# IMPACT OF CORPORATE GOVERNANCE ON FIRM PERFORMANCE: PANEL DATA EVIDENCE FROM TOP 100 BURSA MALAYSIA LISTED COMPANIES

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DECEMBER 2021

# Impact of Corporate Governance on Firm Performance: Panel Data Evidence from Top 100 Bursa Malaysia Listed Companies

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A research project submitted in partial fulfilment of the requirement for the degree of

Master of Business Administration

Universiti Tunku Abdul Rahman

Faculty of Accountancy and Management

December 2021

# Impact of Corporate Governance on Firm Performance: Panel Data Evidence from Top 100 Bursa Malaysia Listed Companies

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DECLARATION

I hereby declare that:

(1) This Research Project is the end result of my own work and that due acknowledgement has been given in the references to all sources of information be they printed, electronic, or personal.

(2) No portion of this research project has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

(3) The word count for this research report is _____.

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ACKNOWLEDGEMENT

My heartfelt appreciation goes out to Universiti Tunku Abdul Rahman (UTAR) and all the lecturers whom I have been immensely fortunate to meet and learn from over the course of my study in this Master of Business Administration (Corporate Governance) programme. The knowledge that I have gained in the various aspects of corporate governance has led to the development and completion of this research project, a culmination of my 3-year journey in the realm of corporate governance.

While the subjects I have taken and lecturers I have met provided stepping stones towards the development of this project, this project would not have come to fruition without the guidance and advice from my supervisor, Mr. David Ng Ching Yat. Aside from steering me in the right direction and giving out pointers to strengthen my research, Mr. David Ng has also consistently kept track of my progress over the course of this research period, providing timely reminders that are much needed during a time where work and study hours are thrown into disarray due to the COVID-19 pandemic. His tireless efforts are truly valued.

My gratitude also goes out to my parents, especially my mother, who has provided unrelenting support ever since the day I was born. Through the tough times of having to meet deadlines in the office and in the university, the care that was extended is the best support a child could ask for.

Last but not least, a note of appreciation to my partner, who has augmented my reality by being a source of laughter, and providing sound suggestions to unravel the knots in my head.

From the bottom of my heart, thank you.

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## LIST OF ABBREVIATIONS

| | |
|---|---|
| A | Accept |
| Avg | Average |
| BIND | Board Independence |
| BMEET | Number of Board Meetings |
| BMLR | Bursa Malaysia Listing Requirements |
| BOD | Board of Directors |
| BSIZE | Board Size |
| CDUAL | CEO Duality |
| CEO | Chief Executive Officer |
| CG | Corporate Governance |
| DVs | Dependent Variables |
| EPS | Earnings per Share |
| ESG | Environmental, Social, and Governance |
| FEM | Fixed Effect Model |
| FORD | Number of Directors with Foreign Qualifications |
| IVs | Independent Variables |
| JPK1 | Working Group on Best Practices in Corporate Governance |

| | |
|---|---|
| KLSE | Kuala Lumpur Stock Exchange |
| MCCG | Malaysian Code of Corporate Governance |
| MSWG | Minority Shareholders Watchdog Group |
| NA | Not Accepted |
| P-value | Probability Value |
| REM | Random Effect Model |
| ROA | Return on Assets |
| ROE | Return on Equity |
| S.D. | Standard Deviation |
| SME | Small and Medium Enterprise |
| SPSS | Statistical Package for the Social Sciences |
| TOBQ | Tobin's Q |
| UTAR | Universiti Tunku Abdul Rahman |
| WOMD | Number of Women Directors on Board |

# PREFACE

As a student of the Master of Business Admistration (Corporate Governance) programme, the first subject I was introduced to upon the commencement of my programme was “Corporate Administration”. It was then that I was first exposed to the existent of a Malaysian Code of Corporate Governance (MCCG) which at the time was already the MCCG 2017 that went into force. There was a lot of buzz in the world of corporate governance back then as MCCG 2017 was the most comprehensive code to be released as of 2018. I was intrigued with the new found knowlege but also questioned the compliance rate that the listed companies would have towards the code. This curiosity interested me enough to the point where I wanted to study the corporate governance landscape of Malaysia, how listed companies are complying with the MCCG, and whether corporate governance has any significant relationship with firm performance. Hence, this research project on the “Impact of Corporate Governance on Firm Performance: Panel Data Evidence from Top 100 Bursa Malaysia Listed Companies” was developed.

With this study, I hope to answer my personal questions and observation, as well as provide insights to future researchers, managements, policy makers, or governments on the benefits of corporate governance in firm performance.

# ABSTRACT

The objective of this research was to investigate the relationship between corporate governance and firm performance. Analysing 2013 to 2019 data from 81 Bursa Malaysia listed companies ranked as the Minority Shareholders' Watchdog Group's Top 100 Companies for Overall CG & Performance in 2019, evidence that corporate governance, in compliance with the Malaysian Code on Corporate Governance (MCCG), has a significant relationship with firm performance.

Corporate governance was represented by 6 independent variables i.e., CEO duality (CDUAL), board size (BSIZE), board independence (BIND), number of board meetings (BMEET), number of women directors (WOMD), and number of directors with foreign qualifications (FORD). Firm performance was represented by earnings per share (EPS), Tobin's Q (TOBQ), and return on equity (ROE).

The descriptive analysis showed that compliance towards the MCCG is almost complete, with only two exceptions i.e., CDUAL and WOMD. Only 1 in 81 companies were found to practice CDUAL in 2019. Average percentage of women directors over the 7-year period was 18%, almost half of the 30% recommended by MCCG. Female representation on the board has improved since the last decade.

The panel data analysis indicated a significant negative relationship between CDUAL, BSIZE, BIND, and BMEET, and firm performance whereas a significant positive relationship between WOMD and FORD, and firm performance was detected.

This study contributes to existing literature on adoption of corporate governance practices in accordance to MCCG. It also provides insights to the government, policymakers, and various stakeholders regarding current corporate governance landscape, and how it plays a part in improving firm performance.

# CHAPTER 1

# INTRODUCTION

## 1.0 Introduction

This study aims to examine the impact of corporate governance on firm performance, providing evidence from Top 100 public-listed companies in Malaysia, analysing data from 2013 to 2019. In Section 1.1., the background of this research will be expanded on, which will be followed by the problem statement in Section 1.2. In Section 1.3, the objectives of this study will be listed in detail before moving on to Section 1.4 where the questions that this research seeks to answer will be elaborated. The significance of this study is provided in Section 1.5, after which the chapter is concluded with a chapter layout in Section 1.6.

## 1.1 Research Background

Although corporate governance practices have been introduced much earlier, it was not until the financial collapse of the Asian Financial Crisis from 1997 to 1998 that corporate governance reforms were called for (Abdul Wahab, Haron, Char, and Yahya, 2011) as the crash was purportedly linked to weak corporate governance. To aid in Malaysia's corporate governance reform, the Working Group on Best Practices in Corporate Governance (JPK1), in March 2000, launched the Malaysian Code on Corporate Governance (MCCG) (Mohamad, Pantamee, Ooi, and Kwong, 2020) and in the same year, the Minority Shareholders Watchdog Group (MSWG) was also incorporated to protect interests

of minority shareholders. In January 2001, Bursa Malaysia has also revised its Listing Requirements to require listed companies to provide a report on their corporate governance practice as provided by MCCG (Abdul Wahab et al, 2011).

After the introduction of MCCG in 2000, continuous reviews were conducted and subsequent revisions were published in 2007, 2012, 2017, and most recently April 2021. MCCG 2021, which came into force in April 2021, has superseded all earlier versions and introduced step up practices for companies to take their corporate governance level one step higher.

Following MCCG's establishment, studies have shown that these initiatives have consistently made an impact on Malaysia's corporate governance landscape. However, many question the relationship between good governance and firm performance. If corporate governance reforms were called for post-Asian Financial Crisis, the pertinent question commonly posed is whether corporate governance practices will lead to good and sustainable firm performance.

Extensive studies have been conducted ever since the incorporation of MCCG 2000, which sought to determine the relationship between various corporate governance practices and firm performance. At present, the relationship between corporate governance and firm performance remains a mixed one. On one hand, researchers found that overall firm performance has increased with MCCG incorporation, and good corporate governance resulted in better firm performance and enhanced firm value (Mohamad et al., 2020). While on the other hand, researchers are not convinced that corporate governance practices, aligned with Bursa Malaysia Listing Requirements (BMLR), enhances future firm performance (Mohamed Zabri, Ahmad, and Khaw, 2016; Abdulsamad, Wan Yusoff and Lasyoud, 2018,).

According to Abdul Wahab et al. (2011) in their study of 448 firms between years 2005 to 2007, corporate governance is influential in mitigating agency problems, reduces negative impact of related party transactions, and in turn improves firm performance.

In a study conducted by Mohamed Zabri et al. (2016) on 86 of Malaysia's top 100 public listed companies using data between years 2008 to 2012 studied effects of board size and board independence on return on assets (ROA) and return on equity (ROE) of Top 100 public listed companies in Malaysia. Results showed a significant weak negative relationship between board size and ROA, but insignificant with ROE. Additionally, no significance between board independence and firm performance was seen.

In another study conducted by Abdulsamad et al. (2018) on 341 Malaysian public listed companies within the period of 2003 to 2013, there is a mixed result regarding influence of board characteristics such as CEO duality, independent directors, board size and board meetings with firm performance (i.e. ROA and Earnings per share (EPS)).

Female representation on the board has been given the spotlight in recent years, which led to studies to examine the relationship between women directors on board and firm performance. Ahmad, Raja Kamaruzaman, Hamdan, and Annuar (2019), in their study on top 200 Malaysian public listed companies from 2011 to 2013, found that presence of women directors negatively correlates to the companies' ROA. However, the firm performance improves if the women directors hold relevant academic qualifications, which leads to the observation that director's education leads to greater firm performance instead of purely gender diversification. This observation was not aligned with Julizaerma and Mohamad Sori. (2012)'s study on 280 companies listed on Bursa Malaysia's Main Market and ACE market, analysing data from 2008 and 2009, which suggests a positive association between gender diversity and ROA.

Recent study conducted by Mohamad et al. (2020) examined the relationship between corporate governance and firm performance by analysing data from 180 Malaysian listed companies during the period of 2013 to 2017. Their results show a significant association between non-executive directors and board size, and the firm's Tobin's Q or ROA.

Based on research conducted over the period of 2000 to 2017, the relationship between corporate governance and firm performance remains inconclusive. While it is generally expected that adopting corporate governance practices would improve management of a company and lead to stronger firm performance, the differing evidences provided a weak support.

## 1.2 Problem Statement

The research background has depicted a chronology of studies conducted after the introduction of MCCG 2000. While there have been extensive studies conducted between 2000 to 2017 to study the impact of corporate governance on firm's performance, there were only two studies that investigated the relationship between corporate governance and firm performance in Malaysia's top 100 Bursa Malaysia listed companies. The study conducted by Mohamed Zabri et al. (2016) provided evidences of a positive relationship between board independence and firm performance, but insignificant relationship between board size and firm performance. However, this study analysed data from 2008 to 2012, which are the years after MCCG 2007 was published, and the first year that MCCG 2012 was introduced. A study conducted by Shamsudin, Wan Abdullah, and Osman (2018) that used a similar sample of top 100 firms listed on Bursa Malaysia from 2012 to 2014 provided a continuation to Mohamed Zabri et al's study. Based on the study by Shamsudin et al. (2018), board independence was found to negatively affect firm performance while CEO duality has no significant effect. There were no continuing studies on the top 100 Bursa Malaysia listed companies after 2014.

After going through previous works of research, it was also found that the more popular corporate governance practices tested were CEO duality, board size, number of board meetings, and board independence; the more popular firm performance measurements were return on assets (ROA) (Mohamed Zabri et al., 2016, Ahmad et al., 2019), return on equity (ROE), and Tobin's Q, with earnings per share (EPS) being measured in a few. There is a lack of analysis on data from

2015 onwards, a lack of study on women directors, and directors with foreign qualifications.

This study seeks to investigate and understand the effects of corporate governance variables on the earnings per share (EPS), Tobin's Q (TOBQ), and return on equity (ROE) of Malaysian Top 100 Public Listed Companies two decades after MCCG 2000 was first introduced. This study intends to bridge the gap and provide new evidence by replicating the study of Mohamed Zabri et al. (2016) and Shamsudin et al. (2018) but studying the top 100 Malaysian public listed companies that are identified by MSWG as the top 100 companies for overall CG and performance in 2019. Data utilised will continue from 2013 to 2019, but corporate governance practices and firm performance will be represented by different variables.

## 1.3 Research Objectives

The primary objective of this study is to examine the impact of corporate governance on the firm performance of Malaysia's top 100 public listed companies recognised by MSWG as the top 100 companies for overall CG and performance in 2019. Corporate governance is represented by 6 independent variables i.e., CEO duality, board size, board independence, number of board meetings, number of women directors, and number of directors with foreign qualifications. Firm performance is represented by 3 dependent variables i.e., earnings per share (EPS), Tobin's Q, and return on equity (ROE).

To supplement the primary objective, the secondary objectives of this study seek to explore the relationships of:

1. CEO duality, EPS, Tobin's Q, and ROE
2. Board size, EPS, Tobin's Q, and ROE
3. Board independence, EPS, Tobin's Q, and ROE
4. Number of board meetings per year, EPS, Tobin's Q, and ROE
5. Number of women directors, EPS, Tobin's Q, and ROE

6. Number of directors with foreign qualifications, EPS, Tobin's Q, and ROE

## 1.4 Research Questions

This study aims to answer one primary question:

1. Do MCCG recommended practices affect firm performance of the Top 100 Malaysian public-listed companies with good CG?

In order to answer the primary question, these secondary questions must be answered:

1. Does CEO duality affect firm performance?
2. Will the size of the board of directors affect firm performance?
3. Is firm performance affected by the number of independent directors?
4. Does the number of board meetings affect firm performance?
5. How does the number of women directors contribute to firm performance?
6. Will firm performance improve if directors have foreign qualifications?

## 1.5 Significance of the Study

Upon completion of this study, new evidences will be contributed to existing literature in the forms of less explored corporate governance practices and their relationship to different determinants of firm performance. As this research examines data from 2013 to 2019, it provides a look at the corporate governance landscape two decades after MCCG 2000 was first introduced. It also provides a continuous study on how corporate governance continues to impact Malaysia's top 100 public listed companies after 2014. Insights in this area would be able to aid various stakeholders and policy makers within Malaysia to development sound corporate governance practices, and make relevant changes that are more suitable to Malaysian corporate governance.

By examining the impact of board characteristics on firm performance, research results may present a positive encouragement for all Malaysian companies to adopt good corporate governance practices contained in the MCCG, not just public listed companies. Performance of listed companies may see an improvement in their firm performance as a result of practicing good corporate governance, and management of the companies will be willing to provide that internal support that is much needed for changes to be made within a company.

Increased understanding of the relationship between corporate governance and firm performance will also contribute towards better investment decision by portfolio managers and investors. Investors would have knowledge of risky factors within a company and devise good strategies to mitigate possible losses.

## 1.6 Chapter Layout

This paper is structured into five chapters, with this chapter being the introduction to this research and its background. In the next chapter, a review of existing literature and how the study of existing literature has culminated into the current study will be given in detail. In Chapter 3, the research methodology and how the research was designed will be further illustrated. Results of research which was conducted via descriptive analysis and panel data analysis will be presented in Chapter 4, after which a conclusion will be drawn in Chapter 5.

