DETERMINANTS OF CAPITAL STRUCTURE: A COMPARATIVE STUDY IN MALAYSIA AND INDONESIA

BY

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MASTER OF SCIENCE

UNIVERSITI UTARA MALAYSIA

NOVEMBER 2014

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Thesis Submitted to

Othman Yeop Abdullah Graduate School of Business,

Universiti Utara Malaysia,

In Fulfillment of the Requirement for the Degree of

Master of Science in Finance

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ABSTRACT

The study investigates the determinants of the capital structure of 237 manufacturing firms listed in Malaysia and Indonesia stock exchange from 2005-2012. Ordinary least square and fixed effect model have been used to estimate the relationship between firm-specific determinants (firm size, profitability, tangibility, non-debt tax shields, liquidity and share price performance) and country-specific determinants (GDP growth, inflation and interest rate). The result suggests that firm-specific and country-specific determinant varies across Malaysia and Indonesia. The results show that firm size, tangibility, and non-debt tax shields are significantly and positively related to overall leverage and long-term leverage, while liquidity and share price performance are negatively related to leverage of Malaysian firms. For Indonesian firms, profitability, tangibility and non-debt tax shields are positively related to overall and long-term leverage, but firm size, liquidity and share price performance are negatively related to overall leverage and long-term leverage. Inflation is positively related to overall leverage under the fixed effect model, interest rate is negatively related to overall leverage, while GDP growth is negatively related with long-term leverage. The results also show that firm-specific factors play an important role in determining the capital structure before and after the 2008 financial crisis. The results of this study support the pecking order theory, the trade-off theory, market timing theory and the agency theory. The study has laid groundwork and detailed explanation about the determinants of capital structure in Malaysian and Indonesian manufacturing firms.

Keywords: Capital structure, Leverage, Financial crisis.

ABSTRAK

Kajian ini mengkaji penentu struktur modal untuk 237 firma pembuatan yang disenaraikan di bursa saham Malaysia dan Indonesia antara tahun 2005-2012. Kaedah kuasa dua terkecil biasa dan model kesan tetap telah digunakan untuk menganggarkan hubungan antara faktor spesifik syarikat (saiz firma, keuntungan, tangibiliti, '*non-debt tax shield*", kecairan dan prestasi harga saham) dan faktor spesifik negara (pertumbuhan KDNK, inflasi dan kadar faedah). Hasil menunjukkan bahawa faktor spesifik bagi syarikat dan faktor spesifik negara berbeza di antara Malaysia dan Indonesia. Hasil kajian menunjukkan bahawa saiz firma, tangibiliti, dan "*non-debt tax shield*" adalah signifikan dan berhubungan positif dengan keseluruhan leveraj dan leveraj jangkapanjang, tetapi kecairan dan prestasi harga saham berhubungan negatif dengan leveraj untuk syarikat-syarikat Malaysia. Untuk syarikat-syarikat Indonesia, keuntungan, tangibility dan "*non-debt tax shield*" berhubungan positif dengan keseluruhan leveraj dan leveraj jangkapanjang tetapi saiz, kecairan dan prestasi harga saham menunjukkan hubungan negatif dengan keseluruhan leveraj dan leveraj jangkapanjang. Inflasi mempunyai hubungan positif dengan keseluruhan leveraj di bawah model kesan tetap, kadar faedah mempunyai hubungan negatif dengan keseluruhan leveraj, sementara pertumbuhan KDNK mempunyai hubungan negatif dengan leveraj jangka panjang. Hasil kajian juga menunjukkan bahawa faktor spesifik syarikat memainkan peranan yang penting dalam menentukan struktur modal sebelum dan selepas krisis kewangan 2008. Hasil kajian ini menyokong ramalan teori "*pecking order*", teori keseimbangan, teori "*market timing*" dan teori agensi. Kajian ini telah meletakkan asas dan penjelasan terperinci tentang penentu struktur modal di firma-firma pembuatan di Malaysia dan Indonesia.

Kata Kunci: Struktur modal, Leveraj, Krisis kewangan.

ACKNOWLEDGEMENT

First of all, I would like to thank Almighty Allah who helped me in completing this thesis. It has been a long and tough journey with heavy storms; sometimes I would think it would never end. However, with help, encouragement and guidance from so many people, I was determined and have finally made it. I will never forget them and their kindness.

Secondly, I would like to express my gratitude to my supervisor, Associate Professor Dr. Rohani Md Rus, who has consistently inspired and guided me throughout my Master process. I have learnt a lot from her rich knowledge and experience. She has always been very supportive, even during times when I have been distracted and lost some concentration on my thesis.

Last but not least, I would not have come this far without the support of my family, My late mom, my father Hassan, my brothers Kayse and Yahye and my uncle Mohamed Dahir. My parents gave me support, encouragement, love and care since the day I was born. Their love for me is unconditional and will never end. They are the ones that keep me going and determined to reach this achievement. I feel so lucky and am proud to be part of this family. My appreciation goes to all my friends, who have always been there giving me moral support and sharing the tears, laughter and happiness together and have made my life in UUM a lot happier.

DEDICATION

I dedicated this research to my mother, Allahyarham Baar Dahir Ibrahim, “you are the inspiration and strength which keeps me going and continuously positive towards life challenges.”

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LIST OF ABBREVIATIONS

BNM	:	Bank Negara Malaysia
DOSM	:	Department of Statistics Malaysia
G-7	:	Group of seven
GDP	:	Gross domestic product
INF	:	Inflation
INT	:	Interest rate
PROF	:	Profitability
NDTS	:	Non-debt tax shields
LEV	:	Leverage
LLEV	:	Long-term leveage
LIQ	:	Liquidity
SPP	:	Share price performance
VIF	:	Variance inflation vector
OLEV	:	Overall leverage
US	:	United States
UK	:	United Kingdom

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter addresses and outlines the research agenda. It indicates the basis of the research. This chapter provides a clear snapshot on the background of the study, problem statement, research questions, research objectives, significance of the study, the scope of the study and lastly, organization of the study.

1.2 Background of the study

Over the past 40 years, the relationship between firm value and capital structure has been the most fascinating and debatable issue in the field of finance literature on both theories and empirical researches. Although company's financing behavior can influence the firm value, factors that determine the capital structure are also an important issue to address.

Capital structure can be defined as the way company finances its investment, which is the mix of equity and debt. Although debt and equity may likely be different in nature, but they match together as company's financing. The important thing is to emerge the best financing pattern that suit the business organization. Managers of the firm play a crucial role in selecting the debt to equity in order to maximize firm value. A wrong choice made by the management of the company may lead to financial distress and lastly to bankruptcy.

The results from past studies on capital structure choice stay inconclusive. Previous researchers have documented that determinants of capital structure are significant in the UK and in the US, but few researches have been done in other countries, particularly in developing countries. Therefore, important questions needed to be addressed is how far the theories and empirical evidences defined in developed countries can be applied to the developing countries such as South East Asian countries, particularly Malaysia and Indonesia. As such, this study will further investigate the determinants of capital structure by two countries in South East Asia namely, Malaysia and Indonesia. This study is very important as it develops our understanding of capital structure determinants in Malaysia and Indonesia. In the context of emerging countries, Booth et al. (2001) found that the relationship between firm-specific variables and capital structure choice in developing countries is same as those documented in developed countries. Nevertheless, they reported annual GDP growth effect leverage in different ways. This might be due to sample selection, whereby Booth et al. (2001) sample consists of countries that are regarded as a market oriented, which have many connections with advanced countries. Furthermore, this study separates the time period into pre-crisis and post-crisis in order to look at whether there are differences in the factors that determine the capital structure during that period.

This exciting debate began with the seminal paper by Modigliani and Miller (1958) which break the ground for the development of the theories and empirical studies. Modigliani and Miller's irrelevancy propositions argued that firm's financing policy is irrelevant under a restrictive set of conditions in the world of perfect capital markets.

They revealed that determinants of capital structure do not affect firm value. Nevertheless, in reality, perfect markets do not exist, and it is inexperienced to sum up that financing and investment decisions are unrelated. A number of theories have been successively been established with the relaxation of the assumptions of Modigliani and Miller's (1958) theory.

1.2.1 Performance overview of macroeconomic variables in Malaysia and Indonesia

Malaysia and Indonesia have an open economies that are part of the global world of market and investment. For both countries, trade across countries is most associated with the developed countries such as US, EU and Japan with nations it shares borders with, namely Asia Pacific. During the period 2000 to 2007, most of Asian countries such as Malaysia and Indonesia had their GDP growth rates very near that of 1997 during the Asian financial crisis. The year 2008 was marked global recession triggered by financial chaos in the US. The financial turbulence caused a drawback in the high performing developing economies for the last twenty years.

1.2.1.1 Annual GDP growth

In general, from the year 2005 to 2012, Malaysia has seen a steady real growth in GDP, with the highest growth of 7.2% in 2010. However, the world economy was brought down by the financial turmoil in 2009. Several countries had been seen in the crisis such as United State, Europe countries, Japan, Singapore and Malaysia. Malaysia's GDP growth rate decreased by 1.7 percent, driven by a sharp fall in manufacturing industries by -9.4 percent, whereas mining and extracting sector experienced decrease by 3.8

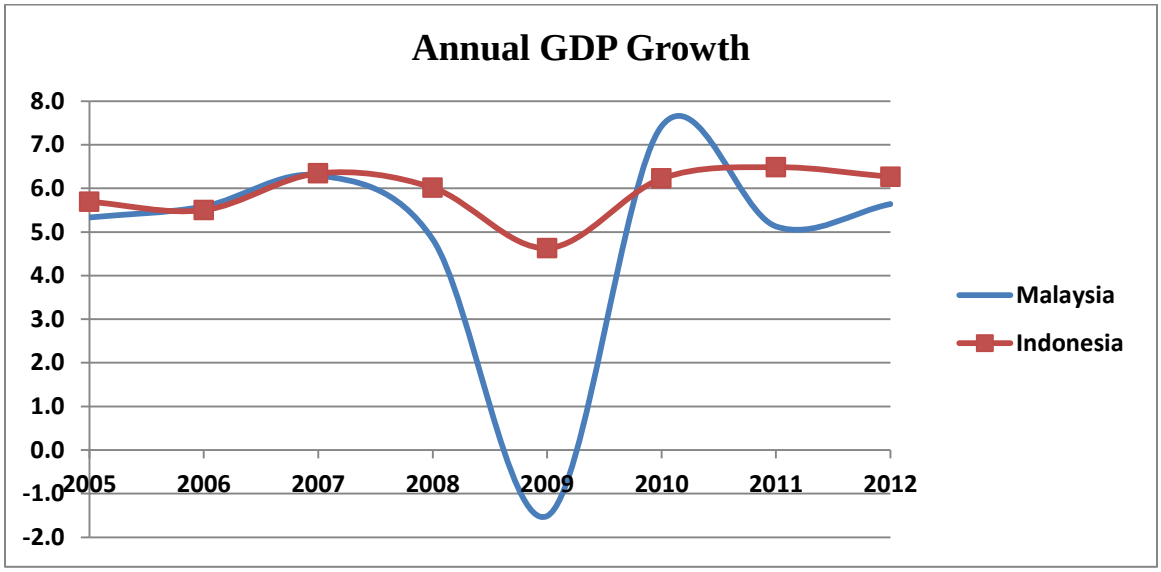
percent. Due to the improvement in the productivity in the construction and service sectors the overall downturn momentum was offset (Department of Statistics Malaysia, 2009). In addition, to external trade performance, Malaysian economic growth had been impacted in the same year by a fall in private investment because the drop in investment package among businesses. As a result, investment plans were reduced, while portfolio investors continue to stay on the sideline as evidenced by substantial net outflows in the second quarter of 2008.

However, Malaysia, has recovered very fast from the financial crisis. This is due to a huge excess balance of payment current account, a huge amount of external reserves and efficient banking, which has helped the present economic challenges. By September 30, 2009, the external reserve balance amounted to RM379.3 billion, which is enough to carried out nine months imports and is 4.1 times the overall short-term external borrowing. This is clearly different from the condition during the Asian Financial Crisis in 1997 where the external reserves decreased to as low as of 2.9 months of retained imports in October 1997 (Zahid and Afzanizam, 2009).

Even though, Indonesia's GDP growth dropped by 4.6 percent in 2009, compared to countries affected by the 2008 financial crisis, Indonesia's GDP was considered as the highest GDP growth performers across the world and ranked number three among G-20 economies (World Bank, International Monetary Fund and Statistics Indonesia, 2009). Inspite the acute decrease in commodity prices, a deteriorating stock market, a higher domestic and international bond yields and depreciating exchange rate in the foreign

exchange market, Indonesia still able to grow significantly. This good news was chiefly due to the contributions of Indonesian exports to the national economy, high market prospects and vigorous home consumption. Home consumption in Indonesia yields about two-thirds of the country's national economic growth. With the yearly increase of about seven million people being removed from lower class income bracket, Indonesia gets a consumer force that drives the economy and has triggered significantly increased domestic and foreign investments from 2010 onwards. Figure 1.1 illustrates Malaysian and Indonesian GDP annual growth covering from 2005 to 2012.

Figure 1.1 Indonesian and Malaysian GDP growth



Source: World Bank

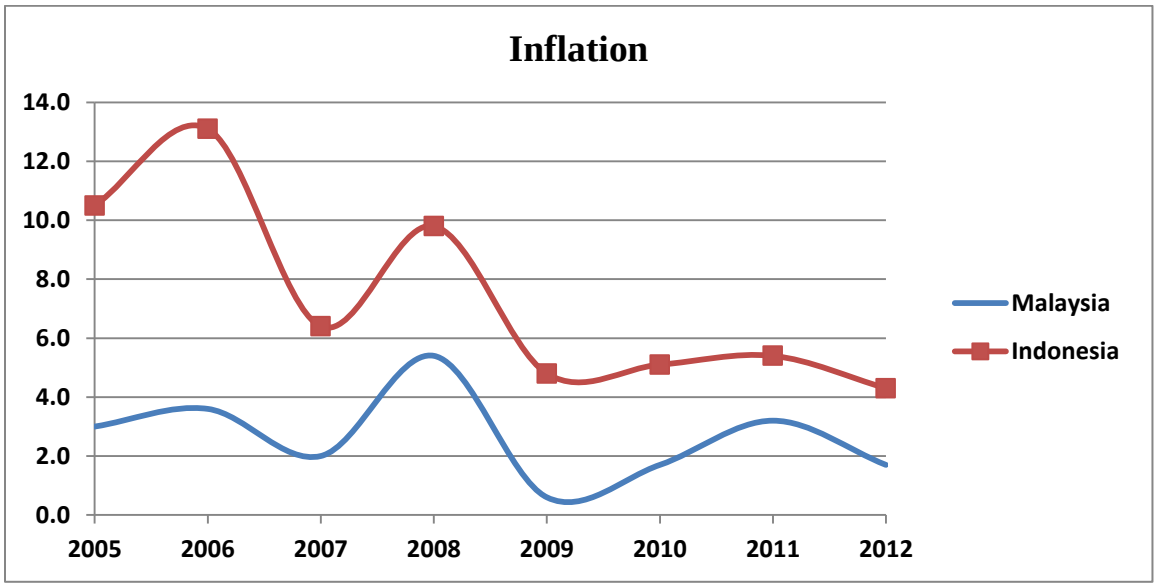
1.2.1.2 Inflation rate

Malaysia's inflation rate can be considered as very low over the last ten years. In 2005, the inflation rate was about only 1 percent, but it began to rise for the next two years, reaching 3 percent in 2007. From 2007, inflation growth rate increased dramatically to an

alarming rate of 8 percent in 2009. This sudden significant increase in inflation rate is due to the fact that imported goods become more expensive, because of the global recession. Since the price of imported goods was high, the prices of domestic goods were also raised, hence the high inflation rate. Apart from the year 2008, Malaysia managed its inflation rate at a very low. One of the reasons is due to the fact that Malaysian cost labour is low.

However, the volatility level of Indonesia's inflation rate has been recorded to be higher than that of other peer developing countries. Whereas, developing countries have an inflationary rate that range three to five percent from the period 2005 to 2012, Indonesia's inflation is valued at mean value of 8.5 percent in the same period. It increased dramatically in the last part of 2005 because of the increasing global oil price and accounted for the two-digit inflation rates between 10 and 14 percent till October 2006. Earlier in 2008, Reuters News reported inflation in Indonesia increased to two-digit number because the government increased fuel price subsidy. Indonesia's yearly mean inflation was seen as increasing to 11.2 percent from 6.6 percent in 2007. Figure 1.2 describes both Malaysian and Indonesian annual inflation rate covering from 2005 to 2012.

Figure 1.2 Malaysian and Indonesian annual inflation rate



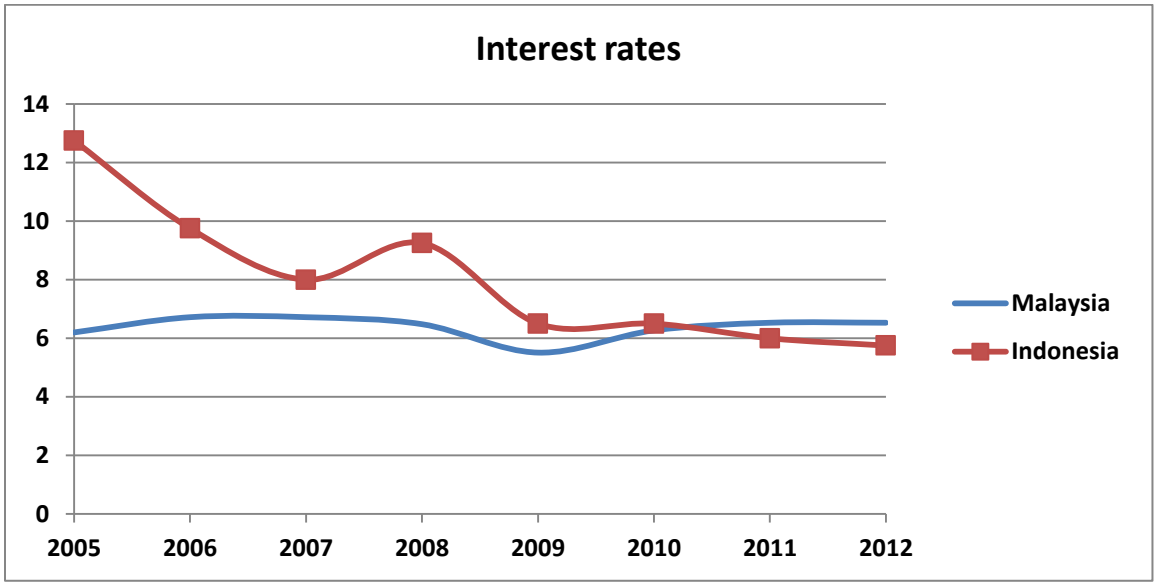
Source: World Bank

1.2.1.3 Interest rate

Unlike the 1997 Asian financial chaos the Malaysian banking sector during the last crisis in 2008 continues to be sound and less severely affected. The betterment of the Malaysian banking system in terms of portfolio loans accounted for its sound financial institutions. The actual non-performing loans had been consistently at around 3 percent in 2008 (Shuat, 2009). Although there was dwindling economic situation and distress in many financial institutions, banking system in Malaysia remains robust with marginal increase in the net performing loans. The average increase in net performing loans was 3.8 percent in 2007, 2.6 percent in 2008 and 2.2 percent in the three quarters of 2009 (Bank Negara Malaysia, 2009).

