THE EFFECT OF WOMAN BOARD DIRECTORS ON FIRM PERFORMANCE:

AN EMPIRICAL EVIDENCE FROM MALAYSIA

By

NURUL FARHANA BINTI AHMAD SABRI

Thesis Submitted to
Othman Yeop Abdullah Graduate School of Business,
Universiti Utara Malaysia,
In Partial Fulfillment of the Requirement for the Degree of Master Science

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ABSTRACT

Gender diversity in boardroom has been associated with corporate governance and firm performance and it's had become one of the focuses of the related study. This study examines the effects of women on the board of directors to firm performance (ROA and Tobin's Q) for the data set of 80 listed companies in Bursa Malaysia on year 2011 and employs Multiple Regression Analysis for the regression test. This thesis investigates the relationship between women on board of directors and firm performance which is examines roles of proportions of women on board of directors, women director in audit committee and independent women director on the board in constraining the firm performance. In general, this study contributes to the literature by testing the issue of women on the board of directors and investigates major women factors are related to the performance of the companies and it aims to provide empirical evidence according to regulatory and business environments in Malaysia. This study founds a negative relationship between proportion of women on the board of directors and independent women director on the board to the firm performance (ROA and Tobin's Q), results also indicates that women in audit committee has a positive relationship to firm performance (ROA and Tobin's Q).

Keywords: Women on Board of Directors, ROA, Tobin's Q

ABSTRAK

Kepelbagaian gender dalam lembaga pengarah telah dikaitkan dengan tadbir urus korporat dan prestasi firma dan ia telah menjadi salah satu fokus kajian yang masa kini. Kajian ini mengkaji kesan wanita dalam lembaga pengarah kepada prestasi firma (ROA dan Tobin Q) bagi set data daripada 80 syarikat yang disenaraikan di Bursa Malaysia pada tahun 2011 dan menggunakan Analisis Regresi Pelbagai untuk ujian regresi. Tesis ini mengkaji hubungan antara wanita dalam lembaga pengarah dan prestasi firma yang mengkaji peranan nisbah wanita dalam lembaga pengarah, wanita dalam jawatankuasa audit dan wanita bebas dalam lembaga pengarah dalam mengekang prestasi firma. Secara umum, kajian ini menyumbang kepada karya dengan menguji isu wanita dalam lembaga pengarah dan mengkaji faktor-faktor utama wanita adalah berkaitan dengan prestasi syarikat-syarikat dan ia bertujuan untuk menyediakan bukti empirikal mengikut persekitaran kawal selia dan perniagaan di Malaysia. Kajian ini mengasaskan hubungan yang negatif antara bahagian wanita dalam lembaga pengarah dan wanita bebas dalam lembaga pengarah kepada prestasi firma (ROA dan Tobin Q), keputusan juga menunjukkan wanita yang dalam jawatankuasa audit mempunyai hubungan yang positif dengan prestasi firma (ROA dan Tobin Q).

Katakunci: Wanita dalam urus tadbir korporat, ROA, Tobin's Q

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURE

LIST OF ABBREVIATIONS

GLC	Government linked companies
CG	Corporate governance
OECD	Organization for Economic Cooperation and Development
ACCA	Association of Chartered Certified Accountants
TCAM	The Co-operative Asset Management
GMI	Governance Metrics International
IDX	Indonesian Stock Exchange
ISE	Istanbul Stock Exchange
BAC	Board Audit Committee
ROE	Return on Equity
ROA	Return on Assets
SME	Small and Medium Enterprises
Q	Tobin's Q
AUDIT	Women director in audit committee
INDEP	Independent women director on the board
SIZE	Firm Size
BOARD	Board Size
IND1	Trading and Services Industry
IND2	Industrial and Consumer Products
IND3	REITS and IPC Industry
IND4	Properties and Plantation Industry

CHAPTER 1

INTRODUCTION

1.1   BACKGROUND OF THE STUDY

The causes of the 2007 financial crisis until present revealed fundamental failures in corporate governance underpinned by the failure of boards to direct and control their organizations to operate in their shareholders' interests[1]. Policy deliberations on enhancing the effectiveness of board practices have considered whether gender diversity in boards can perform more effectively the fundamental roles of providing oversight and direction and asking challenging questions. Some arguments given for the increasing gender diversity at the top level of organizations relate to public accountability, social justice, full participation, and compliance with international conventions or national legislation.

In addition, business case reasons are increasingly being made pointing, for example, to research suggesting that organizations with gender diversity on corporate boards and in senior level management tend to perform better financially. Historically, corporate boards in many countries have comprised mainly men, with 85 percent of Fortune 500 company board seats being occupied by men[2]. A number of European market regulators have imposed quotas of women on the boards of publicly traded companies as a requirement in their new Codes of Corporate Governance, and this is likely to compel businesses to consider gender diversity on boards. In 2003, Norwegian politicians passed a law that

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[1] Climbing out of the Credit Crunch ACCA Policy Paper, 2008
[2] Catalyst Census: Fortune 500 Women Board Directors, 2009

requires 40 percent of all publicly listed company boards to be made up of women. Norway now has one of the highest levels of female board participation in the world, roughly 36 percent for public and private companies. That compares with just 14 percent at the largest American companies, according to the research organization GMI Ratings.

Gender diversity in boardroom has become a popular issue among scholars, corporations as well as governments and regulators. Women representation on corporate boards has been a popular issue in the last few decades among academicians and research bodies (Burke & Mattis, 2000). However, most of the privileged levels of management continue to be dominated by men. It has been almost a century and yet the battle for gender equality rages on. While great leaps have been achieved in the West, women managers is still a struggle in the East since biasness towards male gender is still prevalent, more so in the corporate world where the fight for parity still persists.

With women making up some 50 percent of the world's population, women form only 15 percent of board members in America, 10 percent in Europe and 7 percent in Malaysia[3]. In Asia, the gaping division between males and females in the decision making panel in companies reflects the patriarchal society Asians continue to live by despite the tremendous evolvement in roles of women since American feminist Ernestine Louise Rose fought for women's suffrage in the 19th century[4].

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[3] Grooming more women for the board, The Star, Nov 16, 2011
[4] Grooming more women for the board, The Star, Nov 16, 2011

Men are openly favored for positions of power, especially in Asia. Rarely do women become successors of family-owned businesses. Women CEOs in Asia are still a rarity. All things being equal, the argument has been made that if a man and a women were to compete for a management position, with both having the same qualifications, experience and skill sets, the man would still be the chosen one. Men had twice the chance of getting ahead of women in workforce. They still earn higher salaries and have a better chance at promotion due to entrenched perception issues. There are still hardened mind sets and behaviors, not just in companies, but among women themselves, which pose roadblocks to their advancement. This old-fashioned prejudice is seen to hamper a women's transition from middle to senior management level. The lack of women in high positions does present a lost opportunity to corporations. Companies that only have half the talent of the true sample size will lose out compared with those who throw out a larger net. The gender bias at the board level, however, has its own set of problems.

McKinsey (2007) shows that boards consisting of men and women not only make better decisions, but deliver better financial results. When a board includes a diversity of viewpoints and personalities, impractical and poor ideas are more likely to be disputed. Recognizing the benefits of having more women in boardrooms, European countries are giving women more opportunities. Board diversity contributes to creating shareholder value since "*corporate diversity promotes better understanding of the market place; furthermore heterogeneity leads to the evaluation of more alternatives and more careful exploration of the consequences of these alternatives. Finally diversity promotes more effective global relationships*" (Carter et al. 2003, p.38).

Research on women director focus not only on the performance of the company, but also on how the presence of women affects corporate governance matter such as the importance of good relationship with stakeholders. Diversity on board is necessary for fair decision making. Burke (2000) stated that diversity in the board should be presented as a positive contribution based on organizational enhancement, value and merit as opposed to tokenism, positive action quotas or stakeholder representation. Tokenism is means a representation in the community which is below 15 percent (Singh & Vinnicombe, 2004), those who are different (such as women on board of directors) are seen as representing their category rather than being seen as individual.

1.2   PROBLEM STATEMENT

The issue of women on board has received widespread attention in recent years. Some evidence proved that companies that have women representatives on top management level perform better than those without women. Improving gender equality is increasingly being recognized across the world since gender equality on board has a positive impact on performance of companies (McKinsey & Co., 2007). Therefore many countries are developing new policy which corporate companies must achieve certain percentage women as board director in order to promote gender equality[5]. In Malaysia, Prime Minister Datuk Seri Najib Tun Razak announced the approval policy from the Malaysian Cabinet where corporate companies in private sector must achieve at least 30 percent women must be present on board in decision making in order to promote gender equality[6].

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[5] The Deloitte Global Center for Corporate Governance, 2011
[6] More women on Board , The Star, July 26, 2011

In order to implement this new policy, corporate firms in Malaysia have five years to comply. This policy is an extension of a similar government policy introduced in 2004 for civil services that recorded the number of women working in government agencies are growing from 18.8 percent in 2004 to 32.2 percent in 2010[7]. According to the Central Bank of Malaysia, there are only 13.0 percent (91) women who served as members of the board of directors in 2010 in government linked companies (GLCs).

In addition, women accounted for 7.6 percent of board members from 200 companies listed on Malaysian Stock Exchange in November 2010[8]. In order to support this issue, Bank Negara also confirmed that on April 2011, there are only 6.0 percent (45 women) who were appointed as board members of financial institutions and 7.0 percent in insurance sector[9]. This policy of women on board is not only implemented in Malaysia, but also is being adopted by Canada where the government launched the Canadian Board Diversity Council in November 2009, focusing not only on private sector, but also on public and non-profit sectors in implementing gender diversity in corporate governance. The same goes with France where in January 2011, the country modified their law and introduced quotas to improve women's presence on board of both listed and non-listed companies.

Companies in France must implement this policy within eight years where in January 2011, the proportion of women and men was at least 40 percent (The Deloitte Global

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[7] Malaysia mandates 30 percent women representation in corporate boardroom level post, China Daily, June 27, 2011

[8] Cabinet approves 30 percent women as a decision makers in corporate sector, PM, June 27, 2011

[9] 30 percent of corporate decision makers must be women, The Star, June 27, 2011

Centre, 2011). Davies (2011) in his study of women on board in United Kingdom, stated that at current slow rate of changes in women presence on board, it would take more than 70 years to achieve gender balanced boardroom in UK.

The above discussion which highlights low women participating on boards in Malaysian companies provides a strong motivation to extend the examination on women director in the boardroom. Since the existing study of empirical analysis are more focused on developed countries with very few studies conducted on developing countries, this present study is carried out to examine women board directors' effectiveness in boardroom as pertaining firm performance. A positive relationship should provide support to the approval policy in increasing women on board of directors in Malaysian companies.

1.3   RESEARCH QUESTIONS

Purpose of this study attempts to answers the following research questions:

1. What is the relationship between proportions of women on board of directors and firm performance?
2. What is the relationship of women director in audit committee and firm performance?
3. What is the relationship between independent women director on the board and firm performance?
4. Does board size effect firm performance?
5. Does firm size effect firm performance?

6. Does industry affect firm performance?

1.4   RESEARCH OBJECTIVES

The objective of this study is to investigate the potential determinants of women on board of directors to the firm performance for listed companies in Malaysia. Specifically, the research objectives are as follows:

1. To investigate whether there is a relationship between proportions of women on board of directors and firm performance.

2. To investigate the relationship between women director in audit committee and firm performance.

3. To investigate the relationship between independent women director on the board and firm performance.

4. To investigate the effect of board size on firm performance.

5. To investigate the effect of firm size on firm performance.

6. To investigate the effect of industry on firm performance.

1.5   SIGNIFICANCE OF THE STUDY

This study is expected to provide new insight in corporate governance on the link between women on board director and firm performance as one of suggested policies in corporate governance to the Malaysian companies. This study is important because corporate governance does affect firm performance. In addition, board of directors being one of the elements of corporate governance is needed to ensure good firm performance through better decision making. The board's decision may influence the performance and

profitability of the firm and developments in the company the trends in performance could be predicted.

The main purpose of this study is to produce results and recommendations that could be useful to increase proportion of women participating on boardroom which consequently may lead to high firm performance. Therefore, the significance of this study can be divided into two terms: practices and knowledge.

This study aims to investigate the previous argument about women on boards as one of the key influences to the firm performance by examining the relationship between women on boards and firm performance of Malaysian companies listed on the Bursa Malaysia.

In addition, it is important that this study to be conducted on top 100 by market capitalization in Malaysian listed companies because there are very few research has been undertaken in the past in women as directors. It also found that there is scant literature on this critical issue on women directors related to Malaysian companies. The findings of this study would lend justification to improve the women representation on board, thus strengthening corporate governance of firms. This study could provide a useful guidance and as a benchmark for corporate managers in term of helping them in making decision specifically in appointing women as board members.

