

**CAPITAL STRUCTURE, CAPITAL INVESTMENT AND PROFITABILITY
AMONG MALAYSIAN LISTED FIRMS**

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Dedicated to those who stand still with me on completion of this thesis.

A little thing from you always a great deal for me forever.

Special dedication to Late Associate Professor Dr. Melati Ahmad Anuar

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ABSTRACT

Capital investments are referred as a critical managerial decision on firm's fixed asset for generating profitability. However, the empirical finding shows that not every capital investment has a significant positive effect on profitability. Literature indicates mixed results of examining the capital investment relationship with firm's profitability, which vary in respects to the debt structure. On the other hand, strong government reinforcement has pushed Malaysia up as one of the top ten countries with robust private capital investment in the year 2004. Since the capital investments are typically irreversible and hypothesized as profit's generator, the first aim of this study is to examine the effect of the capital investment on the firm's profitability across firms and sectors. The second aim is to examine the moderating effect of capital structure on the relationship between capital investment and profitability across firms and sectors. This study utilized pooled ordinary least squares and fixed effect analysis across 708 non-financial Malaysian listed firms. The unbalanced datasets for the period 2001 to 2015 were employed to check the robustness of these results. This study suggested that capital investment has strong significant positive effect on profitability measurements across Malaysian listed firms in non-financial sectors. On the other hand, the significant negative moderating effect of capital structure on the relationship between capital investment and return on capital across Malaysian listed firms reflected the perspective of empire building theory. In addition, the independent sample test engaged across sectors affirmed that moderating effect of capital structure are different across sectors. Thus, this study concluded the existence of moderating effect of capital structure on the relationship between capital investment and profitability. This study addressed the knowledge gap on the moderating effect of capital structure based on empire building theory.

ABSTRAK

Pelaburan modal dirujuk sebagai keputusan pengurusan yang kritikal terhadap aset tetap firma untuk menjana keuntungan. Walau bagaimanapun, hasil kajian empirikal menunjukkan bahawa tidak semua pelaburan modal memberi kesan positif yang signifikan terhadap keuntungan. Kajian lepas menunjukkan terdapat keputusan yang berbeza bagi kajian hubungan pelaburan modal dengan keuntungan perusahaan iaitu berdasarkan struktur hutang. Sebaliknya, penguatkuasaan kukuh oleh sektor kerajaan telah mendorong Malaysia menjadi 10 negara teratas dalam pelaburan modal swasta yang teguh pada tahun 2004. Oleh kerana pelaburan modal biasanya tidak dapat dijana balik dan dihipotesis sebagai penjana keuntungan, maka objektif pertama kajian ini ialah untuk mengkaji kesan pelaburan modal ke atas keuntungan syarikat dalam kalangan firma dan sektor. Objektif kedua ialah mengkaji peranan struktur modal sebagai moderator terhadap hubungan antara pelaburan modal dan keuntungan dalam kalangan firma dan sektor. Kajian ini menggunakan gabungan analisis *pooled ordinary least squares* dan *fixed effect* terhadap 708 buah syarikat tersenarai bukan kewangan di Malaysia. Data yang tidak seimbang bagi tempoh 2001 hingga 2015 telah digunakan untuk menyemak keberkesanan kajian ini. Kajian ini menyimpulkan bahawa pelaburan modal mempunyai kesan positif yang signifikan terhadap pengukuran keuntungan di seluruh firma tersenarai Malaysia dalam sektor bukan kewangan. Sebaliknya, pengaruh moderator struktur modal terhadap hubungan antara pelaburan modal dan pulangan modal dalam kalangan firma tersenarai di Malaysia menggambarkan perspektif Teori *Empire Building*. Di samping itu, ujian sampel bebas yang terlibat antara sektor menegaskan bahawa kesan penyederhanaan struktur modal adalah berbeza antara sektor tersebut. Oleh itu, kajian ini menyimpulkan wujudnya kesan moderator terhadap hubungan antara pelaburan modal dan keuntungan. Kajian ini turut membincangkan jurang pengetahuan mengenai kesan moderator struktur modal berdasarkan Teori *Empire Building*.

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LIST OF ABBREVIATIONS

CCE	-	Current Capital Expenditure
CE	-	Capital Expenditure
CI	-	Capital Investment
CMP1	-	Capital Market Masterplan 1
CMP2	-	Capital Market Masterplan 2
CRISIS		Financial Crisis
EPS	-	Earning Per Share
ETP	-	Economic Transformation Plan
IA	-	Investment-to-Asset
NEM	-	New Economic Model
NIBX	-	Net Income before Extraordinary Item
R&D	-	Research and Development
REITs	-	Real Estate Investment Trust
ROA	-	Return on Asset
ROC	-	Return on Capital
ROCE	-	Return on Capital Employed
ROE	-	Return on Equity
ROI	-	Return on Investment
SC	-	Securities Commission
SIZE	-	Firm Size
STD	-	Short-term Debt
STDTD		Short-term Debt to Total Debt
LTD	-	Long-term Debt
LTDTD		Long-term Debt to Total Debt
TD	-	Total Debt

CHAPTER 1

INTRODUCTION

1.1 General Overview

Financial ratio analysis is generally used as a general measure of a firm's overall financial performance over a given period that compares similar firm's performance across the same industry or to between industries or sectors in an aggregation (Marozzi and Cozzucolib, 2016). There are various ways to measure financial performance and the five major categories of financial performance measures namely liquidity, asset management, profitability, debt management and market ratios. Profitability ratios are essential to measure the returns generated over the amount of capital or asset, which is an independent measure of how well a firm can use capital or assets from its primary mode of business to generate revenues.

