative leverage effect on firm's market value, even after controlling for sales revenue. This finding differs from the argument suggested by some authors that women in the boardrooms tend exhibit lower risk and leverage (Sila, Gonzales & Hagendorff, 2015; Horak & Cui, 2017).

The size of the board *boardNum* is negative and statistically significant to the Tobin's Q,

which is in line with previous studies released by CMRI (2016) which explore the relationship between board size and Tobin's Q on listed companies in the SET and Pathan, Skully & Wickramanayake (2007). Nevertheless, a more interesting observation is that the network dummy *NetworkDum* is also negative and statistically significant suggesting that women on the board with network capacity may in fact reduce firm's market value. It may be noted that the average number of women appointment in the boardroom is around one to two women, which usually represents only a small minority—this could therefore merely be “tokenism” in the Thai boardrooms (Tochia, Calabro & Huse, 2011). On the other hand, the importance of independence of the board of directors as suggested by Reguera-Alvarado, Fuentes & Laffarga (2017), and Pathan, Skully & Wickramanayake (2007) in the Thai case, is confirmed by the positive and (statistically significant for model TQfb2) coefficients for the non-executive and independent women directors, *NonexecDum* and *IndepDum*, respectively. As a robustness check and for further insights we repeat the same OLS regression on the Tobin's Q for the rate of return on common equity (ROE) and the return on assets (ROA). Regression results are presented in Tables 5 and 6.

Table 5 Regression with Return on Common Equity (ROE)

	ROEfb1	ROEFR1	ROEfb2	ROEFR2
femboard	1.854 1.462		4.541 4.889	
femRatio		12.378 8.392		24.33** 12.429
leverage	-3.67 4.883	-2.886 4.828	-4.268 7.999	-5.278 6.029
femXlev			2.099 9.529	5.821 4.028
revenue	-.0000104*** 3.89e-06	-.0000103*** 3.91e-06	-9.62e-06** 3.82e-06	-9.60e-06** 3.89e-06
MktCapi~n	.0000476*** 8.29e-06	.0000477*** 8.42e-06	.0000491*** 8.41e-06	.0000497*** 8.72e-06
boardNum	-1.271*** 0.3	-1.252*** 0.304	-1.378*** 0.296	-1.284*** 0.296
ForeignEduc			-4.09** 1.658	-4.616*** 1.641
NetworkDum			-11.83*** 3.853	-11.514*** 3.801
NonexecDum			2.981 1.958	1.96 1.927
IndepDum			9.118** 3.9	7.929** 3.856
constant	27.751*** 4.794	27.203*** 4.732	28.53*** 5.063	27.886*** 4.676
Obs.	537	537	537	537
R-square	0.237	0.239	0.264	0.270

Controls: Year and Sectoral dummies

legend: coeff. / robust se; * p < 0.1, ** p < 0.05, *** p < 0.01

Table 6 Regression with Return on Assets (ROA)

	ROAfb1	ROAfr1	ROAfb2	ROAfr2
femboard	1.345** 0.652		5.955* 2.336	
femRatio		7.164* 4.453		13.608** 6.718
leverage	-13.815*** 2.096	-13.379*** 2.079	-10.624*** 2.749	-14.271*** 2.219
femXlev			-4.619 3.851	2.919* 1.55
revenue	-4.34e-06** 1.91e-06	-4.29e-06** 1.93e-06	-3.86e-06** 1.86e-06	-3.84e-06** 1.90e-06
MktCapi~n	.0000175*** 3.77e-06	.0000176*** 3.84e-06	.0000183*** 3.82e-06	.0000186*** 3.99e-06
boardNum	-0.519*** 0.149	-0.51*** 0.153	-0.658*** 0.143	-0.567*** 0.147
ForeignEduc			-2.41*** 0.858	-2.524*** 0.867
NetworkDum			-5.965** 2.387	-5.657** 2.363
NonexecDum			2.795*** 1.039	2.494** 1.011
IndepDum			3.753 2.418	3.198 2.39
constant	18.984*** 2.28	18.856*** 2.25	18.496*** 2.295	19.456*** 2.179
Obs.	537	537	537	537
R-square	0.262	0.262	0.314	0.313

Controls: Year and Sectoral dummies

legend: coeff. / robust se; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

We notice that only one of the specification for ROE model has statistically significant ratio of women on the board *femRatio* variable, namely model ROEfR2, suggesting that, broadly speaking, female on the board may not be strongly contribute to shareholders' equity value. The regression results for ROA are however similar to that of the Tobin's Q regression, especially with regards to the woman on the board indicator *femboard* and the ratio of women on the board *femRatio* variables, both of which are positive for all specification but exhibiting somewhat weaker statistical significance.

Interestingly, for the ROE model, leverage and interaction variables *femXlev* are statistically insignificant in all specifications. In contrast, for the ROA models, all leverage variables are negative and statistically significant. The interaction terms *femXlev* is positive but not statistically significant in model ROAfb2 but is slightly statistical significant and negative in ROAfr2 (see Table 6) suggesting that women on the board may exhibit neutral or slightly risk-averse behavior that affects accounting performance.

In both the ROE and ROA specification, the *NetworkDum* remains negative and statistically significant which means that networking capacity of women in the board does not add, and may in fact negatively affect, firm performance. Again, *NonexecDum* and *IndepDum* are somewhat positive but statistically significant depending on whether regressed on ROA or ROE.

Concluding Remarks

The empirical results seem to support the agency perspective with women contributing to board effectiveness through their better monitoring and information processing as suggested by Adams & Ferreira (2009), and furthermore contributions to firm value are strengthened if they are non-executive or independent directors. Arguably the presence of women in boardrooms tend to yield favorable or positive financial performance when shareholders' protection is strong, and the results for Tobin's Q reflecting market performance is stronger than accounting performance (by ROE and ROA). According to the data source from the World Bank (2018), Thailand's investor protection index in 2017 was 6.7 out of 10, this compared to the year 2007 when it was 6.0. Thai's relatively high shareholder's protection compared to other countries coupled by the presence of women independent board of directors seem to have translated to improving corporate performance. On the other hand, the resource dependence view is somewhat rejected particularly by the negative coefficient on the networking capacity variables. The risk-averse assumption of women on the board is also not strongly supported in our study. Taken together, research analysis suggests that while women in the boardrooms of SET100 Thai companies do contribute to firm value, it remains to be confirmed why this is so especially given their more significant contribution to market value compared to accounting or book value, despite their ineffective networking capacity and supposedly risk-averse nature.

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