Assessing the Effects of Tax Policy on Foreign Direct Investment in Southeast Asia

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Abstract

The benefits generated by foreign direct investment (FDI), such as transfer of technology and increase in productivity, have motivated governments, particularly in developing countries, to consider attracting FDI as one of their primary agenda. Various policies have been employed to promote FDI, including tax policy. In Southeast Asia, the prevalent use of tax policy to attract FDI can be observed in the declining trend of corporate income tax (CIT) rate and the widespread use of tax incentives. Nevertheless, previous studies have shown that the effect of tax policy on FDI is often inconclusive. Further, in the context of Southeast Asia, very few studies have investigated the effect of CIT on FDI—with mixed findings—and tax incentives remain an area that is under-researched. This study aims to fill this gap by investigating the effect of CIT and tax incentives on FDI into Southeast Asia. Accordingly, the results may assist policymakers in making informed decisions on the efficacy of tax policy to attract FDI and provide alternative policy options that can be utilised to promote FDI.

To assess the effect of tax policy on FDI, this study employs a panel data analysis with the sample consisting of six Southeast Asian countries namely Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam, for the period 1996–2017. Following the eclectic paradigm, an extensive set of host country characteristics are included as the potential determinants of FDI, including economic determinants, policy variables and business facilitation. This study finds resource seeking as the primary motivation of FDI into Southeast Asia, which is shown by the positive and significant effect of natural resources endowment. The results also highlight the importance of economic and political stability, quality of infrastructure and control of corruption as the key determinants of FDI into Southeast Asia. In contrast to expectation, labour cost is found to have a positive effect on FDI, which implies that FDI into Southeast Asia may not be motivated by cheap labour.

The results for tax policy are counterintuitive because CIT is found to have a positive effect on FDI, whereas tax holiday and investment allowance show negative effects, albeit only statistically significant for investment allowance. While these results should not be interpreted to imply that FDI is attracted to countries with high CIT rate, they provide empirical evidence that lowering CIT rate and offering tax incentives may not help to attract FDI into Southeast Asia. The positive effect of CIT on FDI may be considered an indicator of the importance of better provision of public goods and services. Therefore,

rather than lowering CIT and offering tax incentives, Southeast Asian countries should improve the overall investment climate, such as by improving the quality of infrastructure and controlling corruption.

Declaration

‘I, Nora Dwi Prasasti Asih, declare that the DBA thesis entitled “Assessing the Effects of Tax Policy on Foreign Direct Investment in Southeast Asia” is no more than 65,000 words in length including quotations and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.’

Signature 

Date, 15 March 2020

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List of Abbreviations

2SLS	Two-Stage Least Squares
ADB	Asian Development Bank
AEC	ASEAN Economic Community
AFTA	ASEAN Free Trade Area
AIA	ASEAN Investment Area
APEC	Asia-Pacific Economic Cooperation
ARDL	Autoregressive Distributed Lag
ASEAN	Association of Southeast Asian Nations
ATR	Average Tax Rate
BEATR	Bilateral Effective Average Tax Rate
BEPS	Base Erosion and Profit Shifting
BOP	Balance of Payment
BVI	British Virgin Islands
CEPT	Common Effective Preferential Tariff
CIPS	Pesaran's Cross-Sectional Augmented IPS test
CIT	Corporate Income Tax
CPI	Corruption Perception Index
DTA	Double Tax Agreement
EATR	Effective Average Tax Rate
EBIT	Earnings before Interest and Taxes
EMTR	Effective Marginal Tax Rate
ETR	Effective Tax Rate
EU	European Union
FDI	Foreign Direct Investment
FEM	Fixed Effect Model
FTA	Free Trade Agreement
GDP	Gross Domestic Product
GIC	Global Investment Competitiveness
GMM	Generalised Method of Moments
HDI	Human Development Index
HT	Hausman-Taylor
ICT	Information and Communication Technology
IIP	International Investment Position

ILO	International Labour Organization
IMF	International Monetary Fund
IPS	Im, Pesaran and Shin test
LLC	Levin, Lin and Chu test
M&A	Mergers and Acquisitions
MG	Mean Group
MNE	Multinational Enterprise
NAFTA	North American Free Trade Agreement
NEG	New Economic Geography
OECD	Organisation for Economic Co-operation and Development
OFC	Offshore Financial Centre
PMG	Pooled Mean Group
R&D	Research and Development
RCEP	Regional Comprehensive Economic Partnership
REM	Random Effect Model
SARS	Severe Acute Respiratory Syndrome
SEZ	Special Economic Zone
SPE	Special Purpose Entity
STR	Statutory Tax Rate
UNCTAD	United Nations Conference on Trade and Development
US	United States
VAT	Value Added Tax
WDI	World Development Indicators