Meanwhile, profit is an unconditional amount determined by the amount of revenue after the expenditures incurred by a firm (Gomes, 2001). Although profit and profitability are used interchangeably, they are not the same. Scholars have proposed inconsistent indication of profit concept on logical implication (Howard, 1983; Desai 2008). In a non-inflationary family business, measuring the profit is based on the specific capital inputs with no taxes or debt. It would be relatively straightforward by deducting expenses from the revenue. However, a corporation operates with long-term assets with various maturities, price changes, cost of debt and taxation where the two bookkeeping techniques diverged to measure profitability of family business and corporations (Knight, 1984).

In general accounting, profit is a purely summed surplus derived from the business enterprise that can be distributed to the shareholders (Clark *et al.*, 1979). On the other hand, profitability is the firm's performance stimulated from business investment (Eisner, 1964), which is the corporation's highest priority financial performance (Chirwa, 2003; Da Silva, 2013). It is closely related to the firm's efficiency measurement (Bronfenbrenner, 1960) and the ability of a firm to produce the return or benefit from the investment based on its resources compared to an alternative investment (Solomon, 1956; Bourgeois *et al.*, 2014). Profitability realisation is one of a corporation's objectives (Chamberlian and Gordon, 1989). In another study by Echevarria (1998), profitability is referred to as a product mix that optimises the input and output rates to a maximum return of the firm. Similarly, in managerial finance, the major concern is the cost of financing and the return from the investment to achieve maximum profitability for a corporation (Chandra, 1989). Thus, firm's profitability is interrelated with cost and return from firm's investment activity.

However, variation exists between the value created for shareholder's wealth and firm's profitability maximisation (Woolridge and Snow, 1990). Maximization principle in economic theory is defined as the overall firm's profitability generated from capital investment (Eisner, 1964). Meanwhile, the perception of maximum shareholder's wealth creation is the distributed earning to the shareholders based on the overall profitability of the firm (Howard, 1983). Therefore, the following section treats profitability as the return generated by the firm from investment and operation activities.

Based on the agency theory, the primary objective of a firm is to maximise shareholder's wealth. This underlying assumption leads to little previous studies on the effects of capital investment concentration in opposition toward capital investment evaluation (Fisher, 1930; Christenson, 1955; Hirshleifer, 1958). The proper investment criteria are rationalised for generating medium and long-term benefit from capital investment for the firm and eventually for national economic growth (Hawkins and Pearce, 1971; Ashford, 1988). In the numerous ensuing studies, discussion is more focused on the effects of capital investment on firm's

profitability (Echevarria, 2000; Kim, 2001) and working capital management (Appuhami, 2008; Raheman *et al.*, 2012; Valipour *et al.*, 2012).

1.2 Background of Study

Capital investment decisions are often listed as the essential register in corporation's annual capital budgeting (Brealey *et al.*, 2011). As reported by Erden (2002), the specific project on fixed asset for a productive purpose is recognised as capital investment. The term "productive" refers to the value generation from the capital investment. Meanwhile, capital investment is the fixed asset investment that generates future benefit (Levy and Sarnat, 1994). The capital investment on tangible and intangible assets usually has long life span with measurable monetary value to carry out business operation (Biddle and Hillary, 2006). According to Brealey *et al.* (2011), the distant future benefit of capital investment often generates cash return to recover the initial outlay of investment and to provide adequate profitability from the investment.

Previous studies related to corporate capital investments basically concentrate on two areas; one group of studies analyses investment decision and appraisal due to disagreement on measures of capital budgeting that would essentially maximise firm's profitability (Fisher, 1930; Christenson, 1955; Hirshleifer, 1958). The other group of studies traces the impact of firm's prospect capital investment's announcement on share prices. Later, the literature developed by exploring the effects of capital investment on firm value (Mc Conell and Muscarella, 1985; Pegels, 1991; Abel and Eberly, 1996) as the corporate financial manager's objective is to ensure the minimum cost of capital that maximises the wealth of shareholders (Shah and Khan, 2007).

However, the general expectation of capital investment is to maximise the firm's overall profitability based on neoclassical theory (Tarascio, 1993). Chung *et al.* (1998) demonstrated a positive relationship between capital investment announcements and firm's return. Furthermore, markets perceived cumulative

increase in capital investment as a valuable signal for investment opportunities. In addition, the Lev and Thiagrajan (1993) pointed out that capital investment represents a fundamental signal claimed by analysts to be useful in predicting profitability. Capital investment is assumed to increase the operating efficiency and decrease total operating cost. Thus, the lower operating cost should acquire higher profitability level. Therefore, the higher operating efficiency allows higher productivity and competitive pricing (Echevarria, 1998). Fama and French (1995) inferred profitability and capital investment relationship as a linear relationship.