# CHAPTER 2

# LITERATURE REVIEW

## 2.0 Introduction

This chapter explores related literatures discussing the relationship between corporate governance and firm performance. In Section 2.1, various corporate governance practices and independent variables that will be tested in this study are explained. In Section 2.2, firm performance and the dependent variables used to represent them are discussed further. Section 2.3 will discuss on the various theoretical perspectives of corporate governance and the theories that guided the development of the hypotheses. In Section 2.4, the research framework for this study will be explained, and lastly, Section 2.5 will close this chapter with a conceptual framework developed for this research. This study uses literatures that are secondary in nature and were mainly extracted from journals and reports accessed via the internet.

## 2.1 Corporate Governance

The push towards corporate governance in Asia began with the Asian Financial Crisis in 1998–1999, after which the MCCG 2000 was published. Extracting from the latest Malaysian Code on Corporate Governance (MCCG) published – MCCG 2021, corporate governance is defined as “the process and structure used to direct and manage the business and affairs of the company towards promoting business prosperity and corporate accountability with the ultimate objective of realising long-term shareholder value while taking into account the interest of other

stakeholders". Like all corporate governance codes, the standards set out are meant to strengthen company processes, leading to better business and culture, and also to increase investor confidence.

Drawing from the successful implementation of the Cadbury Code (December 1992) and the Hampel Report (January 1998) in the UK, where both committees confirmed that implementation of the Code has led to higher standards of governance and greater awareness towards governance, the MCCG, which was developed by the Working Group on Best Practices in Corporate Governance (JPK1) and subsequently approved by the high level Finance Committee on Corporate Governance, was introduced in March 2000 (MCCG, 2000). The MCCG 2000 was developed following calls for corporate governance reforms at the micro level, setting out principles and best practices as guidelines for listed companies aimed at increasing the level of corporate governance and achieving an optimal governance framework within Malaysian companies. Companies were later required to disclose their application of the principles and best practices set out in the MCCG and to report any departures from the recommendations under Paragraph 15.26 of the Bursa Malaysia Listing Requirements (BMLR). A company's failure to disclose matters as required under BMLR Paragraph 15.26 allows Bursa Malaysia to take action against the company or its directors as set out in the BMLR (MCCG, 2007).

Subsequent to its introduction in 2000, the MCCG was revised and published by the Securities Commission of Malaysia in October 2007 where the key amendments placed emphasis on strengthening the roles of the board, nominating committee, audit committee, and the internal audit function. After the MCCG 2007, there were three further reviews and revisions to the MCCG in the years 2012, 2017, and 2021 respectively. The consistent reviews and updates are part of the Securities Commission efforts to ensure Malaysian corporate governance practices remain relevant and are aligned with globally recognised best practices and standards (MCCG, 2021).

In March 2012, the MCCG 2012 was released. It recognises the role of the directors and focuses on strengthening the board structure and composition. It is also in the MCCG 2012 that sustainability was first touched upon, laying the foundation where the board is required to ensure that the company's strategies promote sustainability. Companies were henceforth required to give their attention to the environmental, social, and governance (ESG) aspect of the business and disclose sustainability policies in their annual report and corporate website.

The MCCG 2012 was superseded by the MCCG 2017 when it was published by the Securities Commission of Malaysia in April 2017. Being the most comprehensive Code that was released at the time, the MCCG 2017 introduced clearer outlines to the Code whereby Principles are expanded into Practices, Guidance, and Step-Ups, the latter being exemplary practices that can be adopted by companies for better processes. The new Code provides greater outline of the roles expected of the directors, company secretaries, the board, and the board committees. It also acknowledges the non-homogeneity of companies and that certain practices are applicable only to large companies. Where MCCG 2012 was the first code to touch on sustainability, the MCCG 2017 expands further in terms of practices and guidance. An introduction to and requirement for whistleblowing policies and anti-corruption practices were also expounded upon.

In April 2021, the MCCG 2021 was updated by the Securities Commission of Malaysia. The latest code introduces best practices and guidance to improve board policies and processes relating to director selection, nomination, and appointment; strengthen board oversight and integration of sustainability strategies in companies; and to adopt best practices especially those that have relatively lower adoption level.

This research uses corporate governance best practices as the independent variables. A summary of these variables and their requirements per all the MCCGs are summarised in Table 1.

Table 1: Summary of MCCG 2000 to MCCG 2021

| Best Practices | MCCG 2000 | MCCG 2007 | MCCG 2012 | MCCG 2017 | MCCG 2021 (For reference) |
|---|---|---|---|---|---|
| CDUAL | Responsibilities between chairman and CEO should be clearly divided. | | Chairman and CEO should be different individuals. Chairman must be non-executive. | Chairman and CEO should be different individuals. | Chairman and CEO should be different individuals. |
| BSIZE | Board to assess its size and impact on effectiveness. | | | | |
| BIND | Board to consists of at least 1/3 independent non-executive directors. | | | Independent directors to make up at least half of the board; a majority, for large companies. | Independent directors to make up at least half of the board; a majority, for large companies. |
| BMEET | Regular meetings to be held with due notice of agenda to be discussed. Number of board meetings held in a year to be disclosed. | | | | |

| | | | | | |
|---|---|---|---|---|---|
| WOMD | | | Women candidates to be included into recruitment exercise. Gender diversity policies to be disclosed in the annual report. | Women directors to make up at least 30% of the board of large companies. Other boards to also work towards this. | Women directors to make up 30% of the board. |
| FORD | The board is to review required mix of skills, expertise, qualities, and core competencies that its non-executive directors should bring to the board. | Candidates' skills, knowledge, expertise, and experience are to be considered. | Competencies, commitment, contribution, and performance of individuals are to be considered while assessing suitability of candidates. | A diverse board offers greater depth and breadth compared to non-diverse boards. Directors should be sourced from a diverse pool. | Board and senior management appointed to be based on objective criteria, merit, and with due regard for diversity in skills, experience, age, cultural background, and gender. |

Note. Adapted from MCCG (2000, 2007, 2012, 2017, 2021)

While the MCCG is not targeted at non-listed or private companies that mainly comprise of small and medium enterprises (SMEs), the practices recommended by the Code can be embraced by these companies to enhance their corporate governance culture and sustainability.

## 2.2 Literature Review

### 2.2.1 Independent Variables and Hypothesis Development

#### 2.2.1.1 CEO Duality (CDUAL)

CEO duality is the non-separation of roles between the chairman and the CEO. When a director is the chairperson of a board of directors, he or she is responsible to monitor and control the CEO's performance and the management process of the company. However, when the board chairman and the CEO are both the same individual, a conflict of interest exists (Abdul Wahab et al., 2011) and may weaken the board's role in effective monitoring and control (Alhaji, Wan Yusoff, and Alkali, 2012). A separate leadership may curb agency conflicts, enhance firm performance, and increase the board's ability to monitor and control the actions of the CEO.

According to Abdul Wahab et al. (2011) on their study of 448 Malaysian firms from 2005 to 2007, 57.8% of firms practiced the separation of roles. Goh, Rasli, and Khan (2014)'s study on 141 family firms from 2003 to 2006 recorded an average of 33% practicing CEO duality. Chaghadari and Chaleshtori (2011) on 30 companies from the "constructions and materials" industry using data from 2007, 63.3% of companies apply a separate leadership structure. A recent study by Khan, Al-Jabri, and Said (2021) on 226 non-financial listed firms from 2010 to 2015 indicated that only an average of 6% of the firms practiced CEO duality.

Abdulsamad et al. (2018) in their study of 341 Malaysian public-listed companies from 2003 to 2013 found a negative relationship between CDUAL and return on assets (ROA), but an insignificant relationship between CDUAL and earnings per share (EPS). Chaghadari and Chaleshtori (2011)'s study indicated a negative relationship between CDUAL and ROA or

return on equity (ROE). Mohd Ghazali (2020) observed that a separation of roles between chairman and CEO leads to better profitability. Khan et al. (2021)'s study indicated a negative relationship between CDUAL and TOBQ, while the relationship between CDUAL and ROE was insignificant. Studies conducted by Ibrahim and Abdul Samad (2011) and Goh et al. (2014) indicated that there is no significant relationship between CDUAL and firm performance. Most of these studies indicated that a non-separation of roles between chairman and CEO will negatively affect the firm's performance.

Based on the above literatures, we predict that there is a significant relationship between CDUAL and firm performance. Hence, the following hypotheses were developed:

**Hypothesis 1**

$H1_A$: CDUAL of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (EPS).

$H1_B$: CDUAL of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (TOBQ).

$H1_C$: CDUAL of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (ROE).

#### 2.2.1.2 Board Size (BSIZE)

Board size is defined as the total number of directors that sits on the board of a company. There is no standard or optimal board size for companies as it is best determined by the needs of the company. Results from a survey conducted by KLSE/PricewaterhouseCoopers (MCCG, 2000), the average board size was found to consist of 8 directors. An optimal board size was not prescribed in the MCCG 2000 as the committee acknowledged the varying needs of each company based on its size. In general, a suitable board size should be determined by the board based on the functions and size of the company to ensure optimal monitoring and management of the company. A balance is achieved when the board is small enough to function effectively and provide quick solutions, but also large enough to achieve the diversity of experiences and backgrounds (Abdul Wahab et al., 2011). A larger board often

leads to a delay in decision-making as the amount of time required for deliberation is stretched longer.

Abdul Wahab et al. (2011) in their study of 448 Malaysian firms from 2005 to 2007, recorded the board size median of 6. In Mohamed Zabri et al.'s 2016 study, the average board size recorded was 9 directors. Abdullah, Ku Ismail, and Nachum (2012) observed that the average board size of 841 publicly-listed firms in Malaysia was between 7 to 8 directors. Ahmed Haji (2014), in his study on 85 listed companies in 2006 and 2009, found that the average board size for both years is approximately 8 directors. Ahmed Haji and Mubaraq (2015) in their study of 94 of Malaysia's largest listed companies in 2006 and 2008 to 2010 recorded an average board size of 9.

Studies by Shukeri, Ong, and Shaari (2012) and Mohamed Zabri et al. (2016) indicated a positive relationship between board size and ROA. However, Mohamed Zabri et al. (2016) observed that the relationship between board size and ROE was insignificant. Tham and Romuald (2012) found a significant relationship between board size and earnings per share (EPS) while Abdulsamad et al. (2018) found no significant relationship. Chaghadari and Chaleshtori (2011) found no significant relationship between board size and ROA, similar to Abdulsamad et al. (2018).

As board independence demonstrates good governance, we predict a significant relationship between board independence and firm performance (EPS, TOBQ, and ROE). Hence, the following hypotheses were developed:

**Hypothesis 2**

$H2_A$: BSIZE of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (EPS).

$H2_B$: BSIZE of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (TOBQ).

$H2_C$: BSIZE of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (ROE).

#### 2.2.1.3 Board Independence (BIND)

Board independence is measured by the number of independent directors over total number of directors on a board. The Bursa Malaysia Listing Requirements (BMLR) requires one third of the board of directors to consist of independent directors, while MCCG 2017 requires half of the board to be made up of independent directors. Board independence increases when the total number of independent directors increases.

Companies that have a high number of independent directors are often preferred as the board is viewed as more independent. Independent directors, being independent to the company whose board they sit on, are assumed to be impartial to the management of the CEO and the company, thus being capable of monitoring the CEO's decision-making process. Independent directors are also able to reduce the conflict of interests between management and shareholders when it comes to setting the remuneration of the CEO, nominating new directors, or making impartial decisions. However, problems arise when independent directors are only hired for the sole purpose of ticking the checklist of MCCG requirements. Ineffective monitoring occurs when independent directors are a minority, and when they are recruited only as a need to meet the requirements of MCCG and BMLR; they may not be empowered by the board in decision-making and their viewpoints may fall on the wayside. At times, independent directors with misaligned interests may not be able to perform as they are expected to. Other times, independent directors who have been sitting on the board for too long may no longer be able to practice independent judgement.

Abdul Wahab et al. (2011) in their study of 448 Malaysian firms from 2005 to 2007 reported that 33.7% of directors on the boards were independent. Mohamed Zabri et al (2016) in their study of 86 public listed companies in Malaysia found an average board independence of 46%.

The relationship between board independence and firm performance is also a mixed one, based on previous studies. While a significant positive effect between independent directors and firm performance was suggested by Byrd et al. (2010), Abdullah and Ku Ismail (2013) in their study of top 100 non-financial firms in 2007 found no significant relationship between board independence and firm performance. Tham and Romuald (2012) found no significant

relationship between board independence and firm performance in their on 20 listed companies on Bursa Malaysia from 2006 to 2010. Mohamed Zabri et al. (2016) on 86 public listed companies in Malaysia concluded that there is no significant relationship between board independence and firm performance that was represented by ROA and ROE.

As board independence demonstrates good governance, we predict a significant relationship between board independence and firm performance (EPS, TOBQ, and ROE). Hence, the following hypotheses were developed:

**Hypothesis 3**

$H3_A$: BIND of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (EPS).

$H3_B$: BIND of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (TOBQ).

$H3_C$: BIND of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (ROE).

#### 2.2.1.4 Number of Board Meetings (BMEET)

In accordance to the MCCG, the board of directors is to ensure adequate meetings are held annually to discuss matters pertaining to strategies and management of the company. The directors, as recommended by the MCCG, are tasked as stewards of listed companies and are required to effectively steer the company towards creation of stakeholder values. While the MCCG does not state the minimum number of board meetings required per year, it requires the board to meet adequately to allow decisions and effective management of the company. In some cases, having a high number of board meetings may indicate the lack of coordination and decision-making ability, a low number of board meetings may indicate the lack of management initiative by the board. Based on the KLSE/PricewaterhouseCoopers survey that was cited in the MCCG 2000, three or less board meetings were held by one third of the companies surveyed, while 5% of the companies only held one board meeting per year. Similar to the board size, the MCCG does not prescribe the optimal number of board meetings as it is left to the board's decision to ensure effective monitoring and management.

However, the committee is of the opinion that having less than 4 meetings per year is deemed insufficient for effective monitoring and management by the board.

Ahmed Haji and Mubaraq (2015) found that the average number of board meetings held by 94 of Malaysia's largest listed companies in 2006 and 2008 to 2010 is approximately 7.

Studies conducted by Ahmed Haji (2014), Ahmed Haji and Mubaraq (2015), and Abdulsamad et al. (2018) have found that the number of board meetings is negatively related to firm performance in that the more board meetings a company conducts in a year, the more negatively it affects firm performance.

Based on these studies, we predict a significant relationship between number of board meetings and firm performance (EPS, TOBQ, and ROE). Hence, the following hypotheses were developed:

**Hypothesis 4**

$H4_A$: BMEET of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (EPS).

$H4_B$: BMEET of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (TOBQ).

$H4_C$: BMEET of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (ROE).