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CHAPTER 1
INTRODUCTION

1.1 Background of the Study

Previous studies have shown that foreign direct investment (FDI) can generate various benefits for the host countries, such as transfer of technology (Blalock & Gertler 2008), improving human capital (Poole 2013) and increase in productivity (Alfaro & Chen 2018). Through the interaction between multinationals and domestic firms, these benefits are also extended to the local firms, thus creating spillover effects to the local economies (Perri & Peruffo 2016). As a result, FDI has been viewed as one of the engines of economic growth and contributes to the host country's economic development (Alfaro & Johnson 2013; Iamsiraroj 2016).

In order to attract more FDI, understanding the determinants of FDI is crucial for policymakers, particularly in developing countries. Only by understanding the factors that may encourage or discourage FDI can policymakers design the appropriate policy to promote FDI. Nevertheless, despite numerous studies in this area, no consensus has been reached on the key determinants of FDI (Chanegriha, Stewart & Tsoukis 2017; Eicher, Helfman & Lenkoski 2012). Because of variability in empirical approaches as well as the geography under study, previous studies have often resulted in inconclusive or even contradictory findings. In addition, determinants of FDI are generally applicable within a specific context (Camarero, Montolio & Tamarit 2020; Sekkat & Veganzones-Varoudakis 2007). Therefore, different countries or regions may have different determinants of FDI. For these reasons, studies on the determinants of FDI are still relevant despite the plethora of research in this area.

To encourage inflow of FDI, many countries have implemented various policies that can facilitate FDI. Among these policies, tax policy is often employed to promote FDI (Klemm & Van Parys 2012). Because taxes will reduce the income from investment activities, investors may favour a country with a low corporate tax rate. Therefore, to encourage FDI, more and more countries have reduced their corporate tax rates. As a result, there has been a declining trend of corporate tax rate around the world, resulting in tax competition among countries (Devereux, Lockwood & Redoano 2008).

In addition to reducing corporate tax rate, a lot of developing countries offer tax incentives to attract FDI. Tax incentives may be defined as preferential tax provisions given to

qualified investments (International Monetary Fund [IMF] et al. 2015). Two examples of these incentives are tax holiday and investment allowance. A firm that is granted tax holiday will be exempted from paying corporate income tax (CIT) for a certain period, whereas investment allowance is a deduction from taxable income based on a specified percentage of new investment. Both types of tax incentive may reduce the company's tax burden on the income from investment activities and are thus expected to encourage FDI. Nevertheless, previous studies demonstrate that tax incentives only play a minor role in location choice of FDI; thus, they are not always successful in attracting FDI (Klemm & Van Parys 2012; Tuomi 2011). Despite this empirical evidence, tax incentives remain a popular instrument used by developing countries to promote FDI.

On the other hand, multinational enterprises (MNEs) may engage in tax planning to reduce the tax burden.[1] The Organisation for Economic Co-operation and Development (OECD) defines tax planning as alterations in a firm's investment and finance behaviour with the objective of minimising its tax liability (OECD 2007a). Therefore, tax planning is an important part of MNEs' management strategy because it may lessen the tax burden and make the reported earnings higher, thus improving managers' performance in financial reporting to shareholders. There are various schemes in tax planning strategies, such as relocating profit from high to low tax locations by means of transfer pricing and inter-affiliates debt. To do this, an affiliate or subsidiary should be established in a low tax location known as a tax haven.

As part of their tax planning strategies, many MNEs have established subsidiaries in tax havens. Tax havens are jurisdictions that offer low (or nil) CIT and provide high secrecy (Palan, Murphy & Chavagneux 2013b). Because of these features, they are often utilised as tax avoidance as well as investment hubs. Instead of directly investing in a host country, MNEs may use their affiliates in tax havens to invest in the host country. This type of FDI is called indirect FDI because the parent company uses its affiliate as an intermediary for investing in the host country (Kalotay 2012). According to Haberly and Wójcik (2015), at least 30% of worldwide FDI is owned through intermediate entities in tax havens. By channelling FDI through tax havens, MNEs may reduce their tax burden because profits can be shifted from high to low tax locations (Klassen & Laplante 2012). Consequently, FDI of firms that are able to reduce their tax burden through tax planning will be less responsive to CIT compared with those that do not engage in tax avoidance

[1] In this study, MNEs are defined as 'firms that own and control value-added activities in more than one national market' (Kim & Aguilera 2016, p. 133).

