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CORPORATE TAX AVOIDANCE: DETERMINANTS OF EFFECTIVE TAX RATE (ETR) OF MULTINATIONAL CORPORATIONS IN MALAYSIA

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ABSTRACT

Corporate tax collection is the highest contributor to the revenue for the Malaysian Government as compared to other direct taxes. Likewise, multinational corporations' (MNCs') contribution in terms of corporate taxes in generating the government's tax revenues is also significant particularly for the developing countries including Malaysia. Although there is an increase in the totals collection of direct taxes over the years, the Inland Revenue of Malaysia (IRBM) is concerned with the issue of the tax avoidance as the number of the tax defaulters is on an increasing trend.

Thus, this study attempts to examine the determinants of MNCs tax avoidance by looking at their effective tax rates (ETRs). This study utilized the tax return form data from the IRBM to model the effective tax rates (ETRs) of the MNCs in Malaysia, as a proxy of the tax avoidance. The findings suggest that MNCs in Malaysia can be associated with the tax avoidance since their ETRs are below the statutory tax rates (STRs) as stipulated under the Income Tax Act 1967. The results also suggest firm's size, profitability, extensiveness of foreign operation, capital intensity and leverage are the determinants of the tax avoidance of MNCs in Malaysia. However, this study does not provide evidence on the significant influence of sector effect and location of the holding company on MNCs' tax avoidance in Malaysia.

Keywords: ***corporate tax avoidance, effective tax rates, multinational corporations, Malaysia.***

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ABSTRAK

Kutipan cukai korporat adalah penyumbang tertinggi kepada hasil kerajaan Malaysia herbanding dengan cukai langsung yang lain. Disamping itu, sumhangan dari cukai korporat syarikat multinasional dalam menjana hasil cukai kerajaan juga penting terutamanya kepada negara-negara membangun termasuk Malaysia. Walaupun terdapat peningkatan dalam jumlah kutipan cukai langsung, Lembaga Hasil Dalam Negeri Malaysia (LHDNM) memandang serius isu pengelakan cukai kerana bilangan pengelak cukai herdasarkan bilangan kes audit yang diselesaikan semakin meningkat.

Kajian ini dilaksanakan untuk mengkaji faktor-faktor penentu pengelakan cukai oleh syarikat multinasional dengan mengenalpasti kadar cukai efektif syarikat-syarikat tersebut. Kajian ini menggunakan maklumat horang nyata cukai yang dihantar kepada pihak LHDNM sebagai kaedah untuk mengukur kadar cukai herkesan syarikat multinasional di Malaysia. Hasil kajian menunjukkan bahawa syarikat multinasional di Malaysia boleh dikaitkan dengan aktiviti pengelakan cukai kerana kadar cukai berkesan yang dilaporkan adalah lebih rendah berbanding kadar cukai korporat yang dikenakan di bawah Akta Cukai Pendapatan 1967. Hasil kajian juga menunjukkan terdapat bukti yang signifikan bahawa saiz firma, keuntungan sebelum cukai, operasi asing, intensiti modal dan *leverage* adalah faktor yang mempengaruhi aktiviti pengelakan cukai syarikat multinasional di Malaysia. Walau hagaimanapun, hasil kajian tidak menunjukkan pengaruh yang signifikan oleh kesan sektor dan lokasi syarikat induk ke atas aktiviti pengelakan cukai syarikat multinasional di Malaysia.

Kata kunci: ***pengelakan cukai korporat, kadar cukai berkesan, syarikat multinasional, Malaysia.***

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LIST OF ABBREVIATIONS

ATP	Aggressive Tax Planning
BEPS	Based Erosion Profit Shifting
EC	European Commission
ETR	Effective Tax Rate
FDI	Foreign Direct Investment
IRBM	Inland Revenue Board of Malaysia
MIDA	Malaysian Industrial Development Authority
MNCs	Multinational Corporations / Companies
MTB	Multinational Tax Branch
OECD	Organisation for Economic Co-operation and Development
SPSS	Statistical Package for the Social Science
STR	Statutory Tax Rate
TPGL	Transfer Pricing Guidelines
UNTAD	United Nation Conference on Trade and Development

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CHAPTER ONE: INTRODUCTION

1.0 Introduction

This study attempts to investigate the existence of the corporate tax avoidance among the multinational corporations (MNCs) in Malaysia by examining their effective tax rates (ETRs). This study also attempts to explain the factors influencing the corporate tax avoidance of these MNCs. This chapter is an introduction to the subjects focused in this study. The chapter begins with background of the study in section 1.1 and continues with problem statement in section 1.2. Then, follows by the research objectives in section 1.3, significance of the study in section 1.4, scope of the study in section 1.5 and finally the summary on the organisation of the overall study in section 1.6.

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1.1 Background of the Study

Tax avoidance is commonly associated with the reduction of the tax liability by legal means of actions within the law. However, tax avoidance is against the spirit of the law because it lacks of economic substance and business purpose. The main motive of tax avoidance is tax saving (Salihu, Sheikh Obid & Annuar, 2013). The European Commission (EC) points out that tax avoidance is mostly associated with companies, rather than individuals. Companies that engage in tax avoidance will employ aggressive tax planning techniques such as exploiting any loopholes in the tax legislation to gain tax advantage from the mismatch between the country's tax rules in order to minimise their tax burden and subsequently, avoid from paying their fair share of taxes (Economic Times, 2015).

MNCs are seen as having better opportunities to avoid income tax and therefore, they are often associated with the tax avoidance activities. This is achieved by locating their business operations a lower tax jurisdictions, shifting income to low-tax jurisdictions, exploiting differences in the tax rules of different countries and also, taking advantage of the tax incentives provided by host countries (Zainol Ariffin, 2013). Besides, some previous studies indicated that MNCs have greater chances to avoid tax on the cross-border investments as compared to strictly domestic investments and thus, resulting in differences between the ETRs of MNCs and domestic-only companies (for example Abdul Wahab & Derashid, 2006; and Markle & Shackelford, 2012).

Furthermore, recent reports on the tax avoidance activities by the MNCs such as Google, Apple, Starbuck Coffee, eBay and other highly reputable MNCs have triggered intense public discussions at the international level. Those MNCs are reported to drastically reduce their tax burden on worldwide income by engaging tax avoidance method that revolves around the shifting of income from a higher tax country to a lower or no tax country (Needham, 2013). As a result, the issue has brought to the top of the international policy agenda particularly in the G20[1] countries as well as the Organisation for Economic Co-operation and Development (OECD). The OECD is currently working on measures to combat the tax avoidance activities and profit shifting by MNCs. In fact, OECD has already published its recommendations in its project under the Base Erosion Profit Shifting (BEPS). BEPS is a comprehensive project to address the issues of tax avoidance activities of

[1] G20 is an international forum that brings together the world's leading industrialised and emerging economies. The group accounts for 85 per cent of world GDP and two-thirds of its population – The Telegraph Business.

the MNCs that exploiting potential gaps and mismatches in the tax rules of different tax jurisdictions by artificially shifting their profits to a lower or no tax jurisdictions.

Currently, BEPS is a great concern to all policymakers particularly the tax authorities because the governments lose their revenue; and they may have to cut public services and increase tax rates on everybody else. It distorts competition because cross-border businesses may benefit from BEPS opportunities and thus, giving competitive advantage to MNCs as compared to the domestic businesses. In addition, it will result in inefficiency of the resources' allocation and also distorts the investment decisions towards the activities that gives lower rates of returns on pre-tax profit but higher after-tax profits. Also, there will be an issue of tax equality when the domestic taxpayers (both individuals and businesses) would perceive MNCs are legally avoiding the income tax and, thus undermine the voluntary compliance of all other taxpayers.

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Based on the above facts, it is crucial to investigate whether MNCs in Malaysia are also associated with the tax avoidance activities. Tax avoidance are identified by examining the ETRs of the MNCs as a measurement of their tax burden. The gap between the firm's financial accounting and the taxable incomes resulted from the tax avoidance activities is reflected in the firms' ETRs as a proxy to the corporate tax avoidance and the firm's actual tax burden (Md Noor & Matsuki, 2009). By examining the ETR of the MNCs in Malaysia, a conclusion can be drawn whether or not they are engaged in the tax avoidance.

Most studies in ETR literature used the income tax expense as the numerator in the calculation of ETRs estimation, based on data from the financial statement because the

company-level tax returns data are inaccessible to the public (Sanjay & Newberry, 1997 and Adhikari, Derashid, & Zhang, 2006). However, using the income tax expense in the measurement of ETR's may not provide an accurate indicator on the amount of the annual tax paid by a company because it includes the provisions of the tax paid in later and earlier periods and thus, it creates permanent and timing differences of the amount of tax expense (Harris & Feeny, 2000). This study uses tax payable by utilizing the IRBM's internal database in the calculation of ETRs to measure the actual tax burden of the companies. Therefore, it is hoped the used of actual tax payable as the measurement of tax avoidance could provide a robust measure as compared to the application of the tax expense as the numerator in the ETR measurement, as suggested by Harris and Feeny (2000). Their study used income tax payable based on the data of the tax returns from the Australian Tax Authority (ATO) in the ETRs' measurement.

Previous studies that identified the causes of ETR's variations are often associated with certain characteristics of the firms such as the capital intensity, leverage, natural resources, size of the firms, extensiveness of foreign operations, profitability, asset mix, capital structure and return on assets (McGee & Stickney, 1982; and Sanjay & Newberry, 1997). Therefore, this study examines the relevant determinants that may influence the variation of the ETRs of these MNCs based on the selected firms' characteristics. In fact, this study concentrates on the MNCs that are categorized as having higher risks to engage in the tax avoidance activities related to issues associated to cross-border transactions such as profit shifting via transfer pricing or debt-financing.

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1.2 Problem Statement

As a developing nation, Malaysia is dependent on direct income tax as the major source of income for the government and it continues to be the main component of the government's revenue which is vital for economic growth and stability. At the same time, the Malaysian government is promoting foreign direct investment (FDI) inflows to spur the economic growth which is seen to provide a good momentum for economic development. Furthermore, the activities of FDIs will widen the local tax base and contributes to the government's revenues in terms of the corporate taxes of the MNCs that operate in Malaysia as well as the individual income taxes from employment created as a result of the FDIs (OECD, 2007).

In order to provide conducive investment climate, the collection of government's direct tax revenue do play a crucial role. In the year 2014, the Inland Revenue Board of Malaysia (IRBM) managed to collect a total amount of RM126.743 billion whereby out of this amount, RM65.240 billion are collected from Malaysian companies; which covers 51.5 percent of total direct taxes (Ministry of Finance Malaysia, 2015/2016). This figure shows that the corporate income tax is a major contributor to the government's revenue. Despite of the overall reductions in the corporate tax rate from 28 percent in year 2008 to 24 percent in the year 2016, the collection of the corporate taxes are still growing. Furthermore, it is anticipated that the composition of the corporate income tax will continue to grow nearly to 60 percent of the total direct taxes in the year 2016 (Ministry of Finance Malaysia, 2015/2016).

It is obvious that the corporate tax revenues are the highest contributor to the Malaysian Government's revenue as compared to other direct taxes such as the

individual tax, petroleum tax, withholding tax, real property gain tax (RPGT) and stamp duty (Abdul Wahab, 2015). Likewise, MNCs' contributions worldwide, in terms of generating the government's tax revenues are significant, particularly for the developing countries. In the research by the United Nation Conference on Trade and Development (UNCTAD), the contribution of the multinational affiliates to the government finances of the developing countries is estimated about USD730 billion per annum. UNCTAD's estimation represents 23 percent of the corporate payments (contributions through royalties on natural resources, tariffs, payroll taxes and social contributions, an other types of taxes and levies), and 10 percent of the total government's revenue of the developing countries (UNTAD, 2015). The same estimate will apply to Malaysia where the contribution of the tax collections from the MNCs are regarded as significant as shown in Table 1-1 below.

Table 1-1
Corporate Tax Collection in Malaysia

		Total taxpayers	Total corporate taxpayer	MNC corporate taxpayer
2012				
No. of file		3,422,463	316,471	8,729
Tax collection	**(RM)**	83,953,093,994	65,077,140,721	18,083,097,655
	%	100.00	77.52	21.54
2013				
No. of file		3,515,103	322,717	8,809
Tax collection	**(RM)**	79,457,393,803	59,328,510,817	21,737,504,409
	%	100.00	74.67	27.36

Source: IRBM's internal statistics[2]

Although there is an increase in the total collection of direct taxes over the years, IRBM is concerned with the problem of the tax avoidance as the number of the tax defaulters are also on the rise (Zainol Ariffin, 2013). It is further supported by the

[2] Requested from the Department of Operation

settlement of the tax audit cases performed by the IRBM. The number of corporate tax audit cases has increased significantly by 18.7 percent from 83,093 in the year 2013 to 98,615 in the year 2014 with additional tax and penalty of RM5,041 million and RM4,477 million respectively (IRBM, 2014). Therefore, it is believed that the tax avoidance activities are increasing over time and it is a serious concern to policymakers particularly to the tax authorities.

Tax avoidance activity is mainly triggered with the availability of the opportunity to avoid tax particularly if there is loophole in the tax legislation (Zainol Ariffin, 2013). The loophole in the tax system can create opportunities for MNCs to avoid or even evade tax. The tax avoidance are achieved through various mechanisms such as transfer pricing, shift of profits to a lower or no tax countries through the inter-company financing that uses hybrid entities as the results of loopholes in tax legislation of certain countries, repatriating income under favourable tax conditions, and other tax avoidance schemes that may have damaging implications of doing business in a higher tax jurisdiction (Markle & Shackelford, 2013). Cross-border transfer pricing is an example of such loophole which is a common practice by MNCs as part of their tax avoidance activities. It is supported by the transfer pricing audit on MNCs which have recorded a substantial increase of additional tax collected by the IRBM as in Table 1-2 below.

Table 1-2
Additional tax assessment on transfer pricing audit in Malaysia

	2013	**2012**	**2011**	**2010**
Total collection (RM)	160,670,000	116,440,000	47,004,102	39,263,488
No. of audited taxpayer	43	26	14	33

Source: Annual Report (IRBM, 2014)

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As a result of the above discussed problem statement, this research aims to investigate the following research questions:

1) What is the level of ETRs (as proxies of tax avoidance) of the MNCs in Malaysia and does corporate tax avoidance exists? and
2) What are the determinants of ETRs of the MNCs in Malaysia?

1.3 Objectives of the Study

The primary objective of the study is to examine the level of ETR of the MNCs in Malaysia. Besides, this study also establishes factors influencing the corporate tax avoidance among MNCs in Malaysia during the year 2015. Seven firm's characteristics are examined to confirm whether or not these determinants are relevant to the corporate avoidance behaviour among the MNCs in Malaysia. Specifically, the objectives of the study are as follows:

1) To determine the level of ETRs of the MNCs in Malaysia and examine the existence of tax avoidance among the MNCs in Malaysia; and
2) To examine the factors that influence the ETRs of the MNCs in Malaysia.

Unlike most studies in the ETR literature, this study extends the theoretical determinants by specifically focusing the study in the business environment of MNCs in Malaysia. This study also provides new support on the effect of the location of the holding company in the tax avoidance of the MNCs in Malaysia.