From the knowledge perspective, this study hopes to contribute to the increasing academics knowledge in this area by providing additional evidence on corporate

governance quality. Basically, board of directors expect that the successful director in managing companies may add value to the firms and make sure that the companies are good in business. Adding women as board members may lead companies to have better decision making in order to develop the company. In addition, this study could contribute to the adding of new knowledge in an area where there are very few studies on women in Malaysian companies.

Furthermore, this study could give support to the next Code of Corporate Governance in Malaysia to fill the boardroom with women as one of the policies as announced by the Prime Minister.

1.6 SCOPE OF THE STUDY

This study focuses on Malaysian listed companies in the main board of Bursa Malaysia in 2011. The selection of the companies based on market capitalization of top 100 companies in excluding financial companies. Data was extracted from the website of Bursa Malaysia where they provided annual report for each company. From the 100 companies, there were only 80 companies selected due to the fact that the rest of the companies are financial companies and some of the companies do not have annual report for the year 2011 in the Bursa Malaysia website during the period of the study.

In this study the women directors' variables are proportions of women on board of directors, women director in audit committee and independent women director on the

board. For firm performance, this study focuses on accounting based which is ROA and market based performance namely Tobin's Q.

1.7   ORGANIZATION OF THE STUDY

This study is organized into five chapters. Chapter one explains overview of the study starting with background of the study, and problem statement. This chapter also explains from where the research questions are derived and it also explains the main objectives of the study followed by the scope and limitations of the study.

Chapter two presents overview of the literature in this study. Starting with literature review, it offers results from previous study and variables related to the study. This chapter explains further about corporate governance, gender diversity and firm performance. Variables related to this study discussed in this chapter are the relationship between gender diversity and firm performance and also variables affecting the relationship. This chapter also discusses further on hypotheses development.

In chapter three, methodology used in this research is discussed. This part explains about research framework, research design, variables measurement, data collection, sampling, procedures of data collection and data analysis technique. In the variables definition, there are two classifications of the variables, the dependent variables and independent variables. Dependent variables in this study are Tobin's Q and return on assets (ROA), while independent variables includes proportions of women on board of directors, women director in audit committee and independent women director on the board.

Chapter four discusses data analysis and results. This chapter explains further the analysis of the empirical study and findings. The analysis covered includes descriptive statistic, correlation coefficient analysis and multiple linear regression analysis.

The last chapter is chapter five which discusses the conclusion of the study. This chapter also indentifies the limitations and recommendations of the study as well as recommendations for future research.

CHAPTER 2

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1   INTRODUCTION

This chapter reviews and discusses past studies and relevant literature reviews on women on board of directors and firm performance. This chapter also discusses the factors which affect the relationship between women on board of directors and firm performance. This chapter has three major parts, with the first part discussing about women on board of directors, the second part is firm performance and the last part discusses hypotheses development for this study. The third part discusses the connection between women on board of directors and firm performance which explains the empirical literature and statistical study related to the variables of women on board of director and their impact on firm performance.

2.2   CORPORATE GOVERNANCE

The term "corporate governance" (CG) has wider meaning to mean different thing to different people. Corporate governance is about effective monitoring of a business to give appropriate return to investors as compensation to their investment (Nadereh & Magdi, 2002). In addition, Organization for Economic Cooperation and Development (OECD) in 1999, stress that corporate governance controls and directs the system of business corporations. OECD also states that corporate governance is a specific structure in the distribution of right and responsibilities between different participants in the company such as board of director, managers, shareholders and other stakeholders. It is needed to

create the rules and procedures in making decisions on corporate affairs. By having good corporate governance, companies can easily provide the structures of the company in order to ensure that objectives are set and performance is being monitored. OECD provides a definition of corporate governance which is in the line with that of Akinsulire (2006), Uche (2004) and Wolfensohn (1999).

Corporate governance becomes the most important element in any companies. The effectiveness of the corporate governance can derive company to have better performance compared to the company which had poor corporate governance (Black, Jang & Kim, 2003). For the researchers and legislators, the use of corporate governance codes is very important topic now days (Andres, Azofra & Lopez, 2005) for the implications on firm performance.

In the past, corporate governance used to be known as the practices implemented to safeguard the interests of company's stakeholders, including shareholders, creditors and employees. Nowadays, economists view modern corporate governance as referring to the division of power between management, the board of directors and shareholders in order to further the best interests of the corporation. Most courts deem these "best interests" as maximizing shareholder value.

Board of directors is known as the supervisory entity in a corporation. A modern U.S. board of directors is entrusted to safeguard shareholder interests. They should not make any decision that would adversely affect shareholder value. As a group, board of directors

combines a mix of capabilities and competencies that collectively represents a pool of social capital for their company. Carpenter & Westhal (2001) stated that social capital contributed by directors is a measure of the value added by the board in executing its governance function.

According to *Financial Reporting Council UK Corporate Governance Code*, the primary responsibilities of board of directors' include effective corporate governance of the company where they can lead to the long-term achievement. The board of director's role is to provide entrepreneurial direction of the company within a framework of cautious and effective controls, in order to enabling the evaluation and management of risk. The responsibilities of the board of directors include (i) the setting up of the company's strategic plan (ii) providing effective leadership (iii) supervising business management and (iv) reporting to shareholders on their stewardship. The boards of director's actions are also subject to regulations and laws to the shareholders in annual general meeting. The main purpose of the board of directors is to make decisions for the company. Instead of these decisions made individually, they can be reached collectively by the board who can provide strong, appropriate and quality decisions due to their vast knowledge, skills, experience and perspectives of both men and women director. Some international research proved that various set of perspectives is result in improved board practices, stronger ability to foresee and manage risks, and better strategic decision making (see Francis, Hasan & Wu (2012), Carter, D'Souza, Simkins & Simpson (2010), Catalyst (2007) and McKinsey & Co. (2007).

2.3   GENDER DIVERSITY

Woman on board of directors has become a highly debated governance issue. It has been discussed by many researchers and research bodies such as Adam & Ferreira, (2009); Kotiranta, Kovalainen & Rouvinen (2007); Carter, Simkins & Simpson (2003); Catalyst (2004 & 2007) and the Conference Board of Canada, (2002). In recent years, researchers have begun to study board diversity as well as gender diversity (see ACCA Pakistan (2010); Minguez-Vera & Lopez-Martinez (2010); Miller & Triana (2009); and Tibben (2010). According to Smith, Smith & Verner (2006), gender diversity on boards exists when there is a women on the board of directors.

Andringa & Engstrom (1998) assert that diversity and completeness are important issues in building quality boards for the twenty-first century. Van Der Walt & Ingley (2003) describe diversity in the context of corporate governance as "*the composition of the board and the combination of the different qualities, characteristics and expertise of the individual members in relation to decision-making and other processes within the board*" (p.221). The gender diversity on board members is therefore only one of the characteristics of diversity.

Whether the presence of women on the board improves the governance of a company is linked to the question of what good corporate governance should achieve. This context is also supported by Brown, Brown & Anastasopoulos (2002) in which they argue that if good corporate governance does not result in improved performance, then the question of who sits on the board of the company or how this board operates has no practical value, and appointing women to the board then has only symbolic value.

Kotiranta et al. (2007) who conducted a research in Finland found that there are obvious benefits in having gender diversity in the Finland companies since women have greater understanding with shareholders interests, they are closer and more honest in communication with investors and stakeholders, have high professional commitment to ethical management practices and good corporate governance, finally women board emphasize more on seeking buy-in by employees to the organization's strategies, policies and goals. This study is also consistent with Fondas (2000) who argues that when women is present on board, it helps the board to perform its strategic function because women director may have a slight edge over men in terms of impacting strategic planning. The increasing number of women on board of directors is due to these two reasons. Firstly, the increasing rate of CEO's rejecting invitations to join board and secondly, due to men directors who cannot take additional responsibilities because they simply do not have time to sit on the board. All these reasons make board discontinuing reliance of board members on male CEO's and potentially dilute quality (Burke, 2000).

A research report conducted on Canadian firms suggest that the presence of qualified and experienced women on boards results in improved board practices which relate to the setting and oversight of strategic aims, compliance with legislation, shareholders accountability, and monitoring of financial performance and position (Brown et al., 2002). In a related study in France, Kirsch (2010) found that companies that had more women in top management had more stable share price[10].

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[10] Michele Kirsch, Gender balance in the boardroom, April, 2010

Gender equality on the board has a positive effect on firm performance (Minguez-Vera & Lopez-Martinez, 2010). Based on their study on Spanish firms, gender diversity not only improves firms' economic condition but also advances equality in Spanish boardroom. Consequently, they found that there is increasing gender equality on the board at family firms. This is also supported by a research body conducted by ACCA Pakistan (2010) which state that the major factor of women's presence on board is family relationship. Their perceptions apart from having women on the board from family members is that gender diversity could benefit Pakistan leading companies if they acknowledge gender diversity as a good corporate governance practice (Andres et al., 2005), since there are women with the proper skills, creativity and experience available, knowledge and experience on their boards. Burke (1997) argues that both men and women are appointed as board's member because of their abilities. Cassell (2000) maintains that the basic argument of equal opportunities between gender diversity, all ethnic group, people with disabilities and able-bodied on board is that talent and ability is equally spread.

Many research found a positive impact of women representatives on board (Minguez-Vera & Lopez-Martinez, 2010; Smith, Smith & Verner, 2008). Women directors' contribution is positively associated with gender-diverse on board with improved performance. Davies (2011) emphasizing the fact that gender diversity on board had tangible benefits, starting with improved performance followed by enhancement of board independence (Fondas & Sassalos, 2000). Izraeli (2000) stresses that in order to have better decision-making from the board members; they should have different experience and backgrounds. Women directors take their non-executive director roles more

seriously, they also prepare more attentively for meetings. Women presence on board creates more voices to the meeting table, and brings different perspectives for debate and decision making (Maznevski, 1994).

Zelechowski & Bilimoria (2004) found that three women on the board are required to change boardroom dynamic and this situation also allows them to become more vocal and their voices to be heard. Burke (2000) also suggests that women influence particular sensitivities on issues important to women. However, he emphasized that women serving on corporate boards want to be seen as directors first, women second. They want to be known for their competence on board issues rather than as having a feminist agenda. Recruiting women to corporate boards then becomes a source of competitive advantage and a bottom-line business issue.

McKinsey & Co. (2007) found that 30 percent or more women presence in top management or board can produce the best financial results. Other non-academic study conducted in UK by asset management firms found that share price performance and operational performance was significantly higher at one and three year averages for the companies over 20 percent women representatives on board than those companies that had lower women representation (Bhogita, 2011). According to the study by Leeds University Business School a company can cut chances of going bust by 20 percent if they had at least one women director on the boards. If the company had two or three women directors, the chances of having bankruptcy are even further lowered (Wilson, 2009). The result is consistent with that of Minguez-Vera & Lopez-Martinez (2010).

Wilson & Altanlar (2009) stated that gender balance could reduce risk. This is proved by the negative relationship found between women director and insolvency risk. This negative correlation appears to hold well for ownership and sector, irrespective of size for established companies and newly incorporated companies (Davies, 2011). However, women are preferred to be on boards with company with less financial risk (Minguez-Vera & Lopez-Martinez, 2010).

Second, gender diversity also benefits in accessing the widest talent pool in term of using the skills besides improving performance (Davies, 2011). The third benefit of having women on board is because women are more responsive to the market (Davies, 2011). Women may represent the users and customers of companies' products. This factor helps company to improve the understanding of customers' needs and leads to better decision making (TCAM, 2009). More women should be in the board because they now form 51 percent of UK population and 46 percent of them is economically active workforce. Consumer-facing industries have the highest number of women on their boards in UK companies while heavy industrial have the lowest women presence on the boards (TCAM, 2009). The presence of women director is likely to create a better working environment for women employees or better buying experience for women consumers (Lisa, 2005).

The last component of key dimension benefit in gender diversity is achieving better corporate governance (Davies, 2011). A Canadian study focusing on public, private and non-profit boards found that three or more women on boards showed very different

behaviors compared to the boards sitting with all men (Brown et al., 2002). The gender equality on boards have benefits in measuring strategy, monitoring its implementation, following conflict of interest guidelines and adhering to a code of conduct (Davies, 2011). These benefits ensure better communication on the board, and provide more focus on additional measurement of non-financial performance such as customer satisfaction and employee, diversity and corporate responsibility (Davies, 2011). A new era of strengthened governance could be achieved if and when women on board can be more aggressive on certain important governance issues such as evaluating board performance and be given greater supervision on boards (Heidrick & Struggles, 2010). Burke (2000) highlights several reasons to justify having more qualified women on boards. These concern board structure and CEOs as the prevalent choice for director appointments, based on the belief that these individuals have the expertise to provide high-level advice, and can have better understanding of executive challenges and performance evaluation (Biggins, 1999). A study in 2009 highlighted that women can improve business performance by having fresh perspectives, providing effective leadership, becoming role models, providing a competitive edge and investor confidence[11]. Some scholars have argued that gender and racial diversity on the board level may prevent corruption and increase shareholder value (Ramirez, 2003).