(Egger, Merlo & Wamser 2014). This proposition implies that CIT may have asymmetric effects on FDI, depending on whether MNEs are engaging in tax avoidance or not. From the perspective of the governments, such tax planning by MNEs has become of government concern since it may lead to tax revenue loss as well as threaten the fairness of the tax system (Cobham & Janský 2018; Corrick 2016). Despite the increasing trend of indirect FDI (United Nations Conference on Trade and Development [UNCTAD] 2016), only a limited number of studies have investigated the effects of CIT on indirect FDI (Haberly & Wójcik 2015; Wamser 2011).

Despite the prevalent use of tax policy to promote FDI (IMF et al. 2015), its effectiveness in attracting FDI is debatable. This is because tax policy is only one of the many factors that influence FDI, and may only play a minor role in location choice of FDI (Tavares-Lehmann, Coelho & Lehmann 2012). Further, using tax policy to attract FDI may have negative consequences for the host country, such as loss of tax revenue (OECD 2017b), which may affect the provision of public goods and services by government. Considering the importance of both FDI and tax revenue, this research focuses on the role of tax policy as one of the determinants of FDI.

Even though the effects of tax policy on FDI have gained considerable attention, there are areas within this subject that remain under-researched. For example, very few studies have examined the role of tax planning in altering the effect of CIT on FDI or the effect of tax incentives on FDI. Previous studies that have incorporated tax avoidance when assessing the effect of CIT on FDI generally only examined FDI from a single home country such as Germany (Egger, Merlo & Wamser 2014; Wamser 2011) or Japan (Azémar & Corcos 2009). One of the reasons for the lack of studies particularly in the context of developing countries is the unavailability of detailed data of FDI. For Southeast Asian countries, the Association of Southeast Asian Nations (ASEAN) Statistics Database provides detailed data of FDI by source country only from 2010 onwards. Thus, for the previous years, this study employs the FDI data which have been manually collected from the ASEAN Statistical Yearbooks.

Similarly, majority of the studies on the effect of tax incentives on FDI are also in the context of a single country (Aldaba 2012; Anh, Thái & Thang 2007; Larsson & Venkatesh 2010). Lack of reliable and broad datasets has been cited as one of the reasons for the scarcity of studies, since tax incentives information is only available in each country's tax regulations (Klemm 2010; Van Parys & James 2010). However, accounting firms such

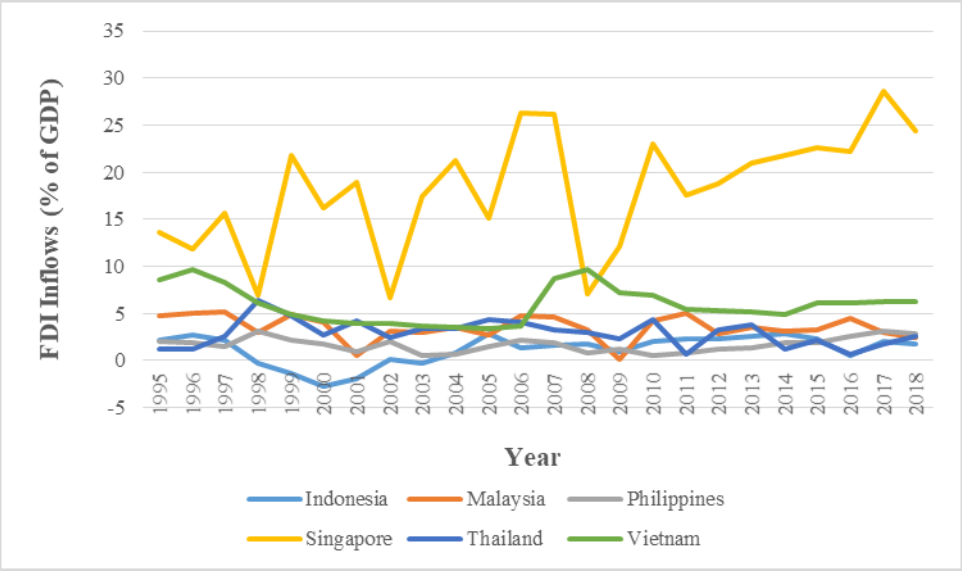
as PwC, EY and Deloitte have recently provided information on tax systems across countries, including tax incentives (Deloitte 2020; Ernst & Young 2019; PwC 2019). Nevertheless, these publications only cover the existing tax incentives. Thus, in addition to these publications, this study has collected tax incentives data from the relevant regulations in each sample country.