In the global economy, capital investment is an indicator of current economic strength for future prospects. According to Luporini and Alves (2010), firms in developed countries take advantage of this economic expansion to continue implementing large-scale projects by investing in new plants or increasing the capacity of existing plants. Therefore, the economic growth is stimulated by capital investment and directed to wide investment opportunities (Giambiagi, 2008). This is consistent with the study of Jorgenson (1963) mentioning that firms in developed countries pursue to maximise profitability through capital investment.

Subsequently, the background of capital investment related to profitability is enlightened based on studies in developed countries. Studies conducted across firms identified a positive relationship between capital investment and profitability in the developed countries (Fama and French, 1995; Bryan, 1997; Kim, 2001; Chan *et al.*, 2003; Anderson and Garcia-Feijoo, 2006; Kumar and Li, 2013). Meanwhile, several firm level studies have documented a negative relationship between capital investment and profitability in the developed countries (Bar-Yossef *et al.*, 1987; Jensen, 1986; Berk *et al.*, 1999; Christopher *et al.*, 2006; Lipson *et al.*, 2011). However, the study on capital investment with profitability in developing countries is inadequate.

A few studies have been conducted at firm level of developing countries to evaluate the relationship between capital investment and profitability. Jiang *et al.* (2006) and Navarro *et al.* (2013) acknowledged the existence of positive relationship in capital investment with profitability for studies conducted at Taiwan and Brazil.

However, the firm level negative relationship between capital investment and profitability is still lacking in the developing countries. Given the huge amount of capital investment by corporate companies in emerging countries too (Li, 2004), it is surprising that there are just few studies addressing the effects of capital investment on profitability for past years. Emerging market performance has lagged the developed markets performance significantly (Copra, 2016). Moreover, the state of capital markets in many emerging economies looks particularly poor despite the huge effort undertaken to improve the macroeconomic environment and reform the institutions that are believed to foster financial development.

1.3 Background of Problem

Malaysia as an emerging country has strategised several actions to increase the nation's economy; for example, the privatisation programme, Capital Market Masterplan 1 (CMP1), Economic Transformation Programme (ETP), New Economic Model (NEM) and Capital Market Masterplan 2 (CMP2). The privatisation programme has a significant contribution to the increased capital investment and is able to boost Malaysian economic growth since its commencement on 1983 (KLSE, 1992). In addition, the CMP1 was implemented to support capital investment needs via strong regulatory that increases investor's confidence in the Malaysia's capital market (Security Commissions, 2001). Following the strong reinforcement by the government sector on tax incentive and allowances, Malaysia has become one of the top 10 countries with robust private capital investment flow on 2004 (De La Torre and Schmukler, 2004). In addition, the ETP enhances private capital investment to increase the nation's income and to achieve the developed nation status by 2020 (Department of Statistics Malaysia, 2009).

There is a strong need of capital investment for the Malaysian firms to support a long-term sustainable growth of the economy and to further boost its competitiveness (Puah *et al.*, 2013). Malaysia's growth continues in total factor productivity through innovation activities and human capital investment (Economic Report, 2014) where the capital accumulation for investment in fixed asset became

an important component of growth in Malaysia (Massa and Testa, 2008). Constant return from capital investment permitted Malaysia to remain on track of its fiscal economic strength (Agarwal *et al.*, 2011). In 2009, when the total capital investment by private and public limited companies in Malaysia was decreased, the economy hit a recession where the total capital investment by large private and public limited companies has dropped by 31% in 2009 (Department of Statistic, 2010). However, the drop in the capital investment was reversed in 2010 when it began to show a rising trend, which is in line with the wide-ranging recovery of the Malaysia's economy.

Further to the above, the launch of NEM in 2010 was a Malaysian government's concern to transform Malaysia into a high-income economy country. This policy is adding to existing Vision 2020 to promote Malaysia's growth in an inclusive and sustainable manner. The NEM has triggered Malaysia's economy into a new phase where the private sectors are expected to grow in the global market and attract more foreign corporation's shareholders or partners. In the subsequent years, overall capital stock displayed an increasing trend from 2005 to 2012 reflecting the accumulated investment increase from RM1.7 trillion in 2005 to RM3.0 trillion in 2012 (Economic Report, 2013). However, the previous studies on Malaysia firms' capital investments have essentially emphasised capital investment practices (Ann *et al.*, 1987; Hamidi *et al.*, 2013). The increasing trend of capital investment is supported by Figure 1.1, which demonstrates the Malaysia's capital investment in dollar value from the year 2001 to year 2015 with increasing trend from the year 2001 to 2008 and a downfall on the year 2009. Later, from the year 2010 to the year 2014, the increasing trend continues until its fall on the year 2015. However, the fall is not below the growth rate of year 2001, which proved the growing trend of capital investment in Malaysia. However, fewer attempts have been made investigating the issue of large capital investment and its effects on the profitability among Malaysian listed firms in the context of developing country. Therefore, the first issue investigated by this study is the effects of capital investment on profitability across the listed firms in Malaysia.