On the other hand, in 2006 Indonesia's interest rates was 13 percent per annum but continue to fall until 2008 at the rate of 8 percent. By the middle of 2008, the interest rate increased to the rate of 9 percent due to the 2008 financial crisis. The fall in the interest rate has been steady until 2012 at the rate of 7.8 percent. Figure1.3 illustrates Malaysian and Indonesian annual interest rates from 2005 to 2012.

Figure 1.3 Malaysian and Indonesian annual base lending rate



Source: World Bank

1.2.2 Global financial crisis in 2008

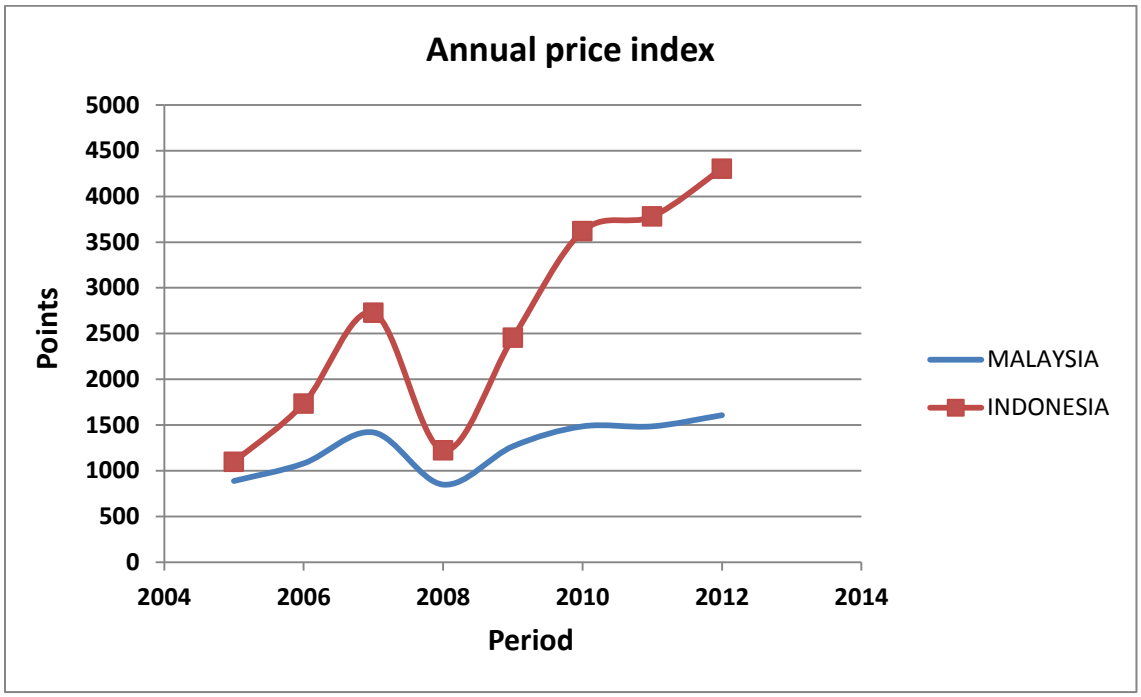
Most likely global financial crisis influenced the company's financing pattern due to the unpredictable changes in the economy. Global financial crisis in 2008 has a negative effect on growth in South East Asian countries. In comparison, to the Asian financial crisis in 1997, Asian countries did not have problems in their own banking sectors. However, in 2008 the problem started from the United States and European banking sectors, and this led to an economic crisis that cause import of US and Europe to decline

significantly. As such drop-in imports by US and European countries was a big hit in Asian countries who adopted export-oriented industrialization strategy.

The impact of the 2008 global financial downturn differed significantly across countries and less developed economies experienced severe crisis a raised from the United States. The crisis has affected the capital markets, particularly Malaysia and Indonesia, although it is not as severe as in 1997. The crisis had also influenced the investors, during that period, investors become more vigilant and more worried with the risk of companies they are investing. In order to support domestic currency, countries affected by 2008 crisis increase their interest rates and has resulted in a reduction of debt.

Figure 1.4 below shows monthly price index for the stock market in Malaysia and Indonesia. The figure 1.4 shows that the stock price index drop significantly during and after the 2008 global financial crisis. The graph shows that the financial crisis affected mostly in Jakarta stock market index and fell down rapidly from 2,600 points to 1,250 points, while Kuala Lumpur stock market index shrank dramatically from 1400 points to 860 points.

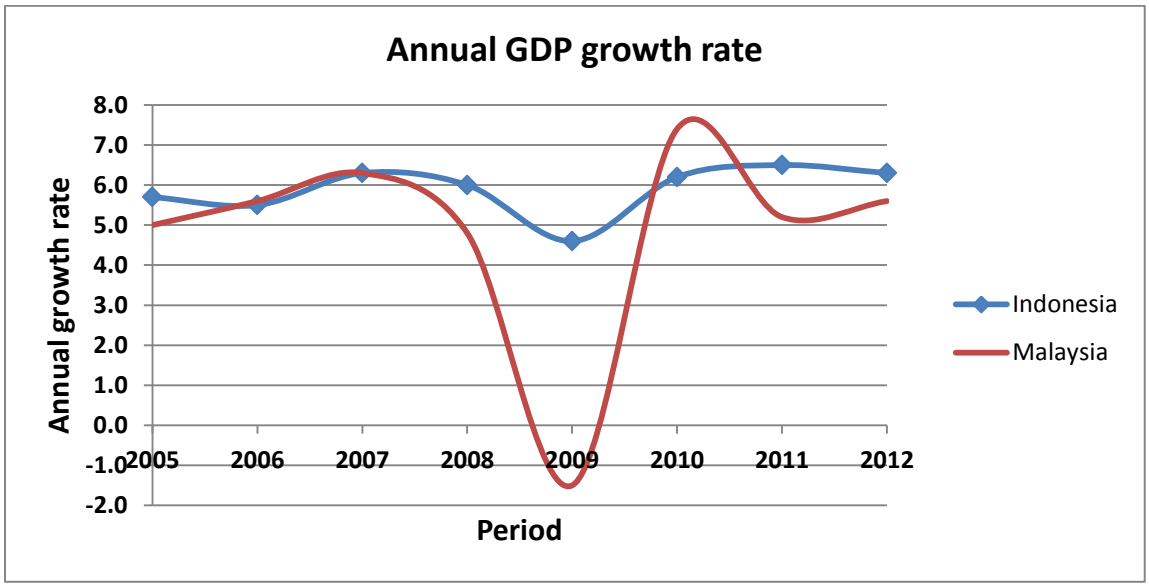
Figure 1.4 Malaysian and Indonesian stock market index



Source: Datastream

On the other hand, 2008 financial crisis also affected Malaysian and Indonesian GDP growth. Figure 1.5 demonstrates the annual GDP growth in Malaysia and Indonesia during and after the financial crisis. It shows that for both Malaysia and Indonesia gross domestic product growth, increase substantially before the financial crisis, however, during the crisis the GDP growth drop rapidly particularly in Malaysia. However, the graph indicates that the crisis affected Malaysia more than Indonesia whose GDP growth, decrease dramatically during the global financial crisis although is not severely affected.

Figure 1.4 Malaysian and Indonesian annual GDP growth



Source: World Bank

Arsiraphonghhisit et al. (2001) found that the financial crisis had significant influence on financial policies and practices in the Asia Pacific countries. In 1997 the financial system was very weak and easily broken. As such, companies find themselves unprotected to the variations in the economy following the financial crisis. Thus, it is vital to analyze the effect of financial crisis in 2008 on firm's capital structure choice. Therefore, this study examines if there are differences in the capital structure during pre-crisis and post-crisis in 2008.

The choice of these two countries as the sample of the study is contributed by several factors. Firstly, the existing empirical evidence on Asia Pacific regions does not compare the findings from one country to another country in the same region over the same period. Most existing researches are in a single country context. There are limited studies that

clearly compare debt to equity of companies in different countries and under different economies. Secondly, these two countries have been affected by the 2008 financial crisis, even though the degree of effect is quite lower compare to the Asian financial crisis in 1997. Therefore, this study also takes into account to examine if there are differences in the capital structure determinants pre-crisis and post-crisis in 2008. Thirdly, this study analyzes how macro-economic variables of the two selected countries affect the firm's capital structure decision. Specially, there is no research that has been done before that comparing the macro-economic factors such as GDP, interest rates and inflation in South East Asian countries, particularly Malaysia and Indonesia, which have different economic conditions and the results will contribute to the literature significantly.

To sum up, this comparative study will shed light capital structure determinants of listed companies of two regions. The examination comprises four dominant theories, which are static trade-off theory, pecking order theory, the agency theory and market timing theory. The study incorporates country specific factors such as GDP growth, inflation rate, and interest rates. Apart from that country specific factor, the study also incorporates profitability, NDTS, firm size, asset structure, liquidity and share price performance.

1.3 Problem statement

There are many studies that investigated the determinants of capital structure in developed countries such as the UK and US and for that reason it is vital to examine further whether, determinants of capital structure choice of manufacturing companies in Malaysia and Indonesia are associated with factors similar to those found in developed

countries. Findings from a particular country may not represent the rest of other countries which have a different economy and environments. As such, further research is needed to test the robustness of studies outside the developed countries. This study contributes to the literature by investigating the determinants of capital structure of manufacturing firms in two countries in South East Asia namely, Indonesia and Malaysia.

To investigate the capital structure determinants majority of studies up to now employed US data by comparing cross-countries. For instance, Rajan and Zingales (1995) analyzed capital structure determinants of companies that are publicly listed capital structure decisions of public firms in seven major developed countries and revealed that larger companies have a higher leverage as well the possibility of default is lower. They found that firm size is positively related to leverage. Similarly, several empirical evidences have reported that firm size has significantly positively related to leverage (Titman and Wessels, 1988; Marsh, 1982; Bauer, 2004; Deesomsak et al., 2004; Eriotis et al., 2007; De Jong et al., 2008; Serrasqueiro and Rogao, 2009). However, a recent study performed by Chen (2004) has revealed that the relationship between firm size and long-term debt is negative and significant in his study in China. Due to the above conflict, a study on the relationship between firm size and both debt (overall and long-term debt) should be carry out.

Frank and Goyal (2003) reported that firm profitability has a positive association to leverage by explaining that highly profitable companies employ more debt since they are more likely to have a high tax burden and low bankruptcy risk. However, several

empirical studies have reported that profitability negatively related to debt as profitable companies do not rely more on external financing, which is consistent with pecking order theory and empirical evidences such as (Rajan and Zingales, 1995; Wiwattanakantang, 1999; Booth et al., 2001; Bauer, 2004; Chen, 2004; Deesomsak et al., 2004; Gaud et al., 2005; Huang and Song, 2006; De Jong et al., 2008; Viviani, 2008). Therefore, a study in this area should be carried out in order to understand the issue, especially in the Indonesian context.

Jensen and Meckling (1976) and Myers (1977) claimed that highly levered firm shareholders have an incentive to invest suboptimal to take over wealth from the firm's debt holders. However, debt holders can confine this opportunistic behavior by forcing them to present tangible assets as collateral before issuing loans, but no such confinement is possible for those projects that cannot be collateralized. This incentive may also persuade positive relationship between leverage and the capacity of a firm to collateralize its debt. Several empirical studies have reported a positive relationship between tangibility and leverage (Wald, 1999; Chen, 2004; Huang and Song, 2006; Zou and Xiao, 2006; Viviani, 2008; De Jong et al., 2008). Nevertheless, Titman and Wessels (1988) revealed that companies that have lower tangible assets might prefer to raise a higher amount of leverage to block managers of the firm for not consuming above the optimal level. Therefore, tangibility is negatively related to debt (Booth et al., 2001; Bauer, 2004; Mazur, 2007; Karadeniz et al., 2000).

The study of DeAngelo and Masulis (1980) proposed that companies with higher NDTS are anticipated to use smaller leverage on their capital structure and thus, NDTS is significantly negatively related. Empirical findings are mixed on this issue. Deesomsak et al. (2004) implied that NDTS is significantly negatively related to debt. Bauer (2004) found that NDTS and leverage are negatively related but less significant. However, Bradley et al. (1984) revealed that NDTS is significantly positively related to debt, the findings suggest that firms who have relatively higher amount of tangible assets, makes more depreciation as well as tax credit companies that invest heavily in tangible assets, and thus generate relatively high levels of depreciation and tax credits, tend to have higher financial leverage. Titman and Wessels (1988) found that NDTS has insignificant association to leverage. Due to inconsistent and conflicting issues, a study on these variables should be examined for the two countries.

Most of the empirical findings showed that liquidity negatively related to debt. The pecking order theory postulates that companies like to raise internal funds when they have a higher liquid asset. This theory supports Myers and Rajan (1998) Deesomsak et al. (2004), Eriotis (2007), Mazur (2007), Antoniou et al. (2008), De Jong et al. (2008) and Viviani (2008). Due to shortage of studies In Indonesia on liquidity and both overall and long-term leverage, a comparative study for Malaysia and Indonesia on these variables should be carry out.

Baker and Wurgler (2002) proposed that companies interested to issue stock when the value of the market of the company is very high, meanwhile they like to repurchase

equity when the value of the market is low. Hence, leverage and share price performance are inversely related as anticipated by theory of market timing of capital structure. Hovakimian et al. (2001), Graham and Harvey (2001), Deesomsak et al. (2004), Welch (2004) and Nor et al. (2011) suggested that increase in share price, encourages managers of the firm to issue stock under a prosperous way. More importantly, Deesomsak et al. (2009) found that companies whose shares are under-performing issue short-term leverage to signal their quality to the market, meanwhile companies whose shares are over-performing tend to issue long-term leverage to exploit the market mispricing. Since there is no limited literature regarding share price performance and both overall and long-term leverage, a comparative study in Malaysia and Indonesia on this variable should be investigated.

Macro-economic variables play an important role in affecting capital structure, De Jong et al. (2008) examined the importance of macroeconomic variables as well as firm characteristics on determinants of capital structure. They reported that annual GDP growth and capital structure choice are significantly positively related, showing that countries with developed annual GDP growth use a higher level of leverage to finance investment activities. Similarly, Camara (2012) reported that GDP growth for both multinational and domestic companies in U.S have positive and statistically significant relationship to leverage. Nor et al. (2011) revealed that annual GDP growth and debt are significantly positively related to Malaysian and Singaporean companies. More importantly, Feidakis and Rovolis (2007) who found that GDP growth positively related to long-term leverage, but negatively related to short-term leverage. Booth et al. (2001)

documented that GDP growth and debt are insignificant. However, Tesfaye et al. (2012) revealed that the relationship between GDP growth and long-term leverage is negative. Beck et al. (2002) reported similar findings. Nowadays literature has witnessed that annual GDP growth influence capital structure. Therefore, a study on these variables is important to investigate.

Furthermore, Demirguc and Maksimovic (1999) compared capital structure of developing and developed countries and reported that inflation and debt for both small and large firms in those countries are negatively related. More importantly, Deesomsak et al. (2009) revealed that inflation and long-term debt are negatively associated with the countries in which is influenced by the 1997 financial crisis. Bokpin (2009) also reported similar findings. Meanwhile, Mokhova and Zinecker (2014) found mixed results and reported that inflation rate and capital structure has a positive relationship in emerging markets, Germany and negative relationship for firms in France and Greece. However, Frank and Goyal (2009) suggested that there is positive relationship between inflation and leverage are positively related, showing that companies have a huge amount of debt, when a higher inflation is expected. Many studies have suggested that inflation is positively related to leverage (Bas et al., 2009; Hanousek and Shamshur, 2011; Camara, 2012). While, Booth et al. (2001) reported that leverage effect inflation in different ways in developing countries. A further study on inflation and both overall and long-term leverage should be examined in order to contribute to the literature.

Modigliani and Miller (1958) suggested that macro-economic factors such as the fluctuation of interest rates influences equally both value of debt and equity. Nor et al. (2011) obtained mixed results between leverage and interest rates, where the study indicated a positive and significant relationship for Malaysian firms, but a negatively significant relationship for both Singapore and Thailand firms. Several studies documented that interest rates and debt are positively related. However, Antoniou (2001) as well Eldomiaty (2007) found that there is an inverse correlation between interest rates and market leverage of all countries. This indicates that during the time where the long-term interest is high, companies are reluctant to increase leverage and therefore, increase equity financing. Moreover, Mokhova and Zinecker (2014) reported that interest rates are significantly negatively related for both short and long-term leverage. Hence, the relationship between interest rate and both total debt leverage and long-term debt should be investigated to understand the importance of interest on capital structure determinants for Malaysia and Indonesia firms.