2.4   GENDER DIVERSITY AND FIRM PERFORMANCE

In respect with increasing women on board, there are positive impacts on company in social capital. However, many studies found inconsistent relationships between gender

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[11] Business New Zealand the Voice of Business, Minister of Women Affairs and Institute of Director in New Zealand (2009)

diversity and firm performance (Carter, et al., 2003; Ryan & Haslam, 2005; Adam & Ferreira, 2009).

Siciliano (1996) found that gender diversity on boardroom is positively related to social performance of the company. Krishnan & Parsons (2008) found that gender diversity in senior management of the company is positively associated with reporting of accounting measurement by using a sample of non-profit organizations. A South African study by Van der Zahn (2004) suggests that higher gender diversity on board leads to higher intellectual capital performance. International research shows a positive correlation between women on board and firm performance (Catalyst, 2007; McKinsey & Co., 2007).

Catalyst conducts a research in United States to examine the relationship between women on board and financial performance of Fortune 500 companies. The study compares the performance of the top quartile and bottom quartile. Top quartile presents the company with highest women presence on board while bottom quartile presents the lowest women presence on the board. The study found that for companies in the top quartile, return on equity was 53 percent higher; return on sales 42 percent higher; and return on invested capital 66 percent higher than for the companies in the bottom quartile.

Richard, Ford & Ismail (2006) studied the impact of personnel's cultural diversity in addition to gender, ethnic background and organizational structure on firm performance and profitability in the US banking sector. Results indicate that the share of women

workers is not connected with firm profitability. In top-heavy and hierarchical organizations (high number of managers as a proportion of total employees) a positive relationship can nevertheless be found; in mature and rigid organizations the relationship may even be negative.

Sabarwal & Terrell (2008) conducted a study on gender's relevance to firm performance from Eastern Europe and Central Asia. They examine the gap performance between man and women owned business. Their findings show that female entrepreneurs have a significantly smaller scale of operations when measured by sales revenues and are less efficient in terms of total factor productivity, although the difference is small. However, women entrepreneurs generate the same amount of profit per unit of revenue as men. Although both male and female entrepreneurs in the region are sub optimally small, women's returns to scale are significantly larger than men's, implying that women would gain more from increasing their scale. The authors argued that the main reasons for the sub-optimal size of female-owned firms is that they are both capital constrained and concentrated in industries with small firms.

McKinsey & Co. (2007) found that companies that are strongly represented by women on the board are also the companies that perform best, on both organizational and financial performance. Other research also found significant positive relationship between board diversity and accounting performance of the firm (Erhardt, Werbel & Shrader, 2003)

In the last decades, the proportion of women representing corporate governance is very low. However, the phenomena start to change slightly in the 1990's when an appreciable increasing number of women presences on corporate boards began to occur (Farrel & Hersch, 2005). Since then, women board director brought new perspectives to boards' deliberation process as well as inspiring workforce diversity (Carter, et al., 2003). According to Kenser (1998) in the 1990's, women were proactive and they were willing to be appointed as members of committees. Recently, a high level of women on board has positively affected financial performance of companies (Van der Walt, Ingley, Shergill, & Townsend, 2006), such as greater return on equity (ROE) (Van der Walt, et al., 2006), greater return on assets (ROA) (Carter et al., 2003), and larger total return to shareholders (Burke, 2000; Farrell & Herch, 2005).

Mentes (2011) investigating Istanbul Stock Exchange listed firms for the period of 2004-2009, revealed that there is a negative relationship between gender diversity and financial performance when they used Tobin's Q to measure performance. On the other hand, the study also found insignificant relationship between return on assets (ROA) and gender diversity. Another study tested on Istanbul Stock Exchange in 2006 showed that gender diversity created bigger impact on firm performance; it also had a positive effect on board monitoring intensity (Ararat, Aksu & Cetin, 2010). The authors also used two measurements for firm performance where accounting measurement are taken as return on equity (ROE) while market based performance was measured by Tobin's Q.

The study by Darmani (2010) investigates the relationship between gender diversity on management boards and financial performance for public listed firms on the Indonesian Stock Exchange (IDX). This study uses a sample of 383 firms for the financial years 2008 and 2009. Findings reveal that women presence on top management level is negatively related to both accounting and market performance. Smaller firms in Indonesian which tend to be family controlled tend to have higher percentages of women director on management boards. This also implies that it is tough for women in larger firms in Indonesian to get the opportunities to seat on the boards.

Cheung & Tsang (2011) identifies that there is a significantly negative relationship between gender diversity in boardroom and firm performance. They also imply that gender diversity on board and firm financial performance are interrelated. This study is conducted on Hong Kong Stock Exchange for the financial year 2009. The result shows that greater number of women presenting on boards lead to a lower firm value. Moreover, the authors also conclude that low performing firms tend to have greater number of women on board of directors. Women tend to have possibility to hold directorship for the firms with lower values.

Schwizer, Soana & Cucinelli (2011) examine the relationships between board diversity, financial performance and firm risk on Italian listed companies. The result shows that there is no statistically significant relationship between women on board of directors and firm performance and risk. However, Schwizer et al. just examine one measurement of firm performance that is price to book value. They used this proxy as firm performance

because this ratio strongly correlates with Tobin's Q and theoretically it is a normal measurement for intangible assets to market performance.

2.5   HYPOTHESES DEVELOPMENT

2.5.1   Proportion of Women on Board of Directors and Firm Performance

Apart from the presence of women on board, the other element in this study is the relationship between proportions of women on board of directors with firm performance. The requirement to increase the proportions of women on board of directors keeps increasing. Malaysia has set a target of 30 percent of women on board of listed company within five years from 2011. However, until now there are no gender quotas or legislations that have been formally introduced in Malaysian Code on Corporate Governance, 2012[12].

Smith et al. (2006) show statistically that more women on board of directors have positive effect on firm performance. They used a sample of 2,500 largest Danish firms over the period of 1993-2001. Their finding is ambiguous and with results depending on the measure of performance and the measure of the proportions of women directors on board. The effect on firm performance of a higher fraction of women top CEOs vary from none to positive. When the authors used gross profit as the performance measure, its effect more is positive and more significant than the other performance measures, e.g. net income after taxes. Furthermore, the results show that the positive performance effects are mainly related to women managers with a university degree while women CEOs who do not hold a university degree have a much smaller or insignificant effect on firm

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[12] Malaysian Code on Corporate Governance, 2012

performance. This finding is in the line with Johansen (2008) and Erhardt et al. (2003) where the authors prove that a positive relationship between percentage of women on boards and firm performance exists. They however argue that result depends on the measurement of firm performance and estimation method to prove the statistical significance of the relationship.

Many studies were carried out to identify the implications of proportions of women on boards. There is a claim that women are more risk-averse (Marinova, Plantenga & Remery, 2010; Minguez-Vera & Lopez-Martinez, 2010). Marinova et al. (2010) and Minguez-Vera & Lopez-Martinez (2010) indicate that a high proportion of women on board will lead to positive firm performance effects. Especially in the current times of economic crisis which is largely attributed to unstable risk management practices, there is a debate if the global economic picture would have looked less grim, had there been more women on boards of directors in the distressed financial institutions. Thus, the proponents refer in this respect to the fact that women are more risk-averse and claim that more gender diverse corporate teams will help bring the global economy back on track. In addition, women are preferred to become a board member on firms with less financial risk (Minguez-Vera & Lopez-Martinez, 2010).

Similar with results of presence of women on board of directors, Cheung & Tsang (2011) and Adam & Ferrera (2009) found that the relationship between percentage of women board representation and firm value is significantly negative, where it is shown that the higher percentage of women directors lead to lower firm value. The findings of an

Indonesian study by Darmani (2010) stated that the proportion of women directors has a negative association with total assets. This implies that the higher fraction of women on board of directors tends to belong to low performing firms. Higher proportions of women on board of directors are more on smaller firms as well as the family controlled firms. As in other Southeast Asian emerging market, the nature of the Indonesian capital market is relatively unique since the listed firms are mainly family controlled (Claessens, Djankov & Lang, 2000). According to the study, women holding position on boards more due to family ties with controlling shareholder (Darmani, 2010; Mak & Kusnadi, 2005; Westhead & Cowling, 1998) instead of their professional expertise and experiences. The authors conclude that women find it "tougher" in terms of opportunities to sit on boardroom for larger firms (Darmani, 2010).

Mentes (2011) proves that a negative and insignificant relation between proportion of women on board and firm performance using both market-based performance and accounting-based performance. The results shown are in the line with Turkish companies are mostly owned by families. According to a study by Mentes (2011), when the company is owned by a family, the members of the family not only control the shareholders but also control the top management of the company. The culture features of the Turkish society also contribute to the high ownership concentration and family involvement in firm management. Mentes found that of the entire women board director, 43 percent are also the members of the firms' controlling shareholder family.

They are however contradictory results with other studies. Rose (2007) does not find any relationship between the proportion of women on board of directors and firm performance. The Danish evidence shows that gender composition does not influence firm performance. This finding is similar with a Malaysian study where gender diversity when gender diversity was found not to be correlated with firm performance (Marimuthu & Kolandaisamy, 2009).

Smith et al. (2006) indicate that the proportion of women on board of directors is positively related with firm performance. They used firms' mark-up (gross profit, operating income, contribution margin and net income after tax) as firm measurement. However the results depended on firm measurement. Johansen (2008) also found a positive relation between proportion of women director and firm performance based on Tobin's Q, ROA and CAR. Using accounting-based performance, a positive association is found between ROA and the fraction of women on the board (Minguez-Vera & Lopez-Martinez, 2010; Erhardt, et al., 2003). Addressing the fraction of women proportion in board director when using market-based performance, Tobin's Q (Carter, et al., 2003; Marinova et al., 2010) also indicate similar results.

In contrast, Adams & Ferreira (2009) and Darmani (2010) indicate that the percentage of women on the board of directors has a negative relationship with both Tobin's Q and ROA. Other study also found evidence of negative associations between the proportion of women in the boardrooms and firm performance when they used only Tobin's Q as firm measurement (Cheung & Tsang, 2011). Indeed, some studies fail to find a significant

28

association between women proportion and financial performance. Using a sample of Malaysian firms, Marimuthu & Kolandaisamy (2009) find that the proportion of women on the board has no significant association with accounting performance ROA and ROE. Rose (2007) using Tobin's Q as firm performances also indicate similar results. Hence, we hypothesize the following:

H1:   The proportion of women on board of directors is positively related with firm performance.

2.5.2   Women Director in Audit Committee and Firm Performance

Audit committee can compose of women and men. The appointment of audit committee members are among board members. The audit committee comprises of non-executive members of the board, the majority being the independent directors. According to the Malaysian Code on Corporate Governance (2012) recommendation 5.1, audit committee must ensure that company's financial statements comply with applicable financial reporting standards as this is integral to the reliability of financial statements. While recommendation 5.2 states that the audit committee should review and monitor the suitability and independence of external auditors. The independence of external auditors can be impaired by the provision of non-audit services to the company. The audit committee should therefore establish policies governing the circumstances under which contracts for the provision of non-audit services can be entered into and procedures that must be followed by the external auditors. To provide support for an assessment on independence, the audit committee should obtain written assurance from the external auditors confirming that they are, and have been, independent throughout the conduct of

the audit engagement in accordance with the terms of all relevant professional and regulatory requirements[13].

In addition, these recommendations are also highlighted in company annual report which state that the key functions of Board Audit Committee (BAC) are to review and evaluate performance of external auditors and internal audit division to ensure efficiency and effectiveness of the company's operations, adequacy of internal control system, compliance to established policies and procedures, transparency in decision-making process and accountability of financial and management information[14]. The audit committee also reviews and reports to the board the engagement and independence of the external auditors and their audit plan, nature, approach, scope and other examinations of the external audit matters. The current composition of the audit committee consists of members who bring with them a wide range of knowledge, expertise and experience from different industries and backgrounds. They continue to meet regularly and have full and unimpeded access to the internal and external auditors and all employees of the group. The audit committee also reviews internal audit plan during the financial year[15].

Kenser (1998) conducted a study on 250 of the Fortune 500 companies to examine women's roles on board committees including audit committee, nominating committee, compensation committee and executive committee. The study shows that the 3.6 percent women in board members were proportionately represented on the audit committee and compensation committees, but underrepresented on the nominating and executive

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[13] Malaysia Code on Corporate Governance, 2012
[14] Annual Report of Malaysia Airports Holdings Berhad, 2011
[15] Annual Report of Bumi Armada Berhad, 2011

committees. Another study carried out by Bilimoria & Piderit (1994) examined the representation of women directors on board committees found that women were underrepresented on compensation committees, executive committees, and finance committees after used experience-based for control characteristics. Klein (1998) concludes that membership on board committees provides a more accurate picture of each director's role on the board which should lead to a more accurate test of the relationship between board composition and board effectiveness.