### 2.2.1.5 Number of Women Directors (WOMD)

In 2004, the Malaysian Government had begun to shine a spotlight on the need to have more female representation in decision-making levels within the public and corporate sectors with a recommendation of 30% (Abdullah et al., 2012). However, the slow-moving implementation rate within the corporate sector caused the Malaysian Government to attempt at expediting the corporate sector's adoption by approving a policy that requires all companies listed on Bursa Malaysia to achieve the 30% women quota by 2016 (Abdullah et al., 2012; Ahmad et al., 2019). Being consistent with the government's policy, the earlier

MCCGs (2000, 2007) had only informed of the need for a balanced board composition. It was not until MCCG 2012 that it was made clear that the board must ensure that women candidates are also included in its recruitment exercise and gender diversity policies should be disclosed in the annual report. In the MCCG 2017, the requirement for 30% female director was more applicable towards large companies, but the MCCG 2021 clarifies that all listed companies are to have 30% female representation i.e., one third of the board of directors much consist of women.

Female representation on the board level has been perceived to bring a balance in terms of increased risk-aversion and a more careful approach in conducting day-to-day business as opposed to male representation which is almost always related to higher risk-taking and being bottom-line oriented. As women are viewed to be naturally risk-aversed and honest compared to their male counterparts (Ahmad et al., 2019), they bring about a balanced perspective to the board in terms of the decisions for a company's action.

Based on studies conducted by Abdullah et al. (2012) and Yap, Chan, and Zainudin (2017), women directors are positively related to firm performance. Abdullah and Ku Ismail (2013), however, have evidenced that women directors negatively affect firm performance.

As the presence of women directors indicates gender diversity, and demonstrates lack of good governance, we predict a significant relationship between women directors and firm performance (EPS, TOBQ, and ROE). The following hypotheses were developed:

**Hypothesis 5**

$H5_A$: WOMD of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (EPS).

$H5_B$: WOMD of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (TOBQ).

$H5_C$: WOMD of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (ROE).

### 2.2.1.6 Number of Directors with Foreign Qualifications (FORD)

There is a lack of previous research studying the number of directors with foreign qualifications and the only research found is from Darmadi (2013a) who conducted his study based on Indonesian sample. While the number of directors with foreign qualifications is not fixed by the MCCG, it is recommended that directors are hired based on the overall need of the board of directors to ensure the effective management of a company. Foreign directors have been highly sought after due to the different perspectives they are able to bring to the management deliberations. Other than foreign directors, local directors with qualifications from foreign universities of prestige are also perceived as highly educated and are expected to bring a different perspective to complement the local directors. Therefore in this study, the number of directors with foreign qualifications will include foreign directors, and local directors with foreign qualifications.

Based on the study conducted by Darmadi (2013a), there was no significant relationship found between the number of directors with foreign qualifications and firm performance. However, as directors with foreign qualifications are deemed to contribute towards good governance, we predict a significant relationship between number of directors with foreign qualifications and firm performance (EPS, TOBQ, and ROE). Hence, the following hypotheses were developed:

**Hypothesis 6**

$H6_A$: FORD of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (EPS).

$H6_B$: FORD of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (TOBQ).

$H6_C$: FORD of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (ROE).

### 2.2.2 Dependent Variables

This study employs three different methods to measure a firm's performance, the earnings per share (EPS), Tobin's Q (TOBQ), and return on equity (ROE).

#### 2.2.2.1 Earnings per Share (EPS)

EPS is defined as the ratio of profit before taxes to outstanding common shares. It is the percentage of a firm's profit apportioned to each of the outstanding shares of common stock. Prior studies that have adopted the EPS as firm performance indicator are Tham and Romuald (2012), Shittu, Che Ahmad, and Ishak (2016), Ibrahim, Ahmad, and Khan (2017), and Abdulsamad et al. (2018).

#### 2.2.2.2 Tobin's Q (TOBQ)

The TOBQ ratio, or Q ratio, is defined as the ratio of market value of the firm to the book value of total assets. A number of previous studies have adopted the TOBQ as a measure of firm performance such as Shukeri et al. (2012), Abdullah and Ku Ismail (2013), Darmadi (2013a), Darmadi (2013b), Ahmed Haji and Mubaraq (2015), Yap et al. (2017), and Mohamad et al. (2020).

#### 2.2.2.3 Return on Equity (ROE)

The ROE shows how much profit a company can generate from the money that shareholders have invested in the company. It is an accounting-based measurement of firm performance and is a popular measurement that has been extensively used in prior studies. It is calculated as the net income to total equity (Ahmed Haji, 2014; Ahmed Haji and Mubaraq, 2015). Earlier studies that have adopted ROE as an indicator of firm performance are Ahmed Haji (2014), Mohd Ghazali (2014), Ahmed Haji and Mubaraq (2015), and Mohd Ghazali (2020). This dependent variable was also selected to continue an earlier study that was conducted by

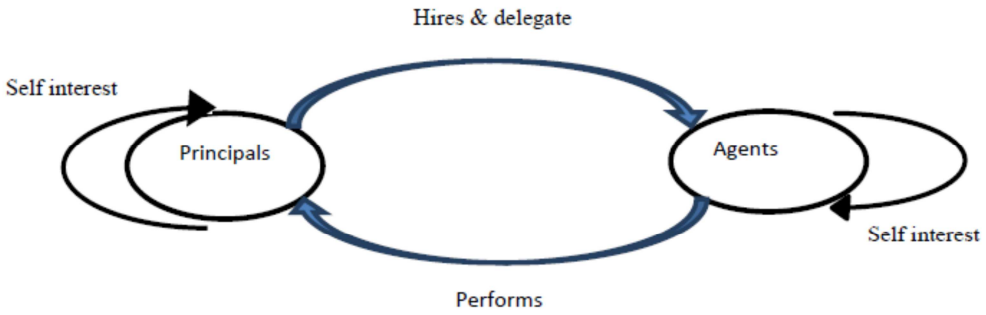
Mohamed Zabri et al. (2016) on the relationship between corporate governance in the Malaysian Top 100 listed companies' corporate governance and ROE.

## 2.3 Theoretical Perspective of Corporate Governance

Several theoretical perspectives were referenced in the process of determining the basis of this study. These theories are what paved the foundation towards emergence of corporate governance such as the Agency Theory, Stewardship Theory, Stakeholder Theory, and Resourced-Based Theory. The research framework for this study was also developed based on these theoretical perspectives.

### 2.3.1 Agency Theory

Figure 1: Agency Theory




Note. From Yusoff, W. F. W., & Alhaji, I. A. (2012). Insight of corporate governance theories. *Journal of Business & Management*, *1*(1), 52-63.

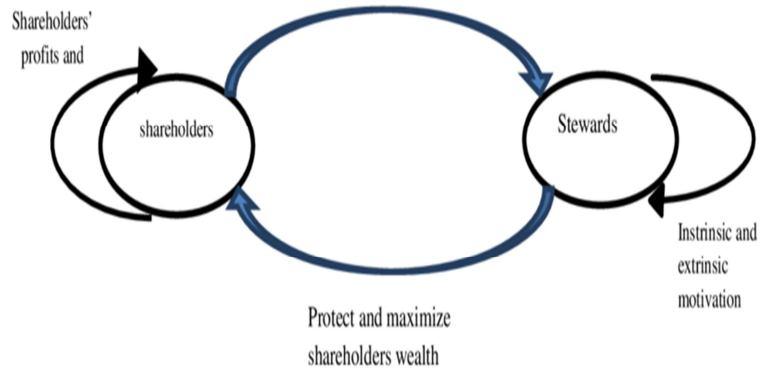
The agency theory (Jensen and Meckling, 1976) views the relationship between the board of directors and shareholders of the company as a principal-agent relationship whereby the board of directors is the agent and shareholders are the principal. The principal (shareholders) own the company, while the agent (board of directors) manages the company for the principal and ensures the interests of the principal are protected. The shareholders (principal) place their trust in the directors (agents) in ensuring that the company they own would be well-managed. In essence, the principal-agent relationship creates a separation of ownership and

control, allowing for a good return and profit to shareholders resulting from better company management in the hands of experienced directors. However, there are agency costs involved when there is an agency conflict involving the misappropriation of company resources by directors (agents) which is to the detriment of shareholders (principals) (Jensen and Meckling, 1976).

To mitigate the possibility of an abuse in power, corporate governance practices are put in place to remind the directors that their duty is to provide an annual report to the shareholders, giving details in every aspect of company management. Among the independent variables tested in this study that are influenced by the agency theory are CEO duality, where listed companies are encouraged to separate the positions of the chairman and CEO to separate the power. Board independence is also recommended on the basis of the separation of power in that every listed company must have one third or half of its directors be independent with the objective to maintain a check and balance on behalf of stakeholders.

### 2.3.2 Stewardship Theory

Figure 2: Stewardship Theory




Note. From Yusoff, W. F. W., & Alhaji, I. A. (2012). Insight of corporate governance theories. *Journal of Business & Management*, *1*(1), 52-63.

The stewardship theory proposes that the managers of a company are individuals who can be trusted and have an innately good nature to become good stewards of the company. This is because they spend most of their time working in a firm, hoping to achieve success in what they do and maximise firm performance. As such, executive directors of a firm are also

expected to govern their own company better as they understand their company better than any independent or non-executive director would. Being the manager of one's own firm also allows a director to be equipped with better knowledge and experience to make sound decisions. This theory also suggests that agency costs is minimised as executive directors will not put their own stakeholders at a disadvantage as the action would be detrimental to their own firm performance and reputation.

Based on the stewardship theory, each director is seen as inherently managing the company not out of self-interest but of a genuine interest to drive the company towards greater success. The stewardship theory proposes that the directors, being stewards of the company, naturally has the company's best interests at heart as a good performance would contribute to a greater sense of achievement. This is contradictory to the agency theory where the concern is placed on the possibility that a problem could arise when the directors act in self-interest instead of the shareholders' interest.

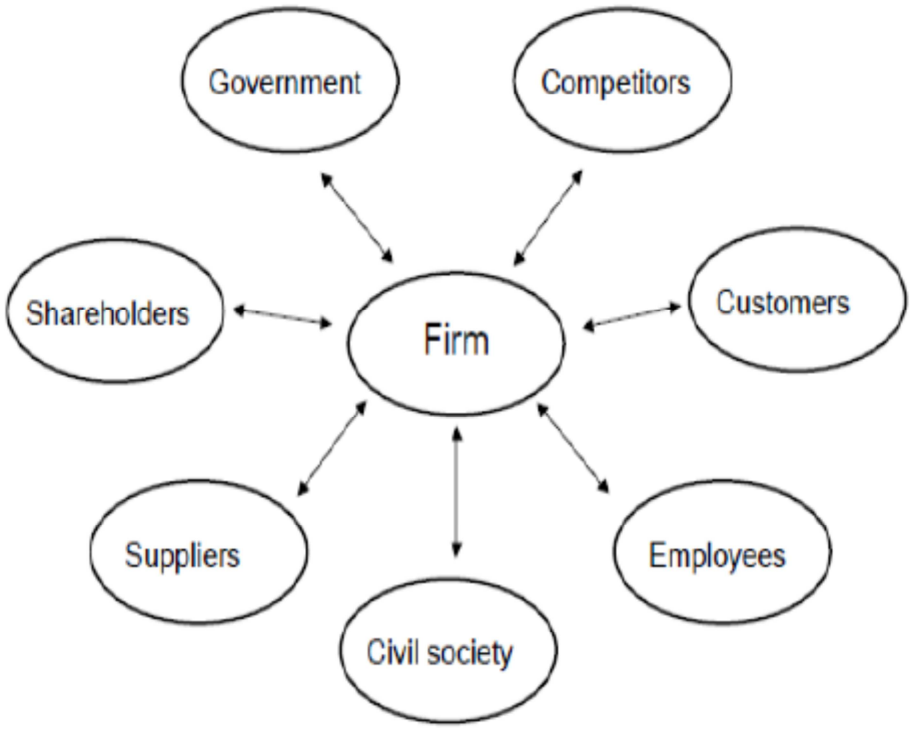
Corporate governance practices that are developed based on stewardship theory will likely emphasise on the empowerment of the directors as the stewards of the company. Hence, may be at odd ends with the notion of board independence as board independence views an increased number of independent directors as a positive move for the company but the stewardship theory views a highly independent board of directors to be detrimental to the company as most of the directors may not know enough about the company to arrive at a holistic decision, and ultimately work towards the best interest of the company.

### 2.3.3 Stakeholder Theory

The stakeholder theory further expands the agency theory. In the agency theory, there is a principal-agent relationship where the agent (directors) is to manage the company in the best interest of the principal (shareholders). In the stakeholder theory, the principal is no longer just the shareholders but is expanded to include anyone who could affect company objectives including employees or the government. This takes the focus away from solely financial interest and returns to shareholders but also hold the directors accountable to other facets of the business such as how operations would affect each employee.

A corporate governance practice that was recommended in view of the stakeholder theory is the need to disclose a company's ESG practices which is now a key focus of MCCG 2021. The dependent variables measuring the firm performance would represent the degree in which the companies are being accountable towards the stakeholders.

Figure 3: Original Stakeholder Theory




Note. From Mishra, A., & Mishra, D. (2013). Applications of stakeholder theory in information systems and technology. *Engineering Economics, 24*(3), 254-266.

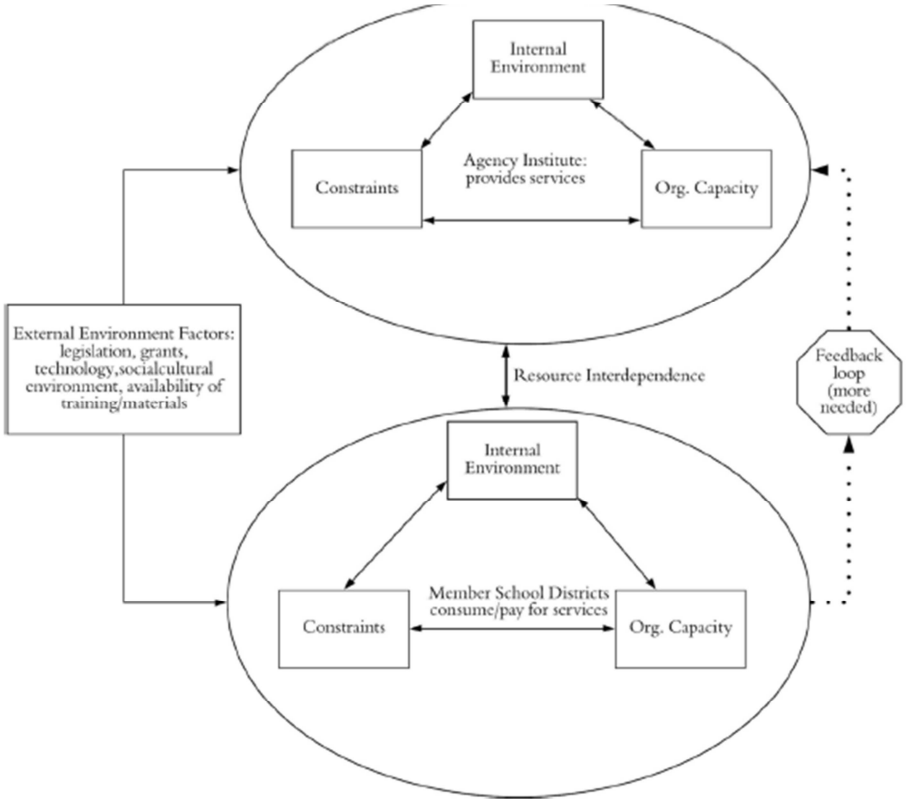
### 2.3.4 Resource Dependency Theory

The resource dependency theory (Pfeffer and Salancik, 1978) is of the view that the board of directors hold significant roles in opening up access of a company to other resources that are pertinent to the company's business. All these resources are building blocks that contribute to the company's overall returns. The more resources a firm has, the stronger it becomes.