1.4 Significance of the Study

Empirical studies on the corporate tax avoidance among MNCs are largely conducted in developed countries such as in the U.S., United Kingdom, and Australia. However,

studies on the corporate tax avoidance in Malaysia are limited. Hence, this study which examines the corporate tax avoidance of MNCs in Malaysia is hoped to contribute to the existing literatureon the corporate tax avoidance in Malaysia and also to other developing countries.

This study utilises IRBM's tax returns database to calculate the ETR as an empirical proxy for the tax avoidance by utilizing the actual tax payable. Due to inaccessibility of tax return information, previous accounting researches estimated the taxable income of a company by using information from the financial statements. The taxable income is determined by re-grossing the current tax expense by the standard tax rate (STR) based on the assumption that a firm's current tax expense is the tax liability of the particular financial period.

However, this assumption may not be true for most firms because there are differences between the current tax expense and the actual amount of the tax liability owed to the tax authority as evidenced in the studies by Hanlon (2003) and Lee, Dobiyanski and Minton (2015). Previous studies have identidied that the differences of the tax expense and actual tax liability income are due to tax incentives benefited by the companies in terms of capital allowances, exempt income, tax deductible expenses, transfer pricing and many other facotrs that might reduce taxable income. Therefore, it is hoped the measure of ETRs used in this study will provide a robust measure on the tax avoidance of the MNCs in Malaysia.

Besides, the study may contribute in terms of providing better understanding on the relationship between the tax avoidance and the ETRs characteristics of the firms by

establishing evidence on the effect of the tax domicile by investigating the location of the holding company. Also, it enhances the understanding of firm's ETRs characteristics particularly on the effect of those ETRs' variables by focussing only on MNCs in Malaysia. Also, this study hopes to provide some insight to all parties that involved in tax legislation in Malaysia namely, the policymaker, tax administrator and corporations as describe in the following subsections.

1.4.1 Policymaker

The study is important to the policymaker because it provides some insight on the effect of tax avoidance activities of the MNCs which exploit loopholes on the existing tax legislation. These loopholes can serve as generic proposition for the new proposed tax legislation and also policy-making in determining the tax incentives and other relevant aspects of legislation that can improve the corporate taxation legislation generally, and specifically, to the tax legislation to the MNCs in Malaysia. Even though, the government is promoting FDIs into Malaysia, the government must also safeguard the nation's tax revenue. The government might lose its potential revenue from the corporate income taxes when companies do engage in aggressive tax planning or indulge in the tax avoidance activities in their business transactions.

On the other hand, the comparison of the STRs and ETRs would provide some perspective to formulate tax incentives applicable to businesses, particularly the MNCs. Empirical studies suggest that tax incentive is one of the factors influencing flows of FDIs especially in the developing countries (Solomon, Islam, & Bakar, 2015; and Teoh, 2010). Differences in the ETRs may reflect the effect of the incentives and also the weaknesses in the tax legislation system and its design (OECD, 2007).

Moreover, a large distribution in STRs and ETRs can lower the tax base that may result in a decrease in the tax enforcement.

1.4.2 Tax Administrator

This study will provide a valuable insight and empirical evidence for the Malaysian tax authority, the IRBM in addressing the issue of aggressive tax planning and enforcement of the tax avoidance can be conducted more efficiently. As a result, effective audit agendas can be implemented accordingly to ensure the taxpayers comply with the legal provisions and the current tax legislation within Self-Assessment System (SAS). The results are vital for the IRBM to evaluate the effectiveness of the current enforcement activities and hence, IRBM is able to formulate more reliable control on aggressive tax planning or tax avoidance by MNCs in Malaysia.

Over the years, the number of completed transfer pricing audit cases on MNCs had increased quite significantly. The total of additional taxes and penalties derived from the transfer pricing audit in 2013 increased to RM160.67 million from RM116.44 million in 2012 (IRBM, 2014). In this connection, the study may assist the tax administrator to plan an effective enforcement strategy and revamp the current tax system, in particular for key sectors or industries. This study would also assist the tax authority to widen its tax enforcement base by way of examining MNCs across the sectors that has lower ETRs with an assumption that the aggressive tax planning activities do exist among the MNCs. The selection criteria of audit cases can be based on the level of ETRs as suggested in the study. Besides, the IRBM should not solely rely on the tax return database submitted by the MNCs but can further intensify the

enforcement activities by focusing on sectors which has lower ETRs. Moreover, the tax enforcement activities can be implemented efficiently by using analytics as described in this study which could reduce the administrative and compliance costs of the tax authority.

1.4.3 Corporations

It is also important for companies especially MNCs to compare the tax systems and calculate their tax burden in making decisions to determine their business's location. In doing so, nearly all surveys came up with the question that compares corporates' STR. However, this approach may not be satisfactory because the survey outcomes do not reflect perfectly the tax burden of companies. Thus, the economists have to find other options of evaluating the tax burden of a company. The ETR is one of the reliable measures to evaluate the tax burden suggested by the economists.

This study observes the firm's behaviour in managing their tax matters such as investment activities. Due to globalization, it is inevitable for companies to operate only in a single country. Both foreign-owned MNCs and MNCs with their headquarters located in Malaysia are expanding as the Malaysian economy is relying on FDIs. Therefore, it is important for MNCs to understand that their foreign operations do have significant influence on their tax planning because their businesses operate in different political, cultural, and economic environments.

1.5 Scope of the Study

This study concentrates on the attributes of the corporate tax avoidance strategies of the MNCs in Malaysia in the year 2015. It uses archival data from IRBM's tax return

database. Specific to this study, the population of MNCs in Malaysian is taxpayers classify under the branch code of 71, which is the Multinational Tax Branch (MTB). MTB is a one of the IRBM's branch that administers the MNC's taxpayers all over Malaysia. In principle, MNC is a business entity that has business operation located in more than two countries[3]. Similarly, IRBM defines MNCs as companies that have cross-border transactions in terms of sales, purchases, other incomes or other payments as well as purchases of the foreign fixed assets and inter-company loans. Those transactions are identified in the specific columns in tax return form that is Part N of the Form C (companies' tax return form).

However, the sample of MNCs selected for the purpose of this study are only those companies that meet the threshold as stipulated under the paragraph 3.1 of the IRBM Transfer Pricing Guidelines 2012. Companies that fall under the scope of paragraph 3.1 of the guidelines are categorised as high risk in respect to the transfer pricing's tax avoidance issues (with consideration to the legal provisions). Paragraph 3.1 of the IRBM Transfer Pricing Guidelines 2012 is narrated as below:

> *"3.1 The Guidelines are applicable on controlled transactions for the acquisition or supply of property or services between associated persons, where at least one person is assessable or chargeable to tax in Malaysia. To ease compliance burden persons referred to do not include individuals not carrying on a business, further:*

[3] https://www0.gsb.columbia.edu/faculty/bkogut/files/Chapter in smelser-Baltes 2001.pdf

(a) *for a person carrying on a business, the Guidelines apply wholly to a business with gross income exceeding RM25 million, and the total amount of related party transactions exceeding RM15 million.*

(b) *where a person provides financial assistance, the guidelines on financial assistance are only applicable if that financial assistance exceeds RM50 million. The Guidelines do not apply to transactions involving financial institutions."*

1.6 Organisation of the Study

This study is organized into five chapters namely literature review; research methodology; results and data analysis; and conclusions. Chapter Two on the literature review discusses previous studies on the related subject of the study and empirical evidence relating to tax avoidance and ETR. Chapter Three on the research methodology discusses the research design, research model and data analysis. Chapter Four on the results and data analysis provides various statistical analysis including descriptive analysis, correlation analysis and regression analysis. And lastly, Chapter Five provides summary and conclusions on the overall findings of this study as well as implications, limitations of the research findings and directions for future research.

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CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter discusses the relevant concepts and issues relate to this study. This chapter explores the literature reviews pertaining to the tax avoidance and firm's characteristics that may influence corporate tax avoidance. Subsequently, the hypotheses are developed based on the literature review. It begins with an overview of the tax system in Malaysia in section 2.2. Further, section 2.3 describes the MNCs in Malaysia in relation to the focus of the study which is the tax avoidance of MNCs in Malaysia. Next, section 2.4 provides explanations on the tax avoidance concept, understandings, and theories. Then, section 2.5 discusses previous literature regarding ETRs as a measure of the tax burden which is a proxy for tax avoidance. Later, section 2.6 explains the development of hypotheses based on certain firm's characteristics that influence corporate tax avoidance and lastly, section 2.7 summarises this chapter.

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2.2 Overview of Corporate Taxation in Malaysia

In Malaysia, corporate income tax collection is the main component of direct taxes' collection, followed by petroleum income tax and individual income tax. For the last ten years, corporate taxes have contributed more that 40 percent of the total direct taxes collection in Malaysia. The percentage is increasing over the years. In the year 2015, the contribution of the corporate tax to direct taxes is more than 50 percent. Table 2-1 below illustrates the statistics of the direct taxes collection according to the components of direct taxes from 2006 to 2015. From the statistics, the collection of the corporate income taxes had declined in 2009 as compared to other components of direct taxes: petroleum, individual and co-operative taxes. The decline was due to the

worldwide economic recession in year 2008 and 2009. However, the collection of corporate income taxes had increased again in year 2010 and was on an increasing trend in year 2010 onwards. The proportion of corporate income taxes to the total direct tax collection kept on rising and has reached to RM68.32 billion which represented 58.51 percent of overall collection of direct taxes. The increasing trend of corporate tax collection is expected in 2016 as the government can no longer depend on the petroleum tax collection because the price of oil is expected to remain low in years to come.

Table 2-1

Tax Revenue and Composition of Direct Taxes

Year	Total Tax Revenue	Composition of direct taxes to total government revenue	Total Direct taxes	Composition to total direct taxes			
				Corporate tax	Individual tax	Petroleum tax	Other direct taxes
	(RM'000)	(%)	(RM'000)	(%)	(%)	(%)	(%)
2006	86,631	49.84	61,573	43.00	16.56	33.58	6.86
2007	95,168	49.61	69,396	46.33	16.80	29.47	7.40
2008	112,898	51.40	82,138	45.95	18.22	29.45	6.38
2009	106,504	49.40	78,375	38.53	19.89	34.74	6.83
2010	109,515	49.49	79,009	45.90	22.54	23.68	7.88
2011	134,885	55.14	102,242	45.86	19.76	27.14	7.24
2012	151,643	56.24	116,939	43.86	19.65	29.02	7.47
2013	155,952	55.45	120,523	48.27	19.13	24.69	7.92
2014	164,205	57.45	126,742	51.47	19.27	21.27	7.99
2015	170,018	52.49	116,760	58.51	24.11	8.16	9.21

Source: http://www.treasury.gov.my/index.php/en/economy/economic-data.html

Malaysian government offers a wide range of tax incentives to the tax resident companies to encourage investments and reinvestments, regardless whether it is from foreign direct investors or domestic investors. Tax incentives are used as a mechanism to promote certain economic activities in specific industries for instance manufacturing, biotechnology, energy conservation and environmental protection,

information technology services, and Islamic finance. The incentives are given to targeted industries that can stimulate capital intensive projects with high-value impact. This high-value project also involves new and emerging technologies. The incentives are in the form of a full or partial exemption of statutory income; double tax deductions for qualifying expenses; additional relief for qualifying capital expenditure; and preferential tax rates to certain group of taxpayers. For incentives in the form of allowances such as capital allowance, industrial building allowance or reinvestment allowance. There are also provisions that permit any unabsorbed allowances to be carried forward until the allowances are utilised completely.

At the same time, the corporate tax rate is used as one of the mechanisms to fuel the growth of economic. A country that has comparatively lower corporate income tax rate to other countries has a competitive edge to attract FDIs which can boost the economic development. The involvement of government in the economy by lowering the corporate tax rate corresponds with the Keynesian theory (Shaharudin, 2008). This theory put forward the notion by having lower corporate tax rate or higher public spending, an economy of a country may have a solid foundation for the economic growth. Using what have been propagated by this theory, the corporate tax rate in Malaysian were reduced in stages. The summary of Malaysian resident corporate tax rates since 1993 is shown in Table 2-2 below.

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Table 2-2

Malaysian Resident Corporate Tax Rates

Year	Paid-up capital ≤ RM2.5 million**	Paid-up capital ≥ RM2.5 million	All level of paid-up capital
1993			34%
1994			32%
1995 - 1997			30%
1998 - 2002			28%
2003 - 2006	20%	28%	
2007	20%	27%	
2008	20%	26%	
2009 - 2015	20%	25%	
2016	20%	24%	

***Rate is for the first RM500,000 chargeable incomes and the remaining is charged in accordance to the prevalent rate of corporate tax.**

**** The eligible of this rate is for the company that are not part of a group of companies where any of its related companies have more than RM2.5 million of its paid up-capital.**

Source: Schedule 1, Income Tax Act 1967

Before year 2009, a corporate tax rate of 26 percent in Malaysia is considered among the lowest in the ASEAN countries except in Singapore (at 18 percent) and Cambodia (at 20 percent). However, those countries that previously have higher corporate tax rate than Malaysia, have lowered their corporate tax rate after year 2009, for example Indonesia has reduced its corporate tax to 25 percent from 30 percent. Similarly, Thailand's corporate tax rate has been reduced to 20 percent from 30 percent whilst Philippines has lowered its corporate rates to 30 percent from 35 percent.

As per given example, it is clearly shown that corporate tax rate is an important element inducing the MNCs' investment decision. This is because the corporate tax rates affect their costs of doing business. MNCs prefer to locate their business operation in a lower tax jurisdiction because MNCs can reap the benefit of having lower corporate tax expense and in return, lowering their tax burden. Malaysia can be

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considered as a low tax country even though the STR is not among the lowest in ASEAN but it does offer a wide range of tax incentives.

It is common for any MNC including Malaysian MNCs to operate its business operations in both lower and higher tax jurisdiction. However, it is anticipated that most MNCs would prefer to establish their business operations in countries that offers lower corporate tax rates since it can lower their tax burden and eventually lowering their operating costs. A lower rate of corporate tax is expected to generate a higher after-tax profit which can be invested in profitable projects to generate more income.

2.2.1 Legislation

Malaysian corporate taxation is governed by the Income Tax Act 1967 (ITA 1967). Public rulings are issued by IRBM to supplement the Act and provide in-depth and further details of the regulations. Currently, the corporate tax is adopting Self-Assessment System (SAS) to replace the formal system since year 2001. The taxation on profit distribution is based on a single-tier system to substitute the former imputation system starting from the year 2008. This indicates that the tax on the dividend is exempted on the recipients. In order to minimise double taxation issues, the dividends distributed by companies are tax-exempted by the receiving entities. The single-tier tax system on dividend was first announced to be implemented in the year of assessment 2008 to supersede the imputation system enacted under Section 108 and Section 110 of the Income Tax Act 1967 (ITA 1967, 2008).

Malaysia operates unitary taxation system on a territorial basis. It means that tax residents of Malaysia are taxed for income accrued or derived from Malaysia. With

effective from the year 2004, Malaysian tax residents are exempted for the income tax on the remittance of foreign-sourced income to Malaysia. However, this rule does not apply to the resident companies that operates businesses in banking, insurance, sea or air transport industry. Conversely, non-residents are only taxed at the income accrued or derived from Malaysia and thus, any foreign income is exempted, whether or not the income is received in Malaysia. Non-residents' business income derived via a permanent establishment in Malaysia will be subjected to tax. Thus, a non-resident company that have an international trade will be taxed in Malaysia only on the portion where business incomes are generated in Malaysia.