Considering the aforementioned under-research areas, this study is aimed to fill these gaps by examining the asymmetric effect of CIT on FDI from non-tax havens (direct FDI), compared with FDI from tax havens (indirect FDI), which represents tax planning by MNEs. Further, this study also investigates the effect of tax incentives on FDI by using panel data of six Southeast Asian countries. Hence, this study contributes to the body of knowledge by examining the effects of tax policy on FDI in the context of developing countries.

1.2 Context of the Study

In assessing the effects of tax policy on FDI, this study focuses on Southeast Asian countries for the period of 1996-2017. During this period, most of Southeast Asian countries have evolved from less developed countries into developing countries. Further, during the period under study Southeast Asia had gone through several economic shocks such as the 1997 and 2008 financial crises, as well as the Severe Acute Respiratory Syndrome (SARS) epidemic in 2003. These shocks had greatly affected majority of the countries. However, the magnitude of the impact were different across countries depending on the economic fundamentals and governments' responses (Rasiah, Cheong & Doner 2014). Capital flows in the form of FDI also showed a sharp decline following the economic shocks as can be seen in Figure 1.1. Nevertheless, Southeast Asian countries had always been able to recover from the crises, with the level of FDI recovered to the pre-crises level (Diaconu 2014). Therefore, this region is a suitable sample to analyse the location advantages which make a country is attractive for FDI.

Figure 1.1 Trend of FDI in Selected Southeast Asian Countries, 1995-2018



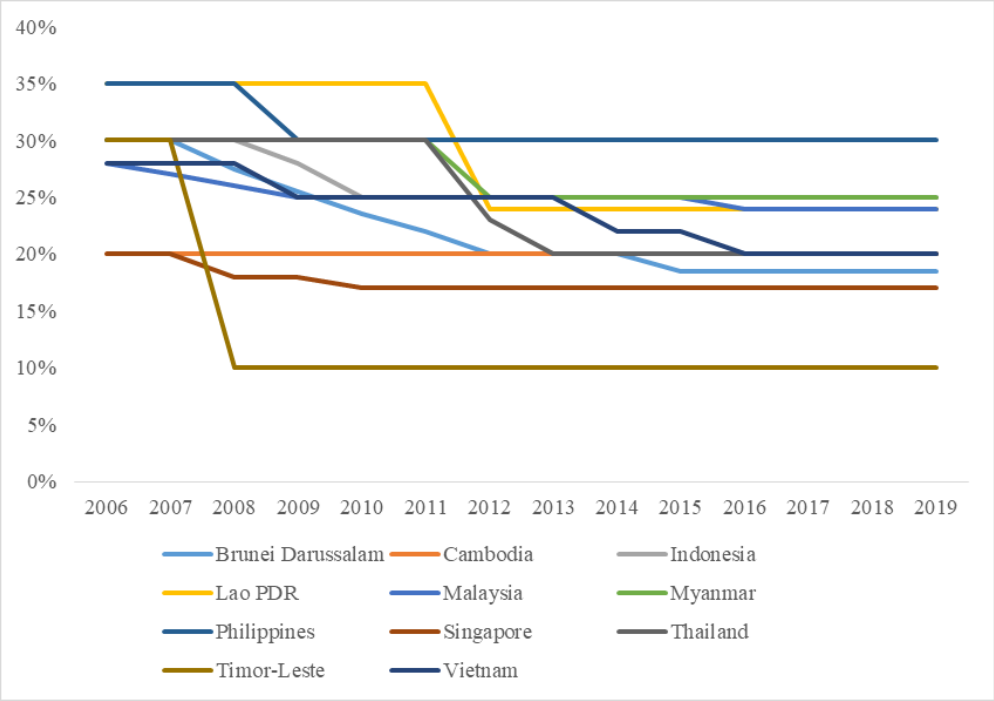
Source: World Investment Report 2020 (UNCTAD 2020)

There are several other reasons which make Southeast Asia an appropriate context of the study. First, among the developing economies in the world, Southeast Asia is the second largest recipient of FDI. In 2017 for example, Southeast Asia accounted for 20% of FDI into developing economies or about 10% of global FDI (UNCTAD 2018). One of the reasons for this large FDI inflow is the high economic integration among Southeast Asian countries (Kawai & Naknoi 2017). This feature is desirable for FDI because it increases market size and reduces transaction costs (Feils & Rahman 2011). Therefore, Southeast Asia is an appropriate region to investigate the key determinants of FDI with the focus on developing countries.

