THE DETERMINANTS OF THE PROFITABILITY OF MALAYSIAN PUBLIC LISTED COMPANIES

ULFANA NISA ADLINA

MASTER OF SCIENCE IN FINANCE
UNIVERSITI UTARA MALAYSIA
January 2015

THE DETERMINANTS OF THE PROFITABILITY OF MALAYSIAN PUBLIC LISTED COMPANIES

BY

ULFANA NISA ADLINA

813062

Research Paper Submitted to
Othman Yeop Abdullah Graduate School of Business,
Universiti Utara Malaysia,
In Partial Fulfillment of the Requirement for the Master of Science (Finance)

Declaration

I declare that the substance of this research paper has never been submitted for any degree or postgraduate program and qualifications.

I certify the all the support and assistance received in preparing this research paper and the entire source abstracted have been acknowledged in this stated research paper.

ULFANA NISA ADLINA

813062

Othman Yeop Abdullah
Graduate School of Business
Universiti Utara Malaysia
06010 Sintok
Kedah Darul Aman

Permission to Use

In presenting this research paper in partial fulfillment of the requirements for a Post Graduate degree from the Universiti Utara Malaysia (UUM), I agree that the Library of this university may make it freely available for inspection. I further agree that permission for copying this research paper in any manner, in whole or in part, for scholarly purposes may be granted by my supervisor(s) or in their absence, by the Dean of Othman Yeop Abdullah Graduate School of Business where I did my research paper. It is understood that any copying or publication or use of this research paper parts of it for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the UUM in any scholarly use which may be made of any material in my research paper.

Request for permission to copy or to make other use of materials in this research paper in whole or in part should be addressed to:

Dean of Othman Yeop Abdullah Graduate School of Business
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman

Abstract

This study explores the determinants of public listed companies' profitability in Malaysia during the financial crisis period in 2008. Return on assets (ROA) is used as a measurement for company profitability while for independent variables, the company specifics determinants (internal factor) and macroeconomic determinant (external factor) are used to determine the company profitability. The company specific determinants are size, liquidity, leverage, and sales growth while for macroeconomic determinant, gross domestic product (GDP) is used. This study utilizes a sample of 161 companies listed in Bursa Malaysia for over the period 2001-2012. All sectors are included in this sample except financial sector because their nature of reporting business is different from the ordinary sectors. The data are analyzed using Ordinary Least Squares (OLS) and fixed effects estimation. The findings show that leverage has a negative and significant relationship with the ROA, implying that companies that have low debt ratio will have higher profit. On the other hand, size, liquidity, and sales growth have a positive and significant relationship with the ROA, indicating that, bigger size companies, highly liquid companies, and companies that able to generate higher sales will have more profits. As for macroeconomic determinant GDP and 2008 dummy are not significant, indicating that the profitability of Malaysian public listed companies is not affected by the economic condition and 2008 global financial crisis.

Keyword: firm specific determinants, GDP, global financial crisis, company profitability, ROA.

Abstrak

Kajian ini mengkaji penentu keuntungan syarikat tersenarai awam di Malaysia di dalam tempoh krisis kewangan pada tahun 2008. Pulangan atas aset (ROA) digunakan sebagai ukuran untuk keuntungan syarikat manakala bagi pembolehubah bebas, penentu khusus syarikat (faktor dalaman) dan penentu makroekonomi (faktor luaran) digunakan untuk menentukan keuntungan syarikat. Penentu khusus syarikat adalah saiz, kecairan, *leverage*, dan pertumbuhan jualan manakala bagi penentu makroekonomi, keluaran dalam negara kasar (KDNK) digunakan. Kajian ini menggunakan sampel 161 syarikat yang tersenarai di Bursa Malaysia untuk tempoh dari 2001-2012. Sampel ini mengandungi semua sektor kecuali sektor kewangan kerana pelaporan perniagaannya adalah berbeza daripada sektor biasa. Data yang diperoleh dianalisis menggunakan *Ordinary Least Squares (OLS*) dan kesan anggaran tetap *(fixed effects).* Dapatan kajian menunjukkan bahawa *leverage* mempunyai hubungan yang negatif dan signifikan dengan ROA, membayangkan bahawa syarikat-syarikat yang mempunyai nisbah hutang yang rendah akan mempunyai keuntungan yang lebih tinggi. Sebaliknya, saiz, kecairan, dan pertumbuhan jualan mempunyai hubungan yang positif dan signifikan dengan ROA, yang menunjukkan bahawa, syarikat-syarikat yang mempunyai saiz yang lebih besar, mempunyai kecairan tinggi, dan syarikat-syarikat yang mampu menghasilkan jualan yang lebih tinggi akan mempunyai lebih banyak keuntungan. Bagi penentu makroekonomi, KDNK dan pembolehubah 2008 adalah tidak signifikan, menunjukkan bahawa keuntungan syarikat-syarikat tersenarai awam Malaysia tidak terjejas oleh keadaan ekonomi dan 2008 krisis kewangan global.

Keyword: determinan spesifik perusahaan, GDP, krisis keuangan global, profitabilitas perusahaan, ROA.

Acknowledgements

Bismillahirrohmanirrohim, Alhamdulillahirobbilalamin I can finally finish this research paper. This research paper would not have been completed without the help of Allah SWT. First of all, I would like to give thanks to Allah SWT through His infinite grace and mercy to make it possible for me to complete this research paper. I would like to express my deepest gratitude to my supervisor, Dr. Azirabinti Abdul Adzisfor her patience, guidance, motivation and assistance in this research paper. For all it's worth, this experience would eternally be attached in my memory.

I owe a lot to my family, especially my parents Abdul Basith, and Sofia for their support in every aspect for the whole period of the study. Special thanks to my sister,SitiKhairinaNisaShabrina for the moral support and encouragement. I pray that we all will remain blessed.

Lastly, I would also like to give special thanks to my lovely friend Audi TatiaSudhana and Andheisza N Asrialdi for their never ending encouragement. I also extend my gratitude to my friends: HasrinaPuspitasari, MeutiaMeirifiansyah, AyuWidiatiPuspitasari, Mawaddah Mohamad, DianiParamitaAyuningtyas, Vera Aulia and many other friends for all the effort in this project.

Thank you very much and May Allah gives His blessing for all of us.

Tableof Contents

List of Tables

Listof Figures

CHAPTER 1

INTRODUCTION

1.1 Background ofthe Study

Finance theory outlining that the ultimate goal of a company is to maximize shareholder wealth (Jensen, 2002); this is because shareholders provide funds to the company. In this respect, shareholder wealth is measured by multiplying the stock price per share and number of shares outstanding. This means that the shareholder wealth will be reflected in the value of the company, which is indicated by the relevant company's share price on the stock exchange. Shareholder wealth maximization as the goal of the company will facilitate the measurement of the performance of a company. If the stock price of a company shows an increasing trend in the long run, it indicates that the company performance is good.

Besides stock market price, shareholders usually see the company's success by its financial condition and financial performance. The common questions asked by the shareholders are; is management generating adequate profits on the company's assets? How does the company finance its assets? In this respect, Van and Wachowicz (2008) highlight that profitability ratio is a popular measurement of the efficiency of the company's performance.

In previous study, the most common measurement used to evaluate company's profitability is return on assets (ROA). The higher the ratio of net income to total assets means the better the company performance (Goddard et al., 2005). In previous literature on determinants of company performance, several variables are considered to be the determinants of company profitability, namely size of the company, liquidity ratio, leverage ratio, and sales growth (e.g. Shepherd, 1972; Hall and Weiss, 1967;

Fiegenbaum and Karnani, 1991; Goddard et al., 2005; Jónsson, 2008; and Stierwald, 2009). They are called company specific determinants. GDP (gross domestic product) also used to determine company profitability, because company profitability also affected by external factor of the company.

Size as a part of company specific determinants is really important to determine company profitability. Company size can increase the value of the company, where the large size of the company will provide an indication of the rapid company's development, which denotes the larger the size of the company, the greater the company's profits will be. On the other hand, liquidity ratio and sales growth also in line with the size of the company relationship with the profitability of the company that is the greater the liquidity and sales growth ratio, the higher the profit of the company, because liquidity ratio shows the company can meet its short-term obligation. After it can fulfill its short-term obligation, then it can be seen how the profitability of the company. As for the sales growth, increased sales growth ratio indicates the development of the company. The bigger the development of the company, the greater the profit will be.