An example of this theory is the evidence from previous studies that observed how female directors lead to better access to financing as creditors view females as more risk-aversed than males. Assumptions can also be made on how existence of women directors will lead to firm's financial performance (Ahmad et al., 2019). Boards with more independent directors are also perceived to be more resourceful as the independent directors bring about access towards external resources as well as fresh perspectives that are not influenced by the existing groupthink within the company.

Corporate governance practices that were recommended with the resource dependency theory in mind are the board composition and board diversity whereby directors of the board are encouraged to be diversified in terms of age, race, gender, qualifications to bring about a wide range of perspectives during decision-making. It is perceived that a diversified board will lead towards contribution of various perspectives during decision-making which allows the company to move towards the most favourable outcome.

Figure 4: Resource-Dependency Theory Applied on Agency Issue

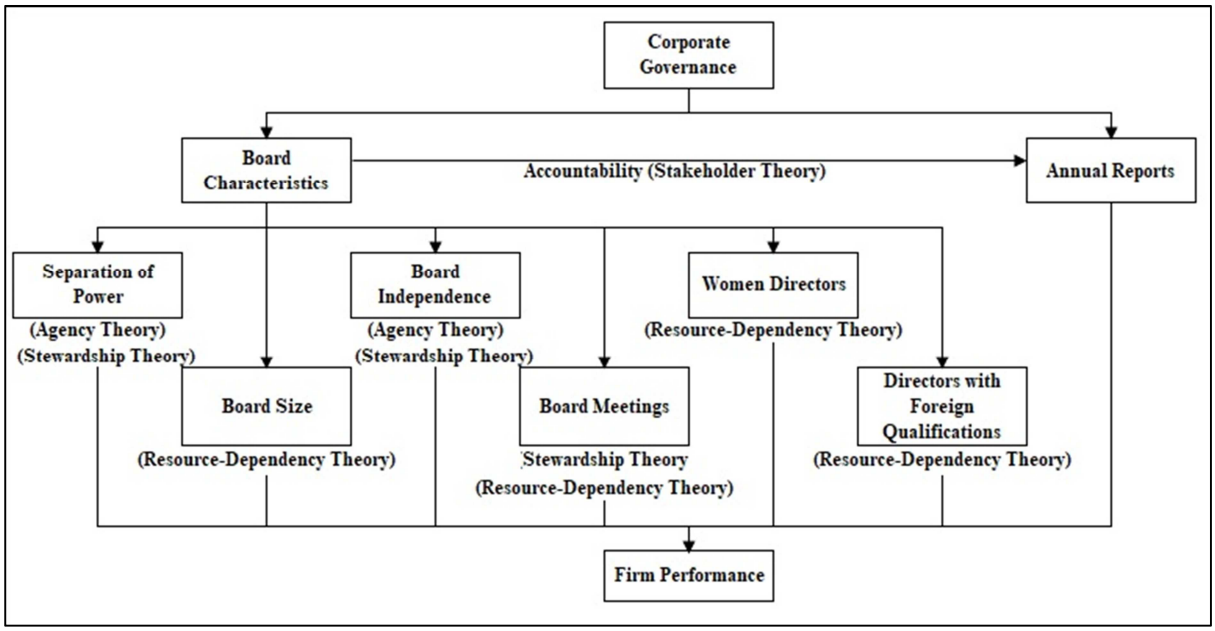



Noted. From Shah-Nelson, C., Mayo, E. A., & Ebuwei, P. (2020). Capacity-Building for Sustainability: A Cooperative K-12 Regional Education Service Provider Case Study. *International Journal of Technology-Enabled Student Support Services (IJTESSS)*, *10*(1), 40-54.

## 2.4 Research Framework

Based on the four theories that were elaborated earlier, the research framework for this study was put together and illustrated as follows:

Figure 5: Research framework for corporate governance and firm performance

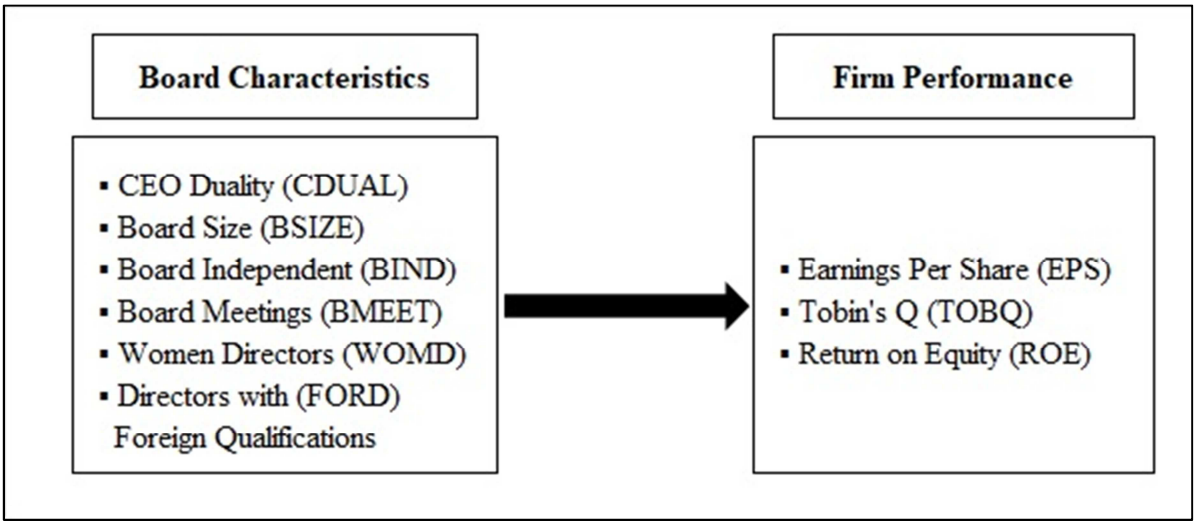



Source: Developed for the research

## 2.5 Conceptual Framework

Taking from the objectives of this study and in answer to the research questions that were listed in Chapter 1, a conceptual framework for the study is illustrated below. Corporate governance practices, being independent variables, are indicated by CEO duality, board size, board independence, number of board meetings, number of women directors, and directors with foreign qualifications. Firm performance, being dependent variables, is measured by EPS, Tobin's Q and ROE.

Figure 6: Conceptual framework for corporate governance and firm performance




Source: Developed for this research

# CHAPTER 3

# METHODOLODY

## 3.0 Introduction

This chapter provides details of the study's research methodology, and is divided into 6 sections. The design of this research is explained in Section 3.1, followed by the data collection method in Section 3.2. Section 3.3 details the sampling design including the target population, sampling frame, sampling element, sampling technique, and sample size. Section 3.4 provides details of the instrument of research, while Section 3.5 provides a clear view of how each variable is constructed and operationalised. Section 3.6 describes the data processing and the chapter ends with Section 3.7 demonstrating the data analysis involved.

## 3.1 Research Design

This research employs a quantitative methodology on secondary data extracted from companies' annual reports, and authenticated financial data from Bloomberg Terminal. Samples used for this study consist of companies that are listed on Bursa Malaysia (KLSE) from year 2013 to 2019.

While the core of this research is to study the relationship between corporate governance and firm performance, it also aims to provide a glimpse into the corporate governance landscape a decade after MCCG 2000 was first introduced. For the latter to be achieved, a descriptive analysis of the sample data was performed as this analysis would be able to paint a picture of what is being commonly practiced among Malaysia's Top 100 companies, e.g., the average number of independent directors that

sits on each company's board of directors, or the average size of a company's board of directors.

In order to examine the relationship between corporate governance and its effect on firm performance, a panel data analysis was conducted as this analysis would be able to determine if there is a significant relationship of a positive or negative effect based on a 7-year sample period on the Top 100 Bursa Malaysia listed companies.

## 3.2 Data Collection Method

This study uses secondary data extracted from company annual reports and Bloomberg financial data of the top 100 listed companies on Bursa Malaysia over the period of 2013 to 2019. The top 100 listed companies were identified based on 2019's Top 100 Companies with Good Corporate Governance Disclosures as listed on MSWG's website, after which each company's annual report for the relevant years were downloaded from Bursa Malaysia's website. Data for the independent variables were sourced from the annual reports, while data for the dependent variables were sourced from Bloomberg Terminal.

## 3.3 Sampling Design

### 3.3.1 Target Population

Based on the objective of this research to examine the relationship between corporate governance and firm performance of the top 100 Bursa Malaysia listed companies, the target population was determined to be the top 100 companies listed on MSWG website under 2019's Top 100 Companies for Overall Corporate Governance (CG) and Performance. The sample for this study consists of 100 Bursa Malaysia listed companies which have been identified by MSWG as the top 100 listed companies for overall CG and performance.

The rationale behind analysing top 100 companies for overall CG and performance is to assess the state of corporate governance in Malaysia based on companies which have been verified by MSWG to demonstrate the best CG disclosures in Malaysia and have also recorded good firm performance. By selecting companies with a strong CG and performance track record, a better result would be observed.

### 3.3.2 Sampling Frame

The sampling frame is the same as the target population as this study aims to determine the relationship between corporate governance and firm performance of top 100 Bursa Malaysia listed companies. To accomplish the objective of this study, we have selected the top 100 Malaysian listed companies based on MSWG's top 100 listed companies for overall CG and performance in 2019. Therefore, all 100 companies listed on MSWG website, which is the target population, are included in the sampling frame.

### 3.3.3 Sampling Element

A sampling element refers to a sampling unit that is chosen for the study, out of a target population. In this study, the sampling unit refers to the number of organisations whose data will be used for this research. While the target population is MSWG's top 100 listed companies for overall CG and performance, a complete set of data over the period of 2013 to 2019 is required to be qualified as a sampling element. Companies with less than 7 years' history, or companies with missing data over the years will be removed from the sampling set. After screening through each company, a total of 81 sampling elements were identified out of a target population of 100.

### 3.3.4 Sampling Technique

The sampling technique that was adopted for this study is the probability sampling in which all samples are known and have an equal chance of being studied. Therefore, all

81 companies within the sampling frame will be used for this study after filtering out companies with incomplete data for analysis.

### 3.3.5 Sample Size

Out of the 100 companies taken from MSWG website, companies with insufficient or missing data required for independent variables and dependent variables from 2013 to 2019 will not be used as samples. Following completion of data compilation, 19 companies were removed, leaving 81 companies with complete set of data for analysis. This results in 567 firm-year observations for 81 companies over the period of 2013 to 2019.

## 3.4 Research Instrument

All data to be used for this research was acquired via each company's annual report or the Bloomberg Terminal. All annual reports were downloaded from the Bursa Malaysia website, while the Bloomberg Terminal was accessed via the UTAR Library. Data for independent variables were manually extracted from the annual reports, while data for dependent variables were obtained from Bloomberg Terminal.

For the descriptive analysis, all variables were loaded onto the Statistical Package for the Social Sciences (SPSS) Software Version 26. The variables were then transferred to EViews Version 11 for a panel data analysis where a Fixed Effects Model or Random Effects Model is determined by running the Hausman test.

## 3.5 Construct Measurement

This study focuses on 6 independent variables (IVs) and 3 dependent variables (DVs), a majority of which were selected based on previous studies. The operationalisation of the variables and how the constructs are measured are provided in the following tables.

Table 2: Measurement of IVs

| IVs | Definition / Formula | Adopted from |
|---|---|---|
| **CDUAL** | 0= No CEO Duality<br>1= CEO Duality (Board chairman is same as CEO) | Abdul Wahab et al. (2011) |
| **BSIZE** | Total number of directors on the board | Abdul Wahab et al. (2011)<br>Ahmed Haji and Mubaraq (2015) |
| **BIND** | $\frac{\text{No. of Ind. Directors}}{\text{Total No. of Directors}}$ | Abdul Wahab et al. (2011)<br>Abdullah and Ku Ismail (2013)<br>Ahmed Haji (2014)<br>Ahmed Haji and Mubaraq (2015) |
| **BMEET** | Total number of board meetings in a year | Ahmed Haji (2014)<br>Ahmed Haji and Mubaraq (2015)<br>Mohd Ghazali (2020) |
| **WOMD** | $\frac{\text{No. of Women Directors}}{\text{Total No. of Directors}}$ | Abdullah and Ku Ismail (2013) |
| **FORD** | $\frac{\text{No. of Dir. with Foreign Qualification}}{\text{Total No. of Directors on Board}}$ | Darmadi (2013a)<br>Darmadi (2013b) |

Source: Developed for the research

Table 3: Measurement of DVs

| DVs | Definition / Formula | Adopted from |
|---|---|---|
| **EPS** | $\frac{\text{Profit Before Taxes}}{\text{Outstanding Common Shares}}$ | Tham and Romuald (2012) |
| **TOBQ** | $\frac{\text{Market Value of Equity} + \text{Book Value of Total Debts}}{\text{Book Value of Total Assets}}$ | Abdullah and Ku Ismail (2013)<br>Ahmed Haji (2014) |

| | | |
|---|---|---|
| **ROE** | $\frac{\text{Net Income}}{\text{Total Equity}}$ | Mohd Ghazali (2020) |

Source: Developed for the research

## 3.6 Data Processing

All data collected from the company annual reports and Bloomberg Terminal were first entered into Microsoft Excel for a compilation to be made before these data can be transferred to the SPSS or EViews software for further processing and analysis. On the Excel sheet, names of companies and the years in which the data were collected for were placed in rows while the independent variables and dependent variables were inputted in columns. During the initial data entry stage, companies with missing data for a particular year or variable will be highlighted for removal after initial data entry is completed. After the initial data entry has completed, companies with incomplete data were removed from the Excel sheet and the revised Excel sheet is then used for the descriptive and panel data analysis.

## 3.7 Data Analysis

Sample data that was collected and processed were transferred to the SPSS and EViews software to run a descriptive analysis and a panel data analysis.

### 3.7.1 Descriptive Analysis

A descriptive analysis provides a description of each variable's current state by studying its minimum or maximum value, mean, and standard deviation. This allows us to observe company trends for each corporate governance practice such as the average number of directors that sits on a company's board or the average number of board meetings held in a year.

### 3.7.2 Panel Data Analysis

Panel data is a cross-sectional time series analysis which allows analysis to be carried out on a variable across a time period. This analysis is selected for this study as it allows cross-sectional information of variables representing corporate governance to be analysed across the period from 2013 to 2019 for a total of 81 companies.

There are two approaches for our panel data analysis in this study. These are the fixed effects model and the random effects model, and which model applies for each dependent variable is determined by performing the Hausman test. If the probability value, or the p-value, of the Hausman test is less than 0.05, the fixed effects model will be used, while the random effects model will be used if the p-value is more than 0.05.