Second, the semi-globalisation view proposed by Ghemawat (2003), as well as Rugman and Verbeke (2004), highlights the importance of regions in MNEs' internationalisation decisions. According to this view, most MNEs concentrate within certain regions. In deciding where to invest, MNEs generally follow a multilevel approach by considering a favourable geographical region, and then choosing the most attractive country within the region (Arregle, Beamish & Hebert 2009). A country is selected not only because of its factor endowments, but also because it can serve as a platform into the region, which may give the opportunity for expansion in the future (Arregle et al. 2013). Therefore, apart from host country characteristics, regional features are important in FDI decisions.

Third, Southeast Asian countries are actively using tax policy to attract more FDI. This can be seen from the declining corporate tax rate in most Southeast Asian countries (Figure 1.2). For example, during the period 2008–2014, Indonesia lowered its CIT rate from 30% to 25%, while Vietnam gradually reduced its CIT rate from 28% to 22%. As a result, the average corporate tax rate in Southeast Asia has declined from 28.73% in 2006 to 21.23% in 2019, which indicates the presence of tax competition among Southeast Asian countries (Chen, Cuestas & Regis 2016). To promote FDI, all countries in Southeast Asia also offer tax incentives such as tax holiday and investment allowance. Thus, this region is an appropriate sample to study the effects of tax policy on FDI. Moreover, despite the prevalent use of tax policy to promote FDI, only limited studies have investigated the effects of tax policy on FDI in the context of Southeast Asia.

Figure 1.2 Trends of CIT Rate in Southeast Asia, 2006–2019



Source: Corporate Tax Rates Online Database (KPMG 2020)

1.3 Research Objectives and Research Questions

The main objective of this research is to investigate the effects of tax policy on FDI into Southeast Asia. Because tax policy is only one among various factors that affect investment decisions (Tavares-Lehmann, Coelho & Lehmann 2012), its influence on FDI cannot be separated from the other determinants. For this reason, this study first investigates the key determinants of FDI into Southeast Asia, followed by a thorough

examination of the role of tax policy as one of the determinants of FDI. Following the general to specific approach, the research objectives are as follows:

1. to investigate the key determinants of FDI into Southeast Asian countries
2. to investigate the effects of tax policy on FDI into Southeast Asian countries by:
    a. assessing the effect of CIT on FDI into Southeast Asian countries
    b. assessing the asymmetric effect of CIT on FDI from non-tax havens (direct FDI) compared with FDI from tax havens (indirect FDI)
    c. assessing the effect of tax holiday and investment allowance on FDI.

The research objectives are achieved by answering the following research questions and sub-questions:

1. What are the key determinants of FDI in Southeast Asian countries?
2. To what extent does tax policy influence FDI in Southeast Asian countries?
    a. Does CIT have a significant effect on FDI into Southeast Asian countries?
    b. Is there asymmetric effect of CIT on FDI from non-tax havens (direct FDI) compared with FDI from tax havens (indirect FDI)?
    c. Do tax holiday and investment allowance have significant effects on FDI?

1.4 Contributions to Knowledge and Statement of Significance

1.4.1 Contributions to Knowledge

Despite the prevalent use of tax policy as a tool to attract FDI, very few studies have included tax policy as one of the determinants of FDI in the context of Southeast Asia (Buracom 2014; Vogiatzoglou 2008). Further, these studies only used corporate tax rate as the variable to measure tax policy. This research departs from these previous studies in a number of ways. First, this study uses CIT and tax incentives as the proxies of tax policy. Unlike previous studies that only use statutory tax rate (STR) as the proxy of CIT, this study also employs effective average tax rate (EATR) to examine the robustness of the finding. In addition to CIT, tax holiday and investment allowance as the proxies for tax incentives are examined. Therefore, this study provides more comprehensive analysis on the effect of tax policy on FDI into Southeast Asia. Second, unlike previous studies that did not take into account tax planning by MNEs, the proposed study investigates the effect of tax policy on FDI from two groups of home countries, tax haven and non-tax

haven countries; thus, this study examines the asymmetric effect of CIT on direct and indirect FDI.