Meanwhile for leverage ratio that also the determinant of company profitability, there is inverse relationship with profitability of the company. The higher leverage ratio will make the profit lower. When the company has high leverage ratio, it means the company has higher debt than assets so it rely much on debt. When the companies have much debt, they have to settle their debt first before they calculate the profit.

Another factor for determinants of company profitability is macroeconomic condition which is measured by GDP. There are many studies considers GDP as

determinant for company profitability (e.g. Shepherd, 1972; Hall and Weiss, 1967; Fiegenbaum and Karnani, 1991; Goddard et al., 2005; Jónsson, 2008; and Stierwald, 2009).

This study examines the company specifics and macroeconomic factor that determine the profitability of Malaysian public listed companies. In addition, since the period of study covers 2008 global financial crisis, this study investigates whether global financial crisis which occurred in 2008 affect the Malaysian public listed company profitability.

1.2 Problem Statement

The economics of finance literatures acknowledge various determinants of company profitability. Shepherd (1972) and Goddard et al. (2005) suggest that size of the company has negative impact on company profitability. On the contrary, Zeitun and Tian (2007), Saliha and Abdessatar (2011), and Mihajlov (2014) indicate that size has a positive impact on company profitability. In terms of sales growth, Davidsson et al. (2009) suggest that sales growth has a negative relationship with company profitability while Chandler and Jansen (1992), Glancey (1998), and Mendelson (2000) argue that the sales growth is positively related to company profitability.

In terms of leverage, Burja (2011) suggests that leverage have positive impact towards company profitability, meanwhile Lincoln et al. (1996), Kaplan et al (2006), Zeitun and Tian (2007), and Nicolescu (2010) provide evidences that leverage have negative impact on company profitability. On the other hand, liquidity which is also part of determinant of company profitability has a positive impact on company profitability as reported by several empirical studies (Goddard et al., 2005;

Chanderand Priyanka, 2008; and Mihajlov, 2014). Conversely, Rajčaniova and Bielik (2008) and Serrasqueiro and Nunes (2008) provide evidences that liquidity has a negative impact to company profitability.

On macroeconomic determinant of company profitability, Marak and Chaipoopirutana (2014) conclude that there is a positive relationship between macroeconomic factors such as GDP on company profitability. In contrast, MohdZaid et al. (2014) find that the GDP is negatively or not significant at all to company profitability.

The mixed findings of the above studies left interesting questions relating to possible factors that determine the company profitability in Malaysian public listed companies. Do size, leverage, liquidity, and sales growth influence Malaysian company profitability? Do gross domestic product (GDP) as macroeconomic determinant and 2008 global financial crisis give an impact to company profitability in Malaysia?

1.3 Objective ofthe Study

With the given background, the objective of this study is to investigate the determinants of Malaysian public listed company profitability from 2001-2012 .

1.4 Significanceofthe Study

This study differs from previous studies in several ways. First, this study employs twelve years length period (2001-2012) to analyze factors that influence company profitability in Malaysia. The period chosen includes the global financial crisis which

occurred in 2008. Therefore the findings would provide an insight into the impact of 2008 global financial crisis on Malaysian public listedcompanies' profitability.

Second, this study extends previous works by focusing on public listed companies in Malaysia as there are relatively little studies have been done on examining the determinants of the profitability of public listed companies in Malaysia. The findings will add to the existing literatures on developing countries particularly Malaysia.

1.5 Scopeand Limitations ofthe Study

This study investigates the determinants of public listed companies' profitability in Malaysia. In order to answer the research objectives, this study uses 161 public listed companies in Malaysia. Period of the study is from 2001-2012. However, this study suffers from several limitations.

First, time constraint as this study should be completed within four months only. Second is data limitation. Some companies do not have enough data to be used in this study. Last is, the sample of this study is limited to Malaysian public listed companies, so the result cannot be generalized to other countries.

1.6 Organizationof the Study

The organization of this study is as follows. Chapter 2 reviews the previous literature. Chapter 3 develops the hypotheses and discusses the methodology that justifies the data, sample, and appropriate technique of analysis used to answer the research objectives. Chapter 4 presents the results and discusses the findings. Finally, Chapter 5 concludes the study; give the limitations, and suggestions for future study.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the previous literature related to the factors that may affect company profitability. Specifically, this chapter contains three sections. Section 2.1 explains about the organization of this chapter. Section 2.2 discusses the relationship between company specifics and macroeconomic determinant on company profitability. Section 2.3 is conclusion of this chapter.

2.2 Company Specificsand Macroeconomic Factor

There are many studies that examine factors influencing company profitability in countries all around the world (Hall and Weiss, 1967; Shepherd, 1972; Fiegenbaum and Karnani, 1991; Lincoln et al., 1996; Johnson and Mitton, 2002; Goddard et al., 2005; Kaplan et al., 2006; Jónsson, 2008; Zeitun and Tian, 2007; Davidsson et al., 2009; Nicolescu, 2010; Burja, 2011; Jang and Park, 2011; Saliha and Abdessatar, 2011; Akbas and Karaduman, 2012; Dogan, 2013; Kebewar, 2013). All of these studies examine company specific determinants on company profitability, where company profitability is usually measured by return on assets. Those empirical studies yield mixed findings due to the differences in datasets used, period of study, and economic background. In summary, the common variables for company specific determinants are size, liquidity, leverage, and sales growth.

2.2.1 Return on Assets (ROA)

There are a lot of methods to measure company's profit, for examples return on asset (ROA), return on sales (ROS), return on capital investment (ROI), return on equity (ROE), and Tobin's Q. ROA is one of the profit measurement which indicate the company's ability to generate profit as a result of the efficient management and of the productive use of resources, and it is used as a dependent variable in the assessment of economic performance (Burja, 2010).

ROA is widely used approach by previous studies in the past to measure profitability. Keats and Hitt (1988) and Chen and Church (1996) highlight that ROA is one of the most widely used measures of performance and it has been shown to be associated with a variety of other indicators of financial performance of the company.

2.2.2 Size of the Company

Size of the company is one of the criteria considered by investors in investing strategies (Kadapakkam et al., 1998; and Audretsch and Elston, 2002); it means they see the size of the company first before doing an investment. According to Fiegenbaum and Karnani (1991), large companies enjoy many advantages such as bargaining power with distributors and suppliers, economies of scale, experience curve effects, recognition of the brand, and a power to set prices above the competitive level, so the size of the company considered as an important thing that investors consider before investing. Audretsch and Elston (2002) consider company size determines the relationship between growth and profitability. According to them, when company size decreases the profitability will also decreases, which also decreases the growth of the company.

Besides that, Lee (2009) suggests that large companies tend to be more profitable than small companies. The reason is larger companies tend to be more efficient in operation and production by avail the benefit of economies of scale than smaller companies. This means that the failure in profitability is more likely to attack a smaller company in a recession time. Small companies are likely to experience higher volatility in their rate of return than large companies (Baumol, 1962). Stierwald (2009) reveals that size of the company significantly improve the performance of the company. The positive and significant result of company size determines that larger companies are more profitable.

Furthermore, Pervan et al. (2012) propose that company size variable should be included into the model for two reasons. First, economic literature suggests that higher the profitability the larger the companies, which mean that when the company's size grows, the company's profit also grew. Second, the size of total assets may act as a barrier to entry to smaller companies. Akbas and Karaduman (2012) also propose that size has been considered as an important determinant of the company profitability. Moreover, Mistry (2012) suggests big size companies will enjoy greater return because of lower cost.

On the contrary, according to Goddard et al. (2005) and Serrasqueiro and Nunes (2008), an increase in size can reduce company profitability. Larger size of the company defines a greater need for formality in the relationships between people who participating in the activity of the company, which means the possibility of lack of control of management action from the owners.

On the other hand, Capon et al. (1990) highlight that size of company is unrelated to financial company profitability. Wu (2006) emphasize that there is no

significant relationship between size and profitability of the company. The evidence suggests that company size has virtually no effect on financial performance. Mihajlov (2014) also agree that the type of correlation between company size and profitability is unclear.

After the mixed results above, based on economic theory, usually apositive result expected for company size and profitability relationship (Mistry, 2012). Therefore, this study expects positive relationship between size and profitability in Malaysian public listed companies.

2.2.3 Liquidity

Liquidity ratio is a ratio used to analyze and interpret short-term financial position. High liquidity reflects the ability of a company to settle its short-term liabilities when they fall due and it is valuable for additional borrowing (Mihajlov, 2014). This ratio is very useful for management to check the efficiency of working capital used in the enterprise as well as for long-term creditors and shareholders to determine the prospects for dividend and interest payments in the future.