The general equation for a panel analysis is

$$y_{it} = \beta_1 x_{it1} + \beta_2 x_{it2} + \ldots + \beta_k x_{itk} + \varepsilon_{it}$$

The following equations for each DV were developed

$$EPS_{i,t} = \beta_0 + \beta_1 CDUAL_{i,t} + \beta_2 BSIZE_{i,t} + \beta_3 BIND_{i,t} + \beta_4 BMEET_{i,t} + \beta_5 WOMD_{i,t} + \beta_6 FORD_{i,t}$$

$$TOBQ_{i,t} = \beta_0 + \beta_1 CDUAL_{i,t} + \beta_2 BSIZE_{i,t} + \beta_3 BIND_{i,t} + \beta_4 BMEET_{i,t} + \beta_5 WOMD_{i,t} + \beta_6 FORD_{i,t}$$

$$ROE_{i,t} = \beta_0 + \beta_1 CDUAL_{i,t} + \beta_2 BSIZE_{i,t} + \beta_3 BIND_{i,t} + \beta_4 BMEET_{i,t} + \beta_5 WOMD_{i,t} + \beta_6 FORD_{i,t}$$

Where:

β = Beta
ε = Error term
i = Observation in a cross-sectional data set
t = Observation in a time-series data set

# CHAPTER 4

# RESEARCH RESULTS

## 4.0 Introduction

This chapter is divided into 2 sections and discusses results of the descriptive analysis (Section 4.1) and panel data analysis (Section 4.2) of the collected data. As elaborated in Chapter 3, these data were analysed using the SPSS software for descriptive analysis, and EViews for the panel data analysis.

## 4.1 Descriptive Analysis

### 4.1.1 Dependent Variables

The dependent variables that were used to measure firm performance were earnings per share (EPS), Tobin's Q (TOBQ), and return on equity (ROE). The formula for EPS is profit before taxes over outstanding common shares; TOBQ is the division of market value of equity and book value of total debts with the book value of total assets; and ROE is net income divided by total equity.

Table 4: Descriptive Statistics for EPS, TOBQ and ROE

| **Year** | **Sample** | **EPS** | | **TOBQ** | | **ROE** | |
|---|---|---|---|---|---|---|---|
| | | **Mean** | **S.D.** | **Mean** | **S.D.** | **Mean** | **S.D.** |
| **2013** | 81 | 36.1407 | 52.5506 | 2.2052 | 2.3046 | **24.5390** | **45.6941** |
| **2014** | 81 | **32.2296** | **71.5585** | 2.1900 | 2.3352 | 22.2922 | 42.7184 |
| **2015** | 81 | 36.3398 | 57.8502 | 2.1346 | 2.1670 | 22.5420 | 39.1382 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **2016** | 81 | 34.5954 | 62.5930 | **2.0477** | **1.9137** | 20.9507 | 41.5008 |
| **2017** | 81 | **39.1521** | 59.8097 | 2.3196 | 2.2948 | 22.4060 | 37.8721 |
| **2018** | 81 | 35.2922 | 53.6331 | **2.3581** | **2.5751** | 21.7612 | 39.5208 |
| **2019** | 81 | 36.3294 | **53.4280** | 2.1770 | 2.4209 | **20.9367** | **34.9890** |
| **Avg** | 81 | 35.7256 | 58.7747 | 2.2046 | 2.2873 | 22.2040 | 40.2048 |

Note: Numbers in bold indicates and highest and lowest for the year.

Avg: Average

S.D.: Standard Deviation

Source: Developed for the research

From the year 2013 to 2019, the mean of EPS was 36.1407, 32.2296, 36.3398, 34.5954, 39.1521, 35.2922, and 36.3294 respectively, while the standard deviations were 52.5506, 71.5585, 57.8502, 62.5930, 59.8097, 53.6331, and 53.4280 respectively. The lowest mean for EPS was 32.2296, the highest was 39.1521, and the average mean was 35.7256. The lowest standard deviation for EPS was 53.4280, the highest was 71.5585, and the average was 58.7747.

From the year 2013 to 2019, the mean of TOBQ was 2.2052, 2.1900, 2.1346, 2.0477, 2.3196, 2.3581, and 2.1770 respectively, while the standard deviations were 2.3046, 2.3352, 2.1670, 1.9137, 2.2948, 2.5751, and 2.4209 respectively. The lowest mean for TOBQ was 2.0477, the highest was 2.3581, and the average mean was 2.2046. The lowest standard deviation for TOBQ was 1.9137, the highest was 2.5751, and the average was 2.2873.

From the year 2013 to 2019, the mean of ROE was 24.5390, 22.2922, 22.5420, 20.9507, 22.4060, 21.7612, and 20.9367 respectively, while the standard deviations were 45.6941, 42.7184, 39.1382, 41.5008, 37.8721, 39.5208, and 34.9890 respectively. The lowest mean for ROE was 20.9367, the highest was 24.5390, and the average mean was 22.2040. The lowest standard deviation for ROE was 34.9890, the highest was 45.6941, and the average was 40.2048.

### 4.1.2 Independent Variables

Table 5: Descriptive Statistics for CEO Duality

| Year | Sample | CDUAL | |
|---|---|---|---|
| | | Yes (%) | No (%) |
| **2013** | 81 | 4 (4.9%) | 77 (95.1%) |
| **2014** | 81 | 2 (2.5%) | 79 (97.5%) |
| **2015** | 81 | 2 (2.5%) | 79 (97.5%) |
| **2016** | 81 | 2 (2.5%) | 79 (97.5%) |
| **2017** | 81 | 2 (2.5%) | 79 (97.5%) |
| **2018** | 81 | 1 (1.2%) | 80 (98.8%) |
| **2019** | 81 | 1 (1.2%) | 80 (98.8%) |
| Average | 567 | 14 (2.47%) | 553 (97.53%) |

Source: Developed for the research

In this research, CDUAL is a dummy variable and results from the descriptive analysis showed that the number of companies practicing CEO duality, or the non-separation of roles between chairman and CEO, was the highest in 2013 with a total of 4 firms out of 81 found to practice CEO duality. However, the amount reduced by half in 2014, and further reduced to only 1 out of 81 companies in the years 2018 and 2019. Over the 7-year period, only 14 out of 567 samples were found to practice CDUAL, which is 2.47%. This implied that most of the companies were adhering to the proposal put forward by MCCG.

Table 6: Descriptive Statistics for BSIZE, BIND, BMEET, WOMD, and FORD

| | | BSIZE | | | | BIND | | | | BMEET | | | | WOMD | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Year** | **Sample** | **Min** | **Max** | **Mean** | **S.D.** | **Min** | **Max** | **Mean** | **S.D.** | **Min** | **Max** | **Mean** | **S.D.** | **Min** | **Max** | **Mean** | **S.D.** |
| **2013** | **81** | 5 | 13 | 8.395 | 1.663 | 0.250 | 0.830 | **0.497** | 0.124 | 2 | 21 | **7.580** | 3.876 | 0.000 | 0.330 | **0.115** | **0.090** |
| **2014** | **81** | 5 | 13 | **8.420** | 1.695 | 0.220 | 0.860 | **0.497** | **0.127** | 4 | 27 | 7.914 | 4.300 | 0.000 | 0.380 | 0.125 | 0.093 |
| **2015** | **81** | 5 | 14 | **8.259** | **1.618** | 0.290 | 0.830 | 0.500 | 0.122 | 4 | 25 | 7.605 | 4.079 | 0.000 | 0.430 | 0.140 | 0.106 |
| **2016** | **81** | 4 | 12 | 8.272 | 1.796 | 0.290 | 0.780 | 0.515 | 0.115 | 4 | 20 | 7.815 | **3.857** | 0.000 | 0.630 | 0.167 | **0.127** |
| **2017** | **81** | 5 | 12 | 8.272 | 1.837 | 0.330 | 0.800 | 0.533 | 0.102 | 4 | 26 | 8.049 | **4.516** | 0.00 | 0.440 | 0.210 | 0.111 |
| **2018** | **81** | 4 | 12 | 8.272 | 1.837 | 0.330 | 1.000 | 0.567 | 0.115 | 4 | 21 | 8.086 | 4.050 | 0.000 | 0.600 | 0.248 | 0.123 |
| **2019** | **81** | 5 | 13 | 8.284 | **1.912** | 0.330 | 0.800 | **0.568** | **0.099** | 4 | 25 | **8.358** | 4.479 | 0.000 | 0.500 | **0.255** | 0.119 |
| **Avg** | **81** | *4.714* | *12.71* | ***8.311*** | *1.765* | *0.291* | *0.843* | ***0.525*** | *0.115* | *3.714* | *23.57* | ***7.915*** | *4.165* | *0.000* | *0.473* | ***0.180*** | *0.110* |

| | | FORD | | | | | | FORD | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Year** | **Sample** | **Min** | **Max** | **Mean** | **S.D.** | **Year** | **Sample** | **Min** | **Max** | **Mean** | **S.D.** |
| **2013** | **81** | 0.330 | 1.000 | 0.815 | **0.165** | **2017** | **81** | 0.440 | 1.000 | 0.833 | **0.151** |
| **2014** | **81** | 0.380 | 1.000 | 0.816 | 0.158 | **2018** | **81** | 0.430 | 1.000 | **0.841** | 0.156 |
| **2015** | **81** | 0.380 | 1.000 | **0.808** | 0.160 | **2019** | **81** | 0.430 | 1.000 | 0.831 | 0.159 |
| **2016** | **81** | 0.400 | 1.000 | 0.815 | 0.161 | **Avg** | **81** | 0.400 | 1.000 | **0.823** | 0.159 |

S.D.: Standard Deviation
Avg: Average
Source: Developed for the research

From the year 2013 to 2019, the average mean for BSIZE is 8.311, with an average minimum of 4.714, an average maximum of 12.71, and an average standard deviation of 1.765. This indicates that majority of the companies had an average board size of 8 directors.

For the same period, the average mean for BIND is 0.525, with an average minimum of 29.1%, an average maximum of 84.3%, and an average standard deviation of 0.115. This corresponds with the many research papers that state at least half the Board is made up of independent directors, in compliance with MCCG 2017.

For BMEET, the average mean over the 7-year period is 7.915, with an average minimum of 3.714, an average maximum of 23.57, and an average standard deviation of 4.165. The minimum average of 4 board meetings corresponds to what MCCG 2000 deems as the minimum board meetings required to effectively manage a company.

For WOMD, the average mean recorded over the same period is 0.180 (18%), with an average minimum of 0.000 (0%) and an average maximum of 0.473 (47.3%), and an average standard deviation of 0.110. The average number of women directors is remarkable low which does not augur well for the companies. It is recommended that at least 30% of directors of companies should comprise of women. The 81 companies under review have a long way to go before they comply with the recommendation of MCCG.

Lastly, the average mean for FORD for the period of 2013 to 2019 is 0.823 (82.3%), with an average minimum of 0.400 (40%), an average maximum of 1.000 (100%), and an average standard deviation of 0.159. This indicates that the top 100 listed companies with CG value the diversity that foreign directors bring to the board.

## 4.2 Panel Data Analysis

The panel data analysis was conducted by examining the relationship between independent variables and dependent variables via the EViews software, generating either the Fixed Effects Model or the Random Effects Model to indicate the relationships. After the Fixed Effects Model and the Random Effects Model were generated, the Hausman test was used to determine if the Fixed Effects Model or the Random Effects Model was the most appropriate model to identify the relationship between the variables.

As such, the following hypotheses were formed for each dependent variable:
$H_0$: The Random Effects Model is the most appropriate model (p-value > 0.05)
$H_1$: The Fixed Effects Model is the most appropriate model (p-value < 0.05)

To determine which hypothesis is to be rejected, we observe the probability value (p-value, or indicated as 'Prob.' in the tables) of the Hausman Test. If the p-value is smaller than 0.05, $H_0$ will be rejected and results of the Fixed Effects Model will be used; if the p-value is bigger than 0.05, the $H_0$ will be accepted and the Random Effects Model will be used.

### 4.2.1 Earnings per Share (EPS)

#### 4.2.1.1 Hausman Test

Table 7: Hausman Test Results for EPS

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|---|---|---|---|
| Cross-section random | 4.744626 | 6 | 0.5770 |

The probability value of the Hausman test conducted for EPS is 0.5770, which is bigger than 0.05. Hence, the $H_0$ is accepted and the Random Effects Model is used.

### 4.2.1.2 Random Effects Model

Table 8: Random Effects Model for EPS

Dependent Variable: EPS
Method: Panel EGLS (Cross-section random effects)
Date: 11/20/21 Time: 16:12
Sample: 2013 2019
Periods included: 7
Cross-sections included: 81
Total panel (balanced) observations: 567
Swamy and Arora estimator of component variances

| Variable | Coefficient | Std. Error | t-Statistic | Prob. | |
|---|---|---|---|---|---|
| CDUAL | -5.842448 | 15.87871 | -0.367942 | 0.7131 | |
| BSIZE | -2.288042 | 1.334417 | -1.714638 | 0.0870 | * |
| BIND | 0.776123 | 18.40382 | 0.042172 | 0.9664 | |
| BMEET | -0.116785 | 0.607206 | -0.192332 | 0.8476 | |
| WOMD | 15.97327 | 15.58543 | 1.024885 | 0.3059 | |
| FORD | 30.86149 | 17.11793 | 1.802875 | 0.0719 | * |
| C | 27.13638 | 20.52850 | 1.321888 | 0.1867 | |

Effects Specification

| | S.D. | Rho |
|---|---|---|
| Cross-section random | 50.70077 | 0.7368 |
| Idiosyncratic random | 30.30159 | 0.2632 |

Weighted Statistics

| | | | |
|---|---|---|---|
| Root MSE | 30.08019 | R-squared | 0.013527 |
| Mean dependent var | 7.871807 | Adjusted R-squared | 0.002958 |
| S.D. dependent var | 30.31247 | S.E. of regression | 30.26760 |
| Sum squared resid | 513031.6 | F-statistic | 1.279873 |
| Durbin-Watson stat | 1.525756 | Prob(F-statistic) | 0.264544 |

Unweighted Statistics

| | | | |
|---|---|---|---|
| R-squared | 0.016493 | Mean dependent var | 35.72561 |
| Sum squared resid | 1926228. | Durbin-Watson stat | 0.406370 |

Note. Significant at ***1%, **5%, *10% level.

Based on Table 9, the following equation was formed:

EPS = 27.136 – 5.842 CDUAL – 2.288 BSIZE + 0.776 BIND – 0.117 BMEET + 15.973 WOMD + 30.861 FORD + 20.529ε

The equation shows that BIND, WOMD, and FORD have a positive relationship with EPS while CDUAL, BSIZE and BMEET have a negative relationship with EPS.

However, only BSIZE and FORD have a significant relationship with EPS, at a significance level of 10%, with p-values of 0.0870 and 0.0719 respectively.

CDUAL, BIND, BMEET, and WOMD are found to have no significant relationship with EPS with p-values greater than 0.1.

The R-squared value was 0.0135, indicating that 1.35% of a variation in EPS could be explained by a variation in the 6 independent variables which is not much. The Adjusted R-square was 0.0029 which indicates the independent variable does not generally follow the movements of the dependent variable.

### 4.2.2 Tobin's Q (TOBQ)

#### 4.2.2.1 Hausman Test

Table 9: Hausman Test for Tobin's Q

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|---|---|---|---|
| Cross-section random | 20.266872 | 6 | 0.0025 |

The probability value of the Hausman test conducted for TOBQ was 0.0025, which is smaller than 0.05. Hence, the $H_0$ is rejected and the Fixed Effects Model was used.