In summary, compared with the extant studies, this research is more comprehensive in analysing the effects of tax policy on FDI into Southeast Asia. Moreover, because the sample countries are within the same region, the results of the study can be used to shed light on other regions with similar characteristics.

1.4.2 Statement of Significance (Practical Contributions)

Apart from the academic contributions, this study is relevant for policymakers in designing policy that can attract more FDI. The findings of this study provide guidelines and recommendations that may assist policymakers in making informed decisions. For example, this study has identified the factors which have significant effect on FDI into Southeast Asia, as well as assessing the magnitude of the impacts. Based on these findings, governments may focus on areas which contribute to FDI attraction such as control of corruption and quality of infrastructure. Consequently, governments will be able to allocate resources effectively by focusing on policies which have significant impact on FDI.

Further, because this research focuses on the effects of tax policy on FDI, the results of this study may be used to assess the effectiveness of tax policy in promoting FDI. The finding of this study reveals that tax policy is not one of the main considerations in location choice of FDI. Based on this finding, using tax policy to attract FDI such as by lowering CIT rate and providing tax incentives, is not the best option for governments. Therefore, Southeast Asian countries which are considering to reduce CIT rate in order to attract more FDI, should reconsider this approach. Similarly, tax authorities and investment agencies should re-evaluate tax incentives policy considering that they are not effective in attracting FDI.

Because the location choice of FDI is critical for investors, this research is also relevant for investors and MNEs, particularly in evaluating the feasibility for investment in Southeast Asia. While data on macroeconomic indicators such as gross domestic product (GDP), inflation rate and exchange rate are readily available, comprehensive information on tax policy in Southeast Asian countries is hard to find. This information can be found in Chapter 3 which gives an overview of tax policy in Southeast Asian countries, and Appendix 1 which provides the summary of available tax incentives in Southeast Asia.

Consequently, this research contributes to the extant studies by providing a comprehensive analysis of tax policy in Southeast Asia and thus may assist investors in making investment decisions.

Even though the context of the study is Southeast Asia, the policy implications and recommendations may also be applicable to other developing countries, particularly because Southeast Asian countries can be considered successful in attracting FDI (UNCTAD 2018).

1.5 Structure of the Thesis

This thesis is organised as follows. This chapter describes the general background that motivates the study, as well as the rationale for the context of the study. This chapter also highlights the objectives of the study and the expected contributions of this research.

Chapter 2 reviews the main theories of FDI that are pertinent to the issues under study. This chapter also surveys empirical literature related to the determinants of FDI and the effects of tax policy on FDI. Detailed discussion is provided on various aspects of tax policy that affect FDI based on previous studies. In each subsection, previous studies in the context of Southeast Asia are discussed to identify any gaps in the extant studies. A summary is provided at the end of the chapter.

Chapter 3 presents a detailed introduction on the context of the study. This chapter provides a justification for Southeast Asia as the region under study. It presents a general overview of Southeast Asia as a geographical region, as well as information related to FDI and tax policy in Southeast Asian countries.

Chapter 4 provides a conceptual framework based on the literature review, which depicts the relationship among the variables. This section is followed by the research methodology that is employed in this study. It discusses the description of the variables, sample and data collection, model specification, and detailed empirical approaches employed in this study.

Chapter 5 discusses the results of the empirical estimations. This chapter analyses the empirical findings on the key determinants of FDI and the effects of tax policy on FDI in Southeast Asia by using panel data regression. Discussion of the results is guided by the research questions as outlined in Chapter 1.

Chapter 6 summarises the results of this study and provides the conclusion of the research. Policy implications and recommendations for policymakers are also provided in this chapter. Last, limitations of the study and possible directions for future research are presented.

CHAPTER 2
LITERATURE REVIEW

2.1 Introduction

FDI is an area in international business studies that has received a lot of attention. Various aspects of FDI have been subjected to numerous studies, such as the impact of FDI on the host countries, outward FDI from developing countries and location determinants of FDI (Paul & Singh 2017). Among these aspects, this research focuses on the location determinants of FDI in the context of Southeast Asian countries, with specific reference to the role of tax policy as one of the determinants of FDI.