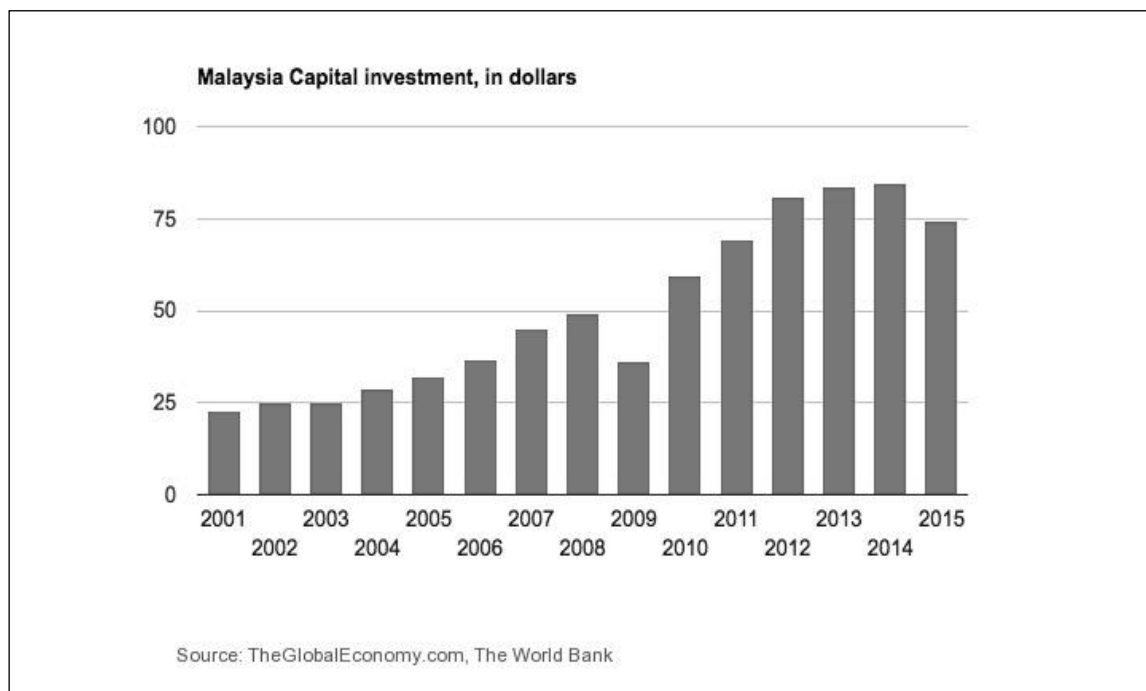


Figure 1.1: Malaysia Capital Investment in Dollars
Source: The Global Economy, The World Bank

Even though several studies have proposed results on how capital investment affects the firm's profitability and the relationship between variables at firm level, less number of studies has been conducted across sectors. The study across sectors is a requirement to identify the unique behaviour of each sector in responding to various result obtained by scholars on the relationship between capital investment and profitability. The extent of capital investment examination is to find out whether the different activities of each sector can be systematically related to the capital intensity, which may lead to the variance on profitability level of each sector. Thus, due to the characteristics of the business activity, the data are diverse between sectors. The data obtained by McGahan's (1992) showed that firms within industries vary in profitability as a function of relative size for each firm. This study further demonstrates the uniqueness of capital structure decisions and practices that may vary across sectors due to the different leverage level needs across sectors and similarities within an industry with respect to the financial structure (Harris and Raviv, 1991, Ramakrishnan, 2012). Consequently, the second issue of this study addresses the effects of capital investment on profitability across sectors in Malaysia.

During the 19th century, most corporations are owned and controlled by the proprietors. The ownership and power to control these corporations are operating as one entity. At the beginning of 20th century, the ownership and management control have been gradually detached as two units that work distinctly (Luporini and Alves, 2010). The separation of management and ownership creates the potential for management to engage in empire-building behaviour (Opler *et al.*, 1999). Managers are assumed to have an "empire building" tendency where they enjoy private benefits from controlling more capitals and managing higher quality projects (Harris and Raviv, 1996, 1998; Bernardo *et al.*, 2001). Managers are the empire builders that continue to choose capital investment even after all positive net present value (NPV) projects have been taken. Titman *et al.* (2003) argued that empire-building managers may have an incentive to put the best spin on their investment opportunities as well as on their overall business when they make high capital investments.

Firms with investment discretion are known with having high cash flow with low leverage (Jensen, 1986). Excessive free cash flow enables managers to invest in negative NPV projects after exhausting positive NPV projects (Blanchard *et al.*, 1994; Richardson, 2002). This greater investment discretion is more likely to promote over investment in capital investment based on agency cost in the context of empire building theory. The agency cost hypothesis predicts that managers, when not monitored by shareholders, will make self-maximising decisions, which may not necessarily be in the best interest of shareholders. Initial study on empire building emphasised by Donaldson (1984) and Jensen (1986) has suggested that manager's decisions include aggressively growing the firm by capital investment.