Committee membership is another part in board for duties or functions of a director on the board (Klein, 1998). Board members had stronger impact in the boardroom, if they serve on board committees with primary responsibility for these functions: executive compensation, new director selection, strategic managerial decisions, and other dealings that significantly affect corporate performance. The unique advantages or disadvantages that might exist for women relative to board process should have a more direct effect through committee assignments. Klein (1998) did not find any relationship between the percentage of outside directors on the audit committee and firm performance; he found a significant negative relationship between the percentage of outside directors on the compensation committee and financial performance. Women directors tend to sit more on board committees that discuss audit issues than those that discuss business issues (Schwartz-Ziv, 2011).

Carter et al. (2010) also investigated a sample of 500 Fortune firms to find the relationship between board committee and financial performance. They find that the

diversity of gender and ethnic in the board of directors and board committees create value for shareholders. The research stated that gender diversity in audit committee function has a positive impact on financial performance but the impact of gender diversity in executive compensation committee or director nomination committee to financial performance is not clear when Tobin's Q was used to measure firm performance. They believed that the board functions through board committees are one of the most important functions performed by the board of directors but women on board may make significant contributions to the board in many other ways that increase shareholder value. The authors also confirm that diversity would benefits the shareholders and promote equality and fairness in the board. A study was conducted on Israel high technology firms listed in USA (traded on NYSE and NASDAQ) between 2002-2009 to find the relationship between earning management and the presence of women on board of directors and on the audit committee. Results show that the presence of women in audit committees lowers the extent of earning management. On the contrary, steady increases in the number of women participation on corporate boards can increase the women presence on key board committees. Importantly, women's leadership of key board committees and their service as lead directors has improved in parallel with increases in their board memberships (Dalton & Dalton, 2010).

O'Reilly & Main (2012) examining the effects of women outsider on firm performance found no evidence that additional women audit committee to the board is associated with higher levels of financial firm performance. However, they found that firms tend to appoint more women to their board if the boards are larger and the firms are larger and

more profitable. They conclude that women outsiders are appointed to boards for symbolic reasons rather than for reasons relating to profit enhancement. Gavious, Segev & Yosef, (2012) also stated that the presence of women director on the board of director as well as the presence of women director in the audit committee is related to lower extent of earning management. We therefore hypothesize the following:

H2:   Women director in audit committee is positively related with firm performance

2.5.3   Independent Women Director on the Board and Firm Performance

As stated in Malaysian Code on Corporate Governance, apart from audit committee, there is a requirement for firms to have at least one-third of the members on the board to be independent and non-executive. This requirement is to ensure that every board has enough independence in the board process that can act on behalf of the shareholders. The Code observes that, a chairman who is an independent director can provide strong leadership by being able to organize the board's priorities more objectively. If the chairman is not an independent director, then the board should comprise a majority of independent directors to ensure balance of power and authority on the board[16].

Independence is more likely to be assured when the director is not a large shareholder, has not been employed in any executive capacity by the corporation within the previous few years, is not retained by the corporation as a professional advisor, is not a significant supplier to or customer of the corporation, and has no significant contractual relationship with the corporation other than as a director (Deloitte Touche Tohmatsu, 1999). Outside directors are regarded as more independent than inside directors and they can therefore

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[16] Malaysian Code on Corporate Governance, 2012

monitor managerial performance more effectively (Dalton & Kesner, 1987; Chaganti, Mahajan & Sharma, 1985; Fama, 1980).

Women are appointed to the board as independent directors for symbolic rather than substantive reasons (O'Reilly & Main, 2012). The authors do not find any evidence that the addition of women independent directors to the board is associated with higher levels of subsequent firm performance. They also state that firms tend to appoint women as independent directors when costs are lower, therefore women independent directors are more likely to be appointed by large firms, firms with more profitable records and have more board opportunities (O'Reilly & Main, 2012).

Francis et al. (2012) conducted a study on S&P 1500 non-financial companies, focusing on financial crisis to find the effect of corporate board on firm performance. The evidence of board independence effectiveness is inconclusive. Francis et al. argue that during financial crisis board independence does not significantly affect firm performance when they define independence director as the percentage of outsiders on the board. However, the results were different when they measure independent director as outside directors who preceded the current CEO. The result shows that independence director had significant and positive relationship to firm performance.

Widanarni & Aida (2007) found a positive influence of the board independent director on firm performance. However, the result of women size on board is diverse where they found a negative influence of the size of women director on firm performance (Adam &

Ferreira, 2009). According to the study conduct on Dutch and Danish boardrooms women independent directors lead to high firm performance (Marinova, et al., 2010). In France and Spain, the rate appointment of women director has seen substantial increase over the year. This increase means that the average number of women director being appointed as independent director also increased (Gonzales & Smith, 2012). Consistent with the previous study, current study hypothesize that:

H3:   Independent women director on the board is positively related with firm performance

2.5.4   Board Size and Firm Performance

The last control variable in this study is board size. There is some evidence which finds that board size of company is an important factor in corporate governance issue (Kang, et al., 2007). Hyland & Mercellino (2002) revealed that the number of women directors on board is correlated with the board size of the organization.

Carter et al. (2003) conducted a study of 638 Fortune 1000 firms and found that the presence of a women director and the percentage of women on the board had positive effects on firm value (Tobin´s Q) after controlling for other factors (number of board meetings, board size, industry, and firm size). On the contrary, Belkhir (2009) examining 174 US banks and savings institutions did not report any positive relationship between board size and performance as measured by Tobin's Q.

Mentes (2011) proved that board size is positively and significantly related to firm performance (ROA) on listed companies in ISE Industrial index firms. Turkish companies have one unique feature. Most of them are family owned, meaning that most of the companies shareholdings are owned by families who also involved in the management of the firms. Elsewhere, Adam & Mehran (2005) found a positive relationship between board size and firm performance on US banking industry.

Eklund, Palmberg & Wiberg (2009) conducted a study based on a panel of Swedish listed firms to investigate the impact of gender and age diversity on investment performance. They found that gender diversity has a negative influence on firm performance when diversity leads to larger boards. The effect of gender loses significance after controlling for board size.

A study on Australian listed companies found that board size is not related to gender diversity. Larger board does not necessarily result in a more gender diversity (Kang, et al., 2007). Zulkafli & Samad (2007) found that there is no significant relationship between firm performance and board size when they used return on assets (ROA) and Tobin's Q as performance measures. Busta (2007) also stated that no evidence of a significant association exists between board size and ROA. Thus, we hypothesize the following:

H6:   Board size would effect firm performance

2.5.5 Firm Size and Firm Performance

Minguez-Vera & Lopez-Martinez (2010) studied a sample of 900,000 Spanish small and medium enterprises (SMEs) companies. They used generalized method of moment's techniques analysis to find the relationship between gender diversity in the boardroom and firm performance. They revealed that by using firm size as a control variable, higher firm performance was recorded in terms of return on assets (ROA). Their result suggests that it may be a consequence of the difficulties in obtaining suitable fund on the part of smaller SMEs.

Cheung & Tsang (2011) found that firm size did not have any significant influence on firm performance when they used firm size as a control variable. Firm size did not have a significant influence on women representation on board based on Hong Kong listed companies.

Darmani (2010) studied public firms listed on the Indonesia Stock Exchange (IDX) for the financial years 2008 and 2009. He found that firm size was significantly and positively related to firm performance by the accounting measurement, return on assets (ROA). Adam & Ferreira (2009) and Krishnan & Park (2005) showed that larger firms tend to have significantly higher ROA and Tobin's Q than smaller firms.

Daunfeldt & Rudholm (2012) found that firm size was significantly and positively correlated to gender diversity on ROA but it just has smaller effect. Marinova et al. (2010) found that when they used firm size as one of the control variables, the impact to

board gender diversity was positive. Adams & Ferreira (2004) studied 1,462 large US firms and found that after controlling firm and board size, firms which had fewer women on their boards of directors faced more variability in their stock returns.

Ararat et al. (2010) investigated the effect of board diversity on boards' monitoring intensity and firm performance by using OLS regressions data set of firms traded in the Istanbul Stock Exchange (ISE). They found that firm size was positively related to firm accounting performance (ROE) but the result was opposite for market performance (Tobin's Q) and their coefficients were highly significant. We therefore hypothesized:

H5:   Firm size would effect firm performance

2.5.6   Industry and Firm Performance

In this present study, we use standard control variables which are industry, firm size and board size. Nuryanah (2004) stated that study on board corporate governance structure and composition is influenced by industry. She also stated that industry like bank and financial sector are industries that have qualified legal framework. This view is also supported by Hyland & Marcellino (2002) who stated that the number of women directors on board is correlated with the industry of the organization.

According to Harrigan (1981) industry involved by company also affects the level of board diversity. For example, companies in the service sector (including health-care and technology) tend to employ more women directors than companies from other industries.

On the contrary, banking and financial companies have board which is "too old, too male and too big" (Engen, 2002).

Tibben (2010) examined the impact of top management team diversity on firm performance based on Western European firms during the financial years 2007 - 2009. They used industry as a standard control variable in diversity. Their result showed that industries dummy had a significant impact on firm performance. Firms in transportation, electric, retail trade, communications, gas and wholesale performed better than firms in manufacturing, agriculture, construction and mining industry. However, firms in services or public administration, insurance and finance industry tend to have lower performance than others.

On the contrary, Miller & Triana (2009) found that there is no longer significant relationships between gender diversity and firm performance after control variables (product diversification, industry, firm size, firm age and liquidity) were taken into account.

Kang, Cheng & Gray (2007) conducted a study on 100 top Australian companies in 2003 boards to establish the relationship between diversity and independence on corporate governance and board composition. They found that there is no relationship between gender diversity and industry of the company. They also stated that companies in consumer industry do not have more board diversity in terms of gender. They concluded

that gender diversity is not found to be associated with industry type. Hence, we hypothesize:

H4:   Industry would affect firm performance

2.6   CHAPTER SUMMARY

This chapter reviews corporate governance, gender diversity and firm performance. The second part of this chapter reviews past studies on all the variables (dependent, independent and control) that are investigated in this study.

CHAPTER 3

METHODOLOGY

3.1   INTRODUCTION

This chapter describes the methodology used in order to achieve the objectives of the study. Discussion emphasizes more on variables used in this study based on the definition and theoretical framework that explains further the dependent, independent and control variables; followed by hypotheses development in the last chapter. These hypotheses are formulated to answer the research questions identified in chapter one. Test using empirical data, several tests are performed to determine whether the hypotheses are support or not. In testing the hypotheses to meet the objectives of the study, this chapter also discusses some important issues in research design, data collection, sampling, data collection procedures and also technique of data analysis.

3.2   RESEARCH FRAMEWORK

The main purpose of this study is to investigate the effectiveness of women on the board of directors on firm performance by examining Malaysian companies listed on Bursa Malaysia. The main variables used in this study to measure firm performance are return on assets (ROA) and Tobin's Q.

The relationships between firm performance and the proportions of women on the board of directors, women director in audit committee and independent women director on the board are examined. This study also includes examination on industry of the firms, board

size and firm size as the factors that are most likely to influence the relationship between women directors on board to firm performance.