Under section 8 of the Income Tax Act 1967 (ACP 1967), corporation's resident status is determined by a company trading in Malaysia in which the business controls and management are exercised in Malaysia at any time during that basis year. 'Control and management' is defined as the controlling authority that set the company's policies or in other word, where the directors conduct their business dealings or affairs of the company regardless of the company's location might be incorporated[4]. The location of trading activities or the domicile of its physical operations may not automatically be the exact place of the control and management of a company. In this respect, a mere appointment of the local directors or even the local board of directors in Malaysia or the resident status of a director may not be deemed to fulfil the requirement of a company's resident status.

In actual fact, a company will be considered as a tax resident of Malaysia for a basis year if at least one board of directors' meeting is held in Malaysia even though all other

[4] Definition of 'control and management' in the Public Ruling No. 5/2011 on Residence Status of Companies and Bodies of Persons.

meetings of the board of directors are held outside Malaysia. The said meeting must be related to control and management of the company where all policies such as decisions on investments, share management, finance and administration are resolved during the meeting.

Consequently, the determination of tax resident status is important because it will affect the tax treatment and tax consequences in terms of scope of charge for difference source and type of income subject to income taxes; qualifying criteria to benefit from tax incentives, tax rates for certain classes and categories of income; ability to enjoy tax treaty benefits and treatments for withholding taxes.

2.2.2 Tax Avoidance Provision and Rules

In Malaysia, IRBM can invoke the anti-avoidance provision of Section 140, ITA 1967 (Section 140) if the tax planning scheme is proved to be for the avoidance of tax. Generally, IRBM will invoke Section 140 whereby an agreement or arrangement has the purpose and effect of altering the incidence of taxation. Section 140 gives broad power to IRBM to disregard or vary any arrangement so as to counter any tax advantage gain under the arrangement. Thus, the companies should take reasonable actions before making any arrangement regarding their business activities to avoid falling under the tax evasion.

Prior to the introduction of Section 140A of the ITA 1967 (Section 140A), transfer pricing and aggressive tax planning (ATP) related issues such as thin capitalization, do fall under Section 140. According to the EC, ATP is defined as taking advantage of the technicalities of a tax system or of mismatches between two or more tax systems

for the purpose of reducing tax liability that would result in either double deductions (in which the same expenses is deducted both in source and resident country) or double non-taxation (in which the same income in not taxed both in source and resident country) (Ramboll Management Consulting and Corit Advisory, 2016).

Effective from 1 January 2009, the new insertion of Section 140A of ITA 1967 is to deal with transfer pricing and aggressive tax planning related matters. This provision was introduced in order to enhance tax treatment's disclosure and transparency relating to the transfer pricing. In addition, a new Income Tax (Transfer Pricing) Rules was gazetted on 11 May 2012 to guide taxpayers in respect to the applicable standard on arm's length and also specify the type of documents to be maintained to substantiate the pricing policy of the related party transactions. Subsequently, IRBM also has introduced a revised transfer pricing guidelines in 2012(2012 IRBM TPGL) to replace the 2003 IRBM TPGL. The intention of new guidelines is to explain the requirements in terms of administration relating to the Section 140A of the ITA 1967 (IRBM TPGL, 2012).

The introduction of new transfer pricing legislation that is Section 140A ITA 1967, is part of the effort to intensify enforcement and to administer transfer pricing and aggressive tax planning related issues. All the efforts are aimed to reduce the aggressive tax planning by way of transfer pricing among MNCs operating in Malaysia and hence, to protect the nation's tax base.

2.3 MNCs in Malaysia

The Malaysian government is encouraging FDIs to accelerate the economic growth and has provided a variety of tax incentives to meet that purpose. It was reported by the Malaysian Industrial Development (MIDA) that there are more than 5,000 MNCs from over 40 countries have invested in the manufacturing and service-related sectors in Malaysia. Malaysia was classified as the fifth most competitive economy in Asia, after Singapore, Taiwan, Hong Kong and China (MIDA, Invest in Malaysia, 2009). These MNCs are attracted to Malaysian pro-business environment. Today, Malaysia has become one of the world's top places for offshore service-based operations and manufacturing (MIDA, 2016). Over the years, the existing foreign companies in Malaysia have also shown their confidence in Malaysia's potentials as an investment location through their numerous business expansions and diversifications, particularly in the high technology projects.

Furthermore, despite the intense global and regional competitiveness level for FDIs, Malaysia have maintained its competitive investment in terms of the geographical location and the country has continued to attract manufacturing projects with a significant level of investments. Malaysia have continued to be appealing to MNCs and other large companies to setup their regional and global operations in this country. This was reflected by a total of 428 manufacturing projects which brought significant amount of investments amounting to RM28.3 billion approved from January to July 2013. From that amount, foreign investments were valued at RM18.2 billion or 64.3 percent of the total approved investment, while domestic capital was accounted for RM10.1 billion or 35.7 percent. The U.S., Japan, Republic of Korea, Singapore and Saudi Arabia are the top five FDIs sources for the approved projects in the

manufacturing sector. In 2011, these countries' investments were valued at RM22.5 billion which constituted about 65.8 percent of the total approved FDIs in Malaysia (MIDA, 2012).

Referring to the Global Most Competitive Index 2011-2012, Malaysia is ranked number 21 out of 145 countries in the world for its business competitiveness and ranked number four in Asian after Singapore, Hong Kong and Taiwan. Therefore, there is a significant amount of business dealings which definitely involves with cross-border transactions. In addition to that, Malaysia, as a developing country where its business climates are different from as compared to the developed nations, has its tax authorities facing difficulties in auditing MNCs' transfer pricing practices. With the high volume of FDIs inflow and the voluminous cross-border transactions, the taxation of foreign corporations has become a vital and significant attention in Malaysia.

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2.4 Tax Avoidance

Tax avoidance is associated with the intention of a taxpayer to minimize tax by adopting tax planning mechanisms. Previous literature defines tax avoidance as the difference between the STRs and ETRs (for example Siegfried, 1972; McGee & Stickney, 1982; Derashid & Zhang, 2003; and Salihu et.al., 2013). The difference is due to the firms' ability to reduce its tax burden below STR by taking advantage of the tax incentives and various tax provisions under the tax legislations.

Tax avoidance does not necessarily refers to tax evasion which is a deliberate concealment of income and/or assets, and it is different from tax planning which is legally making use various provisions in the law to reduce the tax liability. The

outcome from tax planning reduces the tax burden which to a certain extent is in line with both the tax provisions and spirit of the tax law. Nonetheless, tax planning is usually understood as "acceptable tax avoidance" because it is used for business purpose and has its economic substance, while tax avoidance is also known as "effective tax planning" because the companies have effectively develop their tax planning that gain advantage of having lower or zero tax payments. For purposes of this study, tax avoidance and tax planning will be used interchangeably.

The underlying objectives of both tax avoidance and tax planning are to lower the tax burden. It is an act of planning process to utilise the structural loopholes within the tax legislation framework to lower the tax payment. Thus, it has resulted in paying lesser tax than otherwise required. However, an aggressive tax planning could tantamount to tax avoidance even though it seems to have a business purpose and economic substance.

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2.4.1 Effective Tax Planning

Generally, most taxpayers are inclined to reduce their income taxes liability as much as possible. A well-informed taxpayer is perfectly justified both legally and ethically in tax saving by taking advantage of the tax provisions. Tax planning is one of the methods to minimise the tax liability and it has become a critical factor in determining the business projection. In fact, to elaborate further, tax planning is a technique utilised by individuals, businesses and organizations to appraise their respective financial profiles to lower taxes to be paid off from their personal income or business profit (Mgammal & Ku Ismail, 2015). Therefore, tax planning should not be regarded as a method that solely used for purposes of tax savings. However, it could also be used to

ensure business transactions are tax-effective and also tax-efficient in order to avoid unnecessary entanglement with the tax authority.

An effective tax planning should be structured and planned in advance to reap the maximum tax benefits in terms of the flow of the income and expenses. In addition, tax planning should be organised within the ambit of the law and therefore, it is essential for taxpayers who wish to undertake a tax planning exercise to understand the fundamentals of the tax legislations. They should be able to identify the possible legislative loopholes and gain possible advantage in reducing their tax burden. Basically, tax planning is making use of all concessions and exemptions that have been provided under the tax legislations.

Nevertheless, tax planning can be erroneous if one does not apply the provisions of the tax legislation correctly. Such erroneous tax planning activities would then fall under the tax evasion if the tax planning contained unlawful tactics or schemes to understate the taxable income or even overstating of tax expenses. Aggressive tax planning especially by the MNCs is when they seek advantage of a lower tax rates and the tax incentives offered by countries that they are operating in, but it will be considered as illegal tax avoidance because the tax planning will result in the erosion of a tax base of a particular country (Bradley, 2015).

2.4.2 Tax Avoidance among MNCs

All MNCs have global business operating models. Their business operations are well structured with an integrated logistics, supply chains and functions that are centralised whether at regional or an international level. In a digital economy, the business

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activities for both products and processes are distant from their actual customers. As a result, MNCs may be subjected to the corporate income taxes of multiple countries because their operations have cross-border business activities in various tax jurisdictions which is not necessarily in the country where the businesses are incorporated. They are subjected to taxes in many tax jurisdictions, and hence have the abilities to shift their business operations and profits to countries that have favourable tax provisions and lower STRs. Therefore, MNCs have possibilities and better opportunities to avoid and reduce taxes.

Tax avoidance among MNCs has been widely discussed by tax authorities of many countries because it could affect the tax collection of a country and has an impact to the economic development. The issue is also highlighted by UNCTAD in its study on the impact of tax avoidance activities of the MNCs in the developing countries. UNCTAD estimated that the developing countries may lose about USD100 billion per annum in the tax revenues caused by the tax avoidance by the MNCs. Also, the UNCTAD estimated that as much as USD300 billion per annum in term of the total losses of a particular country's development financing (UNTAD, 2015).

Apparently, the variations of tax systems and policies among countries do provide opportunities to MNCs to engage on a wide range of international tax planning strategies. This is the consequential effect of economic integration, which eliminates the barriers of trade to the MNCs. The MNCs normally revolve around minimising the worldwide ETRs by exploiting loopholes of a particular country's tax legislations. An example of such loophole is via transfer pricing, where the profit or income are shifted between countries that have different tax rates, to their losing companies or companies

that currently enjoying tax incentives or special schemes. Other tax avoidance techniques employed by the MNCs to reduce their tax burden include payments for intangibles that do not have economic substance, corporate debt-equity schemes, shell holding companies, conduit companies, hybrid entities and exploiting company-specific tax rulings to gain tax advantage (Needham, 2013).

Furthermore, there is a tendency that MNCs will minimise the worldwide ETRs since the tax incentives, which could lower the cost of operations when transacting in a favoured or promoted industry. It can also be hidden within the complexity of the tax laws (Omar, Molloy, & Ziebart, 1993). MNCs are able to reduce their tax burden by taking advantage of the tax system and increase their shareholder value through the earnings per share. Therefore, MNCs are induced to continuously avoid taxes which may implicate a lower tax collection of a particular country.

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2.5 ETR as a Measure of Tax Avoidance

The main purpose of tax avoidance is to reduce or minimise their tax burden. Tax researchers try to establish inference about a firm's tax policy using proxies which are selected from financial statements. This is because the firm's tax strategies and practices are proprietary information to the company and the tax returns information is not publicly available. Hence, ETR is commonly used by researchers as a proxy of the tax avoidance. For example in a study on public listed companies in Malaysia by Md Noor, M. Fadzillah and Matsuki (2010), the researchers use ETR as a representation of the corporate tax planning to measure the company's tax burden.

Similarly, a study by Md Noor, Mastuki and Bardai, (2008) uses ETR to measure the companies' tax burden. The ETR measurement is vital for policymakers all over the world to assess the consequences of a country's tax policy on the corporate business. In addition, ETR is also a key measurement in past's academic researches to study the tax policies in certain countries. ETR is defined as a ratio of income tax payable to pre-tax accounting income and is a measure of the average tax rate that a company is taxed on its pre-tax profits.

Even though ETR is measured as the amount of tax liability to the accounting income, previous literature has documented variations in the measurement. Generally, ETR can be divided into two categories, namely, marginal ETR and average ETR. Usually, marginal ETR is used on a particular investment project to study the effect of taxation. Meanwhile, an average ETR is used at the corporate level as an empirical study of the income tax rate. It is refers to the average income tax rates. ETR consists of the actual amount of taxes or amount of taxes ought to be paid by companies. Therefore, the use of average ETR is more relevant in order to meet the obejectives of this study. Consistent with the previous study, ETR could give a better outcome to measure the tax burden of companies.

According to the studies by Siegfried (1972) and other ETR literature, the ETR concept is measured as a degree of effective tax planning due to its relation with firm's characteristics, for instance firm's size. ETR measures the ability of a firm to lower its tax liability relative to the pre-tax accounting income. It can compare the current tax liability which was derived by the taxable income to the pre-tax income based on the accounting principles. The causes of ETR variations are often associated with other

characteristics of the firm, such as capital intensity, leverage, natural resources, foreign operations, capital structure, return on assets and asset mix (McGee & Stickney, 1982; and Sanjay & Newberry, 1997). Besides, the tax avoidance activities could also reduce the ETRs, such as, the use of foreign operations by the companies particularly the MNCs to avoid income tax, transferring income from a higher tax jurisdiction to a lower tax jurisdiction. Those activities will reduce pre-tax income and simultaneously, maintain the financial accounting income. Therefore, ETR is a fairly reasonable measure for effective tax planning.

Besides, it is easier to use ETR in making comparisons between companies. ETRs can also show the differences in term of tax burden between companies even though they are in the same industry. Although trends in ETR over time can provide information about corporate operating performance and income, some factors such as managerial decisions and choices of the accounting methods could also have substantial effect on the components of ETRs. Similar to other financial measures, the ETR comparisons could produce most meaningful outcomes between companies within the same industry (Md Noor & Matsuki, 2009).

Furthermore, tax avoidance can influence ETRs as a result of book-tax differences. It causes permanent and temporary variances between the financial accounting and the taxable income of the firm. It is because ETR can compare taxable income which is the numerator in the measurement of ETR while the financial accounting income is the denominator and thus, creating ETRs' variations. Tax-motivated transactions, such as corporations' foreign sales, tax credits, tax exemption on income, and deferment of

income recognition for tax purposes, would affect the taxable income and the tax expense which will lower firm's ETR (Rego, 2003).

However, this assumption may not always be true to certain corporations as highlighted in the study by Hanlon (2003). In the study, he highlighted three main reasons for the inconsistency concerning the current tax expense and the actual tax liability owed to the tax authority, namely (1) stock options, (2) the tax cushion or reserve for a corporation's uncertain tax positions, and (3) intra-period tax allocation (Lee, Dobiyanski, & Minton, 2015). The treatment for these three items are different in the computation of book-accounting and taxable income.

Based on the above discussions, ETR is widely utilised either by the policymakers or researchers to measure the tax burden of a company which can be associated with the tax avoidance activities with the primary motive to minimise the tax liabilities.

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2.6 Tax Avoidance Determinants and Development of Hypotheses

The variability of ETR is influenced by various factors such as the firm's size, capital structure, firm's performance, investment in fixed assets and inventory. The past studies suggested that ETR can also be influenced by other variables such as leverage, capital intensity, sector effect and tax domicile (Sanjay & Newberry, 1997; Porcano, 1986; Stickney & McGee, 1982; Derashid & Zhang, 2003; Md Noor, Mastuki, & Bardai, 2008; Markle & Shackelford, 2012; and Markle & Shackelford, 2013).