Firms reinvest their accumulated substantial wealth and free cash flow to commence capital investment (Jensen and Meckling, 1976; Titman *et al.*, 2004). However, the firm's internal resources are not sufficient to finance the continuous growth opportunity (Al-Thuneibat *et al.*, 2015). On the other hand, when firms have a cash short fall, the possibility of overinvestment is mitigated because they are forced to raise funds through external markets that provide a monitoring role. Thus, the external debt financing becomes the best alternative method of financing without the owner involved in his or her own funding contribution. Consequently, the

demand for bank debt instruments increased since these instruments do not reduce the owner's shareholding (Singh and Ramann, 2014). However, the debt financing is limited to an extent to maintain the competitive advantage and benefit gained from the economies of scale due to a high cost of financing (Singh and Ramann, 2014). Lumbering capital investment is related to lumpy capital structure adjustment due to different financing policies (Li, 2004; Strebulaev, 2007). Meanwhile, the changes in capital investment are caused by the investment and financing policy based on the empire building theory that demands additional investigation in the context of adjustment in leverage that may lead to changes in profitability level.

Capital structure decision is one of the firm's characteristics besides environment and tradition in which the firm operates (Antoniou *et al.*, 2002). On the other hand, empire building theory is one of the essential theories identified under agency cost theory in capital structure (Tirole, 2006). The mixture of liability and equity to finance investment in maximising return is referred to as capital structure (Abor, 2005). According to Parrino and Kidwell (2009), an optimal capital structure is achieved when a firm minimises the cost of financing and maximises its total value. Raising short-term or long-term funds from internal or external source are the financial decisions concerned in capital structure, which is one of the important issues in corporate finance (Frank and Goyal, 2009).

Empirical studies documented that highly cash liquid firm is more likely to engage in value decreasing projects particularly when managers are poorly governed (Harford, 1999; Dittmar and Smith, 2007; Harford *et al.*, 2008). Based on this underlying assumption, the managers prefer to expand their corporations faster than they should (Sullivan and Zhang, 2011). Firms with excessive investment may face deteriorating profitability due to over investment. Results demonstrated that the associations are indeed aggravated when firms have high free cash flows and low leverage, which is consistent with management empire-building motivations.

Debt could potentially mitigate the over-investment problem. It restricts the use of internal funds generated by a firm by forcing the managers to use cash flow to meet contractual financial obligations (Jensen, 1986; Stulz 1990). Managers' empire-

building incentives may be constrained by creditors' legal rights to reorganise or even liquidate the firm in case of default. Thus, the negative association between investment and profitability could reasonably be expected to be weaker in firms with high debt as the manager's tendency is to use the firm's internal fund to build the empire. However, debt cannot perfectly allow managers to invest optimally (Grinblatt and Titman, 1998; Lyandres and Zhdanov, 2003). High level of debt also brings potential costs including bankruptcy cost. Consistent with Jensen (1986), the negative association is stronger when firms have greater investment discretion for those firms with higher free cash flow and lower leverage.

This reinforces Jensen (1986)'s and Titman *et al.* (2003)'s notion that empire-building incentives can drive the negative association between capital investment and profitability. Their results are consistent with recent findings in the study by Hennessy and Levy (2002) that empire-building incentives appeared to be the dominant issue in the capital structure. Profitability is inherently linked to a company's capital spending decisions in emerging countries, which is the management's effectiveness at investing in projects that add value (Copra, 2016). Trends in corporate capital spending revealed that emerging market firms had invested more than the developed markets. Ultimately, fundamental investors suggest that improved profitability can emerge from differentiation at the company level capital structure. Thus, the aim of this study is to bring novelty by involving capital structure as moderating variable on the relationship between capital investment and profitability. Based on the author's best knowledge, the moderating effects of capital structure on the relationship between capital investment and profitability remain untapped with empire building theory did not receive much attention in literature. Hence, the third issue of this study is to investigate the moderating effects of capital structure on the relationship between capital investment and firm's profitability.

The Malaysian economy has solidly recovered since the 1997 to 1998 financial crisis where the recovery was made possible by numerous reforms as well as favourable external conditions. The share of government capital investment in GDP is positively and significantly correlated with economic growth (Bose *et al.*,

2007) whereby the Malaysian government plays a vital role in public and private capital investments in Malaysia. Internally, the capital investment activity has fostered the growth of sectors. Moreover, the reduction in corporate tax effective on 2009 and the economic transformation programme have increased the capital investment activity of Malaysian firms. To encourage the development of capital intensive projects, the regulations were made granting a 60% annual investment allowance on qualifying capital expenditure incurred in conjunction with a qualifying project for certain encouraged sectors such as projects in respect of enhanced oil recovery, high carbon dioxide gas, infrastructure asset, agricultural, mining and quarrying, manufacturing, construction as well as service sectors. Besides, certain selected industries received 100% tax allowances for pioneer status capital investment. The sectors that showed a significant increase in capital investment since 2010 in Malaysia included transport and communication sector, real estate and business sector, construction and manufacturing sectors (Economic Report, 2013). In addition, the unique behaviour of capital structure at sector-level is not identical within and between countries (Ramakrishnan, 2012). However, only a few studies have been conducted focusing on the effects of capital investment on profitability across sectors in Malaysia. Hence, further study is certainly needed to examine the moderating effects of capital structure across sectors. Therefore, the fourth issue of this study is extended to investigate the moderating effects of capital structure on the relationship between capital investment and profitability across sectors in Malaysia.