1.4 Research Questions

The following questions will be asked to determine the impact of capital structure on Malaysian and Indonesian listed companies.

i. What are the firm-specific factors (profitability, NDTS, firm size, tangibility, share price performance and liquidity) that affects the capital structure in Malaysia and Indonesia?
ii. What are the macro-economic factors (GDP growth, inflation rate, and interest rates) that affects the capital structure in Malaysia and Indonesia?

iii. Are there any differences in the determinants of capital structure before and after financial crisis in 2008?

1.5 Research Objectives

The objectives of this study are as follows:

i. To identify firm-specific factors (profitability, NDTS, firm size, tangibility, share price performance and liquidity) that affects the capital structure in Malaysia and Indonesia.

ii. To identify macro-economic factors (GDP growth, inflation rate, and interest rates) that affects the capital structure in Malaysia and Indonesia.

iii. To examine if there are any differences in the determinants of capital structure before and after financial crisis in 2008.

1.6 Significance of the study

The objective of this study is to examine capital structure determinants in Malaysian and Indonesian listed companies, by providing a wider sense of knowledge on how the companies in these two countries determine their capital structure. This research will help readers to understand capital structure, leverage ratios and how companies determine their capital structure with countries that have a different economic conditions as well as different financial market. This research is helpful for the companies to stay competitive in this challenging world. It might be useful for the potential investors or business persons who wish to set up a business in Malaysia and Indonesia. In this study, investors can also benefit from the evidence provided.

Most of the studies about the determinants of capital structure have been conducted in developed countries using international data (Rajan and Zingales, 1995; Wald, 1999; Antoniou et al., 2002). Very little work has been done to examine the capital structure in the developing countries, especially South East Asian countries namely, Malaysia and Indonesia. As per researcher's knowledge, there is a lack of studies comparing Malaysia and Indonesia, particularly the studies considering macroeconomic factors as the determinants of leverage. Even though international researches for instance, Frank and Goyal (2009) and Hanousek and Shamshur (2011) are there that consider the macroeconomic factors as the determinants of the leverage, but the findings of these studies are inconsistent. The effect and differences of the 2008 financial crisis on the determinants of capital structure of the firms of South East Asian countries such as Malaysia and Indonesia is also unknown Therefore, a study comparing capital structure determinants in Malaysia and Indonesia before and after the crisis should be crying out to shed the light company's financing choice.

This study will help the managers of the companies in Malaysian and Indonesia to make a good decision on the proportion of their capital structure. It gives the managers the idea to change their financing strategies according to changes in economic conditions. They will also be able to determine the best financing pattern such as long-term debt, short-term debt or overall debt to measure a good impact on the firm's financial contribution to the economy. The results also provide some insights for policy makers. Because several country specific factors are found to be significantly related to firms' financing decisions,

the policy makers can shift the financing decisions to be favourable to the situation of each country as a whole.

1.7 Scope of the study

This study investigates and compares capital structure determinants in Malaysian and Indonesian manufacturing firms. The period covered by the study starts from 2005 to 2012 and the sample are selected by employing all companies that are listed in the manufacturing sectors excluding companies with missing data. This comparative research examines capital structure determinants of manufacturing companies of these two developing countries covering the pre and post crisis. Eventually, multiple regression analysis will be used for the study.

1.8 Organization of the study

The remaining part of this study is structured as follows: chapter 2 provides an overview of literature review of the firms-specific factors and country-specific factors with reference of capital structure, theories of capital structure and the theoretical framework of the study. Subsequently, Chapter 3 explains the research methodology which covers the sample, data collection method, measurement of variables, the technique of analysis and so on. Then, Chapter 4 will discuss the findings and the analysis and eventually, chapter five will conclude the summary of the findings as well as potential areas for future investigation.

1.9 Summary of the chapter

There has been a great deal of research on the subject of capital structure, continuous effort have been placed on this topic, especially after the publication of Modigliani and Miller's seminal paper in 1958 on the irrelevancy of capital structure. A study on capital structure has been conducted by numerous researchers in many areas such as how the firms select their capital structure (Myers, 1984) and determinants of capital structure (Titman and Wessels, 1988; Ghosh et al., 2000).

However, little work has been done in studies related to cross country and comparative analysis in developing countries particularly in Malaysia and Indonesia. Hence, this research seeks to fill the gap in the literature because of limited studies that have been conducted so far in this field of knowledge. Its conclusions are based on firm-specific and country specific factors as indicators of capital structure.

In conclusion, this chapter has discussed and highlighted capital structure of Malaysian and Indonesian listed companies. This chapter provides a clear snapshot on the background of the capital structure, statement problem, objective of the research and research questions, significance of the study, the scope of the study and lastly, organization of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discusses the literature review of capital structure determinants. Mainly this chapter proposes capital structure theories and empirical evidence on firms-specific determinants as well as country specific variables of capital structure in Malaysia and Indonesia.

This chapter consists of six sections. Section 2.2 explains the concept and theories of capital structure. Section 2.3 addresses the previous studies on the firm-specific variables and section 2.4 discusses country specific variables in capital structure. While, section 2.5 is the chapter summary.

2.2 An overview of capital structure theories

Numerous studies and interesting debates have been carried out since the seminal work of Modigliani and Miller (1958) in an attempt to demonstrate debt to equity decisions.Most theories and studies have been published to associate the capital structure and firm specific characteristics as well as country-specific characteristics. Among the theories are pecking order theory (Myers and Majluf, 1984; Zhang and Kanazaki, 2007) Trade-off theory (Modigliani and Miller, 1958; Zhang and Kanazaki, 2007), agency theory (Jensen and Meckling, 1976) and market timing theory (Baker and Wurgler, 2002).

2.2.1 Modigliani and Miller (MM)

Modigliani and Miller in 1958 came out with the modern theory of capital structure. They argued that the value of the firm is irrelevant to its capital structure. 2.2.1 Modigliani and Miller proved that if the firm's investment policy is reserved as it is, as such, in a perfect world where there is no cost associated with raising money, no transaction cost and no tax, the capital structure of the firm would not have any impact on the firm's value. Many researchers supported MM theory, such as Stiglitz (1974) and Hamada (1969).

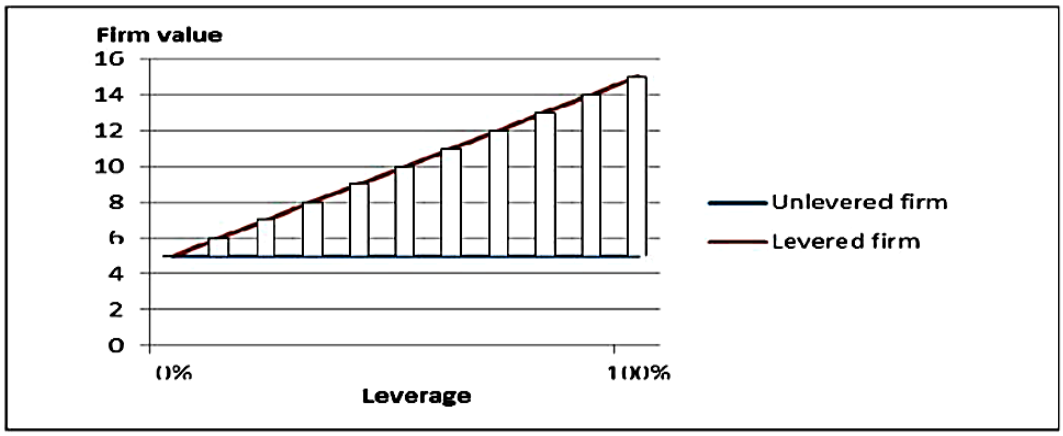
This hypothesis were created on restrictive assumption, which is inconsistent, and does not hold in reality, the choice of capital structure of the firm become an important factor when these inconsistent assumptions are removed. After their early studies stating that capital structure is irrelevant to the firm's value. Modigliani and Miller (1963) contributed MM proposition with tax suggested that companies should use as much as debt due to the tax savings on interest payment. Additionally, the value of unlevered firm go below to that of the levered firm by an equal amount to the present value of the tax savings that arise from the use of debt.

This issue has led to an interesting debate on financing mix. Studies indicated that Modigliani and Miller (1958) propositions fail if the following are taken into account (agency cost, bankruptcy cost and transaction cost). Frank and Goyal (2003) reported that MM theory does not offer a consistent description of how companies should establish their capital structure. It delivers an academic framework for understanding as why debt to equity decisions may be relevant. As such, theories such as static trade-off theory,

agency theory and the pecking order theory has been used to explain the capital structure decision.

Figure 2.1 illustrates the first proposition of Modigliani and Miller (1958), where it shows that the value of the firm remains the same regardless of the debt and the equity ratio in the capital structure. MM proposition I proposed that the value of the levered firm equals the value of unlevered firm.

Figure 2.1 MM Proposition I



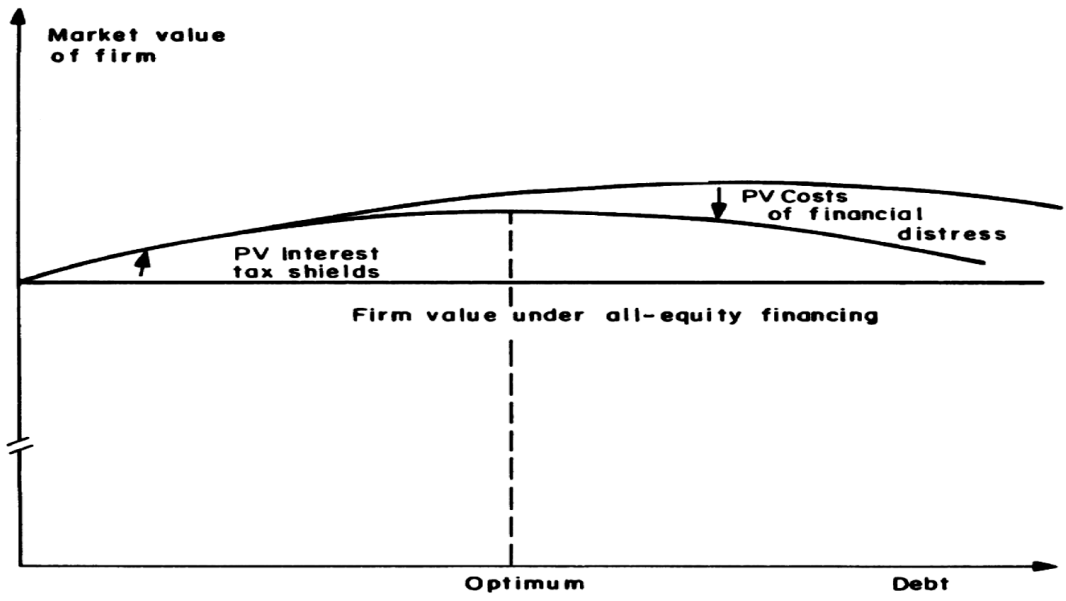
2.2.2 Static Trade-off theory

Modigliani and Miller continued their assessment on the topic of the capital structure in 1963 after the recognition of the large tax benefit of debt. Trade-off theory provides ridiculous conclusion, which is that companies should only use debt financing as much as they can in order to maximize firm value. Despite, the several empirical evidence contradicts this conclusion.

The trade-off theory proposes that corporations can borrow up to the point where the tax benefits exactly equals to the costs that come from the increased possibility of financial distress. This theory shows that a company is viewed as setting a target debt to equity ratio and progressively moving towards it, which shows that optimal capital structure continues that can increase the firm value.

In addition, optimal capital structure can be achieved when leverage related cost offset the net tax advantage of debt (Bradley et al. 1984). Many studies have been done during that period, which is in line with the trade-off theory, such as Jensen and Meckling (1976), Kraus and Litzenberger (1973) and DeAngelo and Masulis (1980). All these studies have comparable views, they suggested that to obtain optimal capital structure the cost of debts and benefits must be balanced consistently. Figure 2.2 below demonstrates that at moderate debt levels, the probability of financial distress is negligible, but at a later point of time, the probability of financial distress increases rapidly with additional borrowings. Moreover, if the firm keeps on raising debt and is not sure of gaining from the corporate tax shield, the advantage of tax eventually disappears, as the firm is likely to go bankrupt.

Figure 2.2 trade off theory



Source: Myers (1984)

2.2.3 The Pecking Order Theory

This theory is grounded on two outstanding assumptions. First, assumption, the managers of the firms has better information about their own company's growth and prospects than the outside investors. Second, assumption, managers of the firm undertake the best interest of shareholders. The pecking order theory arose based on asymmetric information. The theory assumes that asymmetric information problems happen when the manager of the company has better information compared to other parties such as creditors and outside investors.

Myers and Majluf (1984) contended that managers of the firm would face problems in securing external finance if they have much better information about future prospects

compared to the potential investors. The pecking order theory is emphasizing that a firm desire internal to external and debt over equity. Moreover, in order to finance new project the firm should firstly use internal funds such as the retained earnings. Next option will be minimizing company dividend policy to generate extra internal fund only if the first option tends to be insufficient. The company may finally go for the external funding if the internal sources of funding face collapse with issuing the safest instrument like debt and the last option may be hybrid securities such as convertibles and equities if the company has no more debt capability. Definitely, pecking order theory forecast that firms desire to use internal financing when obtainable and select debt over equity when external financing is needed. The above statement is strongly supported by Sunder and Myers (1992).

To conclude, the pecking order theory underlines on asymmetric information meanwhile, the static trade-off theory emphasized on taxes.

2.2.4 The Agency Theory

The agency theory of capital structure is also based on the problem that arose from information asymmetry. Reducing the costs that are coming from the conflict between the manager and shareholders can result in an optimal capital structure. This theory inspects the conflict of interest between several stakeholders of the company. Fundamentally, this theory suggests the conflict of interest between the managers and shareholders or debt holders and shareholders.

Jensen and Meckling (1976) argued that agency cost plays a crucial role due to conflict of interest that may occur between debt holders and shareholders. They contended that there are situations where managers of the firm prefer to follow their own interest rather than maximizing firm value. They defined that there are two types of agency cost or conflicts, Conflicts between shareholders and managers (agency costs of equity) and conflicts between debt holders and shareholders (agency costs of debt).

Agency costs of equity arise when managers of the firms hold less than 100% of the residual claim and are maximized when managers do not hold any share in firms. A conflict between managers and shareholders occur because it is always presumed that managers can extract private benefits or misreport output, because they bear only a fraction of these costs (Levy, 2000). While, agency costs of debt occur due to the conflicts between debt holders and shareholders. It only arises when there is a risk of default. If the debt is free of default, debt holders have no interest in the firm's income, value or risk. However, if there is a chance of default, shareholders can gain at the expenses of debt holders. In this case, managers are assumed to maximize the wealth of shareholders and act in their interest.

2.2.5 Market timing theory

Market timing theory is one of the most recent theories in capital structure and it plays an important role in capital structure decisions. Market timing theory, inspired by Baker and Wurgler (2002) documented on how market timing affects the company’s debt to equity choice by employing book to market ratios as a proxy for firm valuation. They proposed

that companies with a higher debt level raised capital at the time when the book- to-market ratios are high while companies with a lower debt level raised capital during the period where the firm is having a lower book-to-market values. They clarify the findings that debt to equity choice is the cumulative outcome of past attempts to time the equity market, and provided three possible clarifications. Firstly, the market is efficient, which gives the managers the opportunity to time the stock market and issue stock when they observe that investors overvalue the company. Secondly, if adverse selection costs are different, both across time and across firms are associated positively with the book-to-market, companies tend to issue stock while adverse selection and book-to-market ratios is low. A third clarification which is not provided by Baker and Wurgler (2002) is offered by Stulz (1990) and McConnell and Servaes (1995) where they revealed that companies with high level of growth options will use these growth options over stock issuances rather than debt issuances in order to avoid debt hold up problems.

2.3 Determinants of capital structure

As a starting point of this research, the study is going to outline the previous studies on capital structure, by highlighting those factors that contribute the explanation of capital structure. The purpose is to provide the findings of previous studies before explaining the model of the capital structure. This study consists of two components that reflect two strands on the relevant literature. The first component includes an overview of theoretical and empirical work that analyzes firm specific factors as determinants of capital structure (profitability, tangibility, firm size, non-debt tax shields, earnings volatility, and liquidity). The second component is the theoretical and empirical works that investigate

country specific factors as determinant of capital structure based on cross-country comparisons of capital structure (GDP growth, inflation rate and interest rates). Two measures of leverage have been used as the dependent variables which are overall and long-term leverage.

2.4 Firm-specific determinants of capital structure

This study incorporates the firm-specific variables such as profitability, firm size, tangibility, non-debt tax shields, liquidity and share price performance.

2.4.1 Profitability

Previous studies have suggested that two theories, namely the trade-off theory and the pecking order theory are used to explain the relationship between leverage and profitability. The trade-off theory proposes a positive relationship between the profitability of the firm and leverage. According to this theory, firms with a higher profitability should desire the use of leverage and it offers companies an incentive to utilize the tax shields on interest payments. Besides that, highly profitable firms are able to pay their debt easily and at the same time, they have the incentive of taking more debt. In contrast, the pecking order theories suggest that managers prefer to finance projects with internal rather than external funds because of the asymmetric information between managers and outside investors. Therefore, this theory proposes a negative relationship between leverage and profitability (internal fund) (Myers, 1984). Titman and Wessels (1988) reported similar findings to that of the pecking order theory and argue that

companies use less debt when profit is high since they have the ability to generate internal funds.

Myers and Majluf (1984) predicted that there is a negative relationship between debt and profitability. This finding is consistent with the previous argument that companies demand less debt when the firm is more profitable. They argued that the firms make financing decision based on hierarchal order. First internal funds are used, and then firms will issue debt if external source of financing is needed and finally they issue equity as the last option. Donaldson (1961), Rajan and Zingales (1995), Wald (1999) and Booth et al. (2001), similarly support pecking order theory.

Similarly, Chen (2004) investigated the capital structure in China and reported a negative relationship between leverage and profitability in Chinese listed firms and naturally support the pecking order theory. He argued that there may be other reasons for this negative relationship, such as to avoid new projects being mass-produced and under-investment problems. Furthermore, Song (2005) reported that for Swedish firms, the relationship between profitability and total leverage and between profitability and long-term leverage are in line with the pecking order theory.