2.6.1 Firm's Size

Many studies do suggest that size of a company can influence the ETR (Siegfried, 1972). The association between ETRs and the size of the firm can be established on two opposing views, namely, the political cost theory, and political power theory. Basically, political cost theory presumed that significant regulatory intervention by the government, and the wealth transfer would affect most on larger and prosperous firms rather than smaller firms (Zimmerman, 1983). A political cost theory hypothesises that the large companies are observed and scrutinised by the government and the public and therefore, they are obliged to pay more taxes. Many researchers conclude that large firms usually face political costs as compared to small firms which literally do not have such costs (Zimmerman, 1983; and Omar, Molloy, & Ziebart, 1993). Therefore, larger firms tend to have higher ETRs because they are associated with the political costs.

Alternatively, the political power theory emphasises that larger firms have lower ETRs because of their excess and substantial resources that are available for them to manoeuvre the political process in favouring their interest, better formulation of tax planning and increase the ability to systematise their business affairs and activities in achieving optimal tax savings (Siegfried, 1972). Larger companies would have more capacity and resources for political lobbying and engaged tax planning professionals to administer and manage their tax affairs. Consequently, the tax burden of those large companies is reduced which make them pay lesser taxes and thus have lower ETR.

Moreover, some studies also documented that MNCs would lower their tax burden because of their larger size. MNCs are considered as large business corporations in terms of asset or turnover and have the economies of scale to engage in the tax planning

and thus, giving them better opportunities to pay lesser or even avoid income taxes. As such, large firms particularly the MNCs are able to avoid paying higher income taxes by using transfer pricing for inter-company transactions, financing or debts arrangements, tax-advantaged leasing and complex hybrid entities in order to take advantage of any tax loopholes (Rego, 2003).

Similarly, the economic models of taxpayer behaviour based on the studies by Grubert and Slemrod (1998) and Slemrod (2001) suggested that large companies with higher income and higher capital investment tend to have a lower average and marginal cost of tax avoidance. Their studies are consistent with theoretical predictions that large companies should have lower average costs of tax planning because they have more business activities and financial dealings as compared to small firms. As such, lower average cost of tax planning or tax avoidance is represented by the lower ETRs reported by the companies.

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Nonetheless, studies by Shevlin and Porter (1992) and Manzon and Plesko (2002) hypothesised that there was no relationship between ETR and the size of companies. Their findings are consistent with the study made by Stickney and McGee (1982). According to McGee and Stickney (1982), the relationship between ETR and firm's size does not exist due to the concept of tax neutrality in which taxes has no influence for a company to shift their economic choices in terms of locations, types of goods or input.

In the Malaysian context, Derashid and Zhang (2003) studied the association between ETR and a set of possible firm's characteristics including firm's size. They

documented a negative relationship between ETRs and firm's size thus concluded that large Malaysian firms do not suffer a "political cost". Besides, they suggested that size of a company has a relationship with ETR for companies in certain industries due to their abilities to abide to the tax rules of a particular industry. However, in the study by Md Noor et.al. (2008), large public listed companies in Malaysia were documented of reporting higher ETRs thus their finding supports the political costs theory.

Based on above discussed literature review, firm's size has an influence on the variations of ETRs but the directions of the relationship between ETRs and firm's size produce conflicting results. A positive relationship between ETRs and firm's size assert political cost theory because large and politically sensitive firms attempt to avoid public scrutiny by reporting higher income thus paying higher taxes. Whereas, a negative relationship between ETR and firm's size could be due to political power theory because larger companies have the incentives and abilities to engage in effective tax planning. The economic models of taxpayer behaviour as hypothesised in some studies also consistent with the political power theory. Therefore, based on the literature reviews, the relation between ETRs and firm's size is hypothesized as follows:

H_1: There is a significant relationship between firm size and ETR (size of firm will influence the variability of ETR).

2.6.2 Profitability

Most studies that examined the relationship between profitability and ETR provide a negative relationship. For example in the study by Manzon and Plesko (2002), they argued that profitable firms are efficient in applying tax deductions, tax credits, and

tax exemptions as compared to less profitable firms. As a result, profitable firms have greater book-tax differences and thus have lower ETRs. Similarly, Rego (2003) reported consistent findings that highly profitable firms can avoid more income taxes than firms that have lesser income and thus reported lower ETRs. The negative relationship between ETRs and pre-tax income is because firms with higher income after tax have more incentives and the ability to allocate resources for tax planning and to engage more in tax strategies. Besides, she hypothesised that profitable firms have greater economic of scope to engage in tax avoidance strategies because firms with higher profit are expected to report income from multiple business segments and they can offset operating losses of a particular business segment against the income of more profitable business segments.

Furthermore, Mahenthiran and Kasipillai (2011) hypothesised a relationship between profitability and ETR. They claimed that highly profitable firms may have more incentives and opportunities to minimize their tax liabilities by way of the tax deductions and thus, these profitable firms are likely to be involved in tax avoidance activities. They further argued that highly profitable firms are likely to involve with aggressive tax planning because of their growing cash flows and therefore, they focus on evaluating their operating income by accrual basis rather than cash basis method. In a recent study on German listed companies, Kraft, 2014 documented a negative association between ETR and profitability which indicates that more profitable firms appear to involve with tax avoidance strategies.

In the Malaysian context, Zainol Ariffin (2007) hypothesised a negative relationship between ETR and profitability which is consistent with findings from previous studies.

The relationship is based on the assumption that highly profitable companies are likely to engage with extensive tax planning in order to gain tax benefit so that they can minimize their tax burden.

Based on the above literature review, highly profitable MNCs are likely to employ extensive tax avoidance strategies because they have more incentives and the ability to allocate resources for tax planning. Besides, these MNCs have advantage in terms of economies of scope thus enable them to gain benefit from tax planning so that they can minimize their tax liabilities.

Therefore, a negative relation between the marginal costs of tax planning and pre-tax income should translate into more effective tax planning. Hence, the following hypothesis is stated as follows:

H_2: There is a significant negative relationship between pre-tax profit and ETR (firms with higher profit will have lower ETR).

2.6.3 Extensiveness of Foreign Operation

Most studies that examined the influence of foreign operation on ETR are commonly associated with MNCs due to their nature of business that involved with extensive worldwide operations. Those studies reported differences in the ETRs of MNCs and domestic-only companies and mostly are performed in the developed countries especially in the U.S. Previous literature also suggested that companies with foreign operations could possibly avoid or reduce their tax burden because they have greater prospects to minimise tax in respect to the cross-border investment than the company that have strictly domestic investment only. For instance, Calvalho (2015) documented

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variations of ETRs between MNCs and domestic-only firms. Besides, Collins and Shackelford (2003) concluded that MNCs domiciled in the U.S. face higher tax burden than domestic-only companies because they have worldwide business operations.

Similarly, Rego (2003) documented that MNCs with more extensive foreign operations have lower ETRs than other firms. She concluded that MNCs with extensive foreign operations are able to reduce their tax burden through effective tax planning activities due to greater the economies of scale and exposure to tax planning. Besides, a study by Kraft (2014) established a negative association between ETR and foreign operation. The finding indicates that MNCs have more possibilities to reduce the tax burden as a result of having extensive foreign operations.

However, there are studies documented contradicting findings that ETRs of both MNCs and domestic-only firms are similar (Markle & Shackelford, 2009). McGee and Stickney (1982) discovered that foreign activity does not necessarily provide a dominating role in explaining ETR's variation. In the study, the impact on the extensiveness of foreign operations on ETRs is examined through a ratio of foreign sales to the total worldwide sales which is consistent with most previous studies.

In the Malaysian context, Zainol Ariffin (2013) investigated the effect of foreign operations on the tax avoidance strategies of the Malaysian companies which cause the ETR's variations. This study indicates that a company is engaging in foreign activity if its business reports foreign income or foreign assets. The study also considered companies with extensive foreign operations are those that have higher ratios of foreign sales to their total sales. The study hypothesised that companies with

extensive foreign operations have better avenues to lower their ETRs. Those companies are capable to avoid taxes by locating their business operations in a lower tax jurisdiction; shifting income from high-tax jurisdictions to lower tax jurisdictions; taking advantage of tax benefit agreements with the host countries and exploiting differences of the tax legislation between countries.

However, this study reported a contradicting finding on the relationships between ETR and foreign operations but it still supports the contention that companies engage in foreign activity may have lower ETRs. Additionally, the findings suggested that companies with extensive foreign operations do not necessarily have lower tax burden if they operate in low-tax country, in this study refers to Malaysia. Even though Malaysia is no longer a lower tax jurisdiction as compared to neighbouring countries, the aggressiveness of the tax avoidance or tax planning activity for companies which have foreign operations may continue to exist since the Malaysian government offers attractive tax incentives which can contribute in minimizing the tax burden of the companies. The findings may support the assertion that firms operating in a lower tax jurisdiction will have low tax planning costs since Malaysia is still considered as a lower tax country as compared to the European and countries in the neighbouring ASEAN region.

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Therefore, it is expected that companies with extensive foreign operations will take advantage of tax minimisation strategies in more aggressive manner as compared to companies with lesser extensive foreign operations thus report lower ETRs. This suggests the following hypothesis as follows:

H_3: There is a significant negative relationship between extensive foreign operation and ETR (firm with extensive foreign operation will have lower ETR).

2.6.4 Capital Intensity

Firm's investment decisions particularly in terms of tangible assets may affect ETRs because the tax provision usually allows companies to write-off the cost of those assets in shorter period as compared to their economic lives. The capital intensity hypothesis is that firms which have substantial investment in capital are expected to gain tax savings and thus, have a lower ETR (McGee & Stickney, 1982). The study by McGee and Stickney (1982) suggested firms that have huge investment in depreciable assets can minimize tax liabilities by utilising higher investment tax credits (ITC) as well as accelerated capital allowance thus reporting lower ETRs. Similarly Sanjay and Newberry (1997) also supported a significant negative relationship between ETR and capital intensity.

Likewise, Harris and Feeny (2000) also provides a consistent finding on the relationship between ETR and thus supports the assertion that heavily capital intensive companies are associated with lower ETR. They concluded that the utilisation of the depreciation deduction by companies can lower their taxable income. Unlike other studies, Harris and Feeny (2000) applied tax return database from the Australian Tax Office (ATO) to investigate the ETRs of Australian companies, as oppose to most

studies that utilised data from the financial statements. This study was able to assess the actual tax payable which is not available in the financial statement. The measure of tax liability based on tax return information is more rigorous as compared to the estimation of expenses deduce from the financial statements. However, most accounting literature is not able to access to tax return data which are confidential and has restricted access to the public.

The studies on the relationship between capital intensity and ETR in Malaysia are quite extensive. This might be due to industrial policy in Malaysia which encourages investment from capital-intensive companies both from domestic and foreign investors. Manufacturing companies usually invest heavily in tangible assets such as plant and machineries for their production activities. Malaysian tax legislation do provide a wide range of incentives for capital investment such as reinvestment allowance, industrial building allowance, investment tax allowance as well as accelerated capital allowance. In the study by Nik Mohd Rashid, Md Noor, Matsuki and Bardai (2015), capital intensity has an impact on the tax planning activities of Malaysian companies because the tax provisions do provide incentives for capital investment such as capital allowances which can reduce taxable income and thus causes the variations on the ETR of the companies. The findings of this study support the hypothesis that companies with high capital intensity will have lower ETRs. Other studies such as Md Noor et.al. (2008), and Md Noor et. al. (2010) also provide consistent findings on the relationship beween capital intensity and ETR.

From the above literature review, the asset mix will have a negative association with ETR because of the tax benefit for capital investment which provides an accelerated

capital allowance. Capital intensity is included as one of the variables in this study to capture MNCs' investment decision because their investment in Malaysia may be due to the incentives for capital expenditure provided by the government especially for the manufacturing industry. Tax allowance for capital investment can be utilized to reduce the taxable income. The MNCs are presumed to have a substantial amount of fixed assets in their operations which will then benefit from an effective tax planning of the investment tax credit and capital allowance as part of their tax avoidance strategies.

Nevertheless, there are studies do provide support on the inverse relationship between ETR and capital intensity (for example Janssen & Buijink, 2000; Md Noor et.al. 2008; and Wang, Campbell, & Johnson, 2014). The findings from those studies reported that firms with heavy capital concentration (highly capitalised) pay higher income tax and thus reported higher ETRs. This suggests the following hypothesis as stated:

H_4: There is a significant relationship between capital intensity and ETR (capital intensity will influence the variability of ETR).

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2.6.5 Leverage

A well-planned capital structure is important to a company because it needs to finance their business operations' activities as optimal as possible. Decisions on the financial instrument in terms of debt or equity of a particular business organisation could have an influence on ETRs because the tax provisions normally provide different tax treatment on various types of capital structure (Mills & Newberry, 2004). Firms that opt for debt financing as opposed to equity financing for their business operation will have less tax burden. This is because interest expenditure is deductible for the calculation of taxable income under the tax legislation. However, companies that are

funded by equity will not be able to reduce the net income or taxable income since dividend is not a tax expense. The capital structure of a company can be described by the measure of leverage ratio. A company that is heavily financed by debt as compared to equity is considered as highly leverage firm.

Previous studies provide an evidence on the negative relationship between ETRs and level of leverage due to the treatment on the interest expense in reducing taxable income (for example McGee & Stickney, 1982; and Sanjay & Newberry, 1997). The inverse relationship between leverage and ETR is because of the tax shield theory that was introduced in the study by Modigliani and Miller (1963), as cited in Zainol Ariffin (2007). This is due to a tax deduction of having higher interest tax shield of debt financing as highly leveraged companies have a higher interest tax shield which consequently, reduces the ETR. Derashid and Zhang (2003) also evidenced similar findings among the Malaysian companies.

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In this study, the measurement of leverage is defined as percentage of long term debts to the total assets which is a proxy to the firm's capital structure. This determinant is tested in this study because MNCs have the opportunities to transfer income from a higher tax jurisdiction by extensively involved in financing the subsidiaries with debts in higher-tax countries. The MNCs in higher tax jurisdictions have a lower equity ratio than their affiliates that operate in lower tax jurisdictions, which indicate their tax avoidance strategies. Moreover, they can maintain a lower share of the retained earning in higher-tax jurisdictions due to the unattractiveness of the tax deferral (Schwarz, 2009). The MNCs, however, can easily manipulate the capital structure of their foreign subsidiaries through an international debt arrangement (Desai, Foley, & Hines, 2006).

This is common in thin capitalisation rules in which the tax authorities will restrict the interest deductibility above the permissible level of debt-to-equity ratio of the foreign affiliates in the calculation of taxable income.

In practice, thin capitalisation rules across countries that are different in terms of the limits imposed on the company debt's interest tax deductibility; the discretion in applying these rules and alternative tax treatment on the company's interest expense in case when full interest deductibility is denied completely (Blouin, Huizinga, Laeven, & Nicodeme, 2014). Malaysia has introduced thin capitalisation rules with the insertion of Section 140A of ITA1967 effective from 1 January 2009. However, the government has postponed the implementation of the Income Tax (Thin Capitalisation) Rules to 31 December 2017. Nonetheless, the legislation on thin capitalisation in Malaysian does not provide specific rules in terms of the permissible debt-to-equity ratio as well as the application of the rules.