Benito and Vlieghe (2000) suggest that low liquidity explains low profitability. Companies that remain liquid is likely to have the flexibility to be able adapt quickly to changing environment. This ability to adapt seems likely to have a beneficial effect on company profitability.

In a similar way, Goddard et al. (2005) highlight that liquidity shows how the company is able to respond to sudden changes in its environment quickly. Therefore, high liquidity lessens risk exposure of being unable to meet short-term financial

obligations. So they conclude that liquidity have positive impact towards company profitability.

In addition, Mateev and Anastasov (2010) emphasize that companies which have a low liquidity will have more cash constraints. When the company have cash constrains, it will experience more difficulty in paying suppliers. As supported by Beekman and Robinson (2004) study, good cash cycle start with healthy working capital and good relationships with suppliers. A company that unable to hold a certain level of liquidity will be struggle. Furthermore, Gill and Mathur (2011) expect that companies that have higher liquidity will face less financing constraints. Mistry (2012) suggests that the company which has lower liquidity is considered to have insufficient margin of safety and poor profitability.

On the contrary, Rajčaniova and Bielik (2008) argue that if a company has a lot of liquid assets, this may diminish its ability to meet favorable investment opportunities. That is why they expect the relationship between liquidity and company profitability to be negative. Serraqueiro and Nunes (2008) also emphasize the level of liquidity negatively determines company profitability. Mihajlov (2014) also agree that profitability rises with decreased liquidity. If a company maintains high levels of current assets, as a result of this strategy a lower profitability is expected due to its holding costs.

With that contradict results; this study expects this variable will have positive relationship with profitability in Malaysian public listed companies. Hence, companies that remain liquid is likely to have the flexibility to be able adapt quickly to changing environment which placing them in much stronger position to maintain high profitability.

2.2.4 Leverage

Leverage ratio is the ratio used to determine the company's assets financed with debt. Sayilgan et al. (2006) emphasizes that leverage is used to investigate its associations with company profitability.

According to Opler and Titman (1994), companies that have low leverage usually attain larger market share than companies that have high leverage. When a company's leverage increases, the company tend to be difficult to survive when the sales are falling, this could cause the lower profitability.

In addition, Zeitun and Tian (2007) show that higher leverage level can cause lower company profitability.Serrasqueiro and Nunes (2008) agree that the negative relationship between leverage and company profitability shows the greater relevance of agency problems between creditors and owners. High leverage also means greater level of risk to not be able to meet its obligations on time and lower level of security. This related to small companies that imply greater efforts to pay off the obligation and can reduce the company profitability.

Furthermore, Lincoln et al (1996) emphasize that leverage is negatively related to profitability. In addition, Fama and French (1998) also highlight that their controls for profitability tend to leave negative marginal relations between value and leverage, changes in leverage, and changes in debt. Nagy (2009) suggest that higher debt can lead to bankruptcy if the companies fail to manage their interest rate risk and cash flow.

On the contrary, Stierwald (2009) argue if leverage ratio is greater thanone, it means the company use debtsas the source of financing. It shows the company has high profit,because profitable companies have easier access to debt financing and do

not rely much on equity capital. However, companies that have higher leverage endure greater risks of bankruptcy and should have higher profits to compensate stakeholders.

From the results above, it can be concluded that the results of the most empirical studies support the general idea that lower debt level decreases the insolvency risk and increases a company's profitability. Therefore this study expects leverage negatively determines profitability in Malaysian public listed companies.

2.2.5 Sales Growth

Sales growth ratio is ratio that measures a company's ability to maintain its economic position in the economic and industrial growth. There are mixed result regarding the relationship between sales growth and company profitability. First, several studies (Shuman and Seeger, 1986; Markman and Gartner, 2002; and Goddard et al., 2004) suggest there is no significant relationship between growth rate (in sales or employees) and company profitability. Therefore these studies conclude that growth rate and company profitability are independent for each other.

Second, several studies (Chandler and Jansen, 1992; Glancey, 1998; Mendelson, 2000; Cowling, 2004; Zeitun and Tian, 2007; and Jang and Park, 2011)suggest that sales growth has significant positive relationship with company profitability.

Lastly, Davidsson et al. (2009) emphasize that sales growth has have negative impact on companies' profitability. According to their study, high growth rates can decrease profitability. The greed to grow more will produce less profit. That means when the company to grow bigger, it will produce less profit.

Based on the theoretical frame-work and the review of empirical literature, this study will expect positive relationship between sales growth and company profitability, because when the levels of sales growth increase, it means the company's income is also increase then the profit will also increase.

From the review of the existing literature, the findings produce mixed results. Table 2.1 summarizes the findings of previous literature related to company specific determinants on company profitability.

Table 2.1
Summary of Findings on Company Specific Determinants on Company Profitability

Author(s)	Variables	Findings
Benito and Vlieghe (2000)	DV: ROC IV: liquidity	Liquidity (+)
Capon et al. (1990)	DV: firm performance IV: market share, growth, R&D, advertising, size, and capital investment	Growth (+) Size (-)
Davidsson et al. (2009)	DV: ROA IV: sales growth	Sales growth (-)
Goddard et al. (2005)	DV: ROA IV: size, market share, company's gearing ratio, and liquidity	Size (-) Market share (+) Company's gearing ratio (-) Liquidity (+)
Jang and Park (2011)	DV: profit rate IV: sales growth rate	Sales growth rate (+)
Lincoln et al. (1996)	DV: ROA IV: leverage	Leverage (-)
Mihajlov (2014)	DV: ROA and operating profit margin IV: liquidity, size, leverage, and growth	Liquidity, size, and growth (+) Leverage (-)
Rajčaniova and Bielik(2008)	DV: ROA IV: size, market share, gearing ratio, liquidity	Size (+) Liquidity (-)
Stierwald (2009)	DV: company profitability IV: productivity level, lagged profit, company size, leverage	Lagged profit, productivity level, company size (+) Leverage (not signif.)
Zeitun and Tian (2007)	DV: ROA, ROE, Tobin's Q IV: sales growth, leverage, size, tax, risk, tangibility	Leverage and risk (-) Sales growth, tax, and size (+)

2.2.6 Gross Domestic Product (GDP)

There are several studies that examine the impact of gross domestic products on several aspects such as retail banking integration and corporate governance. However, there are not many studies that examine the impact of GDP on company profitability.

Marak and Chaipoopirutana (2014) examine the determinant of companies' profitability in Thailand for over the period 2003-2012. The result suggest that GDP have a positive relationship with company profitability which measured by ROA and ROE.

Meanwhile MohdZaid et al. (2014) examine the determinant of companies' profitability in Malaysia over the period 2000-2012. The results show that GDP does not influence company profitability which measured by ROE. Although MohdZaid et al. (2014) also examine Malaysian company; the differences from this study are the variables. They use ROE as a dependent variable, meanwhile this study use ROA as a dependent variable as for measurement of company profitability. For the independent variables, they use capital structure, liquidity, size as internal factor, while economic cycle, interest rate, GDP as external factor whilst this study use size, liquidity, leverage, sales growth as internal factor and GDP as external factor that determine company profitability.

This study fills the gap by examining the impact of GDP on Malaysian company profitability, as very little evidence or studies that include macroeconomic factors as determinant of company profitability in Malaysia. Previous studies usually use banking sector as a sample. This study assumes that GDP has a positive relationship on company profitability.

. Table 2.2 summarizes the findings of previous literature related to macroeconomic determinants (GDP) on company profitability. As can be seen in Table 2.2, there are very little studies that examine the impact of company macroeconomics factors on company profitability.

Table 2.2
Summary of Findings on Company Macroeconomic Determinants on Company Profitability

Authors	Variables	Findings
Marak and Chaipoopirutana (2014)	DV: ROA and ROE IV: Internal: assets, capital, debt, liquidity External: GDP, inflation	GDP is positive and statistically significant to company profitability.
MohdZaid et al. (2014)	DV: ROE IV: Internal: capital structure, liquidity, size External: economic cycle, interest rate, GDP	GDP and interest rate: non-significant to company profitability.