Deesomsak et al. (2004) reported that profitability is negatively related to debt, as predicted, but the relationship is insignificant for all countries except for Malaysia. Furthermore, the significant negative correlation for Malaysia was consistent with the predictions of pecking order theory, indicating that companies with higher profits desire

to use internal financing. Most empirical studies indicated that profitability and leverage are negatively related such as Fama and French (2002), Cassar and Holmes (2003), Bauer (2004), Tong and Green (2005), Antoniou et al. (2008), Viviani (2008), De Jong et al. (2008), Nor et al. (2011) and Sheikh and Wang (2011).

However, Jensen (1986) contended that the relationship between profitability and firm leverage can be positive if the market for corporate control is effective in forcing corporations to commit to give out cash by financing more leverage because managers of the company cannot avoid the disciplinary role of debt and lenders have confidence on profitable companies that they can meet their obligations. If the corporate control of the market is ineffective, opposite signs will be expected because corporations will still escape the disciplinary role of debt. Furthermore, Kjellman and Hansen (1995) and Myers (2001) contended that highly profitable corporations could have a high level of debt and less danger of bankruptcy without risking financial distress. Hence, the relationship between profitability and firm leverage should be positive. Several studies reported similar findings such as Ross (1977), Heinkel (1982) and Prasad et al. (2003).

Furthermore, Roden and Lewellen (1995) examined capital structure of 48 companies in United States covering from 1981-1990 and implied that profitability is positively related to debt. Similarly, Nimalathasan and Valeriu (2010) show that for Sri Lankan manufacturing companies, leverage is significantly positively related to all kinds of profitability ratios (gross profit, operating profit and net profit ratios). Champion (1999),

Gosh et al. (2000), Hadlock and James (2002) and Berger et al. (2006) also depicted that profitability is positively related to debt.

2.4.2 Firm Size

Firm size and leverage findings are ambiguous. Rajan and Zingales (1995) found that bigger companies tend to be more diversified and have more stable cash flow and, thus, the percentage of defaults is lower compared to small firms. As such, the above study is consistent with the expectations of static trade-off theory which proposed that large companies borrow as much debt as they prefer because they are more diversified, comparatively lower bankruptcy costs and less prone to bankruptcy. This result recommends a positive relationship between the size of the firm and leverage.

The pecking order theory argued that since the larger firms has a less severe information asymmetry, hence, firm size positively related to leverage Wald (1999) found a statistically significant positive relationship between debt and size for companies in the UK, Japan and USA, but insignificant positive correlation for firms in France and a negative relationship for firms in Germany. Similarly, Deesomsak et al. (2004) also found that firm size is positively related to leverage in Malaysia, Thailand and Australia, except Singapore. They further found that companies in Singapore obtained government support therefore, whatever their size is, they will face less risk of financial distress. Likewise, De Jong et al. (2008) who studied capital structure determinants in 42 countries found that half of the countries in the sample have a positive relationship between firm leverage and its size. This showed that larger companies have more debt because they are

more stable in cash flow as well as more diversified. As such, this study is consistent with the previous studies such as Prasad et al. (2003) who found a significant positive relationship between firm size and short-term debt, while an insignificant influence is noted for long-term debt.

Wiwattanakantang (1999) claimed that larger companies have a better opportunity over smaller companies in accessing credit markets, thus, this gives the larger companies the chance to raise their leverage. With respect to the information asymmetry, large firms tend to have more information and this will decrease the information asymmetries in the market(Padron et al., 2005 and Graham, 2000). As such, larger companies have the ability to borrow a higher amount of debt compared to smaller companies. As a result of this, larger companies should utilize from the tax shield on interest payment. Similarly, Antoniou et al. (2002) revealed that larger corporations have lower information asymmetry; hence, they are able to access the debt markets and can easily borrow at lower cost.

Delcoure (2007) conducted a research on the determinant of capital structure in Central and Eastern European (CEE) countries and found that short-term leverage and firm size has a significant positive relationship. However, the relationship between firm size and long-term leverage for Slovakia, Poland and Czech Republic is negative. This negative relation is due to the existence of information asymmetries proposed by Myers and Majluf (1984) and an underdeveloped state of the bond market in these transitional economies. Also laws dealing with financial distress are still developing, leaving debt

holders unprotected in the event of default and forcing companies to acquire funds through short-term loans.

However, an important exception is provided by Marsh (1982) who examined the choice between debt and equity financing in United Kingdom firms between 1959 and 1974 and found that small companies select short-term leverage because they are not diversified. Similarly, Whited (1992) found a negative relationship between firm size and long-term leverage because small companies are not able to access the long-term leverage since their prospects and growth exceeds collateralizable assets.

Kayo and Kimura (2011) opposed the findings of Wiwattanakantang (1999) where they found a significant negative relationship between firm size and leverage in developing and developed countries. This shows that large companies use less leverage. Likewise, Chen (2004) performed a preliminary study of capital structure in Chinese listed firms, found that the relationship between long-term leverage and firm size is negative but statistically significant. In addition, Casar and Holmes (2003) suggested mixed findings, they showed that there is a negative relationship between firm size and short-term leverage, but the relationship is positive with long-term debt.

2.4.3 Tangibility (Asset Structure)

Tangibility is subject to several debates and many studies have been done to distinguish the influence of tangibility on debt. Yet, the literature review indicates inconsistent and ambiguous findings. The trade-off theory argues that the relationship between tangibility

and debt is positive. Regarding the above theory, Myers and Majluf (1984) contended that companies might find favorable to sell secured debt for the reason that there are costs related with issuing securities about which company's manager has better quality information compared to outside shareholders. Therefore, issuing debt secured by the collateral avoids these costs. Furthermore, this result recommends that leverage and tangibility have a positive relationship because firms holding assets can tender these assets to lenders as collateral and will issue more leverage to benefit these incentives. As such, tangibility plays a crucial role in deciding capital structure. Ina addition, Myers (1977) argued that highly levered firm shareholders have incentive to invest below an optimal level or standard to take over wealth from the firm's debt holders. Jensen and Meckling (1976), Titman and Wessels (1988), and Rajan and Zingales (1995) reported similar findings.

Alternatively, Padron et al. (2005) claimed that since tangible assets has less informational asymmetries and have a bigger value compared to intangible assets on the assumption of bankruptcy, the firm's tangible assets are expected to have an influence on company's debt financing. Thus, the higher the percentage of tangible assets, the higher the leverage.

Frazer et al. (2006) reported that there is a positive and significant relationship between tangibility and debt. This finding support with those from Western firms. The study showed that tangible assets can be used as collateral and it plays an important role in a company's capacity to take more leverage. Similarly, Suto (2003) and Prasad et al.

(2003) found a positive association between leverage and tangibility and it was statistically significant for Malaysian listed firms. Chen (2004) provided empirical support for his study in China and reported that tangibility is positively related to firm's debt for long-term leverage. The result justified that tangible asset is a crucial criterion for long-term loans and bank's credit policy.

Deesomsak et al. (2004) suggested that the relationship between tangibility and firm leverage is positive but statistically insignificant, except for Australia. This finding is supported by the previous studies such as Wiwattanakantang (1999) for Thailand firms.

Tesfaye et al. (2012) studied capital structure decision within the context of nine African countries, using a sample of 986 companies covering the period from 1999 to 2008. They found that the relationship between tangibility and leverage is positive and significant for both short-term leverage and long-term leverage. This implied that companies with more tangible assets can easily access long-term leverage because those companies can simply use their tangible assets as collateral. This study is consistent with tax/bankruptcy and agency theory, which argued that companies with higher tangible assets have a lower agency costs and lower bankruptcy costs. Bevan and Danbolt (2002) and Frank and Goyal (2009) reported similar findings.

On the other hand, the agency theory proposes that companies who have less collateralizable assets tend to use a higher amount of debt to reduce manager's consumptions of benefit. Agency theory recommends a negative relationship between

leverage and tangibility. Booth et al. (2001) conducted research on developing countries and reported that tangibility and leverage are positively related for companies in India, Pakistan, Turkey and Brazil. In the same way, Sheikh and Wang (2011) also addressed the same findings. A number of other studies also found a negative relationship between leverage and tangibility such as Bauer (2004), Karadeniz et al. (2009) and Mazur (2007).

Mateev et al. (2013) conducted a study of the SME in Central and Eastern Europe. They suggested that the relationship between tangibility and leverage depends on the types of debt that the companies employed. They found that short-term debt has a negative relationship with the tangibility, whereas this relationship becomes positive if the companies used long-term debt.

Gallego and Loayza (2000) suggested a negative relationship between tangibility and leverage. Showing that a rise in asset tangibility appears to shift the financial structure of the firm toward higher equity and lower debt in Chile. The pecking order theory also predicts negative influence of tangibility on firm leverage. Grossman and Hart (1982) found that firms with limited tangible assets should have high debt to reduce the agency costs of equity because debt allows the firm to be more stringently monitored by creditors such as bondholders and financial intermediaries. High-tangible-asset firms tend to have high fixed operating costs, which raise the operating risk and probability of bankruptcy. Therefore, negative relationship between asset tangibility and leverage is reported.

2.4.4 Non-debt tax shields

Previous researches have acknowledged mixed findings on the impact of NDTS on debt. DeAngelo and Masulis (1980) examined the tax shield effects on capital structure decisions and found that companies with higher NDTS in respect to their anticipated cash flow will use lower leverage in their debt to equity ratios in comparison with those companies who have a lower non-debt tax shields. They argued that firms can use other measures to protect income such as pension funds, depreciation, and tax credits to decrease corporate tax payments and not only depend on interest tax-shield. This study recommends that companies with higher NDTS are anticipated to use a small amount of debt on their capital structure and therefore, the relationship between firm leverage and non-debt tax shields should be negative.

Wiwattanakantang (1999) performed an empirical study on the determinants of the capital structure of non-financial firms in Thailand. The findings implied that NDTS and firm leverage was negatively and statistically significant in all regressions. Therefore, this study is consistent with the tax based theory. The results also support DeAnglo and Masulis (1980) who argued that NDTS are substituted for debt financing. Similarly, Deesomsak et al. (2004) suggested negative relationship between non-debt tax shields and leverage and statistically significant for all the countries.

However, a positive relationship between NDTS and leverage is possible because firms can borrow at low interest rates if their debts can be secured by tangible assets and firms may have a higher amount of debt capacity if they have high levels of tangible assets.

Scott (1977) revealed that companies with substantial NDTS invariably have considerable collateral assets, which can be used to secure debt; therefore, firms can borrow at lower interest rates. Bradley et al. (1984) found a significant positive association between non-debt tax shields and firm's leverage. This result suggested that companies with large tangible assets were having a high level of depreciation and subsequently a higher leverage for the tax credits. Hence, the study by Bradley et al. (1984) invalidated the DeAnglo and Masulis (1980) argument on the substitute between interest tax shields and NDTS. Furthermore, Delcoure (2007) suggested a positive relationship between the non-debt tax shields and short-term debt as well as long-term debt.

Tesfaye et al. (2012) reported mixed findings and suggested that the relationship between non-debt tax shield and firm leverage depends on the type of leverage employed by the firms. Where it is positively related with the long-term leverage and negatively correlated with the short-term leverage. This result is partially consistent with the argument of DeAnglo and Masulis (1980) where increase in non-debt tax shields will decrease that tax advantage that result from interest deduction. Viviani (2008), Wald (1999) and Bauer (2004) reported similar findings in this study.

On the contrary, some studies, such as Titman and Wessels (1988), suggested that a non-debt tax shield has no relationship with debt. Prasad et al. (2003) revealed that the relationship between non-debt tax shields and debt depending upon the way in which the tax shield is measured. Berger et al. (2008) performed a comparative study on

determinants of capital structure between the large corporations in the US and Republic of Korea. They reported an insignificant relationship between non-debt tax shields and debt ratios for both US and Korea. Their study is consistent with Bauer (2004).

2.4.5 Liquidity

Numerous studies have investigated leverage and firm liquidity and the linkage between firm leverage and liquidity is ambiguous. Three theories can be taken into consideration of the relationship between liquidity and leverage. Initially, the static trade-off theory proposes that due to the capacity to meet contractual agreements on time, firms with higher liquidity ratios should borrow a higher debt since they have sufficient cash to cope with creditor's liability. Hence, trade-off theory forecasted that firm liquidity has positively related to leverage. This hypothesis is supported by Al-Najjar and Taylor (2008) who examined capital structure of 86 Jordanian firms from 1994 to 2003 by using panel data. They found that firm's liquidity positively associated with leverage, which supports the trade-off theory. As such, liquid companies can easily access leverage. Moreover, this is a good incentive for the lenders since the companies are able to pay the short-term and long-term obligations.

Mateev et al. (2013) investigated 3175 SMEs in Eastern and Central Europe by using a unique data set for the period of 2001-2005. The findings indicated a strong positive relationship between SME liquidity and debt, both short-term, long-term debts, suggesting that SMEs with greater liquidity will use more long-term leverage in order to support the firm growth. This finding is in line with Fama and French (2002).

Mouamer (2011) who found that liquidity and long-term debt is positively and significantly related to Palestinian listed firms. However, Mouamer (2011) revealed that the relationship between liquidity and short-term debt is negative and significant.

On the other hand, the pecking order theory argued that companies prefer to finance new investment by using internally generated funds when there is a greater liquidity ratio. Hence, this theory suggests a negative relationship between liquidity and leverage. Deesomsak et al. (2004) reported that the relationship between liquidity and firm leverage is negative in Malaysia, Thailand, Singapore and Australia. The results indicated that companies tend to use their liquid assets to finance future investment opportunities. Similarly, Viviani (2008) investigated 410 French wine companies during the period of 2000 to 2004. The study revealed a negative influence of liquidity on leverage and consistent with the predictions of pecking order theory. Antoniou et al. (2008) implied that company's liquidity position should have a negative influence on firm's leverage for companies with more liquid assets tend to use the liquid assets as internal source of financing new investment. Eriotis (2007) also suggested that companies with greater liquidity should finance their future investment opportunities following the financing pattern suggested by the pecking order theory.

More importantly, Afza and Hussain (2011) examined capital structure determinants for companies listed in three different sectors in Pakistan, namely Cable and Electrical goods, Engineering and Automobile sectors. The findings indicated that companies with

vigorous liquidity position and bigger depreciation tend to use retained earnings, followed by debt financing for growth and lastly equity financing. Hence, there is negative relationship between liquidity and leverage. Likewise, De Jong et al. (2008) revealed a negative relationship between liquidity and debt because companies with higher liquidity tend to borrow less.

However, the agency theory reveals that managers of the firm can easily manipulate liquid assets by supporting the interest of shareholders compared to the interest debt holders. Due to this interest the agency cost of debt will increase. Agency theory implied that liquidity negatively associated with leverage. More importantly, Myers and Rajan (1998) contended that once the agency theory is high, lenders reduce the company's debt that is accessible. Therefore, they revealed a negative relationship between firm leverage and liquidity.

2.4.6 Share price performance

Most of the empirical work found that share price performance negatively related to firm leverage. The market timing theory of capital structure inspired by Baker and Wurgler (2002) proposed that companies interested to issue equity when the market value of the company is very high, relative to book value and market values, and when their market values are low; they are more likely to repurchase equity. Showing that high gearing firms are those companies that raised funds when their share price performances were low, while low gearing are those companies that raised their funds when their share price

performances are high. Hence, leverage and share price performance are inversely related as predicted by theory of market timing of capital structure.

Hovakimian et al. (2001) conducted a study about capital structure for 39,387 companies by using standard and Poor's Compustat annual files covering the period from 1979 to 1997. They reported that companies prefer to issue equity when the share price of the firm increases because managers consider during this period to increase stock under more favorable terms. Therefore, negative relationship between share price performance and leverage should be expected.

Likewise, Graham and Harvey (2001) surveyed 392 chief financial officers (CFO) regarding the capital structure decision, cost of capital and capital budgeting by using an online survey in 1999. They found that companies were reluctant to issue equity when they recognize that it is undervalued stock. As such, these findings are consistent with market timing theory. Furthermore, Deesomsak et al. (2004) reported a negative and statistically significant correlation with leverage in Malaysia, Thailand, Singapore and Australia, showing that companies whose shares are recognized to under-perform in the market are more likely to issue short-term debt to signal their quality to market, while companies whose shares are recognized to over-perform in the market issue long-term debt to exploit the market mispricing.

Welch (2004) investigated the capital structure and stock returns with all publicly traded U.S corporations from 1962 to 2000. The findings indicated that companies issue stock

following the increase in share price because the management of the firm has confidence in raising the equity capital under more favorable terms.

Nor et al. (2011) studied determinant of target capital structure in South East Asia countries, namely, Singapore, Thailand, and Malaysia by using dynamic framework and employed the financial sector. They reported a negative and statistically significant relationship between the share price performance and target leverage for companies in all countries employed by the study. The result revealed that firms issue stock following an increase in share price of the stock so that management of the firm have a faith in increasing the equity under advantageous terms. This study supported the previous studies such as Welch (2004), Deesomsak et al (2004) and Graham and Harvey (2001).

Similarly, Elliot et al. (2008) tested the market timing theory and the debt to equity choice in all non-financial U.S companies that issued public seasoned stocks and non-convertible bond starting from 1980 to 1999 by using earning based valuation model. They found a negative association between share price performance and firm leverage. They interpreted their result that companies whose shares is overvalued in the market or whose market value reaches the intrinsic value of the firm are significantly tend to issue stock.

Howe ever, Deesomsak et al. (2009) examined the determinants of the debt maturity structure of companies in Malaysia, Thailand, Singapore and Australia before and after the Asian crisis in 1997. They reported that companies issue short-term leverage when

they believe that their stock price is not performing well in order to show the market, their quality, as companies issue long-term leverage when they believe that their stock price is outperforming.