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Based on the above review, it is expected that MNCs with higher level of leverage will probably have higher engagement in the tax avoidance activities and will report lower ETRs. This suggests the following hypothesis, stated as below:

H_5: There is a significant negative relationship between leverage and ETR (firms with higher level of leverage will have lower ETR).

2.6.6 Sector Effect

Previous studies provide evidence that firms in different sectors may cause ETR to vary across sectors or industries. The variability of ETR in different sectors is caused by the differential of tax treatments applicable in different sectors which would lead

to variations of the effective tax burdens (for example Omar, Molloy, & Ziebart, 1993; and Wang, Campbell, & Johnson, 2014). Firms in certain sectors are provided with certain preferential tax treatments in terms of the capital gains and depletion allowance ratio which can lower their income taxes as compared to the firms in other sectors. The sector effects on ETR are important because many governments provide specific policies for various sectors.

Omar et.al. (1993) prove a significant difference on the ETRs between firms in the oil and gas and pharmaceutical sector. Similarly, Markle and Shackelford (2012) provide evidence on the variations of ETR for different sectors. They reported that ETRs of retailers and construction firms are much higher than miners and information technology firms. In a recent study by Calvalho (2015), only certain sectors have an impact on the variability on ETR of all the tested sector which are mining, manufacturing, utility, and construction. The study indicates that mining and utility industries do provide a positive association on the taxes paid by corporations.

Likewise, Malaysian studies have established that firms in certain sectors have significantly lower ETRs. Derashid and Zhang (2003) provide evidence that ETRs are negatively associated for firms in the manufacturing and tourism industry. Md Noor et.al. (2008) detected that companies from the properties, trading and services and constructions sectors have higher ETRs. Md Noor et.al. (2010) also provide consistent findings with previous literature.

Derashid and Zhang (2003) explained that the sector effect on the ETR variations may be due to the industry policy. The policy is mainly supported by the Promotion

Investment Act (PIA) of 1986 (PIA, 1986) which provides various investment incentives in order to promote the industrialisation particularly the manufacturing sector. Derashid and Zhang (2003) examined the industry effects on ETR among the public listed companies in Malaysia between the periods of 1990 to 1999. The study indicates that firms in the manufacturing and tourism industry have significant lower ETRs as compared to the firms that are in the consumer, mining, finance, construction, trading, and plantations sector. The primarily cause of this ETRs variations are due to the industry policy in Malaysia.

On the other hand, FDIs from the Malaysian manufacturing sector for the year 2015 is the highest as compared with the primary and service sector. The FDIs amount invested in manufacturing sector are valued at RM21.94 million or equivalent to 61 percent of the FDIs (MIDA, 2016). Therefore, it is important to examine whether or not the MNCs in the manufacturing sector pay significantly different amount of taxes as compared to other main sectors that they venture in Malaysia, such as the services and trading sectors. Based on the above literature review, the following hypothesis is stated as follows:

H_6: There is a significant relationship between sector effect and ETR (there is a significant difference of ETR across sectors).

2.6.7 Location of Parent Company

Previous studies provide empirical evidence that the tax domicile affects the tax liabilities. Tax domicile will determine the resident status of an entity for tax purposes and it is established based on the location. However, the definition of the tax domicile is different between countries. The definitions vary in accordance to the respective

taxation system of the countries, in terms of the scope of charge of an income that is either worldwide or territorial. For example, the U.S. has a worldwide taxation system and the tax domicile of a tax entity is determined by the place of incorporation. In contrast, the location of operational headquarter is the consideration to determine the tax domicile in the United Kingdom that applies territorial taxation system.

Studies on the impact of the tax domicile on ETR are scarce and mostly, the studies are conducted in the developed countries, especially for the MNCs in the U.S. The concern on the impact of ETR on the tax domicile is generally from the perspective of the intensity of the capital mobility and the innovation of the international tax planning as a result of the physical location of the firm which has reportedly to erode tax differences between countries. Tax avoidance activities including transfer pricing between related companies, mismatches of hybrid entities, the placement of debt and intangibles in tax havens, and the timing of income repatriations provide opportunities to some MNCs to shift most of their income to lower-tax countries from their home countries that have higher corporate tax rates.

Firms are also able to minimize the statutory differences in the tax statues across countries by exploiting the tax domicile. It can be achieved by separating the locations where they make their profits from the places where their taxable income is reported. Consequently, it will distort the investment decisions towards activities with lower pre-tax rates of return because companies that are located in higher-tax countries are unable to compete with their counterparts domiciled in lower-tax countries. The significant impact of the statutory differences and high costs of the tax avoidance are

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highlighted in previous studies by Samuels (2009) and Carroll (2010) as cited in Markle and Shackelford (2012).

However, it is difficult to identify the tax domicile because it cannot be observed whereas the home country where the companies are incorporated can easily be observed. Therefore, many researchers assume tax domicile by the countries of the companies' parent or subsidiaries. Researchers that examine the impact of the tax domicile on ETR mostly utilise Orbis[5] ownership data by identifying the location of the subsidiary or the parent company. Markle and Shackelford (2012) reported that the country in which the parent of a particular MNC and the location of its subsidiaries substantially affect their ETRs. In addition, they also found evidence that Japanese firms reported the highest ETRs whereas the taxes paid by the U.S. companies are among the highest and the MNCs that have operations in the tax havens have the lowest ETRs.

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Similarly, Markle and Shackelford (2013) found that MNCs headquartered in Japan have the highest ETRs whereas the U.S.'s MNCs reported the next highest ETRs. In addition, the study reported that firms with parents' locations commonly associated with the international tax avoidance reported the lowest ETRs, namely, the tax havens countries and Singapore. However, Dyreng and Lindsey (2009) suggested that the U.S.'s MNCs that operate in the tax havens are not associated with lower ETRs.

[5] Orbis is a comprehensive database of detailed reports on public and private companies around the world by the **Bureau van Dijk Electronic Publishing** (known as Bureau van Dijk or "BvD"). BvD is a major provider of business information, and specializes in private company data. The company also provides software with tools for searching and analyzing companies.

This study examines the impact of the tax domicile based on the location of the holding company which is the origin country of the majority shareholder and it is considered as the headquarters of the company. Based on the above discussions, the hypothesis is stated as follows:

H_7: There is a significant relationship between location of holding company and ETR (there is a significant difference of ETR between locations of holding company).

2.7 Summary

Studies on the corporate tax avoidance or effective tax planning are largely focused in the context of developed market. However, the research on corporate tax planning and tax avoidance for firms in developing countries is still very limited. Most of the studies also associate the corporate tax planning with the tax avoidance. ETR is used as a proxy to measure tax burden because the main objective of the firms engaging in the tax planning is for tax savings. On the other hand, the variability of ETR is influenced by the firm's characteristics such as, the firm's size, capital intensity, profitability and the level of leverage.

The issues concerning the use of tax expense to measure the actual tax burden of a company as highlighted in some studies could be resolved by using actual tax payable based on tax return form submitted by a company. As such, it is hoped the suggested measure of ETR adopted in this study could provide a robust measure to document the relationship between ETR and selected firm's characteristics as examined in this study.

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Some studies do document certain factors such as the sector effect and the tax domicile which can also influence the ETR, especially on the large companies and the MNCs. These companies are able to allocate resources and able to initiate more activities associated with the tax planning since they have worldwide business operations and have extensive cross-border transactions. As a result, the large MNCs are able to avoid taxes by sheltering their income from high-tax countries to low-tax countries; locating their business activities in countries that have relatively lower tax rates; gaining maximum tax benefit agreements with host countries and taking advantage on the differences between the tax legislation of different countries.

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CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter explains and outlines on the research methodology applied in the study to test the association between firm characteristics and tax avoidance based on the established hypotheses. This chapter is divided into five sections. It starts with the explanations on the research design in Section 3.2 and follows by the research model in Section 3.3. Section 3.4 provides brief descriptions on the method of analysing the empirical data and finally, the whole discussion on research methodology is summarised in Section 3.5.

3.2 Research Design

This paper investigates the ETRs' of the tax entities from the Multinational Tax Branch (MTB) based IRBM's tax return database for the year 2015. This is to examine the relationship between ETR (a proxy of the tax avoidance) and its determinants based on selected firm's characteristics. The IRBM database contains the tax return information on an annual basis. The data is confidential and only accessible by IRBM's authorised personnel with a specific approval. The financial data from the database is captured in IRBM's system which is sourced from the annual tax return of companies filed with the IRBM. The Statistical Package for the Social Science (SPSS) is employed to analyse the empirical data.

3.2.1 Research Population

The research population is MNCs in Malaysia based on the definition set by IRBM in which the parameter is determined by companies that report any cross-border

transaction in part N of the company's tax return form (Form C). The MNCs' taxpayers in Malaysia is grouped under the administration of the MTB, one of IRBM's branches that specifically handled companies that have significant cross-border related-party transactions in terms of sales, purchases, inter-company payments for expenses, loans or purchase of fixed assets. The information in part N's of the Form C is illustrated in Table 3-1 below.

Table 3-1
Extraction of Information in Part N of Form C

N1	Total sales to related companies in Malaysia
N2	Total sales to related companies outside Malaysia
N3	Total purchases from related companies in Malaysia
N4	Total purchases from related companies outside Malaysia
N5	Total other expenses to related companies in Malaysia
N6	Total other expenses to related companies outside Malaysia
N7	Loan to related companies in Malaysia
N8	Loan to related companies outside Malaysia
N9	Loan from related companies in Malaysia
N10	Loan from related companies outside Malaysia
N11	Other income from related companies in Malaysia
N12	Other income from related companies in Malaysia

Source: Form C – Tax Return Form for Companies (available in the IRBM's website)

Due to the ability to access to IRBM's tax return database, this study allows taxpayers or tax entities to be the unit of analysis. Therefore, the unit of analysis in this study is MNCs operating in Malaysia that is taxpayers belong to the MTB.

3.2.2 Sample Selection and Sample Size

The sampling frame of this study is from the IRBM's tax return database which consists population of 6,524 taxpayers under the MTB and the latest information available is for the year 2015. However, not all taxpayers have duly submitted their tax return forms and the available tax return form data for 2015 is only for 6,069 taxpayers. Since this study specifically focused on companies that are considered as high risk category possibly engaged in the tax avoidance such as cross-border transactions related issues, the sampling selection is based on the selection criteria as discussed in the scope of the study in section 1.5 of Chapter One. Taxpayers fall under the scope and meet the aforesaid set of criteria are those companies with turnover more than RM25 million and related party transactions in terms of sales, purchases, other income or payment exceeding RM15 million; or inter-company loan more than RM50 million (relates to thin capitalisation rules).

In 2015, the number of taxpayers that meet the criteria for the scope of this study is 1,187 companies. The sample of the study excludes taxpayers with missing or insufficient information (from the tax return form) that is used to measure the independent and dependent variable as to ensure the computation of ETR is not misleading. This study excludes taxpayers from the financial institution such as banks, insurance companies, trust and other financial services companies because these types of company are subjected to different tax treatments and stricter regulations as compared to companies in other sectors. This is due to the differences in the regulatory requirements, financial reporting standards and compliance thus likely to affect their ETR differently from other companies (Zainol Ariffin, 2007).

Furthermore, the taxpayers with zero tax payable are excluded because their ETRs become nil since tax payable is the numerator in the calculation of ETR. In order to be consistent with previous studies, taxpayers with net operating loss (negative net profit) are also excluded from the sample. The value of ETR is negative for a company with loss or zero income which does not provide a susceptible economic explanation in the context of the study (for example McGee & Stickney, 1982; Sanjay & Newberry, 1997; Rego, 2003; Zimmermaxpan, 1983; Derashid & Zhang, 2003; and Zainol Ariffin, 2007). Besides, the negative value will lead to confounding effect and hence it is hard to interpret (Derashid & Zhang, 2003).

In order to eliminate the effects of extreme values and errors in the data, ETR value of the tax entities in the sample should be confined to a value below 100 percent which means the tax payable is more than pre-tax income. Thus, the entities with values of ETR greater or equal to one are eliminated as the samples. This approach is consistent prior studies such as Gupta and Newberry (1997); Rego (2003); and Derashid and Zhang (2003). On the other hand, ETR's value of more than one is recorded as one in the study by Zainol Ariffin (2007), and the sample is limited to the observations with non-negative ETR's value of less or equal to 70 percent in the study by Markle and Shackelford (2013). All these approaches[6] are in line with the suggestions by Pallant (2011) to eliminate extreme values.

In line with the sample selection procedure, the data are filtered by only accepting ETR in between 100 percent and negative(-) 100 percent (-100% < ETR < 100%). The

[6] Pallant (2011) suggests that extreme values can either be deleted from the data set or, alternatively, a score is assigned for the outliers with values which are not too different from the remaining cluster of scores (page 151).

selection of final sample comprises of 830 tax entity observations is summarised in Table 3-2. Each sample of tax entity, the following information is extracted and computed: tax payable, total sales, total assets, pre-tax income, debt, equity, fixed assets, foreign sales or purchases, business code, location of holding company, ETR, firm's size, profitability, leverage, capital intensity, foreign activity, company structure and sector.

Table 3-2
Summary of Sample Selection Procedure

	No.of taxpayer
Number of taxpayers belongs to MTB in year 2015	6,524
No. of tax return form submitted to IRBM for year of assessment 2015	6,069
No. of taxpayers meet criteria (paragraph 3.1 of IRBM TPGL)	**1,187**
Less:	
Taxpayers with incomplete or missing data	19
Taxpayers in financial sector	14
Taxpayers with zero tax payable	173
Taxpayers with negative ETR	93
Taxpayers with ETR of non-negative equal or exceed one	58
Number of taxpayers – years available for ETR analysis	**830**

In order to investigate the effect of different types of sector on ETR, the tax entities are grouped into four different sectors based on their business code as stated in the respective tax return form, namely, manufacturing, trading, services and information technology and communication (ICT). The sector that has less than 10 entities is grouped together and is classified as 'others'. Besides, the tax entities are also classified into different countries to indicate the location of the holding company: Malaysia; Switzerland; Germany; United Kingdom; Hong Kong; Japan; Netherlands; Singapore; and United States;. A country that has observations below than 20 entities are combined countries into four categories: Asia; Europe; Tax Havens; and Oceania

H3

H4

and North America. The classification is based on the information in the tax return form that is the origin country of the major shareholders.

H6

3.3 Research Model

H7

The previous chapter shows the development of seven hypotheses in-used in the research model. The hypotheses established are as shown in Table 3-3.

Table 3-3

Research Model: Summary of Hypotheses

$$ETR = \beta_0+\beta_1SIZE+\beta_2PTI+\beta_3FO+\beta_4CAPINT+ \beta_5LEV+\beta_6SECT+\beta_7LOC+\epsilon$$

	Hypothesis	Direction
	There is a significant relationship between firm size and ETR (size of firm will influence the variability of ETR).	Positive / negative
	There is a significant negative relationship between pre-tax profit and ETR (firms with higher profit will have lower ETR).	Negative
	There is a significant negative relationship between extensive foreign operation and ETR (firm with extensive foreign operations will have lower ETR).	Negative
	There is a significant relationship between capital intensity and ETR (capital intensity will influence the variability of ETR).	Positive / negative
H5	There is a significant negative relationship between leverage and ETR (firms with higher level of leverage will have lower ETR).	Negative
	There is a significant relationship between sector effect and ETR (there is a significant difference of ETR across sector).	Positive / negative
	There is a significant relationship between the location of holding company and ETR (there is a significant difference of ETR between countries.).	Positive / negative

Thus, the following regression equation is applied as the research model to investigate the above hypotheses. The research model is described as follows:

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The dependent variable is the corporate ETR which is a proxy to the tax avoidance. The independent variables are firm's size (SIZE), profitability (PTI), foreign operation (FO), capital intensity (CAPINT), leverage (LEV), sector effect (SECT) and the location of the holding company (LOC). Detail explanation on the variable definition is Table 3-4 below.