2.3 Conclusion

This chapter has discussed company specific determinants and macroeconomic factor as variables that will be used in analysis in next chapters. The discussion highlights size, liquidity, leverage, sales growth, and GDP as main variables for the analysis, while ROA become independent variable. This chapter also provides tables which summarizes the findings of previous literature.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter highlights the research methodology of this study. The theoretical framework and related research hypothesis are explained. Section 3.1 explains about the organization of this chapter. Section 3.2 describes the research framework which focus on determinants of company profitability in Malaysian public listed companies while relate it with the global financial crisis period. Section 3.3 explains the hypothesis development. Section 3.4 discusses the research design. Section 3.5 explains the variables used, Section 3.6 defines the data used and Section 3.7 describes the selected sample used in this study. Section 3.8 explains the data analysis. Section 3.9 explains the regression model on the determinants of company profitability and Section 3.10 provides a conclusion of the chapter.

3.2 Research Framework

In order to build theoretical framework, this study need to be certain about the research question, objectives and literature review of this study. Theoretical framework is formulated to identify and assess the relationship among the several variables. However, the theoretical framework (Figure 3.1) in this study give emphasize on global financial crisis 2008 that possibly will have influence on company profitability in Malaysian public listed companies.Hence, the dependent variable is company profitability which measured by return on assets (ROA); the independent variables are size of the company, leverage, sales growth, liquidity, and

GDP; and for control variables are global financial crisis 2008 and industry sectors in Malaysia.

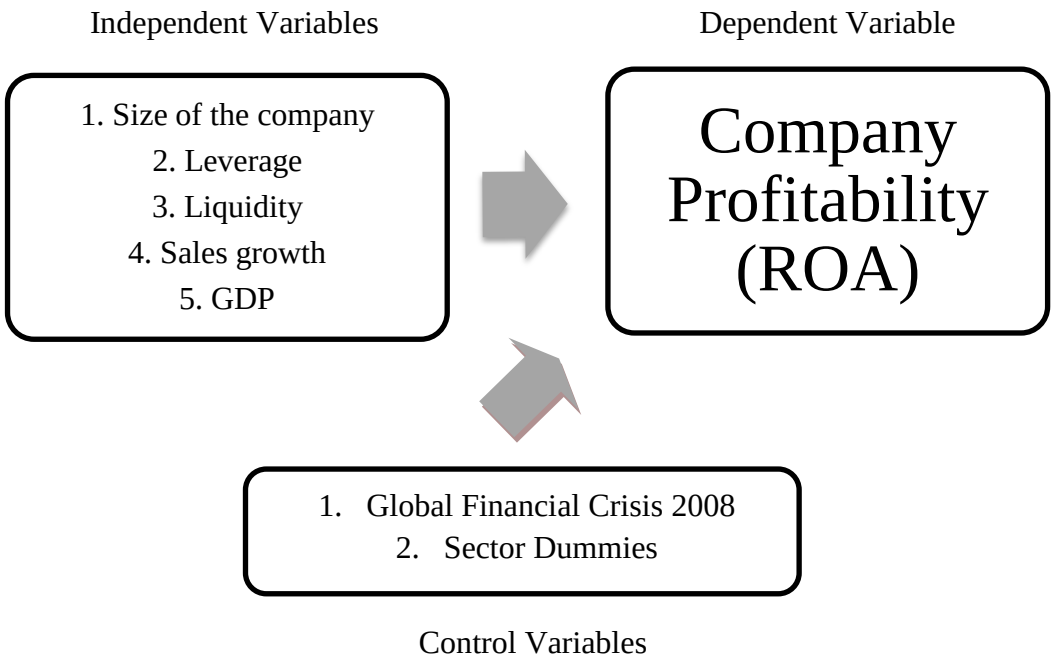

Figure 3.1:
Research Framework

3.3 Hypotheses Development

3.3.1 Relationship of Size of the Companywith Company Profitability (ROA)

Zeitun and Tian (2007) who use Jordan as sample of study, Saliha and Abdessatar (2011) who use Tunisia, Akbas and Karaduman (2012), and Dogan (2013) who use Turkey, emphasize that size positively determines company profitability. So, this study expects size will has positive relationship with company profitability.

From the previous studies regarding the impact of size on company profitability, the hypothesis 1 will be as follows:

H1: size of the company positively determines company profitability (ROA) in Malaysian public listed companies.

3.3.2 Relationship of Liquidity with Company Profitability (ROA)

Goddard et al. (2005) who use Belgium, France, Italy and, UK as sample of study and Mihajlov (2014) who use Serbia, agree that liquidity positively determines company profitability. Therefore, this study expects liquidity will has positive relationship with company profitability.

From the previous studies regarding the impact of liquidity on company profitability, the hypothesis 2 will be as follows:

H2: liquidity positively determines company profitability (ROA) in Malaysian public listed companies.

3.3.3 Relationship of Leverage with Company Profitability (ROA)

Lincoln et al. (1996) who use Japan as sample of study, Zeitun and Tian (2007) who use Jordan, Nagy (2009) and Nicolescu (2010) who use Romania, highlight that leverage is negatively company profitability. Thus, this study expects leverage will has negative relationship with company profitability.

From the previous studies regarding the impact of leverage on company profitability, the hypothesis 3 will be as follows:

H3: leverage negatively determines company profitability (ROA) in Malaysian public listed companies.

3.3.4 Relationship of Sales Growth with Company Profitability (ROA)

Zeitun and Tian (2007) who use Jordan as sample of study, and Mihajlov (2014) who use Serbia, emphasize that sales growth positively determines profitability. So, this study expects sales growth will has positive relationship with company profitability.

From the previous studies regarding the impact of sales growth on company profitability, the hypothesis 4 will be as follows:

H4: sales growth positively determines company profitability (ROA) in Malaysian public listed companies.

3.3.5 Relationship of GDP with Company Profitability (ROA)

Gross domestic product (GDP) is measure by an annual percentage change of Malaysian GDP by industrial origin. GDP growth is use as a control for cyclical output effects; where it is expect to have a positive influence on company profitability. As GDP growth slows down during recessions, defaults increase, and credit quality deteriorates, thus reducing company returns. Marak and Chaipoopirutana (2014) find a positive correlation between GDP and company profitability. Thus, this study expects that GDP has a positive relationship with company profitability.

From the previous study regarding the impact of GDP on company profitability, the hypothesis 5 will be as follows:

H5: GDP positively influence company profitability in Malaysian public listed companies.

3.4 Research Design

A research design is a plan comprehends the procedure for data and information collection and analysis methodology, to make sure the suitability of the answers, as suggested by Zikmund (2003). Here, the main purpose of this study is to determine company profitability in Malaysian public listed companies.

3.4.1 Type of Study

This study utilizes a research base on quantitative method which aims to examine numbers of phenomenon or problems in the form of quantities (Zikmund. 2003). Quantitative analysis characteristically analyzes numbers and figures which is suitable for measuring the variables using a nominal rating scale.

3.4.2 Source of Data

The researcher runs this study by utilizing secondary data. Data for all variables are taken from Datastream while the list of Malaysian public listed companies is taken from main board of Bursa Malaysia website.

3.5 Variables Measurement

This sub section explains about the measurement of all variables used in the analysis of this study. There are three kinds of variables used in this study. First is dependent variable which measure by return on assets (ROA) as a measurement of company profitability. Second are independent variables which consist of company specifics (size of company, liquidity, leverage, and sales growth) and GDP as the macroeconomic determinant. The last is control variables which consist of 2008

global financial crisis and sectors dummies in Malaysia. These variables are also included in the regression model.

3.5.1 Dependent Variable

The dependent variable for this study is company profitability which measured by return on assets (ROA). However, there are several measurements of ROA. According to Lincoln et al. (1996), Goddard et al. (2005) and Jaffe et al. (2005), ROA measured by net income before tax divided by total assets. On the other hand, Brigham and Houston (2006) used the ratio of net income after interest and taxes to total assets to measures ROA. So the formula would be earning after interest and tax divided by total assets. This formula also used by Burja (2010) and Akbas and Karaduman (2012).

After two different formulas mentioned above, this study will use net income before tax divided by total assets as a measurement of ROA as used by Lincoln et al. (1996), Goddard et al. (2005) and Jaffe et al. (2005). This is because tax rate is changing every year. So this study will use net profit before tax which is reflecting the real profit of the company.

Table 3.1
Summary of Dependent Variable

Variables (Symbol)	Measurement of Variables
Return on Assets (ROA)	Net income before taxes to total assets

3.5.2 Independent Variables

3.5.2.1 Size of the Company

In terms of measurement for company size, the indicators that can be used as a measurement of size of the company are total assets, total sales, market value capitalization, number of employees and various other parameters. Although there are several measurements of company size, natural logarithm of total assets is commonly used by previous literatures (Shepherd, 1972; Goddard et al., 2005; Lee, 2009; Saliha and Abdessatar, 2011; Akbas and Karaduman, 2012; and Pervan et al., 2012). Therefore, this study uses natural logarithm of total assets as a measurement of company size.