### 4.2.2.2 Fixed Effects Model

Table 10 Fixed Effects Model for Tobin's Q

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

| Effects Test | Statistic | d.f. | Prob. |
|---|---|---|---|
| Cross-section F | 36.825432 | (80,480) | 0.0000 |
| Cross-section Chi-square | 1114.366297 | 80 | 0.0000 |

Cross-section fixed effects test equation:
Dependent Variable: TOBQ
Method: Panel Least Squares
Date: 11/20/21 Time: 16:19
Sample: 2013 2019
Periods included: 7
Cross-sections included: 81
Total panel (balanced) observations: 567

| Variable | Coefficient | Std. Error | t-Statistic | Prob. | |
|---|---|---|---|---|---|
| CDUAL | -0.628691 | 0.582887 | -1.078582 | 0.2812 | |
| BSIZE | -0.078120 | 0.052992 | -1.474187 | 0.1410 | |
| BIND | -3.312199 | 0.774886 | -4.274437 | 0.0000 | *** |
| BMEET | -0.167984 | 0.022715 | -7.395432 | 0.0000 | *** |
| WOMD | 3.999294 | 0.762825 | 5.242743 | 0.0000 | *** |
| FORD | -0.884267 | 0.589898 | -1.499018 | 0.1344 | |
| C | 5.946194 | 0.737019 | 8.067901 | 0.0000 | |

| | | | |
|---|---|---|---|
| Root MSE | 2.095503 | R-squared | 0.157685 |
| Mean dependent var | 2.204603 | Adjusted R-squared | 0.148660 |
| S.D. dependent var | 2.285253 | S.E. of regression | 2.108559 |
| Akaike info criterion | 4.342156 | Sum squared resid | 2489.772 |
| Schwarz criterion | 4.395740 | Log likelihood | -1224.001 |
| Hannan-Quinn criter. | 4.363068 | F-statistic | 17.47237 |
| Durbin-Watson stat | 0.190791 | Prob(F-statistic) | 0.000000 |

Note: Significant at ***1%, **5%, *10% level.

Based on Table 11 above, the following equation was formed:

TOBQ = 5.946 – 0.629 CDUAL – 0.078 BSIZE – 3.312 BIND – 0.168 BMEET + 3.999 WOMD – 0.884 FORD + 0.737ε

The equation shows that only WOMD has a positive relationship with TOBQ while CDUAL, BSIZE, BIND, BMEET, and FORD have a negative relationship with TOBQ. However, only BIND, BMEET, and WOMD have a significant relationship with TOBQ, at a significance level of 1%, all with p-values of 0.0000.

This indicates a major significance between BIND, BMEET, and WOMD on TOBQ. On the other hand, CDUAL, BSIZE, and FORD were found to have no significant relationship with TOBQ with p-values that are higher than 0.1.

The R-squared value was 0.1577, indicating that 15.77% of a variation in TOBQ could be explained by a variation in the 6 independent variables. The Adjusted R-square was 0.1487, which indicates the independent variable does not generally follow the movements of the dependent variable.

### 4.2.3 Return on Equity (ROE)

#### 4.2.3.1 Hausman Test

Table 11: Hausman Test for ROE

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|---|---|---|---|
| Cross-section random | 16.671693 | 6 | 0.0106 |

The p-value of the Hausman test conducted for TOBQ was 0.0106, which is smaller than 0.05. Hence, the $H_0$ is rejected and the Fixed Effects Model was used.

### 4.2.3.2 Fixed Effects Model

Table 12: Fixed Effects Model for ROE

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

| Effects Test | Statistic | d.f. | Prob. |
|---|---|---|---|
| Cross-section F | 45.534867 | (80,480) | 0.0000 |
| Cross-section Chi-square | 1219.333010 | 80 | 0.0000 |

Cross-section fixed effects test equation:
Dependent Variable: ROE
Method: Panel Least Squares
Date: 11/20/21 Time: 16:21
Sample: 2013 2019
Periods included: 7
Cross-sections included: 81
Total panel (balanced) observations: 567

| Variable | Coefficient | Std. Error | t-Statistic | Prob. | |
|---|---|---|---|---|---|
| CDUAL | -17.68514 | 10.39436 | -1.701417 | 0.0894 | * |
| BSIZE | -3.174760 | 0.944982 | -3.359598 | 0.0008 | *** |
| BIND | -64.28463 | 13.81819 | -4.652176 | 0.0000 | *** |
| BMEET | -1.734155 | 0.405058 | -4.281247 | 0.0000 | *** |
| WOMD | 80.00843 | 13.60311 | 5.881629 | 0.0000 | *** |
| FORD | -13.16686 | 10.51938 | -1.251677 | 0.2112 | |
| C | 92.94418 | 13.14292 | 7.071804 | 0.0000 | |

| | | | |
|---|---|---|---|
| Root MSE | 37.36816 | R-squared | 0.131585 |
| Mean dependent var | 22.20386 | Adjusted R-squared | 0.122281 |
| S.D. dependent var | 40.13483 | S.E. of regression | 37.60099 |
| Akaike info criterion | 10.10421 | Sum squared resid | 791747.1 |
| Schwarz criterion | 10.15779 | Log likelihood | -2857.543 |
| Hannan-Quinn criter. | 10.12512 | F-statistic | 14.14220 |
| Durbin-Watson stat | 0.214099 | Prob(F-statistic) | 0.000000 |

Note: Significant at ***1%, **5%, *10% level.

Based on Table 13 above, the following equation was formed:

ROE = 92.944 – 17.685 CDUAL – 3.174 BSIZE – 64.284 BIND – 1.734 BMEET + 80.008 WOMD – 13.167 FORD + 13.143$\varepsilon$

The equation shows that only WOMD has a positive relationship with ROE while CDUAL, BSIZE, BIND, BMEET, and FORD have a negative relationship with TOBQ. Five out of the six independent variables were found to have a significant relationship with ROE. These variables are CDUAL (p-value of 0.0894,

significant at 10% level), BSIZE (p-value of 0.0008, significant at 10% level), BIND (p-value of 0.0000, significant at 10% level), BMEET (p-value of 0.0000, significant at 10% level), and WOMD (p-value of 0.0000, significant at 10% level). A 10% significance level indicates that BSIZE, BIND, BMEET, and WOMD have a major significance on ROE. Out of all the independent variables, only FORD was found to have no significant relationship with ROE.

The R-squared value was 0.1316, indicating that a variation in the 6 independent variables could explain 13.16% of variation in ROE. The Adjusted R-square was 0.1223 which indicates that the independent variable does not generally follow the movements of the dependent variable.

# CHAPTER 5

# DISCUSSION AND CONCLUSION

## 5.0 Introduction

This chapter consists of 5 sections with Section 5.1 covering hypothesis testing, Section 5.2 providing summary of tests, Section 5.3 expounding on the discussion on findings, Section 5.4 listing the limitations of the research, Section 5.5 providing recommendations for future research, and Section 5.6 arriving at the conclusion of the research.

## 5.1 Hypothesis Testing

### 5.1.1 Summary of Hausman Test Results for EPS, TOBQ, and ROE

Table 13: Summary of Hausman test results for EPS, TOBQ, and ROE

| | **EPS** | **TOBQ** | **ROE** |
|---|---|---|---|
| **Probability Value** | 0.5770 | 0.0025 | 0.0106 |
| **Model** | REM | FEM | FEM |

Note: REM = Random Effect Model; FEM = Fixed Effect Model
Source: Developed for the research

### 5.1.2 Summary of p-values for EPS, TOBQ, and ROE

Table 14: Summary of p-values for EPS, TOBQ, and ROE

| | **Probability Values** | | |
|---|---|---|---|
| | **EPS** | **TOBQ** | **ROE** |
| **(Constant)** | 0.1867 | 0.0000 | 0.0000 |
| **CDUAL** | 0.7131 (-) | 0.2812 (-) | **0.0894* (-)** |
| **BSIZE** | **0.0870* (-)** | 0.1410 (-) | **0.0008*** (-)** |
| **BIND** | 0.9664 (+) | **0.0000*** (-)** | **0.0000*** (-)** |
| **BMEET** | 0.8476 (-) | **0.0000*** (-)** | **0.0000*** (-)** |
| **WOMD** | 0.3059 (+) | **0.0000*** (+)** | **0.0000*** (+)** |
| **FORD** | **0.0719* (+)** | 0.1344 (-) | 0.2112 (-) |

Note: Significance level of ***1%, **5%, *10%.
Source**:** Developed for the research

### 5.1.3 Summary of Hypothesis Testing

Table 15: Summary of Hypothesis Testing

| **Research Questions** | **Research Hypothesis** | **Panel Data Analysis** | **P-value** |
|---|---|---|---|
| Does CEO duality affect firm performance? | $H1_A$: CDUAL of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (EPS). | NA | 0.7131 (-) |
| | $H1_B$: CDUAL of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (TOBQ). | NA | 0.2812 (-) |
| | $H1_C$: CDUAL of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (ROE). | **A** | **0.0894* (-)** |
| Will the size of the board of directors affect firm performance? | $H2_A$: BSIZE of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (EPS). | **A** | **0.0870* (-)** |

| | | | |
|---|---|---|---|
| | $H2_B$: BSIZE of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (TOBQ). | NA | 0.1410 (-) |
| | $H2_C$: BSIZE of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (ROE). | **A** | **0.0008*** (-)** |
| Is firm performance affected by the number of independent directors? | $H3_A$: BIND of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (EPS). | NA | 0.9664 (+) |
| | $H3_B$: BIND of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (TOBQ). | **A** | **0.0000*** (-)** |
| | $H3_C$: BIND of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (ROE). | **A** | **0.0000*** (-)** |
| Does the number of board meetings affect firm performance? | $H4_A$: BMEET of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (EPS). | NA | 0.8476 (-) |
| | $H4_B$: BMEET of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (TOBQ). | **A** | **0.0000*** (-)** |
| | $H4_C$: BMEET of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (ROE). | **A** | **0.0000*** (-)** |
| How does the number of female directors contribute to firm performance? | $H5_A$: WOMD of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (EPS). | NA | 0.3059 (+) |
| | $H5_B$: WOMD of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (TOBQ). | **A** | **0.0000*** (+)** |
| | $H5_C$: WOMD of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (ROE). | **A** | **0.0000*** (+)** |
| Will firm | $H6_A$: FORD of the Top 100 | **A** | **0.0719* (+)** |

| | | | |
|---|---|---|---|
| performance improve if directors have foreign qualifications? | Bursa Malaysia listed companies has a significant relationship with Firm Performance (EPS). | | |
| | $H6_B$: FORD of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (TOBQ). | NA | 0.1344 (-) |
| | $H6_C$: FORD of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (ROE). | NA | 0.2112 (-) |

Note: A = accepted; NA = not accepted.
Source: Developed for the research

**Hypothesis 1**

$H1_A$: CDUAL of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (EPS).

$H1_B$: CDUAL of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (TOBQ).

$H1_C$: CDUAL of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (ROE).

**Analysis of CEO duality (CDUAL) on firm performance (EPS):**

While the panel data analysis showed that CDUAL has a negative relationship on EPS, the p-value of 0.7131 did not meet the significance levels of 1%, 5% or 10% indicating that the relationship is insignificant. Hence, it was concluded that CDUAL has no significant relationship with EPS. This result is aligned with studies conducted by Tham and Romuald (2012), Ibrahim et al. (2017), and Abdulsamad et al. (2018).

**Analysis of CEO Duality (CDUAL) on firm performance (TOBQ):**

Results from the panel data analysis indicated a negative relationship between CDUAL and TOBQ, however, similar to the analysis on EPS, the p-value of 0.2812 failed to meet the significance levels of 1%, 5% or 10% which suggested that there is no significant relationship between CDUAL and TOBQ. This result is

inconsistent with previous research conducted by Khan et al. (2021) which found a negative relationship between CDUAL and TOBQ.

**Analysis of CEO Duality (CDUAL) on firm performance (ROE):**

The results of the panel data analysis indicated a negative relationship between CDUAL and ROE, with a p-value of 0.0894, which is significant at the 10% level. Hence, it was concluded that CDUAL has a significant negative relationship on ROE. This result does not support the findings from Mohd Ghazali (2020) which indicated a positive relationship between CDUAL and ROE, but it is in line with previous studies administered by Chaghadari and Chaleshtori (2011) which evidenced a negative relationship between the two variables.

To conclude the analysis on the relationship between CDUAL and firm performance, it was found that CDUAL negatively affects the firm performance in terms of ROE, but does not have a significant relationship on EPS and TOBQ even though indicators show a negative relationship.

**Hypothesis 2**

$H2_A$: BSIZE of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (EPS).

$H2_B$: BSIZE of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (TOBQ).

$H2_C$: BSIZE of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (ROE).

**Analysis of board size (BSIZE) on firm performance (EPS):**

The analysis showed a negative relationship between BSIZE and EPS, with a p-value of 0.0870 which is significant at the 10% level. Therefore, it is concluded that BSIZE has a significant negative relationship with EPS.

The result is in contrast to the study by Tham and Romuald (2012) and Shittu et al. (2016) which found that there is a positive relationship between BSIZE and EPS,

and a study by Abdulsamad et al. (2018) which found no significant relationship between BSIZE and EPS.

**Analysis of Board Size (BSIZE) on firm performance (TOBQ):**

There is a negative relationship between BSIZE and TOBQ, with a p-value of 0.1410 which was insignificant at the 1%, 5% or 10% level. It was concluded that there is no significant relationship between BSIZE and TOBQ and the hypothesis was not accepted.

The result did not support the positive relationship that was proven by Darmadi (2013b) or the negative relationship proven by Ibrahim and Abdul Samad (2011) and Ahmed Haji and Mubaraq (2015).

**Analysis of Board Size (BSIZE) on firm performance (ROE):**

Results of the analysis indicated a negative relationship between BSIZE and ROE, with a p-value of 0.0008, which is significant at the 1% level. It was concluded that BSIZE has a significant negative relationship on ROE. The result does not support studies by Shukeri et al. (2012) and Mohd. Ghazali (2020) that predicted a positive relationship but it supports the study conducted by Ibrahim and Abdul Samad (2011) and Khan et al. (2021) which observed a negative relationship between BSIZE and ROE.

To conclude the analysis on the relationship between BSIZE and firm performance, it was found that BSIZE negatively affects firm performance in terms of EPS and ROE on a significant level, but does not have a significant relationship with TOBQ even though there is indication of a negative relationship.

**Hypothesis 3**

$H3_A$: BIND of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (EPS).

$H3_B$: BIND of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (TOBQ).

$H3_C$: BIND of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (ROE).

**Analysis of board independence (BIND) on firm performance (EPS):**

The analysis showed a positive relationship between BIND and EPS, with a p-value of 0.9664 which is insignificant at the 1%, 5% or 10% level. Therefore, it was concluded that there is no significant relationship between BIND and EPS.

The results are aligned with past studies conducted by Tham and Romuald (2012), Ibrahim et al. (2017), and Abdulsamad et al. (2018).

**Analysis of Board Independence (BIND) on firm performance (TOBQ):**

There is a negative relationship between BIND and TOBQ, with a p-value of 0.0000 which was significant at the 1% level. It was concluded that there is a significant negative relationship between BIND and TOBQ. The result is aligned with previous research carried out by Darmadi (2013b) and Shamsudin et al. (2018).