Table 3-4
Measurement and Definition of Variables

Variable	Definitions	Measurement
ETR	Effective tax rate	Ratio of tax payable to pre-tax income
SIZE	Firm size	Natural log of total assets
PTI	Profitability	Natural log of pre-tax income (PTI)
FO	Foreign operation	Ratio of total foreign sales / purchases to total sales
CAPINT	Capital intensity	Ratio of tangible fixed assets divided by total assets
LEV	Leverage	Ratio total debts divided by total assets
SECT	Sector effect	Sector dummies: manufacturing (0), trading (1), services (2), ICT (3) and others (4)
LOC	Location of shareholding company	Location dummies (country): Malaysia (1); Switzerland (2) Germany (3) United Kingdom (4); Hong Kong (5); Japan (6); Netherlands (7); Singapore (8); United States (9); Asia (10); Europe (11); Tax Havens (12); and Oceania & North America (13)

3.3.1 Explanation of Independent Variables

Size of the firm (SIZE) is measured using the amount of total assets. In this study, the total amount of assets is converted into natural logarithm to be consistent with previous studies. The profitability variable, which is pre-tax income (PTI) is a natural logarithm of profit before income tax. The conversion of the total assets and the profit before tax in form of natural logarithm improves the overall distribution and minimises the ranges of variances. Previous studies used foreign operation or foreign activity as a dummy variable because the samples include both domestic-only companies and companies

with foreign operations. Unlike most studies, the sample of this study is the MNCs that definitely involve with foreign operations, thus the variable foreign operation (FO) is a continuous variable. The variable is measured as a ratio of either foreign sales or purchases to the total sale which indicates the extensiveness of foreign operation of a particular company.

The capital intensity (CAPINT) variable is included to investigate the impact of company's capital investment on ETR. The measurement of capital intensity is the ratio of tangible fixed assets divided by the total assets. There are a few options of defining leverage depending on the objective of the analysis such as debt to assets, debt to capitalisation or debt to equity. For the purpose of this study, leverage (LEV) is measured as a ratio of total debt to the total equity which is to capture the company's' financial decisions either by debt financing or equity financing.

Sector effect is a vector of dummy variable which represents various sectors according to the category of the samples in the study. Based on the IRBM database, sector that represent each taxpayer or a company is based on its business code reported in the tax return form. Business code used by the IRBM is based on the Malaysia Standard Industrial Classification 2008 (MSIC 2008) prepared by the Department of Statistics, Malaysia. Those codes are then grouped accordingly to be consistent with classification adopted in the previous studies. Therefore, the sector dummy applies in this study are as suggested in the previous studies: manufacturing; services; information and communication technology (ICT), trading, services; agriculture, forestry and fishing; mining and quarrying; electricity, gas, steam and air conditioning supply; water supply, sewerage, waste management and remediation activities;

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construction; transportation and storage; accommodation and food services activities; financial services; real estate (Derashid & Zhang, 2003; and Derashid et.al., 2006).

The last variable included in the model is the location of main shareholder of the company which is the dummy variable representing the country of origin, namely Malaysia, Singapore, Japan, U.S., Netherlands, Germany, United Kingdom, Switzerland, Hong Kong, Africa, Asia, Europe, Latin America, Middle East and Tax Havens.

3.3.2 ETR as a Measure of Tax Avoidance

ETR is widely used as a proxy of tax avoidance strategies of a company. Tax avoidance relates to the intention of the taxpayer to minimise tax burden by employing tax planning schemes. Effective tax planning or tax avoidance will reduce the tax liabilities and thus, lower the ETRs. Previous researchers consider ETR as a measure of tax avoidance strategies since ETR measures the tax burden of a company (Siegfried, 1972; McGee & Stickney, 1982; Zimmerman, 1983; Sanjay & Newberry, 1997; Derashid & Zhang, 2003; Adhikariet.al., 2006; and Zainol Ariffin, 2013).

Rego (2003) explained that the tax avoidance activities affect ETRs because those activities often cause temporary and permanent differences between financial accounting and taxable income. ETR is computed as a ratio of taxable income (the numerator) to financial accounting income (the denominator) and therefore, the differences between these types of income will cause variations in ETRs. A firm's ETR could be affected by tax motivated transactions such as tax-exempt income, tax credits, deferral of income recognition for tax purposes and foreign sales corporations.

Similarly, the MNCs often utilised their foreign business operations to gain advantage against the income tax paid which can affect ETRs. Tax avoidance activities such as transferring income from a high-tax to a low-tax jurisdiction will cause a decrease of the MNC's ETR. The decrease in the value of the ETR is due to the reduction of the tax liabilities which is the numerator in the ETR's calculation, whilst the denominator is the pre-tax accounting income has not changed and remained constant. Generally, ETR is used as a measure of effective tax planning because companies can avoid paying income taxes by reducing their taxable income and at the same time, maintaining their financial accounting income.

In most of the studies, the financial statement data is used in the measurement of ETR because the information concerning tax affairs of a company is not publicly available and the company-level tax return data is confidential. Therefore, most researchers develop measures from the financial statements to observe the tax burden due to the absent of data on the companies' tax return. However, in this study ETR is measured as a ratio of the income tax payable to the income before tax by utilising IRBM's internal database in measuring the actual tax burden of companies. This is due to the availability of the information on the actual tax paid. Hence, it could remove the problem of permanent and timing differences because the income tax expense takes into account the tax paid provisions for later and earlier periods (Harris & Feeny, 2000).

On the other hand, a firm's taxable income does not necessarily match to the reported accounting income. Accounting income is derived based on acceptable financial accounting standards, whilst the computation of taxable income is based on the

provisions of the income tax laws and regulations. Thus, "timing and permanent" differences may arise in both computations of income because of differences in the accounting and tax treatments. For instance, some items are included in the profit and loss account but they are deductible in the computation of taxable income or vice versa. So far, ETR is the most suitable measurement to identify any tax planning activities. The equation for the measurement of ETR is stated as follows:

Effective Tax Rates (ETR) = Total tax payable / pre-tax income

Based on the equation, a company that reports lower ETRs below STR implies a gap between the financial accounting income and the taxable income which is considered as engaging in the tax avoidance activities. The distribution of ETR is further classified into three categories as suggested by Sanjay abd Newberry (1997) and Md Noor et.al. (2008): ETR below than 10 percent is considered as low; ETR ranges from 11 to 25 percent is considered as normal; and ETR above than STR is considered as high.

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3.4 Data Analysis

The SPSS software is used to analyse the collected data. The analysis starts with descriptive analysis, follows by the correlation analysis and ends with the regression analysis to explore the predictive ability of the research model.

3.4.1 Descriptive Analysis

Descriptive statistics provide the profiles of the collected sample such as mean, median, standard deviation and range of scores as well as information that relates to the distribution of scores on continuous variables as well as the frequencies of the categorical variables. This information is needed to choose the right of statistical

techniques to be adopted in analysing the data depending on the level of measurement and the nature of the data (parametric or non-parametric).

3.4.2 Correlation Analysis

Correlation analysis is a statistical technique used to examine the direction and level of the relationship between the two variables (for example Spearman Rank Order Correlation and Pearson product-moment correlation). It explains the relationship between the two variables and inter-correlation among the other variables. Pearson product-moment correlation is used for parametric data that meets the assumption of normal distribution whereas Spearman Rank Order Correlation is used for the non-parametric data.

3.4.3 Multiple Regression

Multiple regression is statistical technique used to explore the predictive ability of a set of independent variables on a dependent variable. Multiple regression is used in this study since the measure of dependent variable (ETR) is a continuous measure in term of a ratio. Thus, multiple regressions are utilised in order to investigate the predictive ability of the research model on the variation of ETRs as a proxy of the tax avoidance activities of the MNCs in Malaysia. Besides, a multicollinearity is also being observed to ensure two or more independent variables in a multiple regression model are not highly correlated.

3.5 Summary

This chapter outlines the basic structure of the research methodology adopted in this study. Besides, it provides a brief discussion on the research design in terms of research

population and sample selection procedures. Also, the chapter includes the explanation on variables used in the research model as well as the rationale of using ETR as a measure of tax avoidance. This chapter ends with an overview on various statistical techniques employed for the data analysis.

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CHAPTER FOUR: DATA ANALYSIS AND EMPIRICAL FINDINGS

4.1 Introduction

This chapter explains the data analysis and also discusses the empirical findings from the collected data. The data is analysed using the SPSS statistical analysis tool. This chapter is organized into seven sections including the introduction and the summary. Section 4.2 provides summary of the data follows by explanation on descriptive statistics in section 4.3. Descriptive analysis also provides comparisons of distribution of mean across sectors and locations of holding companies. Then, section 4.4 illustrates the results of the correlation analysis and analyses the findings accordingly. Next, section 4.5 provides results and explanation on regression analysis as well as justifications on the results in relation to the hypotheses of the study. This statistical technique is used to investigate the relationship between the independent and dependent variables, as well as to validate the hypotheses of the study. The summary of hypothesis testing is provided in section 4.6 and lastly the summary of this chapter is presented in section 4.7.

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4.2 Summary of Data

Table 4-1 presents the breakdown of the final sample of 830 observations according to the sectors and the locations of the holding company with the average (mean) ETR by sectors and locations of the holding company. The samples for this study is mainly from manufacturing and trading sectors which consist of 431 and 229 tax-entity observations or 51.93 percent and 27.59 percent of the total sample population respectively. This is consistent with MIDA's statistics that shows the amount of FDIs from manufacturing sector is the highest which is equivalent to 61 percent (MIDA,

2016). The least observations in each sector with less than 30 observations are combined together under 'others' which consists of agriculture; mining; construction; provider of infrastructure services; transportation and storage; and hotel and food services. Among these sectors, the least observation is the hotel and food services whilst the highest observation is the construction sector.

On the other hand, the final sample number according to the locations of the holding company covers 43 countries, ranging from only one observation in eight different countries to the highest observations of 177 in Malaysia. Locations (countries) with less than 20 observations are combined into four groups of locations: Asia, Europe, Tax Havens, and Oceania and North America. The remaining 9 countries are grouped in their own countries. For the 13 countries and groups, the most holding company of the MNCs are located in Malaysia, followed by Singapore and Japan with number of observations: 177, 156 and 129 with percentage of 21.33 percent, 18.80 percent and 15.54 percent out of sample population respectively.

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Table 4-1
Summary of Data

	Manufac.	Trading	Services	ICT	Others	Sub-total	%
Malaysia	92	47	14	8	16	177	21.33
Switzerland	9	9	0	1	3	22	2.65
Germany	19	9	3	2		34	4.10
United Kingdom	16	7	7	4	0	34	4.10
Hong Kong	7	12	2		0	22	2.65
Japan	97	25	1	2	4	129	15.54
Netherlands	23	14	13	5	3	58	6.99
Singapore	80	46	9	9	12	156	18.80
United States	26	20	11	8	2	67	8.07
Asia	14	5	0	3	2	24	2.89
Europe	26	19	7	5	4	61	7.35
Tax Havens	15	11	4		2	33	3.98
Oceania & North America	7	5		0	0	13	1.57
Sub-total	431	229	72	49	49	830	100.00
%	51.93	27.59	8.67	5.90	5.90	100.00	

4.3 Descriptive Analysis

Table 4.2 shows the descriptive statistics in terms of median, means, standard deviation, maximum and minimum values for proxy of dependent variables (ETR) and explanatory variables based on the final sample of 830 observations. The mean ETR (0.213) is slightly lower than median ETR (0.232) with a wide range of ETR percentage within 0 percent to 96.8 percent. The pattern of mean and median for firm's size, the profit before tax and foreign operation is quite similar: mean (8.034) and median (7.999); mean (7.064) and median (7.060); mean (0.577) and median (0.584). Mean and median of leverage and capital intensity also show almost similar pattern which is the mean and median of 0.139 and 0.196 (leverage) and 1.2668 and 1.0000 (capital intensity) respectively.

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Table 4-2
Descriptive Statistics

N=830	Mean	Median	Std. Dev.	Max.	Min.
ETR	0.2139	0.2323	0.1504	0.9680	0.0001
Firm Size	8.0328	7.9995	0.5399	9.8495	6.6747
Profit before tax	7.0704	7.0689	0.6341	9.3633	4.9013
Foreign Operation	0.5780	0.5844	0.3130	1.0000	0.0005
Capital Intensity	1.2668	1.0000	1.4583	5.8640	0.0308
Leverage	0.1973	0.1429	0.1864	0.9131	0.0000

Furthermore, the results of explanatory variables highlight some critical points. Generally, the level of leverage reported in this study is fairly low with percentage below than 20 percent of the total assets are financed by debts. In terms of the capital intensity, nearly 20 percent of the total assets consist of plant, machinery, and equipment. Finally, the ratio of foreign operation to the total turnover is more than 50 percent.

Overall, the results suggest that the ETRs for the MNCs in Malaysia are lower than the STR with mean ETR of 21.4 percent as compared to STR of 25 percent in year 2015. This figure denotes that the MNCs in Malaysia pays 3.6 percent lower tax as compared to STR in year 2015. T-test result indicates that difference between ETR and STR is significant with value of 6.921 at 99 percent confidence level, as shown in Table 4-3 below. Therefore, this finding provides the answer for the first research question and provides support on the existence of tax avoidance activities among the MNCs in Malaysia.

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Table 4-3
One Sample Test on the Deviation between Mean ETR and STR

	Mean	T-Test	P-Value
ETR	21.4		
STR	25	6.921	0.000***

***Significant at 99% Confidence level

Furthermore, the distribution of ETR is classified into three categories as suggested in the previous studies. Based on Table 4-4, only 11 percent of the MNCs in Malaysia have low ETR, whereas 42 percent of the MNCs have higher ETR and 47 percent is considered as having normal ETR. However, the overall result indicates more MNCs have lower ETR than STR which consists of 59 percent of the sample population.

Table 4-4
Distribution of ETR among MNCs in Malaysia in 2015

ETR Range	**Observations**	**%**
≤ 10%	91	10.96
10 < X < 25%	392	47.23
≥25%	347	41.81
Total	830	100.00

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In order to select the appropriate statistical techniques, information concerning the distribution of scores is essential to meet the pre-requisite assumptions in terms of linear relationship and multivariate normality. These assumptions are assessed by examining the value of kurtosis and skewness. The value of Skewness-Kurtosis tests is provided in Table 4-5 below. According to Pallant (2011), the value of skewness and kurtosis for perfect normal distribution is zero. However, the data distribution is still considered as normal when the value ranges between -1 and 1 (Bulmer M. G., 1979), whereas the values of skewness and kurtosis between -2 and +2 still can be accepted to establish a normality distribution of a data set (George & Mallery, 2010). This study shows Skewness-Kurtosis values between –2 and 2 for all variables except for the dependent variable, ETR. However, a sampling distribution tends to be normal

(or not too different from normal) with a reasonable large samples[7] and thus, skewness and kurtosis tests should not be used in large samples.