3.5.2.2 Liquidity

There are several measurements of liquidity ratio, namely current ratio, cash ratio and quick ratio. Goddard et al. (2005) measure liquidity by current ratio which is calculated by current assets divided by current liabilities. Mateev and Anastasov (2010) and Mistry (2012) also measure the level of liquidity with a current ratio. Meanwhile Loi and Khan (2012) measure liquidity by quick ratio. They define quick ratio as current assets minus inventories and then divided by current liabilities.

Although there are several measurements of liquidity ratio, this study will use current ratio as the formula which commonly used by previous literatures (Goddard et al., 2005; Mateev and Anastasov, 2010; and Mistry, 2012). Therefore, the formula will be current asset divided by current liability.

3.5.2.3 Leverage

Total debt to total capital assets, total debt to equity ratio, the time interest earned ratio, and long-term debt to equity ratio are the several measurements of leverage ratio. Rajan and Zingales (1995) measure leverage ratio by long term debt divided by the sum of long term debt and equity. This formula reflects the percentage of long term debt in the capital structure of the company. Meanwhile Lincoln et al (1996), Zeitun and Tian (2007), Nagy (2009), and Burja (2011) use debt to equity to measure leverage ratio.

Although there are several measurements of leverage ratio, this study will use total debt divided by total assets as the formula which commonly used by previous literatures (e.g. Johnson and Mitton, 2002 and Gill and Mathur, 2011).

3.5.2.4 Sales Growth

There are many ways to measure the sales growth ratio, one of them is by current year's sales minus previous year's sales then dividing the number of previous year's sales.

Dobson and Gerrard (1989), Zeitun and Tian (2007), Lee (2009), and Jang and Park (2011) define company growth as the growth in sales which measured by percentage in sales growth. While Markman and Gartner (2002) measure sales growth becauseof the agreement that sales are the best growth measure. On the other hand, Titman and Wessel (1988), Sutton (1997), and Safarova (2010) measures growth as a logarithm of changes in sales.

Although there are several measurements of growth of sales, this study will use percentage in sales growth as the measurement which commonly used by previous

literatures (e.g. Dobson and Gerrard, 1989; Zeitun and Tian, 2007; Lee, 2009; and Jang and Park, 2011).

From all the explanations of independent variables measurements used in this study, Table 3.2 summarizes the measurements and expected sign of independent variables.

Table 3.2
Summary of Independent Variables

Variables (Symbol)	Measurement of Variables	Expected Sign
Size of Company (SIZE)	Natural Log of Total Assets	+
Liquidity (LIQ)	Current Assets/Current Liabilities	+
Leverage (LEV)	Total debt/Total assets	-
Sales Growth (SGR)	1 year growth rate of net sales	+
Gross Domestic Product (GDP)	Annual percentage change of Malaysian GDP	+

3.5.3 Control Variables

Table 3.3 summarizes the measurements and expected sign of control variables for this study.

Table 3.3
Summary of Control Variables

Variables (Symbol)	Measurement of Variables	Expected Sign
Global Financial Crisis 2008 (DUM08)	1 = 2008; 0 = 2001-2007, 2009-2012	-
Sector Dummies: 1. Consumer Products (CP) 2. Construction (CONS) 3. Hotels (HT) 4. Industrial Products (IP) 5. Properties (PROP) 6. Plantations (PLANT) 7. Technology (TECH) 8. Trading /Services (TS)	1 for sector of 1 company, the rest are 0. (e.g. ASB: 1 = trade/services; 0 = another sectors)	

3.6 Data Collection

This study use company's financial data extracted from balance sheet, cash flow statement, and ratio summary of the selected companies. The company's financial information which relate to all the dependent and independent variables was obtained from Datastream. On the other hand, macroeconomic data, such as Gross Domestic Product (GDP), are taken from the World Development Indicators (WDI).

The period of analysis is from 2001 to 2012. This period thus covers the global financial crisis which occurred in 2008. For analysis of the data, regression analysis was applied using SPSS version 16.0 and Gretl. The final data set consists of 1,932 observations.

3.7 Sample

There are 817 companies listed in main board of Bursa Malaysia. However, out of 817 companies, only 161 companies are used in this study. The selected companies should fulfill the following filters:

1. Financial companies are excluded (insurance, banks, and other miscellaneous financial companies) as the accounting practices for banks and financial companies are different from those for industrial companies.
2. The companies must report the financial statements with fiscal year end 31st December.
3. The companies must have complete data for all variables (size of a company, liquidity, leverage, sales growth, ROA) for the period 2001-2012.

3.8 Data Analysis

The data are being analyzed in this study by using Statistical Package for the Social Science (SPSS, version 16.0) to measure relationship and difference between variables in this study. This study also uses excel to find the descriptive statistic and use Gretl as statistical software to run the fixed effect regression of the models. Main purpose of this study is to examine hypotheses regarding relationship between company specifics and macroeconomic determinant with profitability of the company which measured by ROA, whether the determinants will positively or negatively affect company profitability. This analysis uses OLS (ordinary least square) regression to test the hypotheses.

3.9 Regression Model

The model that will be used in this study has been modified to follows the basic model developed by Goddart et al. (2005) to test the determinants of public listed companies' profitability in Malaysia:

Model 1: $ROA = \beta_1 + \beta_2 SZ_{it} + \beta_3 LQ_{it} + \beta_4 LV_{it} + \beta_5 SGR_{it} + \beta_6 GDP_t + U_{it}$

Model 2: $ROA = \beta_1 + \beta_2 SZ_{it} + \beta_3 LQ_{it} + \beta_4 LV_{it} + \beta_5 SGR_{it} + \beta_6 GDP_t + \beta_7 DDUM08_{it} + U_{it}$

Model 3: $ROA = \beta_1 + \beta_2 SZ_{it} + \beta_3 LQ_{it} + \beta_4 LV_{it} + \beta_5 SGR_{it} + \beta_6 GDP_t + \beta_7 DSEC_i + U_{it}$

Where:

ROA = company's financial performance over time. This variable is indicated by Return on Asset (ROA).

$\beta_2 - \beta_6$= Regression coefficients for measuring independent variables:

SZ_{it} = Size of the company *i* at the year *t*

LQ_{it} = Liquidity of the company *i* at the year *t*

LV_{it} = Leverage of the company *i* at the year *t*

SGR_{it} = Growth of sales of the company *i* at the year *t*

GDP_t= Gross Domestic Product at year *t*

$B_7 - \beta_8$= Regression coefficients for measuring dummy variables:

$DUM08_{it}$ = Global Financial Crisis 2008 at year *t*

SEC_i= Sector of the company *i*

U_{it} = the error term of the regression

This study extends previous work by focusing on Malaysian public listed companies which exclude banks and insurance companies.

3.10 Conclusion

This chapter has cover main features on the methodology that will be use to conduct this study later on. An appropriate research methodology has been chosen based on previous study to adjust with the requirement to achieve the result that could fulfill the objective of this study. Theoretical framework and hypotheses development, development of research design, data collection, and data analysis has been disclosed properly in this section.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the result of thestudy on thedeterminants of companyprofitabilityof Malaysian public listed companies.It divided into five sections, Section 4.1 explains about the organization of this chapter. Section 4.2 explains the descriptive statistics for the deployed variables. Section 4.3 discusses the correlation analysis. Section 4.4 presents theregression output of the analysis, and Section 4.5 provides a conclusion of the chapter.

4.2 Descriptive Statistics

The descriptive statistics of the sample companies are presented in Table 4.1. It shows mean, standard deviation, minimum and maximum value. The average percentage of company performance which measured by ROA is 4.3% for the time period from 2001-2012. The standard deviation of ROA is 11.6%, minimum and maximum values are -117.2% and 194.8%, respectively. For determinant company performance, the mean of company size is 12.7, the minimum value is 9.3 and maximum value is 18.4. The average value of liquidity for the whole sample is3.1, indicating thatcompanies in Malaysia can be able to pay their short term obligations as their current asset is bigger. Average of leverage is approximately 40.9% while sales growth of the companyis0.158% on average. The minimum and maximum of sales growth are -0.99% and 28.449% respectively.