**Analysis of Board Independence (BIND) on firm performance (ROE):**

Results of the analysis indicated a negative relationship between BIND and ROE, with a p-value of 0.0000, which is significant at the 1% level. The result established a significant and negative relationship between BIND and ROE, which is consistent with the study conducted by Shukeri et al. (2012).

To conclude the analysis on the relationship between BIND and firm performance, it was found that BIND negatively affects firm performance in terms of TOBQ and ROE on a significant level, but does not have a significant relationship with EPS even though there is indication of a positive relationship.

**Hypothesis 4**

$H4_A$: BMEET of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (EPS).

$H4_B$: BMEET of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (TOBQ).

$H4_C$: BMEET of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (ROE).

**Analysis of number of board meetings (BMEET) on firm performance (EPS):**
The results of the analysis showed that BMEET has a negative relationship with EPS, but with a p-value of 0.8476 which is not significant at the 1%, 5% or 10% levels. Thus, it was concluded that BMEET has no significant relationship with EPS.

The result did not support the negative relationship that was evidenced by Abdulsamad et al. (2018).

**Analysis of number of board meetings (BMEET) on firm performance (TOBQ):**
Results from the panel data analysis indicated a negative relationship between BMEET and TOBQ, with a p-value of 0.0000 which is significant at the 1% level. This indicates a significant negative relationship between BMEET and TOBQ and the hypothesis was accepted.

The result is consistent with previous research carried out by Ahmed Haji and Mubaraq (2015).

**Analysis of number of board meetings (BMEET) on firm performance (ROE):**
Results of the panel data analysis indicated a negative relationship between BMEET and ROE, with a p-value of 0.0000, which is significant at the 1% level. It was concluded that there is a significant negative relationship between BMEET and ROE, and the hypothesis was accepted. The results are consistent with previous research carried out by Taghizadeh and Saremi (2013), Ahmed Haji (2014), Ahmed Haji and Mubaraq (2015), Mohd Ghazali (2020).

To conclude the analysis on the relationship between BMEET and firm performance, it was found that BMEET negatively affects the firm performance in

terms of TOBQ and ROE, but does not have a significant relationship with EPS even though indicators show a negative relationship.

**Hypothesis 5**

$H5_A$: WOMD of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (EPS).

$H5_B$: WOMD of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (TOBQ).

$H5_C$: WOMD of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (ROE).

**Analysis of number of female directors (WOMD) on firm performance (EPS):**

The analysis showed a positive relationship between WOMD and EPS, with a p-value of 0.3059 which is insignificant at the 1%, 5%, and 10% levels. It was concluded that there is no significant relationship between WOMD and EPS. The result was in contrast with the negative relationship that was evidenced by Abdullah et al. (2012).

**Analysis of number of female directors (WOMD) on firm performance (TOBQ):**

There is a positive relationship between WOMD and TOBQ, with a p-value of 0.0000 which was significant at the 1% level. It was concluded that there is a significant positive relationship between WOMD and TOBQ and the hypothesis was accepted.

The result is consistent with previous research carried out by Terjesen, Couto, and Francisco (2015) and Yap et al. (2017), and contrasted with the negative relationship evidenced by Abdullah and Ku Ismail (2013) and Darmadi (2013b).

**Analysis of number of female directors (WOMD) on firm performance (ROE):**

Results of the analysis indicated a positive relationship between WOMD and ROE, with a p-value of 0.0000, which is significant at the 1% level. It was concluded

that WOMD has a significant positive relationship on ROE and the hypothesis was accepted. The result is consistent with a prior study conducted by Taghizadeh and Saremi (2013) and Low, Roberts, and Whiting (2015), which found that an increased number of female directors on the board leads to increased ROE.

To conclude the analysis on the relationship between WOMD and firm performance, it was found that WOMD positively affects firm performance in terms of TOBQ and ROE on a significant level, but does not have a significant relationship with EPS even though there is indication of a positive relationship.

**Hypothesis 6**

$H6_A$: FORD of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (EPS).

$H6_B$: FORD of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (TOBQ).

$H6_C$: FORD of the Top 100 Bursa Malaysia listed companies has a significant relationship with Firm Performance (ROE).

**Analysis of number of directors with foreign qualifications (FORD) on firm performance (EPS):**

The panel data analysis showed that FORD has a positive relationship on EPS, with a p-value of 0.0719 which was significant at the 10% level. Hence, it was concluded that FORD has a significant positive relationship with EPS.

**Analysis of number of directors with foreign qualifications (FORD) on firm performance (TOBQ):**

Results from the panel data analysis indicated a negative relationship between FORD and TOBQ, with a p-value of 0.1344 which failed to meet the significance levels of 1%, 5%, and 10% indicating that there is no significant relationship between FORD and TOBQ. This result is consistent with previous research conducted by Darmadi (2013a).

**Analysis of number of directors with foreign qualifications (FORD) on firm performance (ROE):**

The results of the panel data analysis indicated a negative relationship between FORD and ROE, with a p-value of 0.2112, which is insignificant at the 1%, 5%, and 10% level. Hence, it was concluded that there is no significant relationship between FORD and ROE.

To conclude the analysis on the relationship between FORD and firm performance, it was found that FORD positively affects the firm performance in terms of EPS, but does not have a significant relationship on TOBQ and ROE even though indicators show a negative relationship.

## 5.2 Summary of Tests

### 5.2.1 Descriptive Analysis

The descriptive analysis unveiled the state of corporate governance practices and firm performance for the period of 2013 to 2019, providing an overview of how corporate governance was practiced by the top 100 Bursa Malaysia listed companies that was selected from MSWG's 2019 Top 100 Companies for Overall CG and Performance.

From the results of the descriptive analysis, the minimum and maximum of each variable as well as the mean and standard deviation of the 81 companies over the 7-year period were made known, allowing a better view of the trends between corporate governance practices and firm performance.

#### 5.2.1.1 Dependent Variables

The mean for the market-based measurements of firm performance i.e., the EPS and Tobin's Q, fluctuated over the 7-year period. The mean for EPS started with

36.1407 in 2013 and reached 36.3294 in 2019, with an average mean of 35.7256 which is lower than the two figures recorded for 2013 and 2019. The mean for Tobin's Q started with 2.2052 in 2013 and seemingly decreased to 2.1770 in 2019, but the average mean was 2.2046 which was higher than what was recorded for 2.1170. The mean for the accounting-based measurement of firm performance i.e. ROE is generally on a declining trend over the years where it started with 24.5390 in 2013, which was the highest ROE recorded for the 7-year period, and arrived at 20.9367 in 2019, which was the lowest ROE recorded for the 7-year period, with an average mean of 22.2040.

The standard deviation describes how dispersed the data is where a higher standard deviation indicates that the data are closer to the mean, which a lower standard deviation indicates that the data are more spread out from the mean. For EPS, the data over the 7 years were seen to be evenly spread out around the mean with a standard deviation of 50 to 60, which means that most of the sample data has a mean EPS close to 32.2296. Similarly, the highest mean for Tobin's Q was 2.3581 (for 2018) with a standard deviation of 2.5751, which was also the highest standard deviation recorded over the 7 years; this indicates that the 2018 data has the highest clustered data surrounding its mean, and that most of the companies recorded a Tobin's Q value that is close to 2.3581.

From the descriptive statistics of dependent variables, it is a concern to note the fluctuating market-based firm performance and the decreasing accounting-based firm performance as we move along the years as corporate governance is said to be improving over the years. The usual assumption would be that increased corporate governance will lead to improvement of firm performance but a quick glance at these statistics leaves much room for thought.

#### 5.2.1.2 Independent Variables

The descriptive statistics for CDUAL revealed that 4 out of 81 companies (4.9%) practiced CEO duality in 2013 which declined over the years to only 1 out of 81

companies (1.2%) that practiced CEO duality. This indicated that 80 out of 81 companies (98.8%) have adopted best practices suggested by the MCCG 2012 to have a separate chairman and CEO. As this practice to separate the role of chairman and CEO was first suggested in the MCCG 2000, companies may have had more time to adjust to the requirement prior to the selected sample period as the statistic show that the trend of CDUAL is quickly halved over the years.

Statistics for BSIZE unveiled that the minimum board size recorded over the sample period is 4, while the maximum board size recorded was 14. The average board size consists of 8 to 9 members. This is consistent with results from the KLSE/PricewaterhouseCoopers survey mentioned in the MCCG 2000 which revealed that the average board size at the time of survey was 8 directors. This goes to show that the average board size of 8 directors have been consistent for over 2 decades.

The minimum percentage of independent directors on the board (BIND) was found to be 22% (in 2014) and the maximum percentage was 100% (in 2018). The average percentage recorded over the 7-year period was 52.5%, which is well above the 30% board independence suggested by the MCCG 2000, and complies with the 50% board independence suggested by the MCCG 2017 and MCCG 2021. However, if we look at the minimum BIND percentage over the years, BIND was 25% in 2013, followed by 22% in 2014, 29% in 2015 and 2016, and thereafter 33% from 2017 to 2019. This suggests that while the average BIND has achieved 50%, there are still companies that are struggling to meet the 30% board independence required which was set out in 2000. Since the sample that was used consists of Top 100 companies listed on Bursa Malaysia that is ranked by MSWG based on overall CG and performance, achieving a minimum 33% board independence in 2017, which is 17 years after the MCCG 2000 may indicate that smaller listed companies may not have met the 30% board independence requirement, let alone the 50% board independence suggested by MCCG 2017 and MCCG 2021.

Moving on to the number of board meetings (BMEET) held in a year, the minimum number was 2 (in year 2013) and maximum number was 27 (in 2014),

with the average number of board meetings being 8. This minimum BMEET of 2 in year 2013 would indicate that the board may not be effectively monitoring or managing the company as the MCCG 2000 revealed that BMEET that is less than 4 times a year is a cause for concern. As such, companies would do well to conduct at least 4 meetings a year.

The minimum percentage of female directors on the board (WOMD) was 0% for all 7 years, while the maximum percentage was 63% in 2016. The average percentage of WOMD was a meager 18% which is a far cry from the suggested 30% for larger companies as suggested by MCCG 2017, and the 30% across all listed companies that was suggested by MCCG 2021. The percentage of female directors that is still low may be attributed by MCCG 2012 only mentioning that the board should include women candidates in its recruitment exercise, but did not specify a percentage in the requirement until MCCG 2017 was introduced. Even then, the MCCG 2017's 30% female director requirement is indicated to be only applicable to large companies. In this area, major improvement is still required even in large companies to boost the percentage of female directors on their board.

The descriptive analysis on the number of directors with foreign qualifications (FORD) showed that the minimum percentage recorded over the 7-year period was 33% in 2013, the maximum percentage was 100% for each year, and the average mean was 82.3% with a standard deviation of 0.159. The statistics reveals that top listed companies value directors with foreign qualifications as well as directors from foreign countries to be part of the board of directors, and contributing their knowledge and perspectives in order to meet the expectations of various stakeholders within the companies. In this regard, the companies have largely adopted the corporate governance practices that were suggested by all the MCCGs as it evolved from the MCCG 2000 where the Codes stated that the board through the Nominating Committee is recommended to review its required mix of skills, expertise, experience, commitment, contribution, performance, age, cultural background, and gender; and directors are also to be sourced from a diverse pool.

### 5.2.2 Inferential Analysis

#### 5.2.2.1 Panel Data Analysis (7-year Analysis)

Results of the panel data analysis have provided evidence on the relationship between corporate governance and firm performance in the 81 companies selected from the Top 100 Companies for Overall CG and Performance in 2019, ranked by MSWG.

The overview of the results indicated that even though CEO Duality (CDUAL) has a negative relationship with firm performance (EPS, TOBQ, ROE), the relationship is only significant with ROE.

Board size (BSIZE), also has a negative relationship with firm performance, but the relationship is only significant for EPS and ROE.

There was a positive but insignificant relationship between board independence (BIND) and EPS, while a significant negative relationship was discovered between BIND and both TOBQ and ROE.

Results of the analysis between board meetings (BMEET) and firm performance indicated an insignificant negative relationship between BMEET and EPS, and a significant negative relationship between BMEET and TOBQ or ROE.

Analysis on female directors (WOMD) and firm performance concluded that there is an insignificant positive relationship between WOMD and EPS, and a significant positive relationship between WOMD and TOBQ or ROE.

Lastly, the relationship between directors with foreign qualifications (FORD) and firm performance unveiled a significant positive relationship between FORD and EPS but an insignificant negative relationship between FORD and TOBQ or ROE.

## 5.3 Discussion on Findings

Findings from the descriptive analysis showed that 4.9% of companies practiced CEO duality in 2013 but this reduced to 1.2% from 2018 onwards. As at 2019, 98.8% of companies practice a separation of power between the chairman and the CEO. Compared to a study conducted by Chaghadari and Chaleshtori (2011) on 2007 data, only 63.3% complied with the recommendation from MCCG 2000. In Ibrahim and Abdul Samad (2011)'s study on data from 1999 to 2005, CEO duality was only practiced in 6.5% of the companies. This shows that CEO duality was not prevalent in the corporate world and that companies do not find an issue with transitioning towards practicing the separation of power.

The average board size was between 8 to 9 directors, with the smallest board size consisting of 4 to 5 directors, and the largest board size consisting of 12 to 13 directors. The average board size of 8 to 9 directors is consistent with the observation from Chaghadari and Chaleshtori (2011) that recorded an average board size in their 2007 data was 8 directors, which was also consistent with another study conducted on 2003 data. Another study conducted by Ibrahim and Abdul Samad (2011) on data from 1999 to 2005 has also recorded an average board size of 8 directors. The average board size recorded in a study on data from 2011 to 2015 by Jakpar, Tinggi, Tan, Johari, and Khin (2019) indicated between 9 to 10 directors. Yet another study conducted, by Mohamad et al. (2020) using data from 180 listed companies from 2013 to 2017 generated an average board size of 9 to 10 directors. Overall, findings from this study correspond to the many research papers that indicated an average board size of 8 directors in Malaysia, as well as the MCCG 2000 observation that the average board size was 8.

The average percentage of board independence was 53%, with the lowest percentage of board independence being 29% and the highest being 84%. The average percentage of board independence has passed the 50% requirement by MCCG 2017 and 2021. Observation from Chaghadari and Chaleshtori (2011) revealed 42.62% board independence in their 2007 data set which indicated that companies have already begun to adopt the recommendations set out by the

MCCG 2000 and board independence is not an issue to comply with. In a study of 30 listed companies from 2011 to 2015 conducted by Jakpar et al. (2019), the percentage of independent directors recorded was 42.74% which is similar to Chaghadari and Chaleshtori (2011).

The average number of board meetings was between 7 and 8, with the lowest number being 3 to 4 and the highest number of board meetings reaching 23 to 24. This is consistent with the study by Ahmed Haji and Mubaraq (2015) which recorded an average of 7 board meetings in a year. The lowest number of board meetings of 4 meets the MCCG 2000's observation that board meetings of less than 4 in a year would indicate that the board is not properly managing the company.

The average percentage of women directors were 18%, with the lowest percentage being 0% and the highest percentage being 47.3%. While there is a significant improvement compared to the 8% of female board representation that was recorded in 2008 (Abdullah et al., 2012) and the 8.87% recorded in 2011 (Ahmad-Zaluki, 2012), listed companies in Malaysia will need to increase efforts in increasing the female representation in the board of directors to reach the required 30% as stated in MCCG 2021.