1.4 Problem Statement

Studies have been conducted to examine the effects of capital investment on profitability and identify a correlation between the variables. The past literatures have similarly stressed on the effects of capital investment on firm's profitability across the firms in developed (Chung *et al.*, 1998; Kim, 2001; Anderson and Garcia-Feijoo, 2006; Kumar and Li, 2013) and developing countries (Jiang *et al.*, 2006; Navarro *et al.*, 2013). The extensive reinforcement by the Malaysia government such as ETP and NEM policy privatisation programme had gave a significant contribution to the increased capital investment and Malaysian economic growth since its

commencement on 1983. However, the encouragement to involve in capital investment may place the firms to insolvency. Therefore, the first issue of this study is concentrated in analysing the effects of capital investment on profitability across listed firms in Malaysia.

The overall sample could not be generalized to all listed firms in Malaysia, as one does not fit all nature of business. The vigorous nature or content has been seen varied across sectors for capital investment in developing countries (Rajan and Zingales, 1995; Chen and Hammes, 2003). Accordingly, the raising capital investment trend in Malaysia since the year 2010 to boost economy growth upon 2009 recession (Economic Report, 2013) varies across sectors in Malaysia. Besides, the tax incentive and allowances to promote capital investment differ according to encouraged sectors (MIDA, 2015). Thus, it may create varying results between capital investment and profitability across sectors in Malaysia. Hence, the second issue of this study attempts to examine the effects of capital investment on profitability across sectors in Malaysia.

The third issue of this study is on examining the moderating effects of capital structure on the relationship between capital investment and profitability in accordance to empire building theory. Malaysia is one of the countries with strong capital investment activity based on the robust government's encouragement via few economic policies. This was mainly employed to enhance the overall country's economic growth via the support from strong capital market. The empirical study evidenced by Myers and Majluf (1984) and Eisdorfer *et al.* (2013) indicated efficient capital structure as an important element for the firms to be sustainable in the market. Nevertheless, the third issues of this study is to investigate the moderating effects of capital structure respective to varying relationship between capital investment and profitability across listed firms in Malaysia.

Public expenditure policies shape the growth prospect for developing countries (Bose *et al.*, 2007). The Malaysian government drives economic transformation whereby the 10th Malaysia Plan pursues a smart partnership between the public and private sectors. The 10th Malaysia Plan is an important economic

development blueprint involving structural reform in Malaysian economy to achieve a developed nation status. One of the pillars is to achieve the goal of 10th Malaysia plan via supporting an effective and smart partnership. A facilitation fund of RM20 billion has been established to promote investments in nationally strategic areas. The new privatisation plans promote capital investment in private sectors with high growth and potential competitiveness. These plans also support the private sectors in driving industry development particularly in human capital development and R&D by providing special financing schemes grounded on capital market master plan. On that account, the fourth issue of this study attempts to investigate the moderating effects of capital structure on the relationship between capital investment and profitability across sectors in Malaysia.

1.5 Research Question

The research questions of this study were developed based on the mentioned four issues in the problem statement. Hence, the focal research questions are addressed as follow:

1. Does capital investment affects profitability across listed firms in Malaysia?
2. Does capital investment affects profitability across sectors of listed firms in Malaysia?
3. Does capital structure have moderating effects on the relationship between capital investment and profitability across listed firms in Malaysia?
4. Does capital structure have moderating effects on the relationship between capital investment and profitability across sectors of listed firms in Malaysia?

1.6 Research Objective

The objectives of this study are based on four research questions mentioned as follow:

1. To examine the effects of capital investment on profitability across the listed firms in Malaysia.
2. To examine the effects of capital investment on profitability across sectors of listed firms in Malaysia.
3. To investigate the moderating effects of capital structure on the relationship between capital investment and profitability across the listed firms in Malaysia.
4. To investigate the moderating effects of capital structure on the relationship between capital investment and profitability across sectors of listed firms in Malaysia.

1.7 Significance of Study

The findings of this study can contribute to the empire building theory by recognising large capital investment of listed firms in Malaysia to investigate the moderating effects of capital structure on the relationship between capital investment and profitability of listed firms in Malaysia. Significance of study is presented in two sections namely the body of knowledge and policy implementation.

1.7.1 Body of Knowledge

In relation to the body of knowledge, this study is distinctive in four aspects. The first aspect reflects the investigation across firms and sectors of listed firms in Malaysia. This is responding to gaps in corporate finance literature through assessing the association between capital investment, capital structure and firm's profitability.

Studies found a significant relationship between capital investment and profitability. Inci *et al.* (2009) anticipated that the effects of capital investment to profitability are strongly positive for firms in countries with developed financial markets. This is because the degree of financial development is able to influence the efficiency of capital allocation (Rajan and Zingales, 1998; Wurgler, 2000). However, as further investigation is required across firms in developing countries to the extent of author's knowledge, no study has been employed to examine the firm-level effects of capital investment on profitability of developing countries. Thus, this study is significant as it examines the effects of capital investment on profitability for Malaysian across firms.