Research model of the present study is represented in Figure 3.1 which includes all the identified variables. Following the hypotheses development discussed in chapter two, this research model illustrates the dependent, independent and control variables used to test the hypotheses.
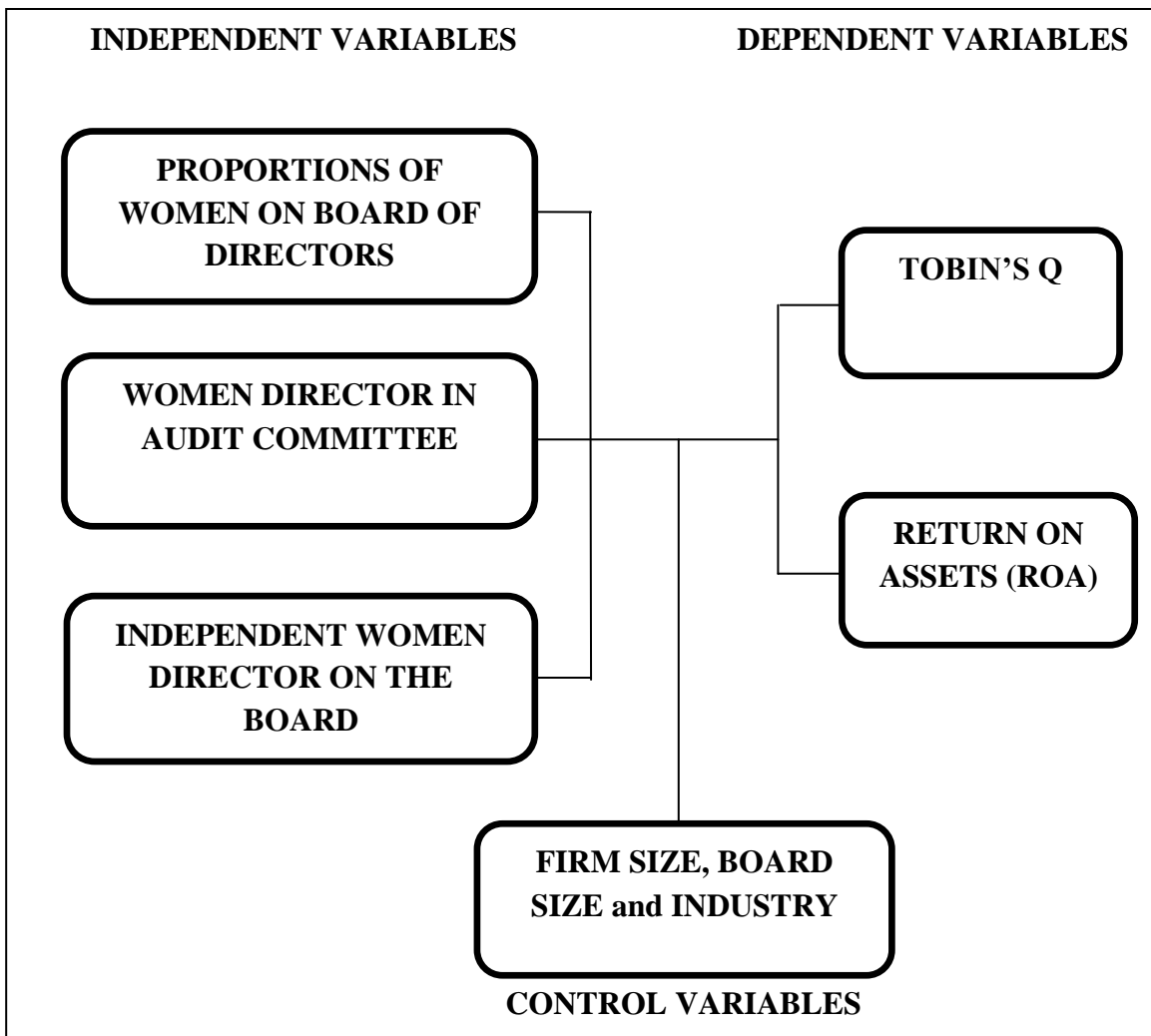
Figure 3.1:
Theoretical Framework

3.3   HYPOTHESES DEVELOPMENT

This section provides hypotheses that are used to answer the research questions in chapter one in which hypotheses were developed according to the relevant literature from past studies. The hypotheses are as follows:

- H1: Proportions of women on the board of directors is positively related to firm performance

- H2: Women director in audit committee is positively related to firm performance

- H3: Independent women director on the board is positively related to firm performance

- H4: Board size would affect firm performance

- H5: Firm size would affect firm performance

- H6: Industry would affect firm performance

3.4   RESEARCH DESIGN

In order to answer the developed research questions, this study designed to explore the relationships between firm performance (as measured by Tobin's Q and return on asset) and the proportions of women on board of directors, women director in audit committee, and independent women directors on the board for listed companies in Bursa Malaysia by using correlation to decipher the relationships. To see the strength of the relationships, control variables are also added in this study.

3.5 OPERATIONAL DEFINITION

There are eight variables that are examined in this study. These are return on assets (ROA), Tobin's Q, the proportion of women on the board of directors, women director in audit committee, independent women director on the board, industry of the firm, firm size and size of board.

The instruments used in this study have already been tested in previous studies in testing their reliability and the validity. Other researchers had examined return on equity (ROE) (Ararat et al., 2010; Schwartz-Ziv, 2011), Tobin's Q (Rose, 2007; Cheung & Tsang, 2011; Darmani, 2010; Carter et al., 2010), return on asset (ROA) (Minguez-Vera & Lopez-Martinez, 2010; Darmani 2010, Cheung & Tsang, 2011; Carter et al., 2010; Daunfeldt & Rudholm, 2012) as dependent variables.

Studies for independent variables on proportion of women on the board of directors (Minguez-Vera & Lopez-Martinez, 2010; Rose, 2007; Cheung & Tsang, 2011), women director in audit committee (Gavious et al., 2012; Schwizer et al., 2011), independent women director on the board (Ararat et al., 2010 ; Schwizer et al., 2011; Adam & Ferreira, 2011). Studies on industry of the firm include Rose (2007); Carter et al. (2010); Marinova et al. (2010); Tibben, (2010), firm size (Minguez-Vera & Lopez-Martinez, 2010; Cheung & Tsang, 2011; Darmani, 2010; Marimuthu & Kolandaisamy; 2009) and board size (Cheung & Tsang, 2011; Darmani, 2010; Marimuthu & Kolandaisamy, 2009; Erhardt, et al., 2003) are used as control variables.

In this study used two measurements of firm performance: return on assets (ROA) which measures accounting performance of the firms while Tobin's Q measures market-based performance. Previous studies have used both of these variables as independent variables also. However, in this present study for classifications purpose, we treat these variables as dependent variables.

3.6   MEASUREMENT OF VARIABLES

3.6.1   Tobin's Q

Tobin's Q is widely used as a proxy for firm performance when studying the relationship between firm performance and corporate governance. Gompers, Ishii & Metrick (2003) conclude that firms with more shareholder rights are better governed since these firms have a higher Tobin's Q. Anderson & David (2003) employ Tobin's Q to examine the governance of family firms.

In theory, the Tobin's Q ratio identifies the combination of the marginal efficiency of capital and the financial cost of capital (Tobin, 1978). Typically, in the finance and accounting literature, Q is taken as a proxy for marginal Q. In essence, the ratio gauges the marginal efficiency of capital compared to the financial cost of capital. The approach captures whether the value of a firm as an operational business is greater than the cost of the assets required to generate its cash flow, at that point in time. It is measured as a ratio of the market value of a company's debt and equity to the current replacement cost of its assets.

Thus, Tobin's Q is positively related to investors' perceptions of managerial quality. A Q-ratio greater than one suggests that the firm is creating value greater than the cost of the assets utilized to produce its cash flow. This suggests investors are willing to pay a premium over the value of the firm's assets in anticipation of good future prospects under the present management. Conversely, a Q below one implies that investors are discounting the value of the firm's assets (Lang, Stulz & Walking, 1991; Lang & Stulz, 1994). McConnell & Servaes (1995) contend that Tobin's Q is widely embraced as a measure of firm performance in the finance and accounting literature.

Darmani (2010) measured Tobin's Q as book value of assets minus book value of equity plus market value of equity for numerator and book value of assets as denominator in his study on Indonesian companies. In another study conducted on Fortune 500 firms, Tobin's Q is measured as the market value of a firm over replacement cost of its assets (Carter, et al., 2010). Marinova et al. (2010) define Tobin's Q as the market value of equity plus book value total debt divided by book value equity plus book value total debt.

3.6.2 Return on assets (ROA)

The other important instrument to measure firm performance in this study is return on assets (ROA). Empirical researches on corporate governance use either market-based measures or accounting-based measures to assess firm performance. Klein (1998) uses return on assets (ROA) as an operating performance indicator.

A commonly thought proxy for the return on assets (ROA) is the ratio of net income over total assets (Carter, et al., 2010; Daunfeldt & Rudholm, 2012; Marimuthu & Kolandaisamy, 2009; Erhardt et al., 2003). Some researchers prefer to use book value of assets for the denominator of the ratio. Darmani (2010) measures ROA as net income over book value of assets. The study conducted on Israel high-technology firms defines ROA as net income before extraordinary items divided total assets. However, the measurement of ROA used by Adam & Ferreira (2009) is slightly different as they use net income before extraordinary items and discontinued operations divide by book value of assets to measure the ROA.

3.6.3 Proportion of women on the board of directors

In examining women's presence on board, we look at the proportion of women sitting on the board. This variable measures the percentage of women on the board of directors. This is calculated by taking the total number of women directors on the board divided by total number of directors on the board (Carter et al., 2010; Darmani, 2010; Marinova, et al., 2010; Adam & Ferreira, 2009).

3.6.4 Women director in audit committee

The other variable on women on the board of directors is women director in audit committee. Carter et al. (2010) defined women director in audit committee as the number of female directors on the audit committee divided by the total number of directors on the audit committee. This measurement was also used by Gavious et al. (2012) and Adams & Ferreira (2009).

47

3.6.5 Independent women director on the board

The measurement for the independent women director on the board follows the same measurement used by previous researchers. Schwizer et al. (2011) defined the independent women directors as the number of independent women directors on the board divided by total number of board of directors.

3.6.6 Board Size

Previous research had used size board of directors as control variables (Miller & Triana, 2009; Tacheva & Huse, 2006). Other studies also used board size as independent variables (Mentes, 2011; Daunfeldt & Rudholm, 2012). Gavious et al. (2012) measure board size by taking the total number of board directors. Some other researchers used log total number of board directors (Cheung & Tsang, 2011) whilst others used natural logarithm of the total number of board of directors (Darmani, 2010). Daunfeldt & Rudholm (2012) and Mentes (2011) used the exact total number of board directors. In this present study, we follow Darmani (2010) by using natural logarithm of total number of directors to measure board size.

3.6.7 Firm Size

There are many ways to measure firm size in corporate governance studies. Most of the researchers define firm size as natural logarithm of total assets (Ararat et al., 2010). Marinova et al. (2010) and Darmani (2010) used firm size as natural logarithm of the net sales of the firm. According to a study on gender diversity, Daunfeldt & Rudholm (2012) used total number of employees of the firm to measure firm size. Cheung & Tsang (2011)

measure firm size as log book value of total assets. This study use natural logarithm of total assets (Darmani, 2010) to measure firm size.

3.6.8 Industry of the firm

The other variable that has been known to influence women's presence on the board of directors is industry that the firm is in. Carter et al. (2010) and Marinova et al. (2010) used dummy variables to measure industry of the firms. Dummy variable equals 1 if a company is involves in a specific industry and 0 if it is in any other industry classification. This dummy variable will present only one industry, therefore if there are five different industries there will be five dummy variables for the industry. We use this method to classify the industry of the firm.

Table 3.1:
Summary of the variables measurement

VARIABLES	ACRONYM	MEASUREMENT
DEPENDENT VARIABLES		
Tobin's Q	Q	$\dfrac{\text{Market value of Equity} + \text{Book value of Debt}}{\text{Book value of Total Assets}}$ (Cheung & Tsang, 2011)
Return on Assets	ROA	$\dfrac{\text{Net income}}{\text{Total Assets}}$ (Darmani, 2010)
INDEPENDENT VARIABLES		
Proportion of women on board of directors	PWOMEN	$\dfrac{\text{No. of women on board of directors}}{\text{Total no. of directors}}$ (Darmani, 2010)

Women director in audit committee	AUDIT	$$\frac{No.\, of\, women\, director\, in\, audit\, committee}{Total\, no.\, of\, members\, in\, audit\, committee}$$ (Gavious, et al., 2012)
Independent women director on the board	INDEP	$$\frac{No.\, of\, independent\, woman\, director\, on\, the\, board}{Total\, no.\, of\, directors}$$ (Schwizer, et al., 2011)
CONTROL VARIABLES		
Firm Size	SIZE	Natural logarithm of total assets (Darmani, 2010)
Board Size	BOARD	Natural logarithm of total no. of directors (Darmani, 2010)
Trading and Services Industry	IND1	Dummy variable equal to 1 if a firm belongs to the trading and services industry, otherwise it equals 0. (Marinova, et al., 2010)
Industrial and Consumer Products	IND2	Dummy variable equal to 1 if a firm belongs to the industrial and consumer products industry, otherwise it equals 0. (Marinova, et al., 2010)
REITS and IPC Industry	IND3	Dummy variable equal to 1 if a firm belongs to the REIT and IPC industry, otherwise it equals 0. (Marinova, et al., 2010)
Properties and Plantation Industry	IND4	Dummy variable equal to 1 if a firm belongs to the properties and plantation industry, otherwise it equals 0. (Marinova, et al., 2010)

3.7   DATA COLLECTION

3.7.1   Sampling

The appropriate unit of analysis in this study can be classified as organization because the data involved in this research are those from listed companies in Bursa Malaysia. All the

data needed in this research are obtained from the annual reports of the companies. This study used stratified random sampling. The sample of this research study consists of 100 companies with the largest market capitalization listed on Bursa Malaysia. We examine only non-financial companies listed on Bursa Malaysia. There are ten sectors in Bursa Malaysia; three of them are in the financial sectors. We therefore only focus on the other seven sectors which consist of non-financial companies listed on the top 100 companies based on their market capitalizations. The companies chosen as sample are representative and could generalize the population because all sectors listed in Bursa Malaysia have companies with large market capitalizations. Being large in terms of market capitalizations, these companies are well represented in terms of having women on their board of directors.

Financial companies are excluded since they have different capital structure and performance characteristics from other listed companies (Cheung, Connelly, Limpaphayom & Zhou, 2007). Additionally, their annual report are recorded using different standards from others non-financial companies.