The average percentage of directors with foreign qualifications was 82.3% with the lowest percentage being 40% and the highest percentage being 100%. This shows that the top listed companies in Malaysia do value different opinions and perspectives that are brought about by directors with foreign qualifications or foreign directors. However, there is a severe lack in this area of study within Malaysia which does not allow a comparative study to be conducted by referencing previous research papers.

Findings from the panel data analysis support the observation that there is a significant relationship between corporate governance and various representations of firm performance.

Firm performance is negatively affected by CEO duality in terms of ROE. Why the practice of CEO duality is frowned upon is the non-existent power separation between the chairman and the CEO which according to earlier research tend to leave a bad impression towards stakeholders. As both chairman and CEO are held by the same person, the general perception is that when power is concentrated on one individual, there may be a lack of check and balance which may lead to mismanagement of the company as the same person would be making decisions and managing the company. Previous studies have observed that firms practicing CEO duality may also face challenges such as the difficulty to convince creditors to provide credit, and obtain stakeholder trust which may contribute towards a decrease in ROE.

Firm performance (EPS and ROE) is also negatively affected by board size, signifying that the bigger the board size, the more reduced is the firm's performance. While the MCCG does not provide a clear guideline as to how many directors should sit on the board of a company, the nominating committee is to assess and review the needs of the board in order to optimally manage the company. Therefore, a smaller company may not need a board size consisting 10 or more directors, but a bigger company may need a bigger board size for the reason that a bigger company has multiple segments and divisions that require expert opinions while deliberating the future of the company. A large board size may extend the time that is taken for decision-making, causing a delay and decrease in firm performance whereas a small board size may not be able to contribute sufficient ideas and expertise to arrive at a competitive advantage (Ahmad et al., 2019). The negative relationship between board size and firm performance can also be attributed to the additional resources that must be met when there are more directors on the board (Ibrahim and Abdul Samad, 2011). As directors' remuneration are expected to be at a high cost, the more directors a firm has on the board, the more expenses is incurred which will also lead to a decreased firm performance.

Board independence was also found to negatively affect firm performance in terms of its TOBQ and ROE. This observation could prove to add towards

previous arguments that debate the efficiency to have independent directors on board as many independent directors are hired solely to fulfil the company's need to comply with practices suggested by MCCG. While independent directors are said to bring an independent and unbiased perspective to the board, as well as external market and industrial knowledge which may not be easily obtained from within the firm, there are also arguments that the independent directors may not be as invested in the firms they are in as they are coming in as the 'external party' and are rarely able to influence the way decisions are made (Ahmed et al., 2015). Further arguments also suggest that independent directors may not be independent after all when they are given a stipend that is highly lucrative compared to their own employment. Another perspective to this observation is that even though having a high number of independent directors on is seen to provide a good check and balance, it could lead to over-monitoring which hinders strategic actions to be taken, ultimately leading to a decreased firm performance (Darmadi, 2013b; Shamsudin et al., 2018). Therefore, it is understandable that board independence indicated a negative relationship with firm performance and further study on this is required.

The number of board meetings was also found to negatively affect firm performance in terms of the TOBQ and ROE which indicates that the higher the number of board meetings, the more reduced is the firm's performance. Although the general consensus is that the more board meetings indicate a more active and committed board, it could also signal organisational unrest and reflect an internal crisis (Ahmed Haji and Mubaraq, 2015). A high number of board meetings seem to lead to poor firm performance. This could be attributed to high number of board meetings being a sign of poor management. From a stakeholder's perspective, board meetings serve as the time and place for the board of directors to deliberate upon the firm's proposed plans and actions, followed by effective and conclusive decisions and conclusions. However, a high number of board meetings indicate poor planning and poor decision-making whereby board meetings were carried out without proper agenda and decisions cannot be reached which consequently requires more meetings to be conducted. Having a high number of board meetings is also a waste of the firm's resources as directors are paid for every meeting they

attend, therefore a higher number of meeting means the more the firm needs to pay its directors.

In contrast to the earlier findings such as that of Abdullah et al. (2012), women directors were found to positively affect firm performance in terms of the TOBQ and ROE. This supports the government and MCCG's push towards 30% female representation on the board. It also supports the observation by Abdullah et al. (2012) that even though the relationship between women directors was insignificant on TOBQ, it was suggested that the market discounts the presence of women and the economic value that they contribute. As companies continue to struggle to adhere to the 30% requirement for female directors, early adopters are seen by various stakeholders as socially responsible companies that emphasises good governance. This then improves the stakeholders' perspective towards the company and leads to more invested interest. Apart from a more positive company impression that is left on stakeholders, women directors have also been observed to be more risk-averse and capable in certain areas which provide a good counterbalance when placed among male directors (Abdullah et al., 2012). A more holistic approach towards company management can be achieved with a higher female representation on the board. The contrasting result from previous studies conducted on data from the 2000s or 2010s supports the suggestion by Ahmad et al. (2019) that the results of earlier studies may have shown a negative relationship between women directors and firm performance as the firms were going through a transformation process, and a better performance is expected as the firms adapt to the requirements over time.

Directors with foreign qualifications positively affect firm performance in terms of EPS. This shows that having a foreign perspective on the board lead to better management of the company and profitability. A diverse board, along with a suitable board size, is meant to bring directors of different skills, experiences, background, and expertise to contribute towards better decision-making for the company. A diverse board with the right number of directors can benefit from innovative idea sharing and lead to better strategic planning for the company. Having a foreign perspective to complement a local company is a valuable asset.

## 5.4 Limitations of the Research

Among the limitations to this research include the small sample size that was used. As this study focuses on the Top 100 Bursa Malaysia listed companies, only 100 companies were selected. These 100 companies were selected by referencing MSWG's 2019 Top 100 Listed Companies for Overall CG and Performance hence the firm size and market capitalisation were not taken into consideration. Therefore, the results of this study provide an overview of companies that are already known for their good corporate governance practice, but not necessarily companies with the biggest market capitalisation or firm size where MCCG is compulsory to be complied with. While a better gauge between corporate governance and firm performance can be obtained from the present sample, a study based on top 100 Bursa Malaysia listed companies by market capitalisation may provide a different observation.

Another limitation of this research is the sample period that was chosen. The sample period of 2013 to 2019 was selected as 2013 was the year after MCCG 2012 was published and 2018 was the year after MCCG 2017 was published. While the 7-year period selected can provide an overview of the corporate governance landscape a decade after the MCCG 2000 was published, the study does not show the entire landscape i.e., how corporate governance has changed from 2000 to 2019.

Year 2020 was also not selected to be part of the sample period even though it would have provided evidence following the publishing of MCCG 2017 as the COVID-19 pandemic caused various lockdown and triggered huge economic losses which will undoubtedly affect the data for firm performance.

## 5.5 Recommendations for Future Research

As this research focused only on the Top 100 listed companies ranked by MSWG as the Top 100 Listed Companies for Overall CG and Performance, future studies may want to conduct extensive research on data from 2000 to 2019, including all listed companies on Bursa Malaysia. This would be able to provide a complete overview on the corporate governance landscape in Malaysia from the initiation of MCCG 2000 right up to 2019. However, future research may see a need to exclude data from 2020 and 2021 as firm performance is likely severely affected by the COVID-19 pandemic which will provide an incorrect correlation of corporate governance and firm performance.

The above research can also be separated to study corporate governance practices within the large companies as indicated by MCCG 2017 and MCCG 2021. Starting from the MCCG 2017, it was highlighted in the code that certain practices are only applicable to large companies. For a company to be defined as a large company, it must either be in the FTSE Bursa Malaysia Top 100 Index, or have a market capitalisation of RM2 billion and above. This research will be able to gauge the MCCG adoption rate among large companies following 2017.

On top of conducting full research involving all Bursa Malaysia listed companies from 2000 to 2019, it would also be good to identify the government-linked companies, government-linked investment companies, as well as family-owned companies to assess if firm performance is affected by corporate governance practice in these companies, as it would in other listed companies without these influences from the government or family.

## 5.6 Conclusion

Corporate governance has been in the spotlight ever since Malaysia struggled to recover from the Asian Financial Crisis in 1997 and 1998. Better corporate governance was seen as the solution towards better management of the company

to prevent recurrence of an economic disaster. Malaysia in its efforts to improve its corporate governance system developed the MCCG 2000 and its subsequent revisions to ensure listed companies abide by corporate governance best practices. Following the release of MCCG 2012, corporate governance practices has been accepted and adopted by 81 of Malaysia's top listed companies.

This study was conducted with the primary objective to examine the impact of corporate governance on the firm performance of Malaysia's top 100 public listed companies. The top 100 public listed companies were selected from MSWG's 2019 ranking of the Top 100 List Companies for Overall CG and Performance, and after filtering out companies with incomplete data; the final sample size was 81 companies. Corporate governance was represented by 6 independent variables i.e., CEO duality, board size, board independence, number of board meetings, number of women directors, and number of directors with foreign qualifications. Firm performance was represented by 3 dependent variables i.e., earnings per share (EPS), Tobin's Q (TOBQ), and return on equity (ROE).

Results from the descriptive analysis concluded that compliance rate is high among the listed companies with only 1 company out of 81 was found still practicing CEO duality, and the average board independence has met the 50% requirement suggested by the MCCG 2017 before it was published. However, female representation in the board of directors is still severely lacking with only an average of 18% women directors instead of the code-recommended 30%. Although this is a vast improvement compared to the percentage of women directors that was observed at least a decade ago, more efforts must be taken by the listed companies to ensure the 30% quota is met. It is highly recommended for listed companies to increase the number of women directors on their board of directors as the current study has provided evidence that the presence of women directors has positively affected firm performance.

A lack of study on directors with foreign qualifications in Malaysia provided a limited comparative view of the trend to nominate directors with foreign qualifications on the board of companies. At present, there is average of 82.3%

directors with foreign qualifications sitting on the board of Malaysia's top 100 listed companies indicating that these companies value the diverse experience, perspective, and background that a foreign director or local director with foreign qualification are able to bring to the table. It was also evidenced that directors with foreign qualifications have a significant relationship on firm performance. However, this observation may be fortified with future Malaysian studies in this area.

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APPENDICES

Appendix A
Top 100 Companies for Overall CG and Performance – 2019 (By Rank)

| | | | |
|---|---|---|---|
| 1 | **Malayan Banking Bhd** | 51 | **Chemical Company of Malaysia Bhd** |
| 2 | **Petronas Dagangan Bhd** | 52 | **Hengyuan Refining Company Bhd** |
| 3 | **British American Tobacco (Malaysia) Bhd** | 53 | **Gas Malaysia Bhd** |
| 4 | **Petronas Chemicals Group Bhd** | 54 | **QL Resources Bhd** |
| 5 | **AMMB Holdings Bhd** | 55 | Econpile Holdings Bhd |
| 6 | **Digi.com Bhd** | 56 | **Sunway Real Estate Investment Trust** |
| 7 | **Allianz Malaysia Bhd** | 57 | **IJM Plantations Bhd** |
| 8 | Sime Darby Plantation Bhd | 58 | **Deleum Bhd** |
| 9 | **RHB Bank Bhd** | 59 | **Gadang Holdings Bhd** |
| 10 | Sunway Construction Group Bhd | 60 | Matrix Concept Holdings Bhd |
| 11 | Sime Darby Property Bhd | 61 | Ranhill Utilities Bhd (aka Ranhill Holdings Bhd) |
| 12 | **Malaysia Building Society Bhd** | 62 | **Malaysian Resources Corporation Bhd** |
| 13 | **BIMB Holdings Bhd** | 63 | **IHH Healthcare Bhd** |
| 14 | **Top Glove Corporation Bhd** | 64 | GDB Holdings Bhd |
| 15 | **Petronas Gas Bhd** | 65 | **Press Metal Aluminium Holdings** |
| 16 | Sime Darby Bhd | 66 | **Misc Bhd** |
| 17 | **Astro Malaysia Holdings Bhd** | 67 | **DRB-HICOM Bhd** |
| 18 | **Telekom Malaysia Bhd** | 68 | **KLCC Property Holdings Bhd** |
| 19 | **Tenaga Nasional Bhd** | 69 | **RCE Capital Bhd** |
| 20 | **Alliance Bank Malaysia Bhd** | 70 | OSK Holdings Bhd |
| 21 | **IJM Corporation Bhd** | 71 | **Bumi Armada Bhd** |
| 22 | **Sunway Bhd** | 72 | Nova Wellness Group Bhd |
| 23 | **Public Bank Bhd** | 73 | **Malaysia Airports Holdings Bhd** |
| 24 | **LPI Capital Bhd** | 74 | **KUB Malaysia Bhd** |
| 25 | **Syarikat Takaful Malaysia Keluarga Bhd** | 75 | Eco World International Bhd |
| 26 | **UMW Holdings Bhd** | 76 | **Dufu Technology Corp Bhd** |
| 27 | **Axiata Group Bhd** | 77 | **Affin Bank Bhd** |
| 28 | **Yinson Holdings Bhd** | 78 | **Leon Fuat Bhd** |
| 29 | **S P Setia Bhd** | 79 | **Uchi Technologies Bhd** |
| 30 | **Westports Holdings Bhd** | 80 | 7-Eleven Malaysia Holdings Bhd |
| 31 | **Nestle (Malaysia) Bhd** | 81 | **Inari Amertron Bhd** |

| | | | |
|---|---|---|---|
| 32 | **Heineken Malaysia Bhd** | 82 | **Velesto Energy Bhd** |
| 33 | **Cahya Mata Sarawak Bhd** | 83 | Datasonic Group Bhd |
| 34 | **Maxis Bhd** | 84 | **Kumpulan Perangsang Selangor Bhd** |
| 35 | Bermaz Auto Bhd | 85 | Rhone Ma Holdings Bhd |
| 36 | **Paramount Corporation Bhd** | 86 | **AWC Bhd** |
| 37 | **Carlsberg Brewery Malaysia Bhd** | 87 | **Lingkaran Trans Kota Holdings Bhd** |
| 38 | Hibiscus Petroleum Bhd | 88 | IOI Properties Group Bhd |
| 39 | **Hong Leong Bank Bhd** | 89 | **Hong Leong Financial Group Bhd** |
| 40 | **Duopharma Biotech Bhd** | 90 | **Kuala Lumpur Kepong Bhd** |
| 41 | **IOI Corporation Bhd** | 91 | Mynews Holdings Bhd |
| 42 | **Vitrox Corporation Bhd** | 92 | **SEG International Bhd** |
| 43 | **Tune Protect Group Bhd** | 93 | **Berjaya Sports Toto Bhd** |
| 44 | **AEON Credit Service (M) Bhd** | 94 | **Dutch Lady Milk Industries Bhd** |
| 45 | **Fraser & Neave Holdings Bhd** | 95 | **Apex Healthcare Bhd** |
| 46 | **UEM Sunrise Bhd** | 96 | **JF Technology Bhd** |
| 47 | **KPJ Healthcare Bhd** | 97 | **Gabung AQRS Bhd** |
| 48 | **Hartalega Holdings** | 98 | **Genting Plantations Bhd** |
| 49 | **Time Dotcom Bhd** | 99 | Mi Technovation Bhd |
| 50 | **UEM Edgenta Bhd** | 100 | **Kenanga Investment Bank Bhd** |

**Companies in bold form sample data**

Note. From MSWG website