Mahajan (2008) examined the equity market timing theory and debt to equity choices of all firms from wealthiest developed nations (G-7) starting from 1993 to 2005. They reported a negative relationship between historical market-to-book ratio and leverage. However, they further added that this negative association cannot be looked upon to equity market timing theory. They also found an insignificant relationship between market-to-book ratio and equity issuance by Japanese firms at the time of equity financing decisions. They further explained that the relationship between leverage and the effect of stock issuance is short lived. This study does not support the market timing theory and is different from that result reported by Baker and Wurgler (2002).

2.5 Country specific factors

Over the last decade, the literature has perceived momentous and significant improvement in researches, for example, Demirguc-Kunt and Maksimovic (1999), Booth et al. (2001), Deesomsak et al. (2004), Drobetz and Wanzenried (2006), Fan et al. (2007), Antoniou et al. (2008), De Jong et al. (2008), where macro-economic variables are taken into consideration to determine the effect of macro-economic variables on the company's debt. Above studies concluded that not only firm specific factors influence capital structure, but also country specific factors does have a significant effect on a company's capital structure choice. Frank and Goyal (2009) examined macroeconomic factors such

as GDP growth, inflation rate and interest rate and found significant influence between macroeconomic conditions and capital structure. Those studies concluded that further research needs to be done in order to understand the influence of country specific factors in the capital structure decision.

2.5.1 Gross domestic product (GDP)

Camara (2012) studied the capital structure and macroeconomic conditions on for the US by using non-financial and non-regulated companies for the period of 1991 to 2009. He found that GDP growth for both multinational and domestic companies in US have positive and statistically significant influence on capital structure choice. Similarly, De Jong et al. (2008) found positive and statistically significant relationship between GDP growth and capital structure, meaning that countries with developed GDP growth are willing to use a higher amount of debt to finance new investments.

Mixed findings have been reported by Feidakis and Rovolis (2007) who investigated the determinants of capital structure of large construction companies in 15 European Union countries for the period of 1996 to 2004 by using data from Bloomberg. They reported that GDP growth and long-term debt have a positive relationship, but GDP growth and short-term debt have a negative relationship. These findings suggest that during economic booms European construction companies have the incentive to increase long-term debt and reduced short-term debt. On the other hand, during the period of economic recession, European construction companies raise short-term debt in order to finance new investments. Furthermore, Zubairi and Farooq (2012) studied the capital structure

determinants for Pakistan firms. They found that leverage is positively and statistically significant relationship to GDP.

Bas et al. (2009) compared capital structure of 11,125 small and private companies in 25 developing countries by using surveyed data from World Bank Enterprise. They found that GDP growth did not have any significant relationship on short-term debt financing for listed companies. However, for private companies, GDP growth rate has a positive significant relationship with short-term debt, showing that increase in GDP growth rate will also increase the short-term debt financing for private firms.

However, Tesfaye et al. (2012) revealed that GDP growth is negatively related to long-term debt. This supports the hypothesis that the increase in stock price during economic boom should result in a reduction in firm leverage. Bokpin (2009) investigated the effect of macro-economic conditions on the capital structure decisions for 34 emerging countries covering the period from 1990 to 2006 by using market data. They also found a significant negative association between GDP growth and capital structure. They interpreted their findings that higher GDP growth may indicate an increase in retained earnings as well as growth for the companies therefore, the correlation is negative. Beck et al. (2002) reported similar findings.

Bastos et al. (2009) conducted a study about capital structure of 388 publicly traded firms focusing role of institutional and macroeconomic factors in Latin America for the period of 2001 to 2006. They reported that GDP growth is negatively associated with short-term

debt and long-term debt. This show that when there is economic boom, the companies in Latin America decrease the debt and employ the strategy of internal financing such as using the retained earnings suggested by the pecking order theory.

Booth et al. (2001) examined capital structure decisions of companies in 10 developing countries by using data collected from the international finance corporation (IFC) covering the period from 1980 to 1990. They do not find any significant relationship between GDP growth and leverage, due to sample selection problems and high standard errors, particularly in Mexico and Brazil.

2.5.2 Inflation rate

The controversy issue that inflation influences the financing pattern of companies is questionably as old as capital structure studies. Inflation rate can be defined as a proxy for government's capacity to handle the economy and it provides information regarding the stability of the currency (Demirguc-kunt and Maksimovic, 1999).

Deesomsak et al. (2009) they revealed that inflation rate is negatively correlated with the long-term leverage for the countries which is influenced by the 1997 financial crisis. Likewise, Demirguc and Maksimovic (1999) compared capital structure of firms from 19 developed countries and 11 developing countries covering the period from 1980 to 1991. They found a negative and statistically significant relationship for both small and large firms in those countries. Furthermore, Bokpin (2009) suggested that there is a negative and statistically insignificant association between inflation and capital structure.

However, Frank and Goyal (2009) conducted a study about the importance of capital structure choice of publicly listed American companies starting from 1950 to 2003 by using U.S firms. The result shows that there is positive linkage between inflation and firm's capital structure, they depicted that firms are more likely to have higher amount of leverage when high inflation is expected. Mokhova and Zinecker (2014) investigated the effects of macroeconomic factors on capital structure in different European countries by analyzing non-financial, manufacturing firms based on European and emerging market starting from 2006 to 2010. The Result obtained shows that inflation rate and capital structure has a positive relationship in emerging markets, Germany and negative relationship in France and Greece.

Bas et al. (2009) reported that inflation and long-term leverage have a positive relationship, they showed that when the inflation increases, firms tend to increase the long-term leverage. However, inflation is negatively related to short-term leverage in developing countries, they revealed that once the inflation increases, firms are less likely to borrow short-term leverage.

Hanousek and Shamshur (2011) examined whether the stability of leverage ratios explained by the stability of the economy for one million firms in 41 European countries. Particularly the study focus on seven Eastern European countries over the period 1996 to 2006. They reported that inflation has a positive and statistically strong significant effect on the capital structure.

However, Booth et al. (2001) found that inflation rate influence the debt in many ways in developing countries. Bastos et al. (2009) found contrary result of the above findings and revealed that inflation does not affect the capital structure decisions. Similarly, Nakamura and Basso (2009) argued that inflation rate does not have a significant relationship to the capital structure.

2.5.3 Interest rates

Interest rates play a crucial role in the company's sustainability. Interest rates have an effect on fixed investment, demand for housing and expenditure of consumer goods. Instinctively, companies tend to use a high amount of leverage, when the interest rate is low. On the contrary, higher amount of interest rate would result an increase in the cost of opportunity, so that companies should hold their cash and this tend to cause to the substitution effect between financing securities. Hence, firms would desire equity financing, during the period where the interest rate of the country is higher. As well, an increase in interest rate would result higher possibility of financial distress. Hence, there is a negative relationship between interest rate and leverage.

For example, Nor et al. (2011) study shows a positive and significant relationship for Malaysian firms, meanwhile a negative and statistically significant relationship for both Singapore and Thailand firms. However, the above results are contradicting showing that during that period there was no volatility in lending rate compared to Thailand. Frank and

Goyal (2003) revealed that there is a positive association between interest rate and leverage of publicly traded firms in U.S.

Bas et al. (2009) suggested that when interest increases, companies are reluctant to finance using long-term leverage. However, there is a positive association between interest and short-term debt in developing countries, indicating that companies have the incentive to increase short-term leverage when the interest rates rises. Moreover, Mokhova and Zinecker (2014) suggested that in France and Germany interest rates has a positive and statistically significant correlation with both short-term and long-term debt. Similarly, Bokpin (2009) findings indicated that the interest rate has a positive relationship with the short-term gearing over equity whereas there is no significant relationship in most of the other measures of capital structure.

However, Antoniou et al. (2002) examined the determinant of capital structure for British, French, and Germany companies by using panel data covering the period from 1969, 1983, 1987 and 2000 for the British, France and Germany respectively. The result obtained showed that there is an inverse relationship between interest rates and market leverage for all countries. This indicates that during the time where the long-term interest is high, companies are reluctant to increase leverage and therefore, increase equity financing.

Likewise, Eldomiaty (2007) performed a study about the determinant of capital structure in Egypt by analyzing 99 companies which cover 14 non-financial industries by using

annual reports. He revealed that interest rate has a negative and statistically significant relationship with leverage; it showed that companies not borrow during recession period.

Ooi (1999) revealed that companies tend to use debt when the costs of borrowing are low. Therefore, if interest rates increase, the costs of borrowing increase and, as a result, firms tend to use less debt. Because in reality firms should be more concerned with costs of borrowing, a negative relationship is expected.

Table 2.1 Summary of theories and empirical evidences capital structure

Variables			Sample empirical evidences
Dependent variable LEV LLEV	**Theories**	**Expected sign by the theories**	
Independent variables PROF	Trade-off	+	Roden and Lewellen (1995), Champion (1999), Gosh et al. (2000) and Berger and Bonaccorsi (2006).
	Pecking order	-	Myers and Majluf (1984), Titman and Wessels (1988), Rajan and Zingales (1995), Wald (1999), Booth et al. (2001), Chen (2004), Deesomsak et al. (2004).
SIZE	Trade-off & Pecking order	+	Titman and Wessels (1988), Rajan and Zingales (1995); Wald (1999); Wiwattanakantang (1999); Deesomsak et al. (2004), Barclay and Smith (2005), Delcoure (2007) and De Jong et al. (2008).
TANG	Trade-off	+	Myers and Majluf (1984), Titman and Wessel (1988), Rajan and Zingales (1995), Deesomsak et al. (2004); Gaud et al. (2005), Frazer et al. (2006) and Tesfaye et al. (2012).

	Pecking order	-	Ferri and Jones (1979), Booth et al. (2001); Bauer (2004), Mazur (2007), Karadeniz et al. (2009) and Sheikh and Wang (2011).
NDTS	Trade-off	-	DeAngelo and Masulis (1980), Wald (1999), Bauer (2004), Deesomsak et al. (2004); Wiwattanakantang (1999), Delcoure (2007), De Jong et al. (2008), Viviani (2008) and Tesfaye et al. (2012).
LIQ	Trade-off	+	Al-Najjar and Taylor (2008), Mouamer (2011), Mateev et al. (2013).
	Pecking order	-	Myers and Rajan (1998), Deesomsak et al. (2004), Eriotis (2007), Antoniou et al. (2008), De Jong et al. (2008), Viviani (2008), and Afza and Hussain (2011).
SPP	Market timing theory	-	Hovakimian et al. (2001), Baker and Wurgler (2002), Deesomsak et al. (2004), Welch (2004), Elliot et al. (2008), Mahajan (2008) and Nor et al. (2011).

Table 2.2 Summary of empirical evidences on country-specific determinants

Variables	Expected theoretical relation	Sample empirical evidences
GDP	+	Booth et al (2001), Feidakis and Rovolis (2007); De Jong et al. (2008), Bas et al. (2009), Mahmud et al. (2009) and Camera (2012);
INF	–	Deesomsak et al. (2009), Bokpin (2009), Bastos et al. (2009) and Nakamura and Basso (2009).
INT	–	Antoniou et al. (2001), Eldomiaty (2007), Bas et al. (2009), Bokpin (2009) and Nor et al. (2011).

2.6 Chapter Summary

This chapter explains the previous studies on capital structure. First, it explains the theories of capital structure such as Modigliani and Miller (1958), trade-off theory, pecking order theory, agency theory and market timing theory. Secondly, this chapter investigates the influence of firms-specific factors (profitability, firm size, tangibility, non-debt tax shields, liquidity and share price performance) on capital structure decisions. Thirdly, this chapter also addresses the importance of country-specific factors (gross domestic product (GDP), inflation and interest rates) on capital structure decisions. Finally, this chapter also summarized the empirical evidence based on capital structure theories.

CHAPTER THREE

RESEARCH DESIGN

3.1 Introduction

This chapter demonstrates the methodology adopted to achieve the objectives of the study. It also explains the process of constructing the data set, provides a detailed description of the analysis and research design on firms-specific determinants as well as country specific determinants of capital structure in Malaysia and Indonesia.

This chapter consists of six different sections. Section 3.2 describes the data collection and sample design followed by section 3.3 that represents the theoretical framework. Section 3.4 explains the measurement of variables and hypothesis development. Section 3.5 describes the sampling design and section 3.6 explains the data analysis technique, employed by the study. Section 3.7 represents the chapter summary.

3.2 Data collection and sample design

This study investigates the determinants of capital structure for manufacturing firms, listed on the Bursa Malaysia and Bursa Efek Indonesia during 2005-2012. The data used in this study were extracted mainly from Datastream.

The choice of these two countries was motivated by several factors. First, the literature of firm-specific factors and country-specific factors in Malaysia and Indonesia is virtually

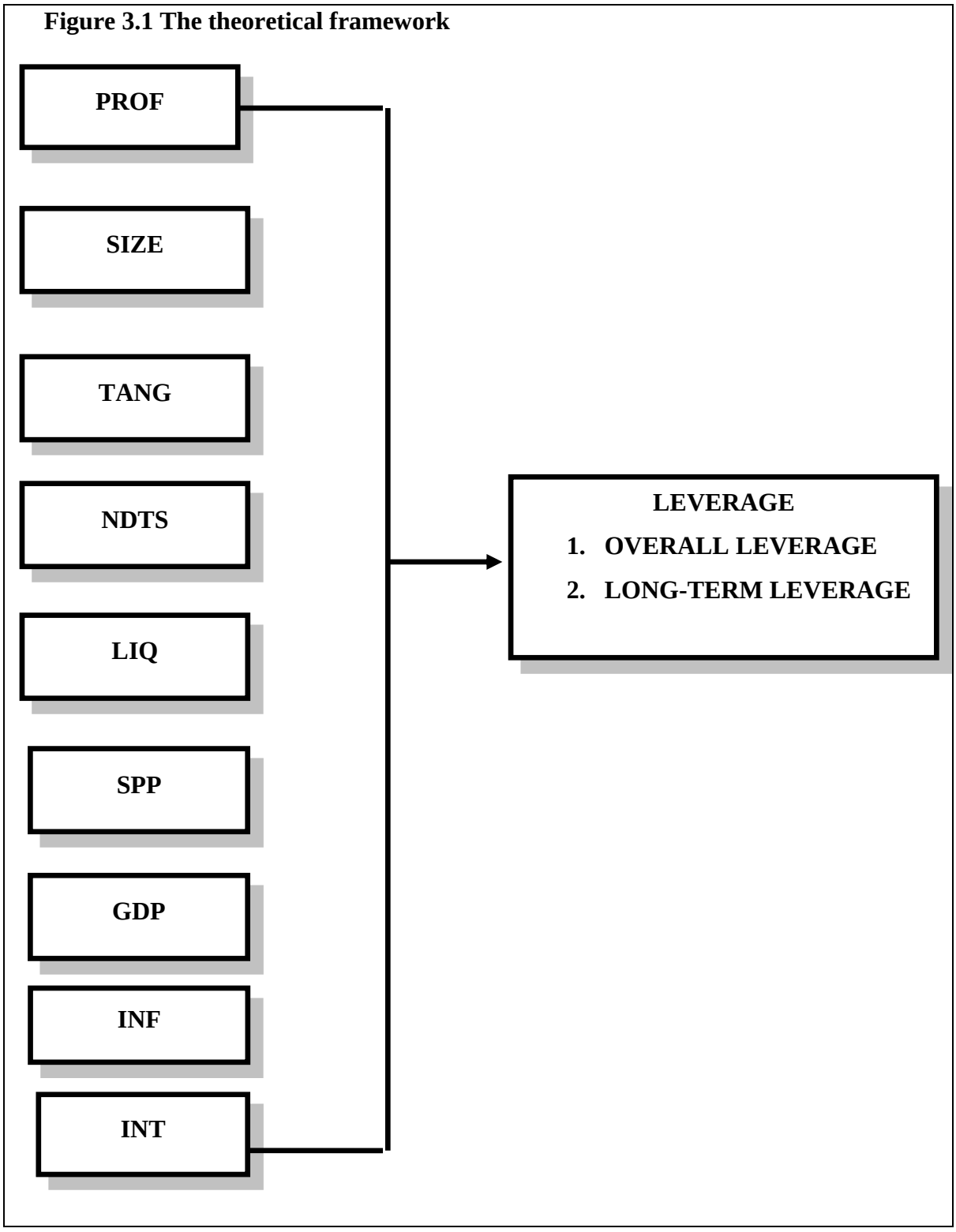
sparse. Second, Malaysian and Indonesian manufacturing firms contribute to the economy immensely, according to the latest statistics; the manufacturing companies of both countries contribute to GDP growth comparatively similar proportion and estimated around 24.3% in 2011 (World Bank, 2011). Third, they have different institutional setups like the financial markets and considerable differences in terms of economic development even though it is not as much as wide.

The sample criterion was firstly, to select all firms in the manufacturing sector that are listed on the Bursa Malaysia and Bursa Efek Indonesia during 2005-2012. In Malaysia, there are 221 manufacturing companies listed while in Indonesia, there are 121 companies. However, all the companies with missing data has been deleted and the final sample consists of 141 Malaysian firms (1,128 observations) and 96 Indonesian firms (768 observations). Therefore, the total observation is 1,896.

The sample is divided into three periods, initially, the full sample which covers the period of 2005 to 2012; and sub-sample which covers the pre-crisis period of 2005-2007; and post-crisis period of 2009-2012. Since the global financial crisis started in 2008, the data for 2008 are excluded when analyzing the pre and post-crisis period.

3.3 Theoretical framework

Figure 3.1 The theoretical framework



3.4 Hypothesis Development

The study of the relationship between the capital structure and firm-specific and country specific factors derives nine hypotheses that are:

3.4.1 Profitability

According to the pecking order theory, firms prefer using retained earnings, then debt and decides to issue equity as a last resort. However, the companies would issue debt if internal finance were exhausted. Profitable firms are likely to have more retained earnings. Thus, negative relationship is expected between leverage and profitability as reported by Donaldson (1961), Myers (1984), Myers and Majluf (1984), Fama and French (2002), Zoppa and McMahon (2002), Cassar and Holmes (2003), Bauer (2004), Tong and Green (2005), Huang and Song (2006), Zou and Xiao (2006), Antoniou 2008 et al. (2008), De Jong et al. (2008), Viviani (2008), Haron et al. (2011) and Sheikh and Wang (2011). However, due to tax deductibility benefit, firms with high profits should use more debt to obtain attractive tax shields because they have high incomes to shield and need greater tax shelters. Researchers who found a positive relationship between profitability and firm leverage are Ross (1977), Heinkel (1982), Champion (1999), Gosh et al. (2000), Frank and Goyal (2003) and Prasad et al. (2003). Based on the results found by the majority of empirical studies, a negative relationship between profitability and leverage is expected. Therefore, this study hypothesized that:

H1: There is a relationship between the profitability and firm leverage.