The second significance of study is on the across sectors analysis, which is essential to identify the unique behaviour of each sector in responding to the effects of capital investment on profitability and the moderating effects of capital structure on the abovementioned relationship. The significance of study further exhibits the uniqueness of the capital structure decisions and practices that may vary across sectors due to their different leverage level requirement. The sensitivity of capital investment to capital structure is different for financially constrained sectors (Drakos *et al.*, 2007) as the cost of capital is varied to the nature of firms (Stanley, 1990). Besides, the significant effects of capital investment and capital structure vary between sectors based on capital intensity of the firms (Kumar and Li, 2013).

The third aspect based on the body of knowledge significance is the investigation on the theory application for moderating effects of capital structure on the relationship between capital investment and profitability. The positive effects of capital investment on profitability are related to the degree of financial development of a country (Inci *et al.*, 2009). However, negative relationship may appear between capital investment and profitability as a result from empire building theory (Jensen, 1986). The empire building theory under agency cost theory motivates the over investment action by the managers (Jensen, 1986; Biddle and Hilary, 2006), which may lead the firm to generate loss or decline in profitability due to the cost of financing and low liquidity level. Thus, based on empire building as underlying theory, this study attempts to examine the moderating effects of capital structure on

the relationship between capital investment and profitability. The global financial state and significant changes for the past few decades have stretched the global financial institutions and security markets to a new dimension of financial service instruments (Adam, 2009). Debt financing instruments are preferred compared to the equity financing instruments as the debt cost lesser than equity cost and for tax advantage. On the contrary, large percentage of the capital investment projects was financed by internal funds and later debt was extended by local and foreign bank debt (Belderbost *et al.*, 2013). However, the firms faced negative relationship between capital structure and profitability when they depend on debt financing with capital investment became less profitable projects.

1.7.2 Policy Implementation

This study signifies policy implementation to the government, security commission, corporate sector and financial institutions. Over 30 years, Malaysia has made a transition to a successful middle-income economy and later as an emerging country, which is currently on the threshold of a final momentum towards “developed economy” status. The financial sector played an important role in facilitating growth until the Asian financial crisis in 2007. Macroeconomic stability and gradualism approach to financial liberalisation helped to insulate the economy from the global financial markets. Despite several policy initiatives to develop venture capital industry, the capital investments in knowledge-based firms are yet to gain attraction. Henceforth, the banking sector is still fragmented with capital-intensive sectors. Thus, the significance of this study on the policy implementation may directly promote the governance in recognising the need of capital market facility to encourage capital investments in every sector.

Profitability in emerging markets has been on a downward trend over the last five years. The opposite has occurred in developed markets, thus closing the gap observed historically when companies in emerging markets delivered higher returns on capital than their developed markets peers (Copra, 2016). In turn, the performance of emerging markets has lagged the developed world. Similarly, the corporate

investment decisions are inherently linked to profitability in developed nations alone. As such, capital investment trends have been at the centre of several reports by prominent institutions such as the international monetary fund (IMF) and organisation for economic co-operation and development (OECD). Thus, the evaluation of profitability components (ROE) in this study could lead to a better understanding of the trend in the implementation of emerging nation policy to monitor the signs of profit margin stabilisation.

The falling rate of capital formation has stalled the growth of capital markets in emerging country. In respect to that, the comprehensive policy has mapped the direction of the Malaysian capital market implemented. The CMP1 established to guide the development of Malaysia capital market from 2001 to 2010. Following the implementation, the CMP1 has facilitated the stock market and bond market expansion in 10 years. Hence, the CMP1 ensured that the capital market is well positioned to support national economic growth and to meet future challenges from regional competition and globalisation. It articulates the vision, objectives and strategic initiatives for the Malaysian capital market to successfully meet future challenges. The CMP1 set out 152 detailed recommendations to achieve its objectives and outlines the framework for their implementation. Later, the CMP2 formed another vital contribution to the collective and coordinated efforts by invigorating the economy through the expansion of the capital market's role in financing the country's development.

The analysis of 15 years data after the CMP1 and five years after CMP2 implementation can provide findings on the capital investment trend and its ways of affecting the profitability as firms changes their capital structure. This could create awareness to the Malaysia's policy maker on overinvestment/underinvestment position prior setting a new policy or guideline on strong private capital investment activities. The best model practices from the findings of this study may provide significant insights for the policy maker on growth strategies. Besides, policy implementation on capital investment and the effects of such investment on firm's profitability are essential to sustain growth strategies.

Furthermore, the strong encouragement to undertake capital investment by policy maker should not place the firms at overinvestment position that eventually decreases the profitability level. In addition, the findings of this study are expected to provide a notification to the financial institutions on the existence of firm's extensive capital investment activities and the effects of these activities on capital structure and profitability.