3.7.2   Data Collection Procedures

Data collection used in this study was secondary data. They were collected from annual reports of the companies which were retrieved from Bursa Malaysia website. The other sources were from Thomson Data Stream which is provided by the library of Universiti Utara Malaysia.

Most of the data are available in the annual report of the company. These included data for the dependent variables, independent variables and control variables. All the data needed for independent variables were obtained from the board of the directors' profiles in the annual reports which included the proportion of women on board of directors, women director in audit committee and independent women directors on the board. The control variable which contains data on board size was also obtained from the profile board of directors. The other data for firm size was retrieved from financial statement of the company in the annual report. From the financial statement also, the data for dependent variables were available including the data needed to calculate the value for return on assets (ROA). However, the financial statement did not have data for market value of equity. The closing price of the share price for the company was only available from Thomson Data Stream. We also used Data Stream to find the information needed to calculate the value of Tobin's Q. The last source for the data collections were the website of the Star online to obtain the list of the 100 Top Listed Companies by market capitalizations for the year of 2011.

3.8   TECHNIQUE OF DATA ANALYSIS

3.8.1   Descriptive Analysis

In order to analyze the data in this study, descriptive analysis was performed to summarize all the data used. The descriptive analysis carried out the summarization of mean, minimum and maximum value as well as the standard deviation for each variables used in this study. It also included the summaries of Tobin's Q, ROA, proportion of women on board of directors, women director in audit committee, and independent

women directors on the board, board size, firm size and industry for each of the companies involved.

3.8.2   Correlation Coefficient Analysis

The main purpose of having correlation coefficient is to measure the strength and direction of the linear relationship between two variables. This study used correlation coefficient to see the relationships between Tobin's Q and return on assets (ROA) and the proportion of women on board of directors, women director in audit committee and independent women directors on the board. Correlation coefficient analysis also shows the direction and significance of the variables.

3.8.3   Multiple Linear Regression Analysis

Multiple linear regressions analysis is one of the major techniques that had been used by past researchers to measure firm performance behavior. This study also used multiple linear regressions to analyze the data and examine the relationships between dependent variables and independent variables. Multiple linear regressions analysis can also reveal which of the independent variables that most affect the dependent variables.

Model 1:

In the first model we used market based performance to measure firm performance. Tobin's Q proxy the dependent variable while the proportion of women on board of directors, women director in audit committee, and independent women director on the

board as independent variables. This model also used board size, firm size and industry of the firms as control variables. The following regression equation was estimated:

$$Q = \alpha + \beta 1 PWOMEN + \beta 2 AUDIT + \beta 3 INDEP + \beta 4 BOARD + \beta 5 SIZE + \beta 6 IND1 + \beta 7 IND2 + \beta 8 IND3 + \beta 9 IND4 + \varepsilon$$

Where,

Q	=	Tobin's Q (market-based firm performance)
α	=	Constant number for the equation
PWOMEN	=	Proportion of women on board of directors
AUDIT	=	Women director in audit committee
INDEP	=	Independent women director on the board
BOARD	=	Board size
SIZE	=	Firm size
IND1	=	Trading and Services industry
IND2	=	Industrial and Consumer products industry
IND3	=	REITS and IPC industry
IND4	=	Properties and Plantation industry
ε	=	Error term

Model 2:

Different from Model 1, Model 2 used accounting-based performance to measure firm performance as well as dependent variable. The other independent variables are same as in Model 1, where the independent variables are the proportion of women on board of directors, women director in audit committee, and independent women director on the

board. Board size, firm size and industry of the firms as used as control variables. The estimating regression equation is as follows:

$$ROA = \alpha + \beta1PWOMEN + \beta2AUDIT + \beta3INDEP + \beta4BOARD + \beta5SIZE +$$

$$\beta6IND1 + \beta7IND2 + \beta8IND3 + \beta9IND4 + \varepsilon$$

Where,

ROA	=	Return on asset (accounting-based firm performance)
α	=	Constant number for the equation
PWOMEN	=	Proportion of women on board of directors
AUDIT	=	Women director in audit committee
INDEP	=	Independent women director on the board
BOARD	=	Board size
SIZE	=	Firm size
IND1	=	Trading and services industry
IND2	=	Industrial and Consumer products industry
IND3	=	REITS and IPC industry
IND4	=	Properties and Plantation industry
ε	=	Error term

3.9   CHAPTER SUMMARY

This chapter discusses the methodology that was used in this study. The research framework shows the relationships between Tobin's Q as market based performance and return on asset (ROA) as accounting based performance to proportion of women on board

of directors, women director in audit committee, and independent women director on the board while controlling for board size, firm size and industry of the firms.

To implement the research framework, research design was developed. It included the variables measurement, data collection procedures and technique analysis. Overall this chapter explains the process of methodology applied in this study to test the data in order to produce results to verify the hypotheses developed in Chapter Two.

CHAPTER 4

RESULTS AND DISCUSSION

4.1   INTRODUCTION

This chapter discusses the results of the present study. As discussed in previous chapter, there are three types of analysis that can be applied in this study: descriptive statistics analysis, correlations coefficients analysis and multiple regression analysis. Further discussion in this chapter is on the findings on those analyses. This chapter also discusses the acceptance or rejection of the hypotheses developed in the Chapter Two.

4.2   DESCRIPTIVE STATISTICS ANALYSIS

The dataset used to test the effects of women on board of directors to firm performance comprises 80 observations. Table 4.1 presents the descriptive statistics analysis of all of the variables. The mean of firm performance in this study as measured by Tobin's Q (Q) is 1.96. This is similar to the value stated in a European study by Tibben (2010) and Indonesian study (Darmani, 2010). However, the mean of Q in this study is higher than those values found in United States study (Carter et al., 2010) and European study (Rose, 2007). Furthermore, our Q has a standard deviation of 1.64 which is it close to the mean point. It has a wide range of dataset from 0.14 to 10.09.

The other firm performance measurement in this study is return on assets (ROA) which had a mean of 9.3%. This value is slightly higher than the value found in the Indonesian study (Darmani, 2010) which is 3.61%. The value of ROA found in this study is close to

the Italian study (Schwizer, et al., 2011) at 7.30%. The standard deviation of ROA also is

close to the mean of ROA which is 8.2%. The highest ROA achieved by Malaysia

companies is 45.91% while the worst ROA recorded by Malaysia companies during this

year is -20.17%.

Table 4.1:
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Q	80	.1402	10.0935	1.963719	1.6411815
ROA	80	-.2017	.4591	.093466	.0825477
PWOMEN	80	.0000	.4000	.082415	.0965111
AUDIT	80	.0000	.6667	.087857	.1485913
INDEP	80	.0000	.2500	.034121	.0574654
BOARD	80	1.6094	2.8332	2.179565	.2451590
FIRM	80	20.1069	25.0356	22.442147	1.1454126
IND1	80	0	1	.45	.501
IND2	80	0	1	.27	.449
IND3	80	0	1	.08	.265
IND4	80	0	1	.20	.403
Valid N (listwise)	80				

The first independent variable examined is proportion of women on the board of directors

(PWOMEN) which has a mean value of 8.2%. This value is slightly different with the

value of Indonesian market at 12% in Darmani's study (2010) and United States study

(Carter et al., 2010) at 11.38%. The reason may be due to the lower women involvement

in board of directors in Malaysia where companies still traditionally appoint more men

compared to women to be on the board of directors. The standard deviation of PWOMEN

58

also is close to the mean at 9.6%. However, the highest percentage of women on the board of directors is up 40% and the lowest is 0% when the companies were represented all by men on the board of directors.

For the women director in audit committee (AUDIT) the mean of is 8.7% and the standard deviation is 14.8%. The mean of AUDIT is different from the United States study which recorded 14.8% (Carter et al., 2010). This implies that for Malaysian listed companies, women involvement averages only 8.7% in audit committee. There are also companies that had no women director in the audit committee. The maximum percentage of women director present in audit committee is up to 66.67%.

Independent women director on the board (INDEP) shows a mean of 3.4% with standard deviation of 5.7%. This means that the average for women as independent directors in Malaysia listed companies is only at 3.4%. This figure is much better than in Italy where Schwizer et al. (2011) recorded a very much lower independent women director on the board at 0.95%. There no women as independent directors in Malaysia companies. The maximum percentage of independent women director present on the board is 25%.

The other descriptive statistics presented in Table 4.1 is board size (BOARD) and firm size (FIRM). Board size of Malaysia listed companies had mean of 2.18 measured using natural logarithm of total board of directors in the companies. Firm size measured by natural logarithm of total assets of the companies had a mean 22.44. Each of these variables had very low standard deviation with 0.24 for board size and 1.14 for firm size.

Board size had a range of 1.61 to 2.83. This shows that most of Malaysian companies had similar board size while the firm size of Malaysian top 100 companies start with 20.11 with the largest firm size being 25.03

The rest of the variables presented in Table 4.1 are dummy variables of the industry where IND1 is for trading industry, IND2 for industrial and consumer product industry, IND3 is for IPC and REITS industry, and the last industry is plantation and properties. The highest industry in this data observations trading industry has a mean of 45% followed by consumer and industrial products industry 27%, plantation and properties industry 20%, and the smallest industry in this observation is REITS and IPC industry at 8%.

4.3 PEARSON CORRELATIONS COEFFICIENT: Q AS DEPENDENT VARIABLE

In this correlation analysis, the relationship between two variables can be explained. Our study determines the relationship between firm performance (Tobin's Q and ROA) and the other independent variables which are PWOMEN, AUDIT, INDEP, BOARD, SIZE, IND1, IND2, IND3 and IND4.

Based on Table 4.2 there are four variables that are found to have positive correlations with firm performance (Q) while the remaining variables show negative correlations with the firm performance (Q). Q is positively correlated to AUDIT, BOARD and IND3. The other variables that have negative relationships with Q are PWOMEN, INDEP, FIRM,

IND1 and IND4 to Q. However, there are only IND2 that show statistically significant and positive relationships with Q at 5% level.

Table 4.2:
Correlations for Q as the Dependent Variable

		Q	PWOMEN	AUDIT	INDEP	BOARD	FIRM	IND1	IND2	IND3	IND4
Q	Pearson Correlation	1	-.149	.028	-.075	.112	-.167	-.184	.259*	.122	-.140
	Sig. (2-tailed)		.186	.803	.510	.321	.138	.103	.020	.283	.215
	N	80	80	80	80	80	80	80	80	80	80
PWOMEN	Pearson Correlation	-.149	1	.648**	.691**	.324**	.034	.172	-.111	.125	-.172
	Sig. (2-tailed)	.186		.000	.000	.003	.767	.127	.327	.270	.127
	N	80	80	80	80	80	80	80	80	80	80
AUDIT	Pearson Correlation	.028	.648**	1	.796**	.232*	-.037	.075	-.001	.045	-.121
	Sig. (2-tailed)	.803	.000		.000	.038	.748	.510	.991	.693	.284
	N	80	80	80	80	80	80	80	80	80	80
INDEP	Pearson Correlation	-.075	.691**	.796**	1	.186	-.002	.150	.021	-.066	-.166
	Sig. (2-tailed)	.510	.000	.000		.099	.983	.185	.856	.559	.141
	N	80	80	80	80	80	80	80	80	80	80
BOARD	Pearson Correlation	.112	.324**	.232*	.186	1	.169	.116	-.004	.002	-.142
	Sig. (2-tailed)	.321	.003	.038	.099		.133	.304	.970	.983	.211
	N	80	80	80	80	80	80	80	80	80	80
FIRM	Pearson Correlation	-.167	.034	-.037	-.002	.169	1	.152	-.073	-.127	-.024
	Sig. (2-tailed)	.138	.767	.748	.983	.133		.177	.517	.263	.831
	N	80	80	80	80	80	80	80	80	80	80
IND1	Pearson Correlation	-.184	.172	.075	.150	.116	.152	1	-.557**	-.258*	-.452**
	Sig. (2-tailed)	.103	.127	.510	.185	.304	.177		.000	.021	.000

	N	80	80	80	80	80	80	80	80	80	80
IND2	Pearson Correlation	.259*	-.111	-.001	.021	-.004	-.073	-.557**	1	-.175	-.308**
	Sig. (2-tailed)	.020	.327	.991	.856	.970	.517	.000		.120	.005
	N	80	80	80	80	80	80	80	80	80	80
IND3	Pearson Correlation	.122	.125	.045	-.066	.002	-.127	-.258*	-.175	1	-.142
	Sig. (2-tailed)	.283	.270	.693	.559	.983	.263	.021	.120		.208
	N	80	80	80	80	80	80	80	80	80	80
IND4	Pearson Correlation	-.140	-.172	-.121	-.166	-.142	-.024	-.452**	-.308**	-.142	1
	Sig. (2-tailed)	.215	.127	.284	.141	.211	.831	.000	.005	.208	
	N	80	80	80	80	80	80	80	80	80	80

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

4.4 PEARSON CORRELATIONS COEFFICIENT: ROA AS DEPENDENT VARIABLE

Table 4.3 presents the correlations between ROA and PWOMEN, AUDIT, INDEP, FIRM, BOARD and IND. This table shows the correlations for the variables that are used in the main regression analysis when ROA is the dependent variable. We find that ROA is positively correlated to BOARD, IND3 and IND4. IND2 is found to have a significant and positive relationship with ROA at 5% level. Negative relationships are found between AUDIT, INDEP and FIRM to the firm performance (ROA). However the correlation between PWOMEN and ROA is significantly negative at 5% level while IND1 is found to be negatively correlated to ROA but statistically significant at 1% level.