3.4.2 Firm size

The trade-off theory proposed a positive relationship between firm size and leverage. Bhaduri (2002) contended that bigger companies are more broadened, lower the possibility of bankruptcy as well they are able finance higher amount of debt. Rajan and Zingales (1995), Gaud et al. (2005) implied that bigger firms have better and nonvolatile cash flow, thus firm size is positively related to debt. Several empirical studies have reported a significant positive relationship between leverage and firm size. Marsh (1982), Bauer (2004), Deesomsak et al. (2004), Zou and Xiao (2006), Eriotis et al. (2007) and De Jong et al. (2008). However, there are researchers who had found that firm size is negatively related to debt, they are Whited (1992), Chen (2004) and Kayo and Kimura (2011). Based on the results found by the majority of empirical studies, firm size and leverage are positively related. Therefore, this study hypothesized that:

H2: There is a relationship between firm size and leverage.

3.4.3 Tangibility

According to the agency cost theory, the shareholders of a leveraged firm have an incentive to invest sub-optimally (Titman and Wessels, 1988). However, the more tangible the firm's assets are, the more such assets can be used as collateral. Collateralized assets can restrict such opportunistic behaviour. Therefore, a positive relationship between tangible assets and debt is expected (Jensen and Meckling, 1976; Grossman and Hart, 1982; Bradley et al., 1984; Rajan and Zingales, 1995; Wald, 1999; Bhaduri, 2002; Chen, 2004; Padron et al., 2005; Huang and Song, 2006; Deesomsak et al., 2004; De Jong et al., 2008; Viviani, 2008; and Sheikh and Wang, 2011). However,

there are some researchers who have found a negative relationship between tangibility and leverage (Gallego and Loayza., 2000; Booth et al., 2001; Bauer, 2004; Mazur, 2007; Karadeniz et al., 2009). Based on the results found by the majority of empirical studies, a positive relationship between tangibility of assets and leverage is expected.

H3: There is a relationship between the tangibility and leverage.

3.4.4 Non-debt tax shields

DeAngelo and Masulis (1980) proposed that non-debt tax shields are the substitute of the tax shields on debt financing. So firms with larger non-debt tax shields, are expected to use less debt in their capital structure. Bradley et al. (1984) have shown a strong direct relationship between leverage and the relative amount of non-debt tax shields. Delcoure (2007), found support for DeAngelo and Masulis (1980) hypotheses. However, Wald (1999) and Deesomsak et al. (2004) reported a significant negative relationship between leverage and non-debt tax shields. Viviani (2008) has shown a significant negative relationship only between short-term debt ratio and non-debt tax shields. Bauer (2004) has shown a negative, but less significant relationship between non-debt tax shields and the measures of leverage. Based on the results found by the majority of empirical studies, a negative relationship between NDTS and leverage is expected.

H4: There is a relationship between the non-debt tax shields and leverage.

3.4.5 Liquidity

Previous studies demonstrated that firm liquidity is negatively related with leverage. Pecking order theory of capital structure postulates that companies with a huge amount of liquid assets desire to finance internal funds. This hypothesis is in line with the results of (Deesomsak et al., 2004; Mazur, 2007 and Viviani, 2008). Antoniou et al. (2008) suggested that firms with more liquid assets may use such assets as sources of finance to fund future investment opportunities. However, the trade-off theory suggested that companies with higher liquidity ratios should borrow more due to their ability to meet contractual obligations on time. Thus, this theory predicts a positive linkage between liquidity and leverage. Shleifer and Vishny (1992) found that firms with high liquidity ratios might be able to support high debt ratios because of greater ability to meet short-term obligations when they are due. This study predicted that firm liquidity and leverage are negatively related because the explanations that support negative relationships are stronger.

H5: There is a relationship between the liquidity and leverage.

3.4.6 Share price performance

The market timing theory inspired by Baker and Wurgler (2002) proposed that companies issue stock when value of the market of the company is very high, relative to book value and market values, and when their market values are low; they are more likely to repurchase equity. As forecasted by the market timing theory share price performance negatively related to debt.

Furthermore, Hovakimian et al. (2001), Graham and Harvey (2001), Deesomsak et al. (2004) and Welch (2004) depicted that companies issue stock at the time when the share prices raise as the management of the company perceives that they can increase the stock in a more interesting way. Deesomsak et al. (2009) found that firms whose shares are perceived to under-perform tend to issue short-term debt to signal their quality to the market, while firms whose shares are perceived to over-perform issue longer- term debt to exploit the market mispricing. However, based on the results found by the majority of empirical studies, share price performance is expected to be inversely related to leverage.

H6: There is a relationship between the share price performance and firm leverage.

3.4.7 Gross domestic product (GDP)

Firm's financing activities reacts simultaneously with the annual GDP growth. For instance, for the period of prosperity, most of the companies utilize the opportunities and initiatives by carrying out investment activities in order to increase firm value as well generate a higher amount of profits. De Jong et al. (2008) depicted that annual GDP positively related to firm leverage. Camara (2012) reported that GDP growth for both multinational and domestic companies in U.S have positive and statistically significant influence on capital structure determinants. However, some of researchers that had found a negative relationship between GDP growth and firm leverage are Beck et al. (2002), Cheng and Shiu (2007), Bokpin (2009) and Tesfaye et al. (2012). Based on the results found by the majority of empirical studies, a positive relationship between GDP growth and leverage is expected.

H7: There is a relationship between the annual GDP growth and leverage.

3.4.8 Inflation

Graham and Harvey (2001) found that one of the third of the chief financial officers (CFOs) of United States manufacturing sector companies take into account factors like inflation when they make financing decisions. Boyd et al. (2001) claimed that as inflation increases, the financial sector will be reluctant to make loans. During the period of high inflation, creditors will lend few and allocate capital less effectively. Hence, a negative relationship between inflation and leverage is expected since there is less money available to borrow. Beck et al. (2002) found that as inflation increases, it is less likely that firms will obtain external financing and the proportion of investments financed by external funding declines. Booth et al. (2001) revealed that the negative relationship suggests that companies borrow against real, but not inflationary growth prospects. On the other hand, firms in high inflation areas will be more likely to issue equity because equity provides better protection for investors. Therefore, a negative relationship between inflation and debt is expected. Demirguc and Maksimovic (1999) and Deesomsak et al. (2009) reported similar findings. However, Frank and Goyal (2009) and Mokhova and Zinecker (2014) found that there is a positive association between inflation and firm's capital structure, this implies that firms are more likely to have high leverage when high inflation is expected. Based on the results found by the majority of empirical studies, a negative relationship between inflation and debt is expected.

H8: There is a relationship between the inflation and leverage.

3.4.9 Interest rates

The relationship between interest rate and overall debt and long-term debt is negative (Graham and Harvey, 2001 and Henderson et al. 2006). Ooi (1999) suggested that companies are more likely to use debt when the costs of borrowing are low. Therefore, if interest rates increase, the costs of borrowing increase and, as a result, firms tend to use less debt. Since firms should be more concerned with costs of borrowing, a negative relationship is expected. Eldomiaty (2007) and Antoniou et al. (2002) revealed that interest rate has a negative coefficient and statistically significant relationship with leverage. However, Mokhova and Zinecker (2014) suggested that in France and Germany interest rates has a positive and statistically significant relationship with both short-term and long-term debt. (Frank and Goyal, 2003; Bas et al., 2009; Bokpin, 2009; Haron et al., 2011). Based on the results found by the majority of empirical studies, a negative relationship between interest rate and firm leverage is expected.

H8: There is a relationship between the interest rates and leverage.

3.5 Measurements of variables

The study uses 11 variables to estimate the relationship between firm-specific and country-specific factors and leverage. The measurement of variables has been derived from the previous studies. The definitions of the indicators of firm-specific and country-specific variables are shown in Table 3.1.

Table 3.1 Measurement of variables.

Determinants		**Measurements**
Overall Leverage	LEV	Total debt/ Total assets
Long-term Leverage	LLEV	Long term debt/ Total assets
Profitability	PROF	EBIT/Total assets
Firm size	SIZE	Natural logarithm of assets
Tangibility	TANG	Total fixed assets/Total assets
Non-debt tax shield	NDTS	Depreciation/Total assets
Liquidity	LIQ	Current assets/ Current liabilities
Share price performance	SPP	The first difference of the logs of annual share prices (matched to the month of the firm's fiscal year end).
Annual growth GDP	GDP	Yearly changes in GDP growth.
Inflation	INF	Changes in the monthly consumer price index (matched to the month of the firm's fiscal year end).
Interest Rate	INT	Monthly lending rate (matched to the month of the firm's fiscal year end).

3.6 Techniques of data analysis

This study used panel data because data consists of sample across firms and over time. Multiple regressions were used to estimate the relationship between the independent and the dependent variables. Specifically, the study of the relationship between capital structure determinants is executed by using the ordinary least squares (OLS) regression, fixed effect model and random effect.

The study also takes into consideration the potential differences in the determinants of capital structure before and after financial crisis in 2008. In order to achieve this, the sample is divided into two samples, the pre-crisis covers the period from 2005 to 2007 and the post-crisis covers the period from 2009 to 2012. In order to see whether there are any significant changes in the role of independent variables during the financial crisis. Furthermore, the study will test the existence of a multicollinearity problem by identifying the correlation coefficient between the variables. The following is the basic equation for the multiple regression model for each country.

$$LEV_{it} = \beta_0+\beta_1 PROF_{it}+\beta_2 SIZE_{it}+\beta_3 TANG_{it}+\beta_4 NDTS_{it}+\beta_5 LIQ_{it}+\beta_6 SPP_{it} +\beta_7 GDP_{it}+\beta_8 INF_{it}+\beta_9 INT_{it}+\varepsilon \quad \textbf{Eq.1}$$

$$LLEV_{it} = \beta_0+\beta_1 PROF_{it}+\beta_2 SIZE_{it}+\beta_3 TANG_{it}+\beta_4 NDTS_{it}+\beta_5 LIQ_{it}+\beta_6 SPP_{it} +\beta_7 GDP_{it}+\beta_8 INF_{it}+\beta_9 INT_{it}+\varepsilon \quad \textbf{Eq.2}$$

Where:

B_0 = Constant

LEV: Leverage

LLEV: Long-term Leverage

PROF: Profitability

SIZE: Firm size

TANG: Tangibility

NDTS: Non-debt tax shields

LIQ: Liquidity

SPP: Share price performance

GDP: Gross Domestic Products

INF: Inflation

INT: Interest rate

i: the individual manufacturing firms in Malaysia and Indonesia

t: the time period

ε: error term

3.7 Chapter Summary

This chapter summarized the data collection technique, theoretical framework, variable measurement and hypothesis development. Multiple regression models are used to in order to estimate the study. The study employed three techniques to analyze the data, namely pooled ordinary least squares (OLS) the fixed effects, and the random effects. Panel data were used in this study.

CHAPTER FOUR

FINDINGS

4.1 Introduction

The aim of the chapter is to provide empirical evidence of the study. This chapter discusses the findings obtained from the analysis backed by the results obtained in other similar studies and theories of capital structure.

This chapter consists of six sections. Section 4.2 explains the descriptive statistics of the data set showing the mean, standard deviation, maximum and minimum. Section 4.3 addresses the Pearson correlation among variables and section 4.3 depicts the multicollinearity test. Section 4.5 discusses on empirical results and comparison of the three models (Pooled OLS, Fixed effect and Random Effect). Section 4.6 deliberates pre and post-crisis results. Finally, section 4.7 summarizes the chapter.

4.2 Descriptive statistics

The study investigates the determinants of capital structure for a panel of 237 manufacturing firms listed on the Bursa Malaysia and Bursa Efek over the period of 2005 to 2012. The descriptive statistics for the independent variables for the sample firm is showed in Table 4.1.

Table 4.1 provides a summary of descriptive statistics for the variables employed in this chapter particularly mean, standard deviation, minimum and maximum. On average, Indonesian companies have the highest total debt and long-term debt, 58 percent and 13 percent respectively. Whereas, Malaysian firms have the lowest total debt and long-term debt, 19 percent and 7 percent respectively. From this result, the higher leverage ratio of Indonesian manufacturing firms shows that they borrow more than Malaysia. This confirms that Malaysian firms are facing less risk compared to Indonesia and something needs to be done to encourage firms to enhance their business by using more leverage to increase the value of the firm.

The mean value of firm size in Malaysia is 12.42645, while in Indonesia is 20.82925. This indicates that Indonesian firms have a larger size compared to Malaysian firms due to the fact that the mean value of Malaysian firms is denominated in Ringgit, while in Indonesian firms is denominated in Rupiah.

On the other hand, the result highlighted the standard deviation in Malaysia and Indonesia, the highest standard deviation among all variables in both countries was liquidity at 7.15769 and 20.59325 respectively. While, the non-debt tax shields gave the lowest standard deviation among all variables for both Malaysia and Indonesia in 0.0209323 and 0.0480853 respectively.

Furthermore, the highest maximum value among all variables in Malaysia and Indonesia was liquidity at 96.11096 and 455.0488 respectively. Meanwhile, the lowest minimum

value among the variables was share price performance in Malaysia at -3.32424 and profitability at -109.9886.

Overall, Malaysia firms have debt level, regardless of whether total debt or long-term debt, that is lower than the debt level median reported by Rajan and Zingales (1995) for G7 countries. This is consistent with Demirguc-Kunt and Maksimovic (1999) who contended that developing countries have a considerably lower amount of leverage. However, the results from Indonesian firms are consistent with the debt level reported by Rajan and Zingales (1995).

Table 4.1 Descriptive statistics

	Malaysia				Indonesia			
Variables	**Mean**	**S.D.**	**Minimum**	**Maximum**	**Mean**	**S.D.**	**Minimum**	**Maximum**
LEV	0 .1857985	0 .1651774	0	0.85358	0.5772399	6.075147	0	162.862
LLEV	0.0673319	0.0864853	0	0.52516	0.1309256	0 .2503232	0	4.5822
SIZE	12.42645	1.250774	8.74241	16.95073	20.82925	1.609027	13.71131	25.91798
PROF	0.0597762	0.1276709	-2.13588	0.44063	-0.0114926	4.050853	-109.9886	21.04017
TANG	0.4021175	0.2023447	0	0.9456	0.3948675	0.2210377	0 .00015	0.96103
NDTS	0.0310618	0.0209323	0	0.18682	0.0383499	0.0480853	0	1.20313
LIQ	3.829036	7.15769	0.11423	96.11096	4.026902	20.59325	0.00396	455.0488
SPP	-0.2781559	1.191997	-3.32424	4.16821	6.411694	1.771183	3.21888	13.47161
GDP	4.825	2.508975	-1.5	7.4	5.8875	0.5779522	4.6	6.5
INF	2.65	1.384449	0.6	5.4	7.425	3.053935	4.3	13.1
INT	6.37	0.3687418	5.51	6.72	8.0625	0.257538	5.75	12.75

Note: The table presents the summary of descriptive statistics. LEV (leverage) is the total debt to total assets ratio. LLEV (long-term leverage) is the long-term debt to total assets. SIZE is the natural logarithm of total assets. PROF (profitability) is the ratio of earnings before interest, tax and depreciation to total assets. TANG (tangibility) is the ratio of total fixed assets to total assets. NDTS (non-debt tax shield) is a ratio of depreciation to total assets. LIQ (liquidity) is a ratio of current assets to current liabilities. SPP (share price performance) is measured as the first difference of logs of annual share prices. GDP growth (gross domestic product) is the yearly changes in GDP growth.INF (inflation) is the changes in the consumer price index. INT (interest rate) the lending rate, the maximum rate charged by commercial banks.

4.3 Correlation matrix

Pearson correlation analysis aims to assess the correlation between the variables and is presented in this chapter. The findings of the Pearson correlation analysis for the two countries are shown in Table 4.2 and 4.3. In general, the table shows that the variables are not highly correlated with each other for the sample countries.

The results show that profitability, tangibility, share price performance and GDP positively correlated with firm size, while non-debt tax shields, liquidity, inflation and interest rates has a negative relationship with firm size of the two countries. Furthermore, profitability has a positive correlation with tangibility, liquidity and share price performance, but negatively related to non-debt tax shields, GDP, inflation and interest rates for Malaysia in Indonesia GDP, inflation and interest rates positively correlated with profitability. A non-debt tax shield has a positive correlation with tangibility, inflation and interest rates, but negatively correlated with firm size, profitability, liquidity, share price performance and GDP for Malaysia and Indonesia. On the other hand, the result of correlation analysis of macro-economic variables reveal that firm size, liquidity, share price performance positively correlated with GDP, while negatively correlated with profitability, tangibility and non-debt tax shields for Malaysian firms. While in Indonesia, profitability, tangibility is positively correlated with GDP.