Table 4.1 also reports the mean of macroeconomic factor for over the period 2001 to 2012. The average growth rate of real GDP is approximately 4.7% (minimum -1.5% in year 2009 and maximum 7.4% in year 2010).

Lastly this table also provides the descriptive statistic of the sample, breakdown by sector. There are 8 sectors namely trading/services, consumer product, construction, hotel, industrial products, plantation, properties, and technology. The industrial products sector makes up the largest sector in the sample, which is 36%.

Table 4.1
Descriptive Statistics

Variable	Mean	Maximum	Minimum	SD
ROA	0.042845	1.948452	-1.1721	0.115762
Size	12.73592	18.45175	9.31443	1.251582
Liquidity	3.082673	253.0339	0.035223	8.895334
Leverage	0.408545	2.782987	0.003901	0.261952
Sales Growth	0.157512	28.44886	-0.999	1.129849
GDP	4.741667	7.4	-1.5	2.483738
DUM08	0.083333	1	0	0.276457
Trading / services	0.217391	1	0	0.412578
Consumer product	0.142857	1	0	0.350018
Construction	0.068323	1	0	0.252365
Hotel	0.012422	1	0	0.11079
Industrial products	0.360248	1	0	0.480197
Plantation	0.080745	1	0	0.272514
Properties	0.080745	1	0	0.272514
Technology	0.037267	1	0	0.189465

4.3 Correlation Coefficient Matrix

The correlation matrix for the variables is reported in Table 4.2. The correlation coefficient is obtained by examining the null hypothesis of no correlation between explanatory variables.

The result of the correlation analysis from all sample show that company size, liquidity, and sales growth are positive and significantly relate to return on asset (ROA). Meanwhile leverage show negative and significant relationship with ROA.

Table 4.2
Correlation Coefficient Matrix of Variables

2001-2012	ROA	SZ	LIQ	LEV	SGR	DUM08	TS	CP	CONS	HTL	IP	PLANT	PROP	TECH	GDP
ROA	1														
SZ	.232**	1													
LIQ	.112**	-0.041	1												
LEV	-.324**	-.078**	-.231**	1											
SGR	.076**	-0.005	.123**	-0.003	1										
DUM08	0.000	0.019	-0.024	0.013	0.038	1									
TS	0.027	.174**	0.028	-.081**	0.029	0.000	1								
CP	.112**	.069**	-0.04	-0.004	-0.036	0.000	-.215**	1							
CONS	-.077**	-0.007	-0.042	.226**	-0.005	0.000	-.143**	-.111**	1						
HTL	0.035	0.034	-0.018	-.047*	-0.018	0.000	-.059**	-.046*	-0.03	1					
IP	-0.036	-.184**	-.069**	0.043	-0.013	0.000	-.395**	-.306**	-.203**	-.084**	1				
PLANT	0.032	.056*	.174**	-.160**	0.008	0.000	-.156**	-.121**	-.080**	-0.033	-.222**	1			
PROP	-.059*	-.060**	0.02	-0.01	0.04	0.000	-.156**	-.121**	-.080**	-0.033	-.222**	-.088**	1		
TECH	-.054*	-0.043	-0.023	.046*	-0.016	0.000	-.104**	-.080**	-.053*	-0.022	-.148**	-.058*	-.058*	1	
GDP	0.022	0.029	-0.002	0.014	.060**	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1

***, **, and * indicate significance at 1, 5, and 10% levels.

Table 4.3
VIF test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-0.153	0.026		-5.89	0.000		
	size	0.019	0.002	0.209	9.729	0.000	0.932	1.072
	liquidity	0.001	0.000	0.054	2.457	0.014	0.904	1.106
	leverage	-0.133	0.01	-0.301	-13.555	0.000	0.875	1.143
	salesgrowth	0.008	0.002	0.075	3.573	0.000	0.976	1.025
	GDP	0.001	0.001	0.016	0.778	0.437	0.995	1.005
	dum08	0.000	0.009	-0.002	-0.089	0.929	0.997	1.003
	tradservices	-0.011	0.007	-0.04	-1.686	0.092	0.755	1.325
	consprod	0.025	0.008	0.077	3.348	0.001	0.819	1.22
	construction	-0.005	0.01	-0.011	-0.498	0.618	0.865	1.156
	hotel	0.014	0.022	0.013	0.614	0.539	0.972	1.029
	plantation	-0.018	0.01	-0.042	-1.838	0.066	0.837	1.195
	properties	-0.024	0.009	-0.056	-2.543	0.011	0.886	1.129
	technolgy	-0.02	0.013	-0.033	-1.539	0.124	0.94	1.064

a. Dependent Variable: ROA

The result of VIF test shows that there is no problem of multicollinearity as VIF value for all variables below than 10.

4.4 Regression Analysis

Table 4.4[1]
Regression Result

	Model 1	Model 2	Model 3	Model 4	Model 5
	Coeff. (p-val)	**Coeff. (p-val)**	**Coeff. (p-val)**	**Coeff. (p-val)**	**Coeff. (p-val)**
(Constant)	-0.158***	-0.158***	-0.153***	-0.157***	-0.237***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.007)
Size	0.019***	0.019***	0.019***	0.019***	0.024***
	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)
Liquidity	0.001**	0.001**	0.001**	0.001**	0.001*
	(0.045)	(0.045)	(0.014)	(0.045)	(0.094)
Leverage	-0.132***	-0.132***	-0.133***	-0.132***	-0.102***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Sales Growth	0.007***	0.007***	0.008***	0.007***	0.009***
	(0.001)	(0.001)	(0.000)	(0.001)	(0.004)
GDP	0.001	0.001	0.001	0.001	0.001
	(0.435)	(0.435)	(0.437)	(0.434)	(0.305)
DUM08		0.000			
		(0.925)			
Sectors Dummies			yes		
Pooled OLS	yes	yes	yes		
Fixed Effect				yes	
Time dummies					yes
R Square	0.156	0.156	0.171	0.156	0.560
Adjusted R Square	0.154	0.154	0.166	0.154	0.115
F-statistic	71.292	59.381	32.991	59.406	1.258
No. of observation	1932	1932	1932	1932	1932

Model 1: $ROA = \beta_1 + \beta_2 SZ_{it} + \beta_3 LQ_{it} + \beta_4 LV_{it} + \beta_5 SGR_{it} + \beta_6 GDP_t + U_{it}$

Model 2: $ROA = \beta_1 + \beta_2 SZ_{it} + \beta_3 LQ_{it} + \beta_4 LV_{it} + \beta_5 SGR_{it} + \beta_6 GDP_t + \beta_7 DDUM08_{it} + U_{it}$

Model 3: $ROA = \beta_1 + \beta_2 SZ_{it} + \beta_3 LQ_{it} + \beta_4 LV_{it} + \beta_5 SGR_{it} + \beta_6 GDP_t + \beta_7 DSEC_i + U_{it}$

Table 4.4 presents the regression results obtained from OLS and fixed effect estimation by using ROA as the dependent variable, to analyze the determinants of Malaysian public listed companies' profitability. It also estimates the influence

[1]The dependent variable is **ROA** calculated as net income before taxes to total assets. Independent variables are **size** which measured bynatural log of total assets; **liquidity** calculated as current assets to current liabilities; **leverage** calculated as total debts divided by total assets; **growth** is a measure of sales growth which measured by 1 year growth rate of net sales; **GDP** is gross domestic products; DUM08 is used as a proxy financial crisis. Values in parentheses are p-value. ***, **, and * indicate significance at 1, 5, and 10% levels.

ofmacroeconomic determinants as well as the 2008 global financial crisis on the profitability of Malaysian listed companies. The results is regressed and presented through 5 models; the first, second and third models are where all variables analyzed by OLS regression is considered, while fourth model is where the variables have been administered by fixed effect approach, and the last model is where the variables have been controlled by time dummies.

The result of first model shows that liquidity, size, and growth sales of the companies are significant and positively related with the ROA. The coefficient for leverage on the other hand is negative and significant. The positive relationship between size and ROA means the bigger the size of the companies, the better the performance would be. This result is consistent with Fiegenbaum and Karnani (1991), Serrasqueiro and Nunes (2008), and Lee (2009).

For liquidity, the relationship shows that highly liquid companies will have better performance that the others.The empirical findings seem to suggest that the more profitable company will have more current assets. This result meets the expectation and stands in line with the result of Benito and Vilanghe (2000), Goddard et al. (2005) and Mihajlov (2014).