Table 4-5
Skewness-Kurtosis Tests

	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
ETR	0.851	0.085	2.164	0.170
Firm Size	0.449	0.085	0.044	0.170
Profit before tax	0.153	0.085	0.622	0.170
Foreign Operation	-0.142	0.085	-1.258	0.170
Capital Intensity	1.338	0.085	1.041	0.170
Leverage	1.026	0.085	0.428	0.170
Sector	1.394	0.085	1.038	0.170
Location	-0.140	0.085	-1.332	0.170

Further test of normality is carried out by using the Shapiro-Wilk as recommended for sample sizes from 7 to 2,000 (Zainol Ariffin, 2007) as shown in Table 4-6 below. The statistics for normality shows that most of the data set is not normally distributed since it is highly significant ($p<0.00$) and it is common for financial data sets as adopted in this study (Zainol Ariffin, 2007).

Table 4-6
Test of Normality – Shapiro-Wilk

Variable	Observation	Statistic	Significance
Effective Tax Rate (ETR)	830	0.926	.000
Firm Size	830	0.986	.000
Profit before tax	830	0.994	.002
Foreign Operation	830	0.931	.000
Capital Intensity	830	0.800	.000
Leverage	830	0.886	.000

[7] In Field (2007), a sample with 30 cases is considered large whereas in Pallant (2011) a large sample has 200 cases or more.

4.3.1 Comparison of Mean ETR between Sectors

It is essential to describe the ETRs according to sectors since this variable can also measure the ETRs' variability. Table 4-7 presents the distribution of ETRs according to sectors. This study found that ETRs vary across sectors and most sectors fall below the STR of 25 percent except for the trading sector. The manufacturing sector reports the lowest mean ETR at 17.66 percent, and the highest mean ETR is reported by MNCs from the trading sectors at about 29 percent. Meanwhile, the service sector reports the lowest median ETR at 17.54 percent, and the highest median ETR is the trading sector at 27.22 percent.

Table 4-7
Descriptive Statistics – ETR by Sector

	No. of MNCs	Mean	Median	Std. Dev.	Max.	Min.
Manufacturing	432	0.1766	0.2002	0.1361	0.9341	0.0001
Trading	229	0.2929	0.2733	0.1258	0.7349	0.0010
Services	72	0.1983	0.1754	0.1908	0.9680	0.0005
ICT	49	0.2035	0.2146	0.1962	0.9487	0.0002
Others	49	0.2055	0.2351	0.1197	0.4939	0.0002
Total	830	0.2139	0.2323	0.1504	0.9680	0.0001

Further, the results from the post-hoc tests provide support that there is a significant difference for ETR mean between the MNCs in the same sector and across sectors. Table 4-8 indicates the statistical result from Kruskal-Wallis Test. The test reveals a statistically significant difference in mean ETR of five different sectors. Hence, the statistical result supports that there is variability of ETRs within the same and across sectors in 2015.

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Table 4-8

Kruskal-Wallis Test – Mean ETR Comparison between Sectors

Variable	Chi-Square	P-value
ETR	120.925	0.000***

*** Significant at 99% confidence level

4.3.2 Comparison of Mean between Location of Holding Company

This study finds that ETRs vary across locations and it is also falls below the STR of 25 percent except for the location of holding company in Europe. Table 4-9 shows that the locations of holding company with the lowest mean ETR is Japan with ETR of 17.77 percent. Whereas, the locations that indicate the highest mean is United Kingdom with mean ETR of 24.68 percent. The same pattern is observed for median ETR with the lowest median ETR is Japan (20.85 percent) and the highest is Tax Havens (25.78 percent).

Table 4-9

Descriptive Statistics – ETR by Location

	No.of MNCs	Mean	Median	Std. Dev.	Max.	Min.
Malaysia	177	0.2111	0.2325	0.0107	0.9341	0.0001
Switzerland	22	0.2136	0.2349	0.1432	0.5167	0.0007
Germany	34	0.2408	0.2499	0.1353	0.6789	0.0008
United Kingdom	34	0.2468	0.2472	0.1863	0.9487	0.0016
Hong Kong	22	0.2007	0.2199	0.1537	0.5659	0.0027
Japan	129	0.1777	0.2085	0.1319	0.5145	0.0001
Netherlands	58	0.2355	0.2379	0.1966	0.9680	0.0002
Singapore	156	0.2181	0.2381	0.1356	0.7187	0.0001
United States	67	0.2041	0.2351	0.1463	0.6041	0.0002
Asia	24	0.2089	0.2047	0.1593	0.6425	0.0006
Europe	61	0.2456	0.2449	0.1603	0.7080	0.0003
Tax Havens	33	0.2148	0.2578	0.1919	0.7349	0.0001
Oceania & North America	13	0.2373	0.2547	0.1282	0.4412	0.0117
Total	830	0.2139	0.2323	0.1504	0.9680	0.0001

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Table 4-10 indicates the statistical result from Kruskal-Wallis Test for the differences mean ETR across the locations. The test reveals that there is no significant difference in mean ETR of different locations of the holding company. Thus, the finding does not support the variability of ETRs within and across locations in year 2015.

Table 4-10
Kruskal-Wallis Test – Mean ETR Comparison between Locations

Variable	Chi-Square	P-value
ETR	11.808	0.461

4.4 Correlation Analysis

This study adopts Spearman Rank Order (rho) to analyse the correlation between the dependent and independent variables as presented in Table 4-11 below. The result shows that ETR is significantly correlated with firm's size, profitability, foreign operation, capital intensity, and leverage with correlation value ranges between -0.288 and 0.141. The highest correlation between the dependent and independent variables is between ETR and leverage with value of -0.288.

Table 4-11
Spearman Rank Order (Correlation between dependent and independent variables)

	ETR	SIZE	PTI	FO	CAPINT	LEV
ETR	1.000					
SIZE	-0.232**	1.000				
PTI	-0.265**	0.742**	1.000			
FO	-0.168*	-0.063	-0.110**	1.000		
CAPINT	0.141*	0.033	-0.122**	-0.089*	1.000	
LEV	-0.288**	0.218**	0.101**	0.062	-0.189**	1.000

* Correlation is significant at the 95% confidence level (2-tailed).
** Correlation is significant at the 99% confidence level (2-tailed).
ETR is a ratio of tax payable to profit before tax; **βFSIZE** is a natural logarithm of total assets; **βPTI** is a natural logarithm of profit before tax, **βFO** is a ratio between foreign transactions (sales or purchases and expenses or other income) to total turnover; **βCAPINT** is a ratio of fixed assets to total assets; and **βLEV** is a ratio of total liabilities to total equity.

The data set does not have a critical multicollinearity problem since the correlation coefficient is considerably low. The highest correlation between the independent variables is the firm's size and the profit before tax with a value of 0.742. Pallant (2011) suggests that the multicollinearity exists when the value of rho is equal or above 0.9. However, it is suggested to perform 'collinearity disnostics' for variables with a bivariate correlation above 0.7.

The multicollinearity problem on a data set can also be observed by examining the 'Tolerance' and 'VIF' values under the 'collinearity statistics'. Multicollinearity is not a problem in this data set as the value of Tolerence is more than 0.10 (ranging between 0.378 and 0.956) and also, VIF value below than 10 (ranging between 1.046 and 2.645) for all the independent variables as presented in Table 4.12 (Pallant, 2011).

Table 4-12
Collinearity Statistics

	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Ln10SIZE	0.378	2.645
Ln10PTI	0.396	2.523
FO	0.946	1.057
CAPINT	0.905	1.105
LEV	0.868	1.152

4.5 Regression Analysis

This study utilises a standard multiple regression to investigate the overall effect of the independent variables on the tax avoidance activity and to determine the most significant explanatory variables that influence the dependent variable. The results of the regression analysis are presented in Table 4-12. The data set shows no significant

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problems of heteroscedasticity based on the observation of the scatterplot of the predicted and residual values.

The regression model is statistically significant at 1 percent level with F-Statistic of 11.318 and the adjusted R^2 value of 0.217. It means that 21.7 percent of the variation in ETR can be explained by the chosen independent variables. The magnitude of the impact of the independent variables is within the range as reported in the previous studies, for example the adjusted R^2 value within the range of 13.1 to 16.1 percent in Adhikari et.al. (2006) and 11.1 to 16.3 percent in Md Noor et.al.(2010). However, there are studies that report better results for example the value of adjusted R^2 more than 40 percent in the study by Md Noor & Matsuki (2009).

The overall statistic results of explanatory variables for ETR provide significant result except for sector effect and location of the holding company. The value of the significant coefficients in the model: the firm's size (0.029 - significant at 95 percent confidence level), the profit before tax (0.079 - significant at 99 percent confidence level), the foreign operation ratio (0.061 - significant at 99 percent confidence level), the capital intensity (0.005 - significant at 90 percent confidence level), and the leverage (0.156 - significant at 99 percent confidence level).

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Table 4-13
Multiple Regression Results of the Model

	Unstandardized Coefficients		Statistic	
	B	Std. Error	t	Sig.
(Constant)	***0.587	0.075	7.777	0.000
Ln10SIZE	**0.029	0.014	2.031	0.043
Ln10PTI	***-0.079	0.012	-6.577	0.000
FOROPER	***-0.061	0.016	-3.833	0.000
CAPINT	*0.005	0.002	1.360	0.012
LEV	***-0.156	0.029	-5.360	0.000
SECTOR				
ICT	-0.015	0.028	-.561	0.575
Services	-0.034	0.026	-1.301	0.194
Trading	**0.066	0.022	3.052	0.002
Manufacturing	-0.001	0.021	-.031	0.975
LOCATION				
Oceania & North America	0.005	0.039	.127	0.899
Tax Havens	-0.012	0.026	-.472	0.637
Europe	0.023	0.020	1.139	0.255
Asia	-0.015	0.030	-.503	0.615
USA	-0.003	0.020	-.175	0.861
Singapore	-0.005	0.015	-.340	0.734
Netherlands	0.028	0.021	1.336	0.182
Japan	*-0.028	0.016	-1.678	0.094
Hong Kong	-0.043	0.031	-1.391	0.165
United Kingdom	0.039	0.026	1.508	0.132
Germany	*0.044	0.025	1.730	0.084
Switzerland	-0.019	0.031	-.616	0.538
Malaysia	-0.005	0.015	-.316	0.752
Observations				830
R^2				0.227
Adjusted R_2				0.217
F-Statistic				***11.314
Durbin-Watson				1.938

* Significant at the 90% confidence level; **Significant at the 9 5% confidence level; *** Significant at the 99% confidence level

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This study hypothesises that there is a significant relationship between ETR and firm's size. The result reveals that there is a significant positive relationship which indicates that larger MNCs will pay higher tax and report higher ETRs. The findings provide support to the hypothesis on the existence of a significant relationship between firm's size and ETR.

Similarly, the findings also provide support to the hypothesis on a significant negative relationship between profitability and ETR. Likewise, the result on the effect of foreign operations on ETR supports the assertion that companies with extensive foreign operations are more aggressive m exploiting tax minimisation strategies than companies with less extensive foreign operations.

The fndings on the relationship between capital intensity and ETR is consistent with the hypothesis of this study which is a significant relationship between ETR and capital intensity. The positive coefficient (with 10 percent confidence level) between capital intensity and ETR indicates that capital-intensive MNCs in Malaysia are not using the asset mix to lower their taxable income and do not utilise fixed assets to gain any tax saving in terms of depreciation cost of tangible assets over periods much shorter than their economic lives.

The highest coefficient reported in this study is the relationship between leverage and ETR. The result provides a significant negative relationship (1 percent confidence level) and thus, supports the hypothesis on the tax shield theory which utilises the tax deduction of having higher interest of the debt financing. Highly leveraged companies have a higher interest tax shield which in turn reduces the ETR.

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Results from the coefficients of sector dummies indicate that the sector effects do not significantly influence the ETR of the MNCs in Malaysia. Only trading sector dummy provides a significantly positive coefficients which denotes MNCs in this sector have higher ETR. Other sector dummies do not provide statistically significant coefficients which indicate sector effect does not have an impact on the variability of ETR, thus does not support the hypothesis on the significant relationship between sector effect and ETR.

Lastly, the statistical results from the coefficients of location dummies indicates that the location of the holding company do not significantly influence the ETR of the MNCs in Malaysia except for Japan's and Germany's location dummy. However, the coefficient values are relatively small which less than 5 percent at 90 percent confidence level. Other location dummies do not provide statistically significant coefficients which indicates that the location of the holding company do not have an impact on the variability of ETR. Thus, it does not support the hypothesis on the significant relationship between the location of the holding company and ETR. The finding also indicates that MNCs owned by foreign as well as Malaysian shareholder regardless the country origin of the shareholders (location) does not influence the variability of ETR.

4.6 Summary of the Hypotheses

In conclusion, all of the estimation models indicate that five out of seven firm's characteristics are associated with the tax avoidance activities among the MNCs in Malaysia, namely firm's size, profitability, foreign operation, capital intensity and leverage and, thus support the hypotheses developed in the model. On the hand,

H_2

variables on sector effect and location of the holding company do not support the

H_3

hypothesis. The evidence is based on several statistical tests conducted on the samples

H_4

(Kruskal-Wallis test, correlation analysis and regression analysis). The statistical results also provide support that ETR of the MNCs in Malaysia is below STR of 25 percent in year 2015 which represented by almost 60 percent of the sample population.

H_6

H_7

The summary of hypotheses is shown in Table 4.15 below.

Table 4-14
Summary of Hypotheses

	Research Question / Hypothesis	Result
Q1	Does corporate avoidance among multinational corporations (MNCs) in Malaysia exists and what is their level of effective tax rates (ETRs) (as proxies of tax avoidance)?	*Yes* *Below STR*
Q2	What are the determinants of ETRs of the MNCs in Malaysia?	
H_1	There is a relationship between firm size and ETR (size of firm will influence the variability of ETR).	*Accept*
	There is a negative relationship between pre-tax profit and ETR (firms with higher income will have lower ETR.	*Accept*
	There is a negative relationship between foreign operation and ETR (firm with extensive foreign operations will have lower ETR).	*Accept*
	There is a significant relationship between capital intensity and ETR (capital intensity will influence the variability of ETR)	*Accept*
H_5	There is negative relationship between leverage and ETR (firms with high leverage will have lower ETR)	*Accept*
	There is a relationship between sector effect and ETR (there is a significant difference of ETR across sector).	*Reject*
	There is a relationship between sector effect and ETR (there is a significant difference of ETR between countries).	*Reject*

4.7 Summary

This chapter discusses relevant statistical tests based on the research model which can affect a company's ETR in order to provide evidence on the research questions raised in this study. Regression analysis is used to assess the validity of the hypotheses. The regressions analysis is performed to examine the relationship between the firm's

characteristics and the tax avoidance activity. The result shows only five out of seven firm's characteristics influence the tax avoidance activity.

The empirical evidence finds that three of the explanatory variables that have a statistically significant coefficient match with the predicted sign (negative relationship) namely profitability, foreign operation and leverage. Whereas the relationship between firm's size and capital intensity provide support on significant relationship with ETR. With regard to the sector effect, the results do not establish the critical differences of the industry effects in explaining the ETR. Only the trading sector dummy demonstrates a significant correlation with the tax avoidance activity. The empirical findings are consistent with the predicted direction across the sectors. On the effect of the location of holding company, the finding does not provide any evidence in explaining the variation in the ETR. Only locations of the holding company in Japan and Germany provide significant correlation with the tax avoidance activity. The evidence, however, is not consistent with predicted direction with the locations of the holding company.