Table 4.2 Pearson correlation for Malaysia

	SIZE	PROF	TANG	NDTS	LIQ	SPP	GDP	INF	INT
SIZE	1.0000								
PROF	0.1107	1.0000							
TANG	0.2306	0.0405	1.0000						
NDTS	-0.1189	-0.8656	0.1978	1.0000					
LIQ	-0.1160	0.0026	-0.0091	-0.0128	1.0000				
SPP	0.3617	0.0517	-0.0189	-0.0174	-0.0546	1.0000			
GDP	0.0741	-0.0211	-0.0275	-0.0282	0.0292	0.1202	1.0000		
INF	-0.1238	-0.0376	0.0509	0.0668	0.0024	-0.1553	-0.1991	1.0000	
INT	-0.1365	-0.0280	0.0584	0.0639	-0.0030	-0.1704	-0.2032	0.8353	1.0000

Table 4.3 Pearson correlation for Indonesia

	SIZE	PROF	TANG	NDTS	LIQ	SPP	GDP	INF	INT
SIZE	1.0000								
PROF	0.2668	1.0000							
TANG	0.0445	0.0105	1.0000						
NDTS	-0.2225	-0.1281	0.3206	1.0000					
LIQ	-0.0107	0.0004	-0.2592	-0.2613	1.0000				
SPP	0.6337	0.3360	-0.0543	-0.2185	0.1940	1.0000			
GDP	0.0041	0.0127	0.0408	-0.0111	0.0028	0.0471	1.0000		
INF	-0.0234	0.0072	-0.0033	0.0024	-0.0200	-0.0152	0.3514	1.0000	
INT	0.0017	0.0035	0.0208	-0.0064	-0.0097	0.0439	0.8178	0.5237	1.0000

LEV (leverage) is the total debt to total assets ratio. LLEV (long-term leverage) is the long-term debt to total assets. SIZE is the natural logarithm of total assets. PROF (profitability) is the ratio of earnings before interest, tax and depreciation to total assets. TANG (tangibility) is the ratio of total fixed assets to total assets. NDTS (non-debt tax shield) is a ratio of depreciation to total assets. LIQ (liquidity) is a ratio of current assets to current liabilities. SPP (share price performance) is measured as the first difference of logs of annual share prices. GDP growth (gross domestic product) is the yearly changes in GDP growth. INF (inflation) is the changes in the consumer price index. INT (interest rate) the lending rate, the maximum rate charged by commercial banks.

4.4 Multicollinearity Test: Variance Inflation Factors (VIF)

Testing the multicollinearity is one of the ways that is used to make sure whether the variables used in the study are highly correlated or not. Multicollinearity problem causes variables in a multiple regression to be highly correlated. Computing the Variance Inflation Factor (VIF) for each independent variable is a widely used method to detect and measure multicollinearity. In cases where the VIF is above 10, the independent variables are considered to be highly correlated, causing a multicollinearity problem (Silver, 1997). Table 4.4 shows that all the VIF values are less than 10, suggesting that multicollinearity is not a major issue in this study.

Table 4.4 VIF test

	Malaysia	**Indonesia**
Variables	**VIF**	**VIF**
SIZE	1.797	1.330
PROF	1.145	5.118
TANG	1.179	1.437
NDTS	1.247	5.440
LIQ	1.188	1.018
SPP	1.906	1.223
GDP	3.104	1.065
INF	1.416	3.323
INT	3.746	3.352

4.5 Empirical results

Multiple regression analysis is performed in the following order. First, comparison of the models (Pooled OLS, Fixed effect and Random effect) is carried out where the focus is on firm-specific and country-specific determinants in Malaysia and Indonesia. Then, pre and post-crisis is investigated to find whether there are any differences in the determinants of capital structure before and after financial crisis in 2008.

4.5.1 Comparison of the models

The findings of the three models (pooled OLS, fixed effect, and random effect) are reported in table 4.5 for overall leverage and 4.6 for long-term leverage. It is important to compare the results from pooled OLS with other models such as fixed and random effect models. The Hausman specification test is used to test the fixed effects model against the random effects model. If the Hausman test shows a parameter value of more than 0.05 then it would mean that the fixed effects model is inefficient and random effects model is better (Girma, 2006) and vice versa. The appropriate model is compared with the pooled OLS model.

According to the results, the Hausman specification test shows that the fixed effects model is better than the random effects model as the p-value is less than 0.05 and has the highest R^2 for both overall and long-term debt. This implies, that implies that a random effect model should be rejected in favour of the fixed effect model for both Malaysia and Indonesia. Therefore, fixed effect and pooled OLS model will be compared and reported.

This study is in line with Delcoure (2007) who compared fixed effect model versus the random effects model and found that the random effect model is rejected in favor of the fixed effect model.

4.5.2 Firm-specific and country-specific Determinants

Table 4.5 and 4.6 show the results of multiple regression analysis for the three models (pooled OLS, fixed effects and random effects) in Malaysia and Indonesia over the period of 2005 to 2012. The overall leverage and long-term leverage for the two countries were compared and regressed with the independent variable (firm size, profitability, tangibility, non-debt tax shields, liquidity and share price performance, GDP, INF and INT).

Table 4.5 Regression model estimates: LEV

Variables	Malaysia		Indonesia	
	Overall Leverage		Overall Leverage	
	Pooled OLS	Fixed effect	Pooled OLS	Fixed effect
C	-0.5408969 (0.000)***	-0.5230906 (0.000)***	12.32295 (0.001)***	104.8272 (0.000)***
SIZE	0.0493227 (0.000) ***	0.0508866 (0.000)***	-0.3542313 (0.014)**	-5.146366 (0.000)***
PROF	-0.2046874 (0.000) ***	-0.1098238 (0.000)***	1.006649 (0.000)***	1.602107 (0.000)***
TANG	0.0797676 (0.000) ***	0.0615439 (0.010)***	-6.400128 (0.000)***	-17.20502 (0.000)***
NDTS	0.8469098 (0.000) ***	0.3252563 (0.121)	104.8489 (0.000)***	132.2041 (0.000)***
LIQ	-0.0052984 (0.000) ***	-0.0044101 (0.000)***	-0.0065823 (0.503)	-0.0023144 (0.808)
SPP	-0.053477 (0.000) ***	-0.0296519 (0.000)***	-0.2464072 (0.049)**	1.358891 (0.000)***
GDP	-0.0013241 (0.651)	-0.0016401 (0.309)	-0.4726274 (0.187)	-0.1882463 (0.522)
INF	0.0023437 (0.512)	0.0034938 (0.079)**	-0.0693724 (0.562)	-0.0829648 (0.382)
INT	0.0115172 (0.598)	0.0087513 (0.467)	-0.117263 (0.471)	-0.2842958 (0.034)**
R^2	0.2938	0.8141	0.1738	0.5495
Obs	1128	1128	768	768
F-statistics	51.64 (0.000)	16.91 (0.000)	17.72 (0.000)	58.62 (0.000)
Wald $\times^2$ Hausman specification test		19.53 (0.000)		5.82 (0.000)

$*$ Significant at 10% level, $**$ Significant at 5% level, $***$ Significant at 1% level

Table 4.6 Regression model estimates: LLEV

Variables	Malaysia		Indonesia	
	Long-term Leverage		Long-term Leverage	
	Pooled OLS	Fixed effect	Pooled OLS	Fixed effect
C	-0.3531725 (0.000)***	-0.0080319 (0.930)	-0.179283 (0.263)	1.483367 (0.000)***
SIZE	0.0252869 (0.000)***	0.001197 (0.848)	0.0101989 (0.105)*	-0.074956 (0.000)***
PROF	-0.0321731 (0.093)*	0.0092952 (0.564)	0.0192314 (0.000)***	0.0203265 (0.002)***
TANG	0.1221966 (0.000)***	0.0731011 (0.000)***	0.1195951 (0.012)**	0.1680765 (0.067)**
NDTS	0.0594726 (0.626)	-0.4363222 (0.000)***	1.703817 (0.000)***	1.620621 (0.012)**
LIQ	-0.0011969 (0.001)***	-0.0008266 (0.071)**	-0.0007093 (0.099)*	0.0000629 (0.880)
SPP	-0.0190573 (0.000)***	-0.0014905 (0.746)	-0.0133473 (0.015)**	0.0021446 (0.870)
GDP	-0.0022131 (0.169)	-0.0022582 (0.043)**	0.0101132 (0.519)	0.0167632 (0.191)
INF	0.0012841 (0.514)	0.0012824 (0.351)	-0.0005862 (0.911)	-0.0015145 (0.714)
INT	0.0100238 (0.404)	0.0085402 (0.305)	0.0023163 (0.745)	-0.0025925 (0.656)
R^2	0.2208	0.6750	0.0692	0.4955
Obs	1128	1128	768	768
F-statistics	35.16 (0.000)	4.09 (0.000)	6.27 (0.000)	5.65 (0.000)
Wald $\times^2$ Hausman specification test		9.76 (0.000)		5.92 (0.000)

$*$ Significant at 10% level, $**$ Significant at 5% level, $***$ Significant at 1% level

4.5.2.1 Results for pooled data

Table 4.5 shows that firm size has a significant positive relationship to overall leverage for Malaysian manufacturing firms. This result is in line with the trade-off theory proposing that larger firms should use a higher amount of debt due to their ability to diversify the risk and to take the benefit of tax shields on interest payments. This result is consistent with Rajan and Zingales (1995), Wiwattanakantang (1999), Booth et al. (2001), Pandey et al. (2001), Prasad et al. (2001), Deesomsak et al. (2004), Chen (2004), Antoniou et al. (2008), Nor et al. (2011) and Sheikh and Wang (2011). The positive relationship indicates that larger companies have a higher amount of leverage than smaller companies because they generally have smaller agency costs of debt, less failure, lower bankruptcy costs, less volatile cash flow, are more diversified and have easier access to bank credit.

However, for Indonesian firms, the study finds that firm size has a significant negative relationship to overall leverage, These negative relationship may be attributed to the existence of information asymmetries suggested by Myers and Majluf (1984) or underdeveloped bond market in Indonesia and may be due to the high usage of short-term financing. This is consistent with Yolanda and Soekarno (2012) with their study of capital structure determinants In Indonesia, where they found that bigger companies are less likely to use leverage since they have a higher amount of assets, therefore, bigger firms use equity financing.

Furthermore, Table 4.6 reveals that there is a significant positive relationship between firm size and long-term debt for Malaysia and Indonesian firms. The results of this study are in line with the trade-off theory and Marsh (1982) who found that larger firms often chose long-term debt. To conclude, the results between the two countries is different when overall leverage is taken into account, where the relationship is positive in Malaysia which is consistent with the trade-off theory and negative in Indonesia which supports the result of Yolanda and Soekarno (2012). Meanwhile, firm size is positively related with long-term debt of the two countries.

The result shows that profitability has a significant negative relationship to overall leverage for Malaysian manufacturing firms. This is in a line with the pecking order theory that proposes that firms prefer internal financing to finance new investments and have a less need for external financing. Similarly, Booth et al. (2001) found that companies that generate relatively higher internal funds, normally tend to avoid leverage. Likewise, Deesomsak et al. (2004) revealed that for Malaysian firms, profitability is negatively related to. These findings implied that the higher the profit in Malaysian firms, the lower the amount of leverage. The results are also consistent with Myers and Majluf (1984), Titman and Wessels (1988), Rajan and Zingales (1995), Pandey (2001), Bevan and Danbolt (2002), Wiwattanakantang (1999), Chen (2004), Antoniou et al. (2008), De Jong et al. (2008), Viviani (2008), Nor et al. (2011) and Sheikh and Wang (2011).

However, for Indonesia, profitability has a significant positive relationship with overall leverage and is consistent with the trade-off theory suggesting that higher profitability

promotes the use of leverage and provides incentives to companies to benefit from interest payment on tax shields. This is in line with Yolanda and Soekarno (2012) study who depicted that profitability has a positive relationship with leverage, because the firm may have higher potential tax savings and lower bankruptcy cost. Kjellman and Hansen (1995), Myers (2001) and Prasad et al. (2003) reported similar findings.

Moreover, Table 4.6 implies that profitability has a significant negative relationship to long-term leverage which is consistent with the majority of the studies, however, for Indonesian firms, profitability and long-term leverage are significantly positively related and this is in line with the trade-off theory which suggests that highly profitable companies has the potential to use a higher amount of debt. To sum up, the negative relationship between profitability to overall and long-term debt confirms that Malaysian manufacturing firms follow the pecking order theory; meanwhile the positive relationship between profitability to overall and long-term leverage confirms that Indonesian firms follow the trade-off theory.

Table 4.5 indicates that tangibility has a significant positive relationship to overall leverage for Malaysia firms. The positive relationship gives support to the trade-off theory which postulates that tangible assets act as collateral and provide security to lenders in the event of financial distress. These findings are in line with the studies of Myers (1977), Jensen and Meckling (1976), Myers and Majluf (1984), Titman and Wessels (1988), Rajan Zingales (1995) and Chen (2004).

However, for Indonesian firms, there is a significant negative relationship between tangibility and overall leverage and the findings are in line with agency theory which postulates that firms with less collateralizable assets (tangibility) tend to use a higher amount leverage in order to stop managers from using more than the optimal level of perquisites **(**Ferri and Jones., 1979; Booth et al., 2001; Bauer, 2004; Mazur, 2007; Karadeniz et al., 2009; Sheikh and Wang, 2011 and Yolanda and Soekarno, 2012).

In addition, Table 4.6 shows that the relationship between tangibility and long-term debt is positive and statistically significant for Malaysia and Indonesian manufacturing firms which is consistent with the trade-off theory. To conclude, the result reported in Malaysia is consistent with the majority of the studies and trade-off theory, meanwhile Indonesian findings is consistent with agency theory. Nevertheless, long-term debt for both countries supports the trade-off theory.

The result depicts that non-debt tax shields is positively related to total debt for Malaysian manufacturing firms at 1 percent significance level. This study supports Bradley et al. (1984) who found a significant positive association between non-debt tax shields and firm's leverage. Similarly, Delcoure (2007) found that non-debt tax shields is positively related to leverage for companies in transitional economics. The results for Indonesian firms also show that a non-debt tax shield is positively related with total debt and this finding is similar to that of Malaysia.

In addition, table 4.6 shows that the relationship between a non-debt tax shields and long-term debt is positive, but insignificant for Malaysian firms, but for Indonesian firms, non-debt tax shields have a significant positive relationship to long-term debt. This is in line with Chen (2004) who depicted that firms with a higher NDTS, have a higher leverage due to a higher level of tangible assets, therefore, more tangible assets with a high non-debt tax shields lead a higher amount of debt.

To conclude, the result of Malaysia and Indonesia fails to confirm the predictions of DeAngelo and Masulis (1980) NDTS such as a tax deduction for depreciation and investment tax credits are substitutes for the tax benefit of debt financing. However, for this study there is a positive relationship between non-debt tax shield and leverage, one of the reasons for this could be the benefits of debt, lower bankruptcy risks as well large firms prefer raising debt even in the presence of non-debt tax shields.

Table 4.5 shows that liquidity has a significant negative relationship to overall leverage for Malaysian manufacturing firms. This confirms that companies in Malaysia have a considerable amount of liquidity, in which they can use to finance their new investment instead of raising external finance, and is consistent with the predictions of pecking order theory. This study supports Deesomsak et al. (2004), Mazur (2007) and Viviani (2008). In contrast, for Indonesian firms, the results showed an insignificant negative relationship between liquidity and overall leverage.

However, Table 4.6 shows that liquidity has a negative relationship to long-term leverage for both countries and is consistent with the pecking order theory. This shows that companies with higher liquidity tend to use internal financing such as retained earnings. To sum up, the result in Malaysia and Indonesia highly supports pecking order theory and the majority of studies.

Table 4.5 depicts that share price performance has a significant negative relationship to total leverage for Malaysian firms giving a significant support to the market timing theory. This implies that companies issue equity after share price increases because the management of the firm believes that they can increase the equity. This finding is consistent with the previous studies such as Deesomsak et al. (2004) who revealed that companies issue equity when the market value of the company is very high. Similarly, a negative relationship between share price performance and leverage is reported by Hovakimian et al. (2001), Graham and Harvey (2001), Welch (2004), Elliot et al. (2008), and Nor et al. (2011).

Similar to the table 4.5, table 4.6 shows that share price performance is negatively related to long-term leverage for both Malaysia and Indonesia. To conclude, this is in line with market timing theory, for both Malaysia and Indonesia.

4.5.2.2 Results for Fixed effect Model

For the overall leverage, table 4.5 shows that the result of fixed effect model for Malaysian firms are similar to those of pooled OLS except for non-debt tax shields and

inflation. The fixed effect model reveals that non-debt tax shield is positively related to overall leverage but is not significant. This model implies that a non-debt tax shield does not determine the capital structure in Malaysia.

Furthermore, inflation is only significant under the fixed effect model. This study finds that the relationship between inflation and total leverage is positive and statistically significant for only Malaysian manufacturing firms. The positive relationship for Malaysia implies that firms are more likely to have higher amount of leverage when high inflation is expected and are in line with the findings of Frank and Goyal (2009), Bastos et al. (2009), Bas et al. (2009) and Camara (2012). Similarly, Mokhova and Zinecker (2014) revealed that inflation and leverage are positively related in emerging markets.

For overall leverage, the findings from the fixed effect model for Indonesian firms are similar to those of pooled OLS expecting interest rates. The fixed effect model for Indonesian firms reveals that the interest rate is negatively related with overall leverage and statistically significant only for Indonesian manufacturing firms. This result is in line with the study of Ooi (1999) who revealed that companies tend to use debt when the costs of borrowing are low. Therefore, if interest rates increase, the costs of borrowing increase and, as a result, firms tend to use less debt, because in reality firms should be more concerned with costs of borrowing. Similarly, Eldomiaty (2007) revealed that interest rate has a negative association and statistically significant relationship with leverage. To conclude, the results depict that the relationship between overall leverage and country-

specific factors such as inflation in Malaysia and interest rates in Indonesia are only significant under fixed effect model.

Table 4.6 reports the results for fixed effect regression for long-term leverage. The results from the fixed effect model for Malaysian firms is similar from those of pooled OLS except firm size, profitability, non-debt tax shield, share price performance and GDP. Firm size has an insignificant positive relationship to long-term leverage, while profitability is negatively related with long-term leverage in Pooled OLS, however, under the fixed effect it becomes an insignificant positive relationship to long-term leverage. Non-debt tax shields has a significant negative relationship to long-term leverage under fixed effect model. This confirms that non-debt tax shields are the substitute of the tax shields on debt financing. Hence, companies with larger non-debt tax shields, are expected to use less debt in their capital structure of Malaysian firms. The relationship between share price performance and long-term leverage is negative and insignificant under fixed effect model, this result doesn't support the theory of market timing inspired by Baker and Wurgler (2002). GDP growth is only significant under the fixed effect model with a negative relationship with long-term leverage for Malaysian manufacturing firms. The result of this study supports Bokpin (2009) and Tesfaye et al. (2012).