1.8 Scope of Study

This study focuses on the moderating effects of capital structure on the relationship between capital investment and profitability across firms and sectors in Malaysia. The designated time period to achieve the objectives of this study is from the year 2001 until 2015. The data initiated began from 2001 upon Malaysia's CMP1 implementation. Malaysian listed firms have devoted more comprehensive and advance capital market since 2001 leaning on CMP1 policy implementation. CMP1 is established to build a capital market that meets the country's capital resource and investment needs. As a result, the capital market was expanded by 11% growth rate from the year 2001 to 2010 (Securities Commission Malaysia, 2011). Hence, data from the year 2001 is informative due to expanded capital market that boosts the increases in capital investment. In addition, Table 1.1 shows the increase in global equity market capitalisation correspondingly to the nation's strategy. Emerging countries spread the equity market capitalisation more rapidly from the year 1990, hence portraying that capital market efficiency is in an increasing trend.

Table 1.1: Distribution of Global Equity Market Capitalisation

Countries	1990	2010
Developed	87%	76%
Emerging	13%	24%
Total	US\$10.4 Trillion	US\$ 67.3 Trillion

Source: Securities Commission Malaysia (2011)

Subsequently, CMP2 layout plans to transform the competitive dynamics of capital market and strengthen the capital allocation efficiency. Meanwhile, private

sectors are targeted as the foundation to achieve this strategy from the year 2011 to 2020. The policy formed the continuous growth of capital investment in Malaysia. Hence, this study is intended to continue the scope of study until the year 2015, which is until the possible accessible available data for this study. Furthermore, the period of 15 years may have considered any infrequent events that might exist in the firms, whereas the short period of time is not appropriate to generalise and conclude the findings.

Besides, this study focused on panel data analysis of Malaysian listed non-financial 708 firms in Bursa Malaysia. The firms in the financial sector were excluded from this study as they have different financial characteristics. This is mainly due to the inconsistent financial reporting of the financial sector and other sectors in Bursa Malaysia. The census sampling application will determine the number of observations based on Malaysian listed firms' data from the year 2001 to 2015 for eight sectors concurring to sectors listing in Bursa Malaysia.

1.9 Operational Definition

Assets - items owned by a firm that can be converted to cash.

Acquisition - an action by a firm to assume control of another target firm.

Capital Budgeting - planning process employed to determine a firm's long term investments.

Capital Investment –Investment in fixed assets with economical benefit for more than a year and a monetary value.

Capital Structure - referred to how a company is structured and financed.

Debt - the amount owed by a firm to other parties with repayment obligation.

Empire Building - the practice of obtaining more fixed assets, more power, responsibility and staff within an organisation for self-aggrandisement.

Equity - the value of ownership interest in a business after deducting liabilities from assets.

Free Cash Flow – the amount of cash possessed by a firm after deducting the cost of its operations and spending on capital.

Intangible Assets - the assets held by a firm that are not physical in nature.

Return on Assets - an indicator of how profitable a company is relatively to its total assets.

Return on Capital - an indicator of how profitable a company is relatively to its investment generated for capital contributors.

Return on Capital Employed - an indicator of how profitable a company is relatively to use all its capital resources including debt and equity.

1.10 Organisation of the Thesis

This chapter introduces the thesis, which begins with the general overview on firm's profitability as a dependent variable. The background of the study discusses the capital investment as an independent variable as well as the relationship of capital investment and profitability. Later, in the same section, the capital structure association with firm's profitability is discussed. This is followed by the presentation of the background of problems illuminating the context of capital investment with capital structure and the new insights of moderating effects of capital structure. Subsequently, the problem statement established is followed by the research questions and research objectives based on problem statement of this study. Consequently, the significance of the study is recognised for the body of knowledge and policy implication together with the scope of study elements. The next chapter of this study reviews, compares, discusses and summarises the studies previously carried out as well as those recently conducted on capital investment, capital structure and profitability.

Chapter 2 starts with the literature review on profitability. This is then followed by factors and importance of capital investment and capital structure. The review involves existing literature on the relationship of capital investment and capital structure as well as capital structure with firm's profitability. It also enumerates the relevant empirical studies by comparing and discussing the findings. Subsequently, the development of hypothesis is conducted based on the review of each relationship between variables. The chapter is enfolded with the research

framework that describes the flow of study between variables based on extensive literature review.

Chapter 3 discusses the research methodology of this study. The research process is presented followed by the research design of this study. Later, the population and sampling is designed to enlighten following the data collection method. The variables formulated are listed with the type of analysis explained in detail. Finally, the data analysis and model specification is illustrated comprehensively.

Chapter 4 enlightens the data analysis procedure and the description of findings. The first part of this chapter deliberates the descriptive statistics findings of this study followed by the diagnostic test in applying multiple regression analysis. The second part of data analysis and findings is demonstrated to answer the research questions. The correlation analysis was conducted to examine the relationship between variables, multiple regression analysis and to identify the strength of effects between variables and one-way ANOVA test to identify the differences in the sectors. Later, these findings are brought into the context of the study. Finally, these findings are summarised and critically evaluated.

The final Chapter of this study establishes the association of research findings with the literature reviewed in Chapter 2. The summary of the research process and findings is demonstrated in this chapter. The chapter finally recommends suggestions and outlines the foundations for future studies.

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