As stated before, sales growth entered the regression model with a positive sign and is statistically significant at the 1 per cent level. The result implies that companies that sustain higher sales growth will have better profitability. This confirm findings from Zeitun and Tian (2007), and Jang and Park (2011).

Leverage is the only variable that has negative and significant relationship with the ROA. This negative relationship demonstrates that companies that have low leverage will have a better performance. This implies that companies that rely less on

debt as a source of financing will have high in profitability.This result is consistent with the finding of Lincoln et al. (1996), Zeitun and Tian (2007), Nagy (2009) and Nicolescu (2010).

For macroeconomic variable, GDP is not found to have a significant impact on company profitability (ROA) in Malaysia. The result shows that companies' performance in Malaysia is not influenced by macroeconomic conditions. This result is consistent with the finding ofMohdZaid et al. (2014).

Model 2 use the dummy financial crisis as control variable. The result from model 2 shows dummy financial crisis (DUM08) exhibits positive relationship with company profitability, but not statistically significant at any levels. This result implies that financial crisis on 2008 does not give an impact on performance of public listed companies in Malaysia.

Model 3 use sector dummies as control variables. The result for model 3 shows plantation and properties sectors performance are lower than the rest of category while consumer product is the best performance among all sectors in this sample. So overall the result for model 3 remains consistent with model 1 after controlling for sector dummies.

Model 4 and 5 use same model with model 1 but this study use fixed effect and time dummies as control variable for model 4 and 5 respectively. Same with previous models, the result remain consistent with first model.

Based on the all analyses, it can be concluded that size, liquidity, leverage, and sales growth greatly influence the profitability of listed companies in Malaysia.

4.5 Conclusion

This chapter has reported the analysis, results and provided a discussion of the findings. There are five models with one basic model. First model is the basic model with size of a company, liquidity, leverage, sales growth and GDP as the independent variables, where ROA is the dependent variable. Second model is a basic model controlled by2008 global financial crisis. Third model is a basic model controlled by sector dummies. Fourth model is basic model that run with fixed effect analysis. Last model is basic model with time dummies as a control variable. The result of all models is very robust. With all control variables, the basic model still has the same result.

The result of hypothesis 1 confirm that size of the company is positively determines company profitability in Malaysia. This is consistent with the previous findings of Zeitun and Tian (2007), Saliha and Abdessatar (2011), and Dogan (2013) that use Jordan, Tunisia, and Turkey as a sample country respectively.

Hypothesis 2 confirms that liquidity has positive relationship with company profitability in Malaysian listed companies. This is consistent with previous findings of Goddard et al. (2005) and Mihajlov (2014).

Hypothesis 3 confirms that leverage is negatively determines company profitability in Malaysia. This is also consistent with previous findings of Lincoln et al. (1996), Zeitun and Tian (2007), Nagy (2009) and Nicolescu (2010).

Hypothesis 4 also confirms there is positive relationship between company profitability and sales growth in Malaysian listed companies, which also consistent with previous findings of Zeitun and Tian (2007)and Jang and Park (2011).

Hypothesis 5 rejects that GDP as macroeconomic determinants influence company profitability in Malaysian companies. The result of the regression analysis in Section 4.3 shows that the GDP is not statistically significant for all models which the p-value is above 5%.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter concludes the findings and implications of the study, and provides suggestions for future research.

5.2 Conclusion

This study analyzes the determinants of profitability of Malaysian public listed companies during 2001-2012. Financial sector is excluded from this sample because their nature of business is different from the ordinary companies. This study utilizes both OLS and fixed effects estimation techniques to examine the determinants of Malaysian public listed companies' profitability. This study follows the work done by Goddard et al. (2005) who study about determinants of profitability in European manufacturing and services. The explanatory variables include the traditional variables used in other studies to represent company profitability specific determinants and gross domestic product (GDP) that serves as macroeconomic determinant. The previous studies were conducted mostly within developed and developing countries but less attention was given to Malaysia.

The first, second, and fourth hypotheses of this study are confirmed, where the size of the company, liquidity, and sales growth are positively determines company profitability in Malaysia. This means that large companies tend to be more profitable than small companies. The reason is larger companies tend to be more efficient in operation and production than smaller companies. In terms of liquidity, highly liquid companies explain high profitability. As suggested by Benito and Vlieghe (2000),

companies that remain liquid is likely to have the flexibility to be able adapt quickly to changing environment. This ability to adapt seems likely to have a beneficial effect on profitability of the company. As for sales growth, higher sales growth will make the better the profitability of the company, because when the levels of sales growth increase, it means the company's income is also increase then the profit will also increase.

The finding also confirms hypothesis 3 where leverage is negatively determines profitability of the company in Malaysia. This suggests that lower debt level decreases the insolvency risk and increases a company's profitability. As suggested by Opler and Titman (1994), when a company's leverage increases, the company tend to be difficult to survive when the sales are falling, this could cause the lower profitability. Surprisingly, the result shows that GDP is insignificant with the ROA, implying that macroeconomic condition does not influence company profitability in Malaysia. The result rejects hypothesis 5. This study also does further test by incorporating dummy 2008 to see whether global financial crisis in 2008 affects Malaysian company profitability. Similar to macroeconomic findings, the result suggests that 2008 global financial crisis does not affect company profitability in Malaysia.

The results remain consistent when the data re-analyzed using fixed effects estimation. Furthermore, controlling for time dummies and sector dummies also does not affect the results.

Generally the result of this study provides several interesting insights into profitability public listed companies in Malaysia. The findings of this study are relevant for several reasons. First, the estimation results confirm findings from former

studies on company profitability. Second, this study considers a set of company profitability and gross domestic product as a macroeconomic determinant of company profitability, which extends more knowledge of company profitability with respect to some important dimension. These extensions let this study to generate some new interesting findings. Third, this study considers the period of 2001-2012 and gains additional insights into the impact of global financial crisis on company profitability in particular.

5.3 Limitation of the Study

There are several limitations in this study. First, time constraint as this study should be completed within four months only. Second is data limitation. Some companies do not have enough data to be used in this study. Last is, this study's sample is limited to Malaysian public listed companies, so the result cannot be generalized to other countries.

5.4 Suggestion for Future Study

Based on the conclusion, there are some recommendations for further studies to improve this topic in the future.

This study has basically focused on a few of determinants of company profitability, GDP as macroeconomic factor, and financial crisis as control variables. In order to get more reliable results, the future study can extend the number of internal and external determinants of company profitability. That will make the results more precise.

To get more reliable data, future study can change the period of study. Perhaps, the future study can choose the data frequency on monthly or quarterly data, use more recent year or focus more on post financial crisis.

References

Akbas, H. E., &Karaduman, H. A. (2012). The effect of firm size on profitability: An empirical investigation on Turkish manufacturing companies. *European Journal of Economics, Finance and Administrative Sciences, 55*, 21-27.

Audretsch, D. B., &Elston, J. A. (2002). Does firm size matter? Evidence on the impact of liquidity constraints on firm investment behavior in Germany.*International Journal of Industrial Organization*, *20*(1), 1-17.

Baumol, W. J. (1962). On the theory of expansion of the firm. *The American Economic Review*, *52*(5), 1078-1087.

Beekman, A. V., & Robinson, R. B. (2004). Supplier partnerships and the small, high-growth firm: Selecting for success. *Journal of Small Business Management*, *42*(1), 59-77.

Benito, A., &Vlieghe, G. (2000).Stylised facts on UK corporate financial health: Evidence from micro-data. *Bank of England Financial Stability Review, 1*, 83-93.

Burja, C. (2011). Factors influencing the companies' profitability. *AnnalesUniversitatisApulensis Series Oeconomica*, *2*(13), 215-224.

Brigham, E. F., & Houston, J. F. (2006).*Fundamentals of Financial Management*. London: Thomson.

Capon, N., Farley, J. U., &Hoenig, S. (1990). Determinants of financial performance: A meta-analysis. *Management Science*, *36*(10), 1143-1159.

Chander, S., & Priyanka, A. (2008). Determinants of corporate profitability: An empirical study of Indian drugs and pharmaceutical industry. *Institute of Management Technology*,*12*(2), 51-61.

Chandler, G. N., & Jansen, E. (1992). The founder's self-assessed competence and venture performance. *Journal of Business Venturing*, *7*(3), 223-236.

Chen, K. C., & Church, B. K. (1996).Going concern opinions and the market's reaction to bankruptcy filings. *The Accounting Review*, *71*(1), 117-128.