To understand the factors that influence FDI, this chapter reviews the extant studies on the determinants of FDI. It begins by discussing the underlying theories of FDI, followed by surveying the literature on the determinants of FDI. The following section discusses the effects of tax policy on FDI, covering the effects of CIT, tax planning and tax incentives on FDI. A summary of the extant studies is provided at the end of the chapter, which highlights the gaps in the literature that this study aims to fill.

2.2 Theories of Foreign Direct Investment

As a phenomenon that has been highly researched, FDI has generated a number of theories to provide the rationale for FDI. A survey of these theories can be found in Faeth (2009) and Moosa (2015), and a summary of selected theories is presented in Table 2.1. One aspect that all of these theories have in common is deep consideration for profit as the central motivation for FDI , with each theory representing different routes in achieving the objective (Bitzenis 2003). Despite the various theories of FDI, Faeth (2009) and Moosa (2015) both conclude that there is no single theory that can fully explain FDI. Because countries differ in terms of opportunities and barriers for FDI, and firms may have different motivations for FDI, each theory generally is only able to provide partial explanations for FDI. Therefore, Faeth (2009) suggested that FDI should be explained by a combination of theories that reflect variables at firm and country level.

Apart from the theories presented in Table 2.1, several other theories have also been employed in FDI studies such as New Economic Geography (NEG), neoclassical investment theory, institutional theory, and gravity model (Munongo, Akanbi &

Robinson 2017; Popovici & Călin 2014). However, because the focus of this study is the role of tax policy as one of the determinants of FDI, only theories or frameworks that provide rationale for the relationship between tax policy and FDI which will be discussed in this chapter. Three theories that are discussed are the neoclassical investment theory, the eclectic or OLI (ownership, location and internalisation) paradigm, and the gravity model.

Table 2.1 Selected Theories of FDI

Theory	Theoretical Emphasis	Proponent
Theories assuming perfect markets		
Neoclassical trade theory	FDI flows from capital-abundant countries with low return on investment to countries that offer high rate of return.	Hecksher and Ohlin (1933)
Portfolio diversification theory	Risk of an investment differs across countries. Diversification of portfolio through FDI will help reduce the overall risk on investment.	Markowitz (1959)
Market size theory	The level of FDI in a country depends on the size of the market, which is represented by the country's GDP or other measures of output. A large market will enable firms to achieve economy of scale and cost minimisation.	Balassa (1966); Kwack (1972)
Theories assuming imperfect markets		
Product cycle theory	Firms engage in FDI at a particular stage in the life cycle of the products that they initially produce as innovations.	Vernon (1966)
Industrial organisation theory	FDI occurs when a firm has comparative advantages that outweigh the disadvantages of investing in foreign countries.	Hymer (1976)
Internalisation theory	FDI occurs when a firm replaces market transactions with internal transactions across countries.	Buckley and Casson (1976)
Eclectic paradigm	FDI occurs when a firm has ownership, location and internalisation advantages.	Dunning (1977, 1988)
Oligopolistic reactions theory	FDI is a function of oligopolistic reactions where FDI by a firm triggers similar actions by its competitors in order to maintain market share.	Knickerbocker (1973)
Knowledge-capital model	FDI is determined by factor costs (vertical FDI) and market access (horizontal FDI). Vertical FDI takes place when a firm fragments its production in several countries to take advantage of differences in factor costs. Horizontal FDI takes place when firms produce the same products in several countries.	Carr, Markusen and Maskus (2001)

Source: Faeth (2009) and Moosa (2015).

2.2.1 Neoclassical Investment Theory

Among the various theories and frameworks that have been used to explain FDI, neoclassical investment theory is probably the most frequently cited to explain the effects of taxes on investment (OECD 2007b). It should be noted that this theory is intended to explain investment in general, particularly domestic investment. However, because it can be argued that there is similarity between domestic and foreign investment, this theory has been adopted to explain FDI as well.[2]

The basic assumption of neoclassical investment theory is that a firm's ultimate objective is to maximise its market value. According to Jorgenson (1963), to achieve this objective, a firm needs to maximise its profit at each point in time, in both the present and the future. In this concept, profit is measured as the difference between revenue and all the expenditures to generate the outputs, such as labour cost, price of fixed assets (e.g., machinery and production equipment) and taxes. Hence, an investment is deemed profitable when the present value of expected future revenue exceeds the costs. Jorgenson termed these costs as the cost of capital, and because investment will bring economic benefits over many years, present value or discounted value of the expected economic benefits is used to measure the profitability of a project.