Table 4.3:
Correlations for ROA as the Dependent Variable

		ROA	PWOMEN	AUDIT	INDEP	BOARD	FIRM	IND1	IND2	IND3	IND4
ROA	Pearson Correlation	1	-.248*	-.033	-.162	.005	-.132	-.297**	.269*	.013	.061
	Sig. (2-tailed)		.027	.769	.150	.968	.242	.007	.016	.911	.593
	N	80	80	80	80	80	80	80	80	80	80
PWOMEN	Pearson Correlation	-.248*	1	.648**	.691**	.324**	.034	.172	-.111	.125	-.172
	Sig. (2-tailed)	.027		.000	.000	.003	.767	.127	.327	.270	.127
	N	80	80	80	80	80	80	80	80	80	80
AUDIT	Pearson Correlation	-.033	.648**	1	.796**	.232*	-.037	.075	-.001	.045	-.121
	Sig. (2-tailed)	.769	.000		.000	.038	.748	.510	.991	.693	.284
	N	80	80	80	80	80	80	80	80	80	80
INDEP	Pearson Correlation	-.162	.691**	.796**	1	.186	-.002	.150	.021	-.066	-.166
	Sig. (2-tailed)	.150	.000	.000		.099	.983	.185	.856	.559	.141
	N	80	80	80	80	80	80	80	80	80	80
BOARD	Pearson Correlation	.005	.324**	.232*	.186	1	.169	.116	-.004	.002	-.142
	Sig. (2-tailed)	.968	.003	.038	.099		.133	.304	.970	.983	.211
	N	80	80	80	80	80	80	80	80	80	80
FIRM	Pearson Correlation	-.132	.034	-.037	-.002	.169	1	.152	-.073	-.127	-.024
	Sig. (2-tailed)	.242	.767	.748	.983	.133		.177	.517	.263	.831
	N	80	80	80	80	80	80	80	80	80	80
IND1	Pearson Correlation	-.297**	.172	.075	.150	.116	.152	1	-.557**	-.258*	-.452**
	Sig. (2-tailed)	.007	.127	.510	.185	.304	.177		.000	.021	.000
	N	80	80	80	80	80	80	80	80	80	80
IND2	Pearson Correlation	.269*	-.111	-.001	.021	-.004	-.073	-.557**	1	-.175	-.308**
	Sig. (2-tailed)	.016	.327	.991	.856	.970	.517	.000		.120	.005
	N	80	80	80	80	80	80	80	80	80	80

IND3	Pearson Correlation	.013	.125	.045	-.066	.002	-.127	-.258[*]	-.175	1	-.142
	Sig. (2-tailed)	.911	.270	.693	.559	.983	.263	.021	.120		.208
	N	80	80	80	80	80	80	80	80	80	80
IND4	Pearson Correlation	.061	-.172	-.121	-.166	-.142	-.024	-.452[**]	-.308[**]	-.142	1
	Sig. (2-tailed)	.593	.127	.284	.141	.211	.831	.000	.005	.208	
	N	80	80	80	80	80	80	80	80	80	80

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

4.5 MULTIPLE LINEAR REGRESSION ANALYSIS: Q AS DEPENDENT VARIABLES

In this regression model, several parameters are used to evaluate the regression results in obtaining adjusted R square, F test, Durbin Watson and p-value. Tables 4.4 and 4.5 show the findings of the multiple linear regression analysis. Table 4.4 provides the information about model summary for regression model when used Q is used as the dependent variable while Table 4.5 provides the result on ANOVA test for this study. These two tables show the fit test of the model. The main reason of this test is to evaluate the significance of the fit of the regression model. It shows two indicators in model fit test which is F test and adjusted R square. Table 4.4 reports on the summary of regression result of the following model:

$$Q = \alpha + \beta_1 PWOMEN + \beta_2 AUDIT + \beta_3 INDEP + \beta_4 BOARD + \beta_5 SIZE + \beta_6 IND1 + \beta_7 IND2 + \beta_8 IND3 + \beta_9 IND4 + \varepsilon$$

4.5.1 Summary of Regression Model

The first indicator is the adjusted R square. Table 4.4 shows that the adjusted R square is 9.8%. This value of 9.8% indicates that only 9.8% the variation in firm performance (using Q as the measurement), can be explained by the proportion of women on board of directors, women director in audit committee, independent women director on the board, board size, firm size and industry of the firm, while the other 90.2% is explained by other variables.

Table 4.4:
Summary of Regressions Model: Q as Dependent Variable

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.435[a]	.189	.098	1.5586378	2.001

a. Predictors: (Constant), IND4, FIRM , AUDIT, IND3, BOARD , IND2, PWOMEN, INDEP

b. Dependent Variable: Q

Even though this "fitness" of the model is rather low, it is relatively consistent with some previous studies on women and corporate governance. A study conducted by Ararat et al. (2010) shows an adjusted R square of 9.5%. Adam & Ferreira (2009) the value of adjusted R square also at 10%. The finding of this present study also is supported by Cheung & Tsang (2011) where the value of adjusted R square was 11% on Hong Kong firms. Our result on the adjusted R-squared value is relatively high compared to the study in Indonesian market where the value of adjusted R square is found to be 6.1% (Darmani, 2010) and 7.1% (Mentes, 2011) in Istanbul market.

The other parameter generated from this regression model is the Durbin Watson. The value resulted in this regression model is 2.001, meaning that there is no autocorrelation problem between the variables.

4.5.2 ANOVA

The second indicator to evaluate the significance of the fit of the regression model is the F test. According to the Table 4.5, the value of F statistics is 2.074 with significance level of 0.050. This value of statistics indicates that the model is fit and acceptable. The significant value of F when using Q as dependent variable is 0.050. This level of significant value is the cut-off for significant level. The significant level of F statistics is set at 0.05 to show that the regression model works. Therefore the result found in this study can be interpreted as an unbiased result (Gujrati, 1995).

Table 4.5:
ANOVA: Q as Dependent Variable

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	40.301	8	5.038	2.074	.050[a]
	Residual	172.484	71	2.429		
	Total	212.785	79			

a. Predictors: (Constant), IND4, FIRM , AUDIT, IND3, BOARD , IND2, PWOMEN, INDEP
b. Dependent Variable: Q

4.5.3 Coefficients of Regression Analysis

Table 4.6 shows the results found on regression analysis. As discussed earlier, the equation of Q as dependent variables can be derived as follows:

$$Q \quad = \quad 3.968 - 5.000\beta1 + 2.574\beta2 - 2.786\beta3 + 1.257\beta4 - 0.210\beta5 +$$

$$0.823\beta7 + 0.946\beta8 - 0.265\beta9 + \varepsilon$$

The variable of PWOMEN has a negative relationship but it is significant at the 10% level. This result is supported by Mentes (2011) where they found that there is a negative relation but significant impact on fraction of women board's members to the Tobin's Q on Istanbul firms. Cheung & Tsang (2011) found that percentage of women on board of director representation and firm value (Q) is negative and significant result. This finding indicates that the more women on are on the board of directors, the lower firm will be firm value (Q).

The coefficient of AUDIT reveals positive and insignificant impacts to the Q. This result is consistent with a previous study where findings revealed that more women present in audit committee results in the firm having high firm value (Q) (Carter, et al., 2010). However, their result is on this relationship is significant.

The variable of INDEP shows a negative relation and no significant impacts on the value of Tobin's Q. This result is in the line with the previous study conducted by Schwizer, et al. (2011) where they found that the relationship between financial performance and independent women directors on the board is insignificant and negative.

The positive but insignificant coefficient of BOARD to Q as a control variable in the equation is predicted in the hypothesis. This positive relation was also found by Darmani

(2010) but the result show that BOARD is significantly correlated to the firm value (Q).

The findings in our study however were consistent with Erhardt, et al. (2003) where they

found that board size is positively but insignificantly related to firm value.

Table 4.6:
Coefficients of Regression Analysis: Q as Dependent Variable

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.968	3.702		1.072	.287		
	PWOMEN	-5.000	2.769	-.294	-1.806	.075	.431	2.322
	AUDIT	2.574	2.034	.233	1.265	.210	.337	2.971
	INDEP	-2.786	5.690	-.098	-.490	.626	.288	3.477
	BOARD	1.257	.777	.188	1.619	.110	.848	1.179
	FIRM	-.210	.158	-.146	-1.326	.189	.936	1.068
	IND2	.823	.431	.225	1.909	.060	.819	1.221
	IND3	.946	.720	.153	1.314	.193	.845	1.183
	IND4	-.264	.484	-.065	-.545	.588	.811	1.233

a. Dependent Variable: Q

Excluded Variables[b]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	IND1	.[a]	.	.	.	.000	.	.000

a. Predictors in the Model: (Constant), IND4, FIRM , AUDIT, IND3, BOARD , IND2, PWOMEN, INDEP

b. Dependent Variable: Q

The result of FIRM is consistent with previous studies where our result shows a negative

and insignificant sign of coefficient. The negative and insignificant coefficient was also

found in the Indonesian market (Darmani, 2010). Adam & Ferreira (2009) stated a

different result when they found that board size is positively and significantly related to the performance (Tobin's Q).

The industries variables show that the coefficient of IND2 and IND3 are positively associated with Q while IND4 is negatively related to the firm performance (Q). However, only IND2 shows significant impact on firm performance at a significant level 10%. The inconsistent relationship result in this study is supported in Dutch and Danish boardrooms in a study by Marinova, et al. (2010) where they also found an inconsistent relationship between industries and firm performance (Q) with no significant result recorded in the study.

As shown in Table 4.6, there is one variable (IND1) that is excluded from the model by the SPSS program. The exclusion is due to IND1 having perfect collinearity with the other variables. By excluding IND1 variable, the SPSS was able to run the model to get the best result for the regression test.

The other test can be found in this regression model is the multicollinearity test. This multicollenearity test is t identifies the problem between independent variables when it is closely related. In order to identify the problem, we apply the measurement of Variance Inflation Factor (VIF). According to Gujerati & Porter (2009), the value of VIF should be below than 10. According to the Table 4.5, the highest VIF value for regression model when Q as dependent variables is 3.477. Since the value of VIF for independent variables

is less than 10, multicollinearity problem is considered as not existing between the independent variables in this model.

4.6 MULTIPLE LINEAR REGRESSION ANALYSIS: ROA AS DEPENDENT VARIABLE

In Table 4.5 shows that the output summary of regression analysis when using return on assets (ROA) as the dependent variable. The following regression model is used:

$$\text{ROA} = \alpha + \beta 1 \text{PWOMEN} + \beta 2 \text{AUDIT} + \beta 3 \text{INDEP} + \beta 4 \text{BOARD} + \beta 5 \text{SIZE}$$
$$+ \beta 6 \text{IND1} + \beta 7 \text{IND2} + \beta 8 \text{IND3} + \beta 9 \text{IND4} + \varepsilon$$

4.6.1 Summary of Regression Model

The second model used in this study gives similar value of adjusted R square as the first model when we use Q as the dependent variable. This model shows that adjusted R square is 10.2%. This value of 10.2% indicate that the proportion of women on board of directors, women director in audit committee, independent women director on the board, board size, firm size and industry of the firm can explain 10.2% of the variation in firm performance as measured by ROA. The other 89.8% variation is explained by other variables not accounted for in the model.

Table 4.7:
Summary of Regressions Model: ROA as Dependent Variable

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.439[a]	.193	.102	.0782251	2.234

a. Predictors: (Constant), IND4, FIRM , AUDIT, IND3, BOARD , IND2, PWOMEN, INDEP

b. Dependent Variable: ROA

The result of the adjusted R-squared in this model is similar to the Indonesian study when the authors used ROA as dependent variable in which they obtained an adjusted R square of 10.8% (Darmani, 2010). This similar result in the fitness of the model might be due to both studies being conducted on Asian stock markets having rather similar corporate governance requirements. Mentes (2011) also found the exact value of adjusted R square at 10.8% that observed the explanatory power of independent variables for changes in ROA. However, the study conducted on U.S shows lower adjusted R-squared than the finding in our study where the value is shown to be 7% (Adam & Ferreira, 2009).

In addition, the values of Durbin Watson in this model are not far different from the first model where the value is 2.234. Since the value is below than 4, it means that this second model when we used ROA as dependent variable also no autocorrelation problem.