However, for Indonesian firms, fixed effect model estimation is almost similar to those in pooled OLS except firm size, liquidity and share price performance. Firm size is significantly negatively related to long-term leverage. Although most of the empirical evidences reported a positive relationship between firm size and long-term leverage,

nevertheless this negative relationship can be attributed to information asymmetry reported by (Myers and Majluf, 1984), the underdeveloped bond market for Indonesian firms and a higher usage of short-term financing. The relationship between share price performance and long-term leverage is insignificant and positive, this is inconsistent with the market timing theory. To conclude, profitability is positively related to long-term leverage. Non-debt tax shields negatively related to long-term leverage for Malaysian firms under fixed effect model. This is consistent with the trade-off theory and DeAngelo and Masulis (1980) hypothesis on non-debt tax shields. However, for Indonesian firms, firm size is negatively related to long-term leverage, meanwhile share price performance is positively related to long-term leverage but it is not significant.

In summary, the multiple regression analysis in table 4.5 and 4.6 indicates that generally the findings are consistent with the previous researches and theories of capital structure. The result can confirm the important role of firm-specific and country-specific variables in determining capital structure in Malaysia and Indonesia. Furthermore, the findings show that GDP and inflation is significant in explaining the capital structure in Malaysia under fixed effect model, while interest rate is significant in Indonesia under fixed effect model.

4.6 The effect of 2008 financial crisis on firm and country-specific determinants

One of the objectives of this research paper is to examine if there are any differences in the determinants of capital structure before and after financial crisis in 2008. To achieve this objective the full sample is divided into two sub-samples that is pre-crisis and post-crisis periods. The pre-crisis period is from 2005 to 2007, while the post-crisis period is from 2009 to 2012.

Table 4.7 depicts that there are differences in the determinants of capital structure before and after the crisis on the role of firm size for Indonesian firms only, whereas in Malaysia the size remains significant before and after the crisis. For Indonesia, the relationship between firm size and overall leverage is positive and significant before the crisis, but becomes insignificant after crisis. This implies that larger firms in Indonesia rely more on debt before the crisis, but after the crisis role of firm size is no longer important for capital structure as it is not significant.

Furthermore, for Malaysia, the relationship between firm size and long-term debt during the pre-crisis and post-crisis period are significant. However, for Indonesia, the relationship between firm size and long-term debt is similar to those in overall leverage, whereby firm size is significantly positively related with lo90ng-term debt before the crisis, but becomes an insignificant negative relationship with long-term debt after the crisis.

Table 4.7 Pre and post crisis period

Variables	Malaysia		Indonesia		Malaysia		Indonesia	
	Overall Leverage		Overall Leverage		Long-term leverage		Long-term leverage	
	Pre-crisis	Post-crisis	Pre-crisis	Post-crisis	Pre-crisis	Post-crisis	Pre-crisis	Post-crisis
C	-0.2507997 (0.262)	-0.5014276 (0.028)**	-0.0641698 (0.981)	0.4259063 (0.894)	-0.3445843 (0.008)***	-0.2738607 (0.021)**	0.6380263 (0.745)	0.1407742 (0.782)
SIZE	0.0398955 (0.000)***	0.0526735 (0.000)***	0.0436491 (0.001)***	0.0630953 (0.312)	0.0258267 (0.000)***	0.0247024 (0.000)***	0.0294179 (0.002)***	-0.0008997 (0.928)
PROF	-0.2920341 (0.000)***	-0.1866565 (0.000)***	-0.7297384 (0.000)***	7.419146 (0.000)***	-0.080505 (0.085)*	-0.0159337 (0.425)	-0.0900071 (0.363)	0.035035 (0.009)***
TANG	0.0230448 (0.550)	0.1010574 (0.001)***	0.0285559 (0.761)	0.9159723 (0.063)*	0.1248297 (0.000)***	0.1199315 (0.000)***	0.1376084 (0.047)**	0.1008918 (0.198)
NDTS	-0.0130514 (0.971)	1.338548 (0.000)***	3.947016 (0.000)***	2.744921 (0.532)	0.0302987 (0.883)	0.017206 (0.912)	1.338401 (0.046)**	1.641738 (0.020)**
LIQ	-0.0081115 (0.00)***	-0.0039463 (0.000)***	-0.0040264 (0.009)***	0.0051297 (0.414)	-0.0014992 (0.051)**	-0.0010144 (0.008)***	-0.0010314 (0.363)	-0.0010542 (0.293)
SPP	-0.0626585 (0.000)***	-0.0461664 (0.000)***	-0.0101736 (0.394)	-0.3954109 (0.000)***	-0.0263042 (0.000)***	-0.0137076 (0.000)***	-0.0084561 (0.335)	-0.0160425 (0.059)**
GDP	-.0349716 (0.858)	-0.0000635 (0.986)	-0.0825642 (0.821)	0.1130772 (0.537)	0.0353211 (0.755)	-0.0010387 (0.573)	-.165974 (0.537)	0.0010025 (0.973)
INF	-0.0189045 (0.826)	-0.0023423 (0.827)	-0.0089236 (0.827)	-0.3246085 (0.266)	0.0097824 (0.843)	-0.0030944 (0.580)	-0.019867 (0.508)	0.0471622 (0.311)
INT	0.0352183 (0.870)	-0.0069758 (0.856)	0.0009193 (0.953)	0.1177367 (0.794)	-0.0279032 (0.822)	-0.0015072 (0.940)	0.0013671 (0.904)	-0.0362358 (0.615)
R^2	0.3011	0.3237	0.2943	0.9577	0.2300	0.2559	0.1331	0.0662
Obs	423	563	288	384	423	563	288	384

∗ Significant at 10% level, ∗∗ Significant at 5% level, ∗∗∗ Significant at 1% level

To conclude, the result of Malaysia shows that there are no differences in the role of firm size and remains significant before and after the crisis, where the relationship is positive and significant to total debt and long-term debt. This finding is consistent with a pecking order theory, which postulates that larger firms tend to use higher amounts of debt. In Indonesia, the relationship between firm size to overall debt and long-term debt is significant before the crisis, but becomes insignificant after the crisis which is not similar to that in Malaysia.

For Malaysia, table 4.7 implies a significant negative relationship between profitability and overall leverage before and after the crisis. This confirms that there is no difference in the role of profitability before and after the crisis and supports is pecking order theory. However, for Indonesia, before the crisis, profitability is significantly negatively related to overall leverage, but after the crisis in the relationship is positive and insignificant. This implies that during the pre-crisis period, manufacturing firms in Indonesia practiced the pecking order theory, meanwhile, for the post-crisis period, manufacturing firms in Indonesia followed trade-off theory.

Furthermore, for Malaysian firms, profitability is significantly negatively related to long-term leverage before the crisis, but insignificant relationship after the crisis. However, for Indonesian firms, the relationship between profitability and long-term leverage is negative and insignificant before the crisis, but becomes positive and significant relationship with long-term debt after the crisis. This shows that during pre-crisis period, profitability does not play any role in determining the capital structure, but after the crisis

the profitability plays an important role in explaining the capital structure in Indonesia and this supports the trade-off theory.

For Malaysia, Table 4.7 shows that the relationship between tangibility and overall leverage is positive and insignificant before the crisis, but becomes significant after the crisis. This indicates that companies required to provide collateral to the lenders to issue debt after the crisis and supports the trade-off theory (Myers and Majluf, 1984). Similarly, for Indonesia, the result is similar to that in Malaysian manufacturing firms where tangibility and overall leverage is positive and insignificant before the crisis, but becomes significant after the crisis.

Conversely, for Indonesia, the relationship between tangibility and long-term leverage is positive and significant for pre-crisis, but then becomes insignificant for post-crisis. This recommends that Indonesian firms followed pecking order theory before the crisis, but after the crisis the relationship is very weak. To conclude, both countries result are similar, tangibility is insignificantly positively related to overall leverage before the crisis, but becomes significant after the crisis, except the relationship between long-term debt and tangibility for Indonesian firms which is not significant after the crisis.

For Malaysia, table 4.7 shows that the relationship between non-debt tax shields and overall leverage is negative and insignificant before the crisis, but switches to positive and statistically significant after the crisis. This shows that after the crisis, the companies with higher non-debt tax shields tend to use a higher amount of leverage and this supports

Bradley et al. (1984). However, for Indonesia, non-debt tax is positively related with overall leverage and is statistically significant before the crisis, but becomes insignificant after the crisis, because companies in Indonesia reduced the amount of debt financing after the crisis. Furthermore, for Malaysia, the relationship between non-debt tax shields and long-term leverage is insignificant before and after the crisis. However, for Indonesia, the relationship between long-term debt and non-debt tax shields did not change before and after the crisis. To conclude, overall leverage for both countries reveal a significant difference during pre-crisis and post-crisis, meanwhile for long-term leverage it remains the same before and after the crisis for Indonesia firms.

For Malaysia, table 4.7 revealed that there is a significant relationship between liquidity and overall leverage before and after the crisis which is consistent with the trade-off theory. However, for Indonesia, liquidity is significantly negatively related before the crisis, which supports pecking order theory, but insignificantly positive relationship after the crisis. This shows that the crisis significantly decreased the role of liquidity. Furthermore, for Malaysia firms, the relationship between liquidity and long-term leverage is also significant during pre-crisis and post crisis period. However, for Indonesia firms, liquidity is significantly negatively related to long-term debt, but ia insignificant after the crisis. To sum up, the result shows that liquidity plays a significant role before and after the crisis for Malaysian firms, while in Indonesian firms, there is a difference in the role of liquidity before and after the 2008 crisis.

In Malaysia, the result shows that the relationship between share price performance and overall leverage is negative and statistically significant before and after the crisis as predicted by market timing theory. This shows that share price plays a significant role in determining capital structure before and after the 2008 financial crisis. On the other hand, for Indonesia, the relationship is negative and statistically insignificant before the crisis, but becomes significant after the crisis. Furthermore, for Malaysia, share price performance is significantly negatively related to long-term leverage to pre-crisis and post-crisis period. However, for Indonesia, the relationship between share price performance and long-term debt is insignificant before the crisis, but the relationship is significantly negatively related to long-term debt after the crisis.

Lastly, table 4.7 shows that firm-specific factors (firm size, profitability, tangibility, non-debt tax shields, liquidity and share price performance) that affect capital structure decisions are considerably driven by changes in economic condition such as the 2008 financial crisis. The analysis of pre and post-crisis indicated that companies' dependence on some of these variables changed after the crisis because the crisis increased the risk of bankruptcy and costs of financing. Meanwhile, country-specific factors (GDP growth, inflation and interest rate) do not appear to influence capital structure determinants for the pre-crisis and post-crisis periods.

4.7 Summary

In this chapter, a comparison of capital structure determinants between Malaysia and Indonesia has been analyzed using both firm-specific and macro-economic variables. The findings indicate the differences in the determinants of capital structure for the two countries. More importantly, this study clarifies that manufacturing firms in Malaysia and Indonesia prefer overall leverage and have a substantially lower amount of long-term debt.

The result is consistent with the predictions of trade-off theory, pecking order theory and the market timing theory. For Malaysia, firm size, tangibility, non-debt tax shields are significantly positively related to overall leverage and long-term leverage, while profitability, liquidity and share price performance are significantly negatively related to overall leverage and long-term leverage under the pooled OLS model. For Indonesia, profitability and non-debt tax shields are significantly positively related to overall leverage, meanwhile firm size, tangibility, liquidity and share price performance are significantly negatively to overall leverage. However, firm size, profitability, tangibility, non-debt tax shields have a positive relationship to long-term leverage for Indonesian firms, while liquidity and share price performance negatively related to long-term leverage.

Under the fixed effect estimation model, for the overall leverage, the result in Malaysia firms is similar to those of the pooled OLS model except for non-debt tax shields, which is not significant under the fixed effect model and inflation which has a significant

positive relationship to overall leverage. However, for Indonesia, the result is the same as those in pooled OLS regression, except for interest rate, which has a significant negative relationship to overall leverage.

For long-term leverage, the results in Malaysian firms are not similar to those of the pooled OLS model except tangibility and liquidity. The relationship between firm size, profitability and share price performance are not significant to long-term leverage under fixed effect model, but GDP has a significant negative relationship to long-term leverage. Whereas in Indonesian firms, the results are almost similar to those of pooled OLS except for liquidity and share price performance, which has an insignificant relationship to long-term leverage under fixed effect model.

In addition, the result depicts that the effect of financial crisis differs across countries. In Malaysia, the findings depict a major change in the firm-specific factors before and after the crisis, while some of determinants remain significant during pre-crisis and post-crisis period.

The study documented that when using fixed effects, there are slight changes in the significance level of the variables and more importantly in the sign of the relationships which is consistent with the studies of Bevan and Danbolt (2004) and Berger, Ofek and Yermack. (1997). Lastly, this study contributes to the literature towards a better understanding of capital structure determinants in Malaysia and Indonesia.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter concludes the overall study and consists of six sections. Section 5.2 discusses conclusion of the study. This is followed by section 5.3 which presents the limitation of the study, while section 5.4 discusses the implication of the study. Section 5.5 provides future research and section 5.6 summarizes the chapter.

5.2 Conclusion

The objectives of this study are to investigate the determinants of capital structure for a panel of 237 manufacturing companies listed on Bursa Malaysia and Bursa Efek over the period of 2005 to 2012, and to examine whether the determinants of capital structure changed before and after the crisis. The findings are largely consistent with the theories of capital structure and empirical evidences from other regions.

This study contributes to the literature by comparing two countries in South East Asia, namely Malaysia and Indonesia. The findings of this study will shed light on firm-specific and country specific-variables that influence financing behavior of companies in Malaysia and Indonesia and lastly, this study will contribute to the literature through investigating the differences in the determinants of capital structure before and after financial crisis in 2008.

The results for pooled data depicts that in Malaysia, firm size, tangibility and non-debt tax shields have a significant positive relationship to overall and long-term debt, but profitability, liquidity and share price performance negatively related to long-term debt. However, for Indonesian firms, the results show that profitability and non-debt tax shields are significantly positively related with total leverage, but negatively related to firm size, tangibility, liquidity and share price performance. In addition, firm size, profitability, tangibility, non-debt tax shields are positively related to long-term debt, but negatively related to liquidity and share price performance. This suggests that company's financing behavior can be explained by a combination of capital structure theories (trade-off, pecking order and market timing theory).

The fixed effect model shows that the result for Malaysian firms is similar to those of pooled OLS except for non-debt tax shields which is insignificantly negatively related to overall leverage and inflation which is significantly positively related to overall leverage under fixed effect model only. However, for Indonesian firms, the fixed effect model depicts that the result is the same as those in pooled OLS except for interest rate, which is negatively related to overall leverage and statistically significant at 5 percent.

Furthermore, for long-term leverage in Malaysia, fixed effect model is similar to those in pooled OLS except for firm size, profitability and share price performance, which have an insignificant relationship to long-term leverage, but GDP is positively related to long-term leverage. However, for Indonesian firms, the result is completely similar to the

findings of pooled OLS except for liquidity and share price performance, which have an insignificant relationship to long-term leverage under fixed effect model.

In addition, country-specific variables shows that there is no difference in the determinants of capital structure before and after the financial crisis in 2008. However, firm-specific determinants have a difference before and after the crisis caused by changes in economic conditions. The findings suggested that during financial crisis period, a company's dependence on some of firm- specific variables changed after the crisis and vice versa, because the crisis increased the risk of bankruptcy and costs of financing. Firm size, profitability, tangibility, non-debt tax shields, liquidity and share price performance have shown differences in results before and after the crisis for Malaysia and Indonesia.

On the other hand, significant differences between the capital structure determinants of Malaysian and Indonesian firms have been documented in this study, it shows that both countries desire short-term finance and have lower amount of long-term debt.

5.3 Limitation of the study

Several limitations were met in conducting this research. The first limitation is time constrained. This study is conducted within a three-month period, which is not enough to conclude. The second limitation of this study is that the samples only focused on the manufacturing sector, which are listed on Bursa Malaysia and Bursa Efek. In fact, there are many other sectors; therefore, the results do not represent the other sectors in

Malaysia and Indonesia. In order to get more convincing and precise result a larger sample should be used.

5.4 Implications of the study

Generally, the results of this study may provide implications for firm managers and investors. This study is recommending managers of the firm not to consider only firm-specific factors when making financing decisions, but also consider the economic condition, environment and macro-economic factors. According to the result of this study, manufacturing firms in Malaysia and Indonesia rely more on debt after the crisis as such managers of the firm needs to change their financing policy according to the economic changes.

For instance, if the companies suffer losses and have no taxable income during or after the crisis, they should not concentrate having a high non-debt tax shields since tax is no longer their goal. As a result, managers of the firm should concentrate more on internal source of financing. Furthermore, this study recommends that the managers need to issue equity when the market is efficient, which gives the managers the opportunity to time the stock. On the other hand, investors can benefit the knowledge provided in this study. Investors should consider the firms' characteristics and other important factors related capital structure when making financing decision.

5.5 Future research

This study lays some groundwork to investigate the determinants of capital structure of Malaysian and Indonesian manufacturing companies. Further research is required to fully understand the firm's capital structure determinants. Recommendations for future research are:

1. This study only concentrated on Malaysian and Indonesian manufacturing firms because they immensely contribute to the economy of those countries. An investigation on larger sectors would provide more convincing and precise result.
2. Further work is required to develop new hypothesis. Therefore, this study recommends that other country-specific variables for instance, bond market development and stock market development can be taken into consideration as they are factors that determine capital structure.

5.6 Chapter summary

This chapter concludes the overall study, by summarizing the major findings, limitation of the study, providing implications of the study and suggestions for future research. Eventually, this study is very important in determining capital structure in Malaysia and Indonesia since firm-specific variables are statistically significant while country specific variables are only significant under fixed and random effect estimation.

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