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CHAPTER FIVE: DISCUSSION AND CONCLUSIONS

5.1 Introduction

This chapter concludes the study by summarising and provide discussions on findings in accordance to the data analysis. The study attempts to investigate the extent of association between firm characteristics to tax avoidance namely firm's size, profitability, foreign operation, capital intensity, leverage, sector effect and the location of the holding company. Then, implications and limitations of the study are discussed in detailed and provides directions for future research. This chapter ends with an overall conclusion for the entire study.

5.2 Discussion of the Findings

This study aims to investigate the level of the tax avoidance activity among the MNCs in Malaysia by examining the level of ETR as a proxy of the tax avoidance and to examine the relationship between the firm's characteristics namely firm's size, profitability, foreign operation, capital intensity, leverage, sector effect and the location of the holding company to the tax avoidance activity. Seven hypotheses were developed to investigate the relationship between the firm's characteristics and the tax avoidance of the MNCs in Malaysia. The data was collected from the IRBM's tax return database for the year 2015 which consist of 830 tax-entity observations. The analysis was performed using the SPSS statistical tools. Findings of this study is crucial to support the hypotheses and provide answers to the research questions as established in the earlier chapter.

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From the analysis on the distribution of ETRs among the MNCs in Malaysia, the level of ETRs is considered as low since almost 60 percent of the MNCs have lower ETRs than the STR of 25 percent. This findings is consistent with previous studies (Md Noor, Mastuki, & Bardai, 2008).

The result from comparison of mean ETR across sectors shows that MNCs in the manufacturing sector have the lowest ETR with mean ETR of 17.77 percent, as compared to trading, services, ICT and other sectors. The trend is consistent with the results from previous studies which provide evidence that MNCs in the manufacturing sector are paying lesser effective taxes whilst MNCs in the trading sector are paying more taxes; than MNCs in any other sectors in Malaysia (Derashid & Zhang, 2003; and Md Noor et.al.2010). This may be due to the indication of various incentives enjoy by the MNCs in the manufacturing sector such as tax exemption for pioneer status, income tax allowance, reinvestment allowance and double deductions for specified expenses which reduce the amount of tax paid by the MNCs and, thus lower their ETRs.

Meanwhile, MNCs in the trading sector are having the highest mean ETR with the value of 29.29 percent which is higher than the STR which suggests that companies in this sector are loosely connected to the tax avoidance activities. MNCs in this sector enjoy fewer incentives as compared to other sectors. Incentives offer to companies in this sector includes the international trading company status, approved offshore trading company and industrial building allowance on construction or purchase of warehouse building. However, it requires stringent requirements for the MNCs to utilise tax exemption such as the international trading company because the ratio of foreign

ownership is limited up to 40 percent equity, whereas the offshore trading company will only be applicable to the non-resident entity through a website in Malaysia. Therefore, the variability in corporate ETRs across the sectors indicates that the tax incentives only benefits the MNCs in certain sectors. Consequently, this raises issues of inequity and non-neutrality of the present corporate tax system.

On the other hand, the result from comparison of mean ETR across the locations of the holding company shows that MNCs owned by the Japanese companies does have the lowest mean ETR whereas the highest mean ETR is the MNC owned by the holding company located in the United Kingdom. However, the result of Kruskal-Wallis Test reveals that there is no significant differencein mean ETR of different locations of the holding company. The test is also consistent with the regression analysis on this variable which does not provide a significant relationship with ETR. Thus, it suggests that the location of the holding company does not influence the tax avoidance strategy of the MNCs in Malaysia.

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The findings from the regression analysis reveals only five variables are significantly associated with tax avoidance activity. In particular, the results support H_1, H_2, H_3, H_4 and H_5: firm's size, profitability, foreign operation, capital intensity and leverage as factors influencing the corporate tax avoidance. However, there is no significant relationship to support hypothesis H_6 and H_7 which are dummy variables for the sector effect and the location of the holding company.

The result from regression analysis indicates a positive association between ETR and firm size and thus support the hypothesis that there is a significant relationship between

ETR and firm's size. A positive relationship between firm's size and ETR denotes larger MNCs pay higher taxes and thus, less associated with the tax avoidance activity. This relationship is consistent with prior researches, thus concludes larger MNCs face political costs which increase their ETRs. The finding supports the political cost theory that larger companies are supervised and controlled by the government and the public so that the large companies pay more taxes (Zimmerman, 1983; Omar et.al., 1993; Md Noor et.al.; and 2010 Kraft, 2014). The result also provides evidence that larger MNCs report higher ETR may be because of their investments in Malaysia are scrutinised by the government as well as the public.

Further, the results from regression analysis indicates a significant negative relationship between ETR and independent variables: profitability, foreign activity, and leverage. The negative relationship between ETR and the pre-tax income denotes highly profitable MNCs pay lesser taxes and thus, have lower ETRs. Therefore, the study supports the tax shield or tax strategy theory in which highly profitable companies have more incentives and resources to engage in tax avoidance and report higher ETR. The result also supports the assertation that the MNCs have higher ETRs by utilizing efficiently tax deductions and credits as compared to less profitable firms, resulting in greater book-tax differences (Manzon & Plesko, 2002; Rego, 2003; Zainol Ariffin, 2007; and Kraft, 2014). In addition, the MNCs in Malaysia have the opportunities to reduce their tax burden with a wide range of tax incentives thus able to engage with effective tax planning.

The profitable MNCs are able to utilise efficiently tax deductions such as the double deductions in terms of research and development expenditure, promotion of export,

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brand promotion activity, freight charges and employee training programs as well as tax credits and exemptions, as compared to the less profitable companies. Currently, the tax authority does not select highly profitable companies for audit because the selection criteria for audit is usually for companies which report profit below the industry average. Therefore, it is suggested that high profitability will also be a selection criteria besides ETR, particularly for the MNCs that enjoy variety of tax incentives.

Similarly, a negative relationship between ETR and the foreign operation established from the regression analysis implies that the MNCs with higher ratio of foreign operation in terms of sales, purchases or other payment to (from) foreign affiliates will have lower tax burden and thus report lower ETRs. The finding is consistent with the previous studies for example in the studies by Harris & Feeny (2000), Rego (2003) and Kraft (2014). The MNCs with extensive foreign operations are able to reduce their tax burden through tax planning activities because they have better economies of scale and scope to tax planning by exploiting the differences in the tax rules of different countries as well as taking advantage of the tax incentives provided by host countries. The MNCs also have better opportunities to engage in the tax avoidance activities due to their nature of business operations which involves cross-border transactions particularly the tax avoidance associated with transfer pricing issues.

Also, the result provides strong evidence that leverage has negative relationship with the tax avoidance since the regression analysis shows the t-statistic is significant at 99 percent confidence level. The result is consistent with previous studies for example Zainol Ariffin (2007); Md Noor et.al. (2008); and Md Noor et.al (2010). The finding

also supports the assertion on the tax avoidance activities of the MNCs by utilising thin capitalisation schemes. Moreover, the result suggests MNCs with higher leverage ratio are associated with the tax avoidance because they gain benefit from tax deduction of having higher interest tax shield of debt financing. Hence, highly leveraged MNCs have higher interest tax shield which reduce their ETRs. Tax avoidance activity involves interest tax shield is a concern by many tax jurisdictions as most countries have introduced thin capitalisation rules to curb tax avoidance activities involving interest deductions and other financial payments.

The developed countries have introduced thin capitalistion rules to restrict the ratio of the debt to the equity financing in order to curb the tax avoidance activites of the MNCs by exploitng debt financing, as suggested by the OECD (OECD - Tax & Development, 2012). However, Malaysia does not have specific thin capitalisation rules even though the legislation has been introduced in 2009 to allow for such rules. Besides, one of BEPS actions by OECD to limit erosion of tax base and profit transferring also incorporate measures on the debt financing and thin capitalisation rules. As for Malaysia, the government should reconsider the deferment of thin capitalisation rules to year 2018 and should implement the rules the soonest possible.

On the other hand, the result provides a significant relationship between ETR and the capital intensity thus supports the developed hypothesis. A positive relationship between ETR and capital intensity denotes that highly capital-intensive MNCs face higher ETRs which means the MNCs in Malaysia do not utilise tax saving gained from the write-off cost of tangible assets over periods much shorter than their economic

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lives. This result is consistent with the findings in Janssen & Buijink (2000), Md Noor et.al. (2008) and Wang, Campbell and Johnson (2014).

On the other hand, the regression analysis does not provide strong evidence to support the hypotheses H_6 on the relationship between ETR and the sector effect dummies except for the trading sector. In particular, regression results show negative relationship between the sector dummies: manufacturing, services, ICT and the tax avoidance, even though the results are not significant. This study only finds significant evidence on the positive relationship between trading sector and the ETR. This finding is not consistent with studies by Derashid and Zhang (2003) and Md Noor et.al. (2008) that there is a relationship between sector dummy and ETR. However, the test on comparison of mean ETRs between the sectors provides significant results as discussed earlier. It appears that there are significant differences of mean ETRs across the sectors but the association between ETRs and sector effect cannot be established in this study.

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The regression analysis also shows the locations of the holding company is not seen as an important factor that influence the tax avoidance since the results provides no significant relationship to support the hypothesis and thus H_7 is also rejected. The result in this study is inconsistent with the previous studies on the hypothesis of impact of the location of a firm's headquarters to global tax burden (Markle & Shackelford, 2012 and Markle & Shackelford, 2013). The result also indicates that the tax domicile of the MNCs by examining the relationship of the location of the holding company does not have an impact to the ETR. This may be due to differences in the taxation system of a country on the scope of charge of an income because those studies are based on MNCs in the U.S. The U.S. adopts a worldwide taxation system whilst

Malaysia is based on a territorial tax system. Tax domicile does not influence the ETRs of the MNCs in Malaysia may be because those MNCs only declare income derived or sourced from Malaysia in their tax return forms unlike companies in the U.S. which are taxed on their worldwide income. Hence, the impact of the tax domicile on ETRs could also be influenced by the type of the taxation system adopted by a particular tax jurisdiction.

Besides, the finding also contradicts with the assertion on the tax strategy of a company prefers to report its profits in a lower tax jurisdiction as opposed in a higher tax country. The results from the regression analysis shows that only Japan and Germany location dummies do provide significant results. The positive relationship is expected for MNCs owned by the holding company located in Germany since Germany has higher corporate tax rate than STR in Malaysia. However, the result of a negative relationship for MNCs owned by the holding company located in Japan is quite surprising since Japan also has higher corporate tax rate compared to Malaysia. Japan has higher corporate tax rates (STR) than Malaysia which is 33.33 percent. It is expected that Japanese owned MNCs in Malaysia would transfer their taxable operating income and paying higher tax in Malaysia rather than the same income being taxable in Japan. On the other hand, the result on the MNCs domiciled in Germany is consistent with previous studies that is a negative relationship with the ETR.

As a summary of the findings, certain firm's characteristics do influence the tax avoidance. Even though only five out of seven tested firms characteristic do provide significant findings on the determinants of the tax avoidance, it appears that all the determinants tested have relationship with the tax avoidance (although not significant).

5.3 Implications

One of the objectives of MNCs' FDIs into Malaysia is to lower their cost of doing business in terms of the tax liabilities by enjoying the tax incentives offered by the government. A proper monitoring on the tax incentives claimed by the MNCs is essential in order to control the tax avoidance activities and to ensure tax base of a country is not eroded by those activities. Therefore, an appropriate measure is required to detect the existence of tax avoidance among the MNCs in order to improve the current tax system.

Unlike most of the ETR studies by previous researchers, this study utilised data from IRBM's internal database to test the hypotheses and thus, the calculation of ETR is based on the actual tax payable. Previous studies mostly used the income tax expense to calculate ETR based on the publicly available financial statements because the company-level's tax returns data are confidential and inaccessible to the public (Sanjay & Newberry, 1997 and Adhikari et.al., 2006). However, the income tax expense may not be a good indicator to measure the amount of annual tax paid by a company due to the permanent and timing difference because it includes provisions for the tax paid in later and earlier periods (Harris & Feeny, 2000). Therefore, it is hoped that the measure of ETR adopted in this study could represent a robust measure to explain the factors influencing tax avoidance activities among the MNCs in Malaysia.

The study provides useful feedback to the policymaker particularly IRBM to improve the current tax approach particularly on the mechanisms to detect tax avoidance from audit activities by broadening the selection criteria for audit cases. Besides that, information gathered and provided in this study may help IRBM to outline a better

policy and have better understanding on the tax avoidance activities of the MNCs in Malaysia.

5.4 Limitations of the Study

Despite the implications of the study, there are limitations that need to be highlighted for future research. A particular problem in the corporate tax avoidance studies is the issue of ETR's definition. Previous studies have different approaches to measure the ETR and this may lead to inconsistency in the findings between studies. As discussed earlier in Chapter Three, this study defines ETR in line with Harris & Feeny (2000) which ETR is the ratio of the income tax payable to income before the income tax in measuring the actual tax burden of the companies. However, this study does not address whether the ETR measures used in this studies provide comparatively robust results to the measures used in other studies.

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Another limitation is the model which was applied in this study might not be adequate to address the issues of tax avoidance comprehensively. Corporate tax avoidance could be in other different arrangements and utilise different structures, thus it is difficult to formulate a single model to capture all the differences. However, this study identifies certain firm's characteristics which may explain the tax avoidance activity which relates to the MNCs. There may be other factors influencing the tax avoidance, such as return on assets, inventory intensity and account receivables which have not been included in this study.

Lastly, this study only observes the tax avoidance activities of the MNCs at a particular point of time which for the year 2015. A one-year study would not provide an insight

on the trends of the tax avoidance activities among the MNCs. However, it does provide an impression on how certain firm's characteristics influence the tax avoidance. By examining only a particular year data on the impact of the tax avoidance, it may neglect the changes in the standard tax rates and introduction of new tax incentives over the years.

5.5 Direction for Future Research

It is suggested that future research could include the effect of different definitions of ETRs on the corporate tax avoidance studies. A comparison between actual tax burden based on the tax return form and tax expense captured in the financial statements could provide an insight on the robustness of different ETR's measures. A collaboration between academician and tax authority could be established for research purposes to allow an access for relevant tax information since the information on the tax return form submitted to the IRBM is confidential and not publicly available.

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In addition, future research might include other characteristics that have not been included in the model such as managerial ownership, research and development (R&D), merger and acquisitions, net operating losses, tax advisers and company culture. In the future, as more data becomes available, researcher could explore and identify additional variables that may have an influence on the tax avoidance activity of MNCs in Malaysia. Similarly, future study could investigate time series analysis to understand better the trend of the tax avoidance of MNCs in Malaysia.

5.6 Conclusion

This chapter is the final chapter that discussed the empirical results of the collected data used in this study. Discussion of the findings includes justifications of the data analysis based on the previous literature. Besides, the implications and limitations are also being highlighted and thus, directions for future research are suggested to address on the raised issues. The significant contribution of this study is on its finding on engagement of the MNCs in tax avoidance activity. Even though not all the tested hypotheses provide strong evidence to support the determinants influencing tax avoidance, this study contributes to the literature that firm's size, profitability, foreign operation, capital intensity and leverage do influence the MNCs' tax avoidance activities. It is hoped that future studies may continue this research agenda by addressing the limitations of the study as highlighted in this chapter.

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