4.6.2 ANOVA

Table 4.8:
ANOVA: ROA as Dependent Variable

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.104	8	.013	2.122	.045[a]
	Residual	.434	71	.006		
	Total	.538	79			

a. Predictors: (Constant), IND4, FIRM , AUDIT, IND3, BOARD , IND2, PWOMEN, INDEP
b. Dependent Variable: ROA

Similar to the first model, the second indicator on model fit test also using F test. Table 4.8 shows a value of F statistics of 2.122 with a significant level of 0.045. This value of

statistics indicates that the model is fit and acceptable due to the significant value of F. When using ROA as dependent variable, the Sig value is 0.045, which is lower than the 0.05 cut-off, showing that the whole regression model is worthwhile.

4.6.3   Coefficients of Regression Analysis

Table 4.9 reports the regression analysis for the second model when ROA is used as the dependent variable. The equation of ROA as the dependent variable is derived as follows:

$$ROA = 0.167 - 0.247\beta_1 + 0.164\beta_2 - 0.283\beta_3 + 0.034\beta_4 - 0.007\beta_5 +$$
$$0.053\beta_7 + 0.024\beta_8 - 0.026\beta_9 + \varepsilon$$

The coefficient of PWOMEN has a negative relation but significant at 10% significant level. This result is consistent with a previous study where Darmani (2010) found that there is a significant but negative relation between the proportions of women to the ROA. Another study also found a significant result but with positively coefficient between ROA and fraction of women directors (Adam & Ferreira, 2009; Schwizer, et al., 2011).

The variable of AUDIT has a positive relationship to the ROA but at insignificant coefficient. Past research states that gender diversity in audit committee function has a positive impact on financial performance when Tobin's Q is used to measure firm performance. However, there result found in this study on the relationship between ROA and the existence of women director in audit committee is not supported by previous studies.

INDEP revealed negative relation but insignificant coefficients to the ROA. This means that increasing more independent women directors on the board will decrease the value of firm performance (as measured by ROA). This result is consistent with the U.S study where the finding shows a negative relationship between fractions of independent directors to the ROA (Adam & Ferreira, 2009).

Table 4.9:
Coefficients of Regression Analysis: ROA as Dependent Variable

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.167	.186		.900	.371		
	PWOMEN	-.247	.139	-.289	-1.779	.080	.431	2.322
	AUDIT	.164	.102	.296	1.611	.112	.337	2.971
	INDEP	-.283	.286	-.197	-.992	.324	.288	3.477
	BOARD	.034	.039	.101	.872	.386	.848	1.179
	FIRM	-.007	.008	-.095	-.863	.391	.936	1.068
	IND2	.053	.022	.288	2.441	.017	.819	1.221
	IND3	.024	.036	.079	.678	.500	.845	1.183
	IND4	.026	.024	.126	1.063	.292	.811	1.233

a. Dependent Variable: ROA

Excluded Variables[b]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		Minimum Tolerance
						Tolerance	VIF	
1	IND1	.[a]	.	.	.	.000	.	.000

a. Predictors in the Model: (Constant), IND4, FIRM , AUDIT, IND3, BOARD , IND2, PWOMEN, INDEP

b. Dependent Variable: ROA

The variable of BOARD shows a positive relationship to the ROA but not statistically significant in this present study. This direction means larger total board members results in higher firm performance (ROA). This positive relation is supported by Darmani (2010) in which the Indonesian market also showed a positive insignificant relationship to the ROA.

The negatively insignificant coefficient of FIRM implies that the larger firm size tend to have lower firm performance (ROA). This result is not supported by previous studies when firm size was found to have a positively and significant impact on firm performance (ROA) (Darmani, 2010; Mentes, 2011).

The variables of industries shows positively coefficient for all variables for industry (IND2, IND3 and IND4) but only IND2 shows a positively and significant coefficient to ROA at 5% significant level. Our result is not consistent with previous studies, however. Erhardt, et al. (2003) found that industry is negatively but significantly affects firm performance (ROA).

As shows in Table 4.9, there is one variable (IND1) that is excluded from the model in SPSS, same as the first model. This variable is excluded due to IND1 having perfect collinearity with the variables. By excluding IND1 variable, the SPSS can run the model to get the best result in regression test.

The second model also shows the VIF value in Table 4.7. The highest value found in the Table is 3.477, indicating that multicollinearity problem does not occur between the independent variables in this model.

4.7   HYPOTHESES TESTING

This part will discuss further hypotheses testing that are developed in Chapter Three. There are three hypotheses that are tested. The hypotheses are testing regarding result derived from regression analysis to see the relationship between Q and ROA to the women variables and control variables.

H1:   Proportion of women on the board of directors is positively related with firm performance

The relationship for both firm performance (Q and ROA) shows significant relationships with the proportion of women on the board of directors. The significant values of Q and ROA for the proportion of women on the board of directors are 0.075 and 0.080. At the significant level 10%, this first hypothesis is supported, meaning that there is a significant effect of proportion of women on the board of directors on firm performance. However, this relationship is negative. The result suggests that larger number of women on the board of directors lowers firm performance (by both measures). This means the first hypothesis developed unsupported.

H2:   Women director in audit committee is positively related with firm performance

The second hypothesis posits a positive relationship between women director in audit committee and firm performance. This hypothesis is supported for both firm performance measurement Q and ROA. This implies that a more women in audit committee lead to a higher firm performance. However, there is no significant effect of women director in audit committee on firm performance.

H3:   Independent women director on the board is positively related with firm performance

The third hypothesis states that there is a positive relationship between independent women director on the board and firm performance is unsupported because the results show a negative relationship. The significant values for independent women director on the board are 0.626 and 0.324 for Q and ROA. This means that there is no statistically significant relationship between independent women directors on the board with firm performance. The result shows that the more independent women directors are sitting on the board of directors; the lower is the firm performance.

H4:   Board size would affect firm performance

There are three control variables used in this study: firm size, board size and industry. Board size measured by total number of board members. Board size shows insignificant negative relationship to both firm performances. This hypothesis is accepted due to board size affect firm performance with inverse relationship.

H5:   Firm size would affect firm performance

Firm size is measured by total assets of the firm. The result indicates that there is an insignificant positive relationship between firm size and firm performance for both measures of firm performance. The positive affect of firm size on firm performance are supported the hypothesis.

H6:   Industry would affect firm performance

The last control variables are industry sectors. Results are mixed. IND2 and IND3 show positive relationships to firm performance (Q and ROA) while IND4 shows a negative relationship to the firm performance (as measured by Tobin's Q). Results show that there is a significant affect of IND2 to both measures of firm performance (Q and ROA) while other industry variables shows insignificant relationships to firm performance. The last hypothesis also supported when the results shows mixed results of industry affect on firm performance.

4.8   CHAPTER SUMMARY

This chapter presents the results of analysis that are conducted by using several tools. It starts with descriptive analysis, Pearson correlation coefficient and regression analysis. This chapter also describes multicollinearity parameters used to detect any problem that light occurs in data. In order to gauge the relationships between the variables, regression analysis is used to obtain the findings for this study. Results prove that only the variable proportion of women on the board of directors has a significant impact on both firm performances as measured by Q and ROA.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1   INTRODUCTION

This study examines the relationship between women on the board of directors based on three women variables (proportion of women on the board of directors, women director in audit committee, and independent women director on the board) with firm performance (measured by Tobin's Q and return on assets) of Malaysia listed companies on Bursa Malaysia. There are three major sections in this chapter. First is a section on the discussion and summary on the findings in this study. The second is the section on suggestions for future research and the last section discusses limitations of the study.

5.2   DISCUSSION AND SUMMARY OF RESEARCH

The main purpose of this study is to investigate the effects of women directors namely proportions of women on the board of directors, women director in audit committee, independent women directors on the board on firm performance (Q and ROA) as well as the effect on performance when control variables (firm size, board size and industry) are considered.

This study examines a sample of 80 top listed companies in Bursa Malaysia measured by market capitalization. All the companies are from different industries in trading and service, consumer products, industrial product, plantation, properties, REITS and IPC

industry. Multiple regression analysis is performed to test the hypotheses developed for the purpose of the study.

The result of multiple regression models when Tobin's Q is used as the dependent variable shows that proportion of women on the board of directors is negatively and significantly related to firm performance. For variables of women in audit committee, board size, industry variable of REITS and IPC industry (IND3) there are positive and insignificant relationships to the firm performance. Independent women director on board, firm size and industry variable of properties and plantation (IND4) show negative insignificant relationships to firm performance while consumer and industrial product industry (IND2) show positive and significant relationships with firm performance.

The second model used in this study is ROA as the dependent variable. The regression results show the same relationships for proportion of women on the board of directors which is found to be negatively and significantly related to firm performance. Women director in audit committee, board size, REITS and IPC industry (IND3), and industry of properties and plantation (IND4) all show positive but insignificant impacts on firm performance. Independent women directors on the board and firm size show negatively and insignificant relationships to performance. The last variables used in this model for industry of consumer and industrial products show positive and significant relationship to firm performance.

The finding in this study shows that proportions of women on the board of directors had a negative relationship to both firm performance for Tobin's Q and return on assets. This means that the more women present on the board of directors the lower performance of the companies is. Independent women directors on the board show a negative but insignificant relationship to the firm performance (Q and ROA). This implies that the higher independent women directors sitting on the board the lower firm performance will be. The existence of women director in audit committee shows a positively insignificant relationship to the firm performance (Q and ROA). The result suggests that the higher number of women in audit committee leads to higher firm performance.

For control variables, board size shows a positive insignificant relationship to the firm performance (Q and ROA), meaning that the bigger size of board directors would increase firm performance (Q and ROA). The opposite relationship between firm size and firm performance found shows negative impact. The relationship explains that the bigger sized of firms may result in lowering of firm performance. For industry of consumer and industrial products results show positive and significant relationships to the firm performance (Q and ROA) while REITS and IPC industry shows positively insignificant relationship to the firm performance (Q and ROA). The plantations and properties industry show the different result for different model used. Its shows negative insignificant to the firm performance (Q) while positive insignificant to the firm performance (ROA).

5.3   LIMITATIONS OF THE STUDY

The limitations in this study are mainly on the independent variables that was used to measure women on board of directors. From the beginning of this research, the dummy variable of presence of women on the board of directors was included as one of the independent variables. However, this variable had to be removing from the data used when it was detected as one of the variables that had high value of multicollinearity due to similar multicollinearity with the other variables of proportion of women on the board of directors. Because of this exclusion, the original four variables on women had to be reduced to only three independent variables in this study to explain the phenomena of women on the board of directors. We consider these three variables as not strong enough to explain the effect of women's presence on the board of directors. Moreover, previous studies also could and had provided very limited variables that could be used to test the effects and therefore justification of having women on board of directors.

The second limitation in this study is related to the sample. This study focused only on the top 100 companies listed on the Bursa Malaysia as measured by market capitalization. However the final sample was reduced to only 80 companies financial companies had to be excluded even though they had very large market capitalizations. From that final sample, only half of the companies had women sitting on the board of directors. Our results might have been different if we had managed to get better representation of women directors. The last limitation in this study concerned the dependent variables used where from the beginning in this study after review on literature was performed, most of the studies were found to use return on equity (ROE) as one of accounting-based firm

performance rather than ROA (ROA is the second common measurement used in accounting-based performance). However, we had to change the ROE to ROA after the model using ROE proved not fit to be used in this study.

5.4   RECOMMENDATIONS FOR FUTURE RESEARCH

The results in this study can be used for future research in gender diversity and firm performance on corporate governance in Malaysia. Further research in this area may contribute to the better results due to the different criteria used in future studies. Since many countries have started to implement the new regulations in corporate governance on gender diversity, this study may spark further researchers to conduct research in developing countries.

This study is similar as previous studies in the sense that it only focuses on quantitative analysis. On this quantitative study, there are just explaining on the relationship between the variables. For further research the method of the study also can be mixed to incorporate quantitative and qualitative analyses. The quantitative analysis can be used to determine the relationship between the variables as used in this study while qualitative study is to find further explanation on the actual reason behind the relationship of the findings.

The present study only focused on one single financial year study of 2011. For more reliable results, further studies should extend the period of study up to five and ten years to see the effects between women on the board of directors and firm performance. Apart

from period of study, the sample of study also can be extended where it not only focuses on top companies listed on Bursa Malaysia but also includes all listed companies. The sample can also be specific to certain industries.

This study only focused on two measurements of firm performance, Tobin's Q and ROA. Future studies should try to use performance measures other that accounting or market based-measures.

5.5 CONCLUSION

Women on the board of directors are interpreted as proportions of women on the board of directors, independent women directors on the board and women director in audit committee. This study is carried out to evaluate the impacts of women on the board of directors to the firm performance. The results of this study show that the greater women sitting on the board of directors lead to lower firm performance. The new policy announced by the Prime Minister on women on the board of directors is one step in increasing women on the highest echelon in a company. Further studies should be carried out to validate the requirement for an increased women participation and existence on the board of directors.

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