Cowling, M. (2004).The growth–profit nexus. *Small Business Economics*, *22*(1), 1-9.

Davidsson, P., Steffens, P., & Fitzsimmons, J. (2009). Growing profitable or growing from profits: Putting the horse in front of the cart? *Journal of Business Venturing*, *24*(4), 388-406.

Dobson, S. M., & Gerrard, B. J. (1989).Growth and profitability in the Leeds engineering sector. *Scottish Journal of Political Economy*, *36*(4), 334-52.

Dogan, M. (2013). Does firm size affect the firm profitability? Evidence from Turkey. *Research Journal of Finance and Accounting*, *4*(4), 53-59.

Fama, E. F., & French, K. R. (1998).Taxes, financing decisions, and firm value. *The Journal of Finance*, *53*(3), 819-843.

Fiegenbaum, A., &Karnani, A. (1991).Output flexibility—a competitive advantage for small firms. *Strategic Management Journal*, *12*(2), 101-114.

Gill, A., &Mathur, N. (2011).The impact of board size, CEO duality, and corporate liquidity on the profitability of Canadian service firms. *Journal of Applied Finance and Banking*, *1*, 83-95.

Glancey, K. (1998).Determinants of growth and profitability in small entrepreneurial firms. *International Journal of Entrepreneurial Behaviour& Research*, *4*(1), 18-27.

Goddard, J., Molyneux, P., & Wilson, J. O. (2004).Dynamics of growth and profitability in banking. *Journal of Money, Credit, and Banking*, *36*(6), 1069-1090.

Goddard, J., Tavakoli, M., & Wilson, J. O. (2005). Determinants of profitability in European manufacturing and services: Evidence from a dynamic panel model. *Applied Financial Economics*, *15*(18), 1269-1282.

Hall, M., & Weiss, L. (1967).Firm size and profitability. *The Review of Economics and Statistics*, *49*(3), 319-331.

Jaffe, J., & Randolph Westerfield, R. (2005). *Corporate finance*. India: Tata McGraw-Hill Education.

Jang, S. S., & Park, K. (2011).Inter-relationship between firm growth and profitability.*International Journal of Hospitality Management*, *30*(4), 1027-1035.

Jensen, M. C. (2002). Value maximization, stakeholder theory, and the corporate objective function.*Business Ethics Quarterly*, *12*(2), 235–256.

Johnson, S., &Mitton, T. (2003). Cronyism and capital controls: Evidence from Malaysia. *Journal of Financial Economics*, *67*(2), 351-382.

Jónsson, B. (2008). Does the size matter? The relationship between size and profitability of Icelandic firms. *Bifröst Journal of Social Science*, *1*, 43-55

Kadapakkam, P. R., Kumar, P. C., & Riddick, L. A. (1998). The impact of cash flows and firm size on investment: The international evidence. *Journal of Banking & Finance*, *22*(3), 293-320.

Kaplan, C., Ozmen, E., &Yalcin, C. (2006). *The determinants and implications of financial asset holdings of non-financial firms in Turkey: An empirical investigation* (Report No. 06/06). Ankara, Turkey: Research and Monetary Policy Department.

Keats, B. W., &Hitt, M. A. (1988).A causal model of linkages among environmental dimensions, macro organizational characteristics, and performance. *Academy of Management Journal, 31*(3), 570-598.

Kebewar, M. (2013). The effect of debt on corporate profitability: Evidence from French service sector. Retrieved from http://arxiv.org/pdf/1301.0072

Lee, J. (2009). Does size matter in firm performance? Evidence from US public firms. *International Journal of the Economics of Business*, *16*(2), 189-203.

Lincoln, J. R., Gerlach, M. L., &Ahmadjian, C. L. (1996).Keiretsu networks and corporate performance in Japan. *American Sociological Review, 61*(1), 67-88.

Loi, T. H., & Khan, A. A. (2012).*Determinants of firm growth: evidence from Belgian companies.*Unpublished master's thesis, State University of Ghent, Kortrijk, Belgium.

Marak, D. R., &Chaipoopirutana, S. (2014, October 1-2). *The impact of micro and macro environment on profitability of technology companies in Thailand*. Paper presented at International Conference on Business, Law and Corporate Social Responsibility, Phuket, Thailand. doi: http://dx.doi.org/10.15242/ICEHM.ED1014055

Markman, G. D., & Gartner, W. B. (2002). Is extraordinary growth profitable? A study of Inc. 500 high-growth companies. *Entrepreneurship Theory and Practice*,*27*(1), 65-75.

Mateev, M., &Anastasov, Y. (2010). Determinants of small and medium sized fast growing enterprises in central and Eastern Europe: A panel data analysis. *Financial Theory and Practice, 34*(3), 269-295.

Mendelson, H. (2000). Organizational architecture and success in the information technology industry. *Management Science*, *46*(4), 513-529.

Mihajlov, K. D. (2014). Profitability during the financial crisis evidence from the regulated capital market in Serbia.*South-Eastern Europe Journal of Economics, 1*, 7-33.

Mistry, D. S. (2012).Determinants of profitability in Indian automotive industry. *Tecnia Journal of Management Studies*, *7*(1), 20-23.

Mohd Zaid, N. A., Wan Ibrahim, W. M. F., &Zulqernain, N. S. (2014, February 17-18). The determinants of profitability: Evidence from Malaysian construction companies. Paper presented at the Proceedings of 5th Asia-Pacific Business Research Conference, Kuala Lumpur, Malaysia (pp. 1-13).

Nagy, N. (2009). *Determinants of profitability: What factors play a role when assessing a firm's return on assets?* Unpublished master's project, The University of Akron, Ohio, United States.

Nicolescu, E. I. (2010). Analysis of determinant factors of a company's performance. Retrieved from http://www.dafi.ase.ro/revista/6/Nicolescu%20Elena%20Irina.pdf

Opler, T. C., & Titman, S. (1994). Financial distress and corporate performance. *The Journal of Finance*, *49*(3), 1015-1040.

Pervan, M., Pervan, I., &Todoric, M. (2012). Firm ownership and performance: Evidence for Croatian listed firms. *World Academy of Science, Engineering and Technology*, *6*(1), 820-826.

Rajan, R. G., &Zingales, L. (1995). What do we know about capital structure? Some evidence from international data. *The journal of Finance*, *50*(5), 1421-1460.

Rajcaniova M. &Bielik, P. (2008). Determinants of variations in firm-level performance. *ActaEconomicaetInformatica*,*1*, 1-4.

Saliha, T. &Abdessatar, A. (2011). The determinants of financial performance: An empirical test using the simultaneous equations method. *Economics and Finance Review*, *10*(1), 01-19.

Safarova, Y. (2010). *Factors that determine firm performance of New Zealand listed companies.* Unpublished master's dissertation, Auckland University of Technology, Auckland, New Zealand.

Sayılgan, G., Karabacak, H., &Küçükkocaoğlu, G. (2006). The firm-specific determinants of corporate capital structure: Evidence from Turkish panel data. *Investment Management and Financial Innovations*, *3*(3), 125-139.

Serrasqueiro, Z. S., &Nunes, P. M. (2008). Performance and size: empirical evidence from Portuguese SMEs. *Small Business Economics*, *31*(2), 195-217.

Shepherd, W. G. (1972). The elements of market structure. *The Review of Economics and Statistics*, *54*, 25-37.

Shuman, J. C., & Seeger, J. A. (1986).The theory and practice of strategic management in smaller rapid growth firms. *American Journal of Small Business*, *11*(1), 7-18.

Sutton, J. (1997). Gibrat's legacy. *Journal of Economic Literature*, *35*(1), 40-59.

Stierwald, A. (2009). *Determinants of firm profitability - The effect of productivity and its persistence*.Unpublished paper, The University of Melbourne, Melbourne, Australia.

Titman, S., &Wessels, R. (1988). The determinants of capital structure choice. *The Journal of finance*, *43*(1), 1-19.

Van Horne, J. C., &Wachowicz, J. M. (2005). *Fundamentals of Financial Management*.Pearson Education.

Wu, M. L. (2006). Corporate social performance, corporate financial performance, and firm size: A meta-analysis. *Journal of American Academy of Business*, *8*(1), 163-171.

Zeitun, R., & Tian, G. G. (2007). Capital structure and corporate performance: Evidence from Jordan. *Australasian Accounting Business and Finance Journal*, *1*(4), 40-61.

Zikmund, W.G. (2003). *Business research methods* (7th ed.). Mason: Thomson South-Western.