Based on neoclassical investment theory, a firm's investment is a function of real income and cost of capital (Ibrahim & Ahmed 2014). In this case, tax policy affects investment through its effect on cost of capital. Auerbach (1983) defined cost of capital as the costs that incur for the use of assets over a certain period. It includes both the opportunity cost of forgoing alternative investments as well as direct costs such as the price of the assets and taxes (Rosen & Gayer 2014). Cost of capital is usually expressed as a percentage that represents the annual amount of return that investors would expect from the investment (Pratt & Grabowski 2014). Therefore, cost of capital represents the least return that an investment should acquire to be profitable (Sinn 1991).

According to Mintz (1995), there are three factors that affect cost of capital: the depreciation of the assets, the cost of finance and tax regulations. The cost of depreciation is the reduction in the value of assets due to the usage of assets over a period. It also includes any gains or losses caused by any increase or decrease in market value of the assets. The second component of cost of capital is the cost of finance. The cost of finance

[2] One of the applications of neoclassical investment theory in FDI studies is market size theory, which is derived from neoclassical investment theory (Agarwal 1980).

is the costs associated with the source of funding to finance the asset. If the asset is financed using loans, the cost of finance is the interest that the firm has to pay to the lenders. If the asset is financed using cash on hand, the cost of finance represents the opportunity cost of forfeiting the interest income from depositing this cash in the bank. Last, tax regulations also affect the cost of capital because a firm has to pay income tax for the profit it earns. More precisely, CIT reduces net profit and therefore increases cost of capital. In its most simple form, cost of capital can be expressed using the following equation (Rosen & Gayer 2014):

$$C = \frac{r + \delta}{(1 - \theta) \times (1 - t)} \tag{2.1}$$

where C is the cost of capital, r is the cost of finance, δ is rate of depreciation, θ is CIT rate, and t is individual income tax rate.

From Equation 2.1, it can be seen that higher tax rate is associated with higher cost of capital. Because tax rate is part of the denominator, all other factors being equal, higher tax rate will increase cost of capital. In other words, higher CIT and individual income tax rate will require higher rate of return for investors to be willing to invest. Likewise, any tax policy that will reduce cost of capital will increase investment. On the basis of this rationale, tax policy has been widely used by governments to boost investment, particularly by using tax incentives to reduce cost of capital.

As a theory in general, neoclassical investment theory follows several assumptions in modelling investment behaviour. However, some of these assumptions are very strict and not realistic, and thus make neoclassical investment theory subject to a lot of criticisms. One of the assumptions that has been heavily criticised is the assumption that capital adjusts instantaneously to its optimal level. This assumption is deemed unrealistic because it ignores three important features in investment decisions: expectation, risk and uncertainty (Dixit 1992). Because investments are irreversible and subject to risks and uncertainty, firms often delay making investments until they have enough information about market conditions (Pindyck 1991). As a result, the cost of capital is too low to represent investors' minimum expected return on investment. Generally, firms expect the yield of an investment to be much higher than its cost of capital (Dixit 1992).

Applying neoclassical investment theory to FDI implies that FDI will flow to countries that can provide higher rates of return. However, most of the early studies on FDI failed

to verify this hypothesis with empirical evidence (Moosa 2015). Unlike the prediction of neoclassical investment theory, generally there is bi-directional flow of FDI between two countries, which indicates that rate of return is not the only factor that affects FDI flows (Casson 2018). Despite this shortcoming, neoclassical investment theory can be considered path-breaking in the sense that many subsequent theories have been proposed by relaxing some of its assumptions (Baddeley 2003). Moreover, neoclassical investment theory is the first theory that was able to establish the link between investment and tax policy, as well as to quantify its effect on investment. From neoclassical investment theory, several measures of tax burden on investment have been proposed, such as the marginal effective tax rate (Dunn & Pellechio 1990; King & Fullerton 1983) and the EATR (Bellak, Leibrecht & Römisch 2007; Devereux & Griffith 2003). As a result, neoclassical investment theory is often used to measure the impact of tax policy reform on investment (Swenson 1994; Zhang, Chen & He 2018).

2.2.2 Eclectic Paradigm

Early theories of FDI generally follow the assumption of a perfect market, where demand, supply and price are fully determined by market forces. In reality, this assumption is hard to fulfil as many factors may intervene with market price, such as government regulations and asymmetric information. Therefore, the more recent theories of FDI are based on imperfect market assumptions, which argue that FDI occurs because of market imperfections.

According to Hymer (1976), market imperfections in the form of risk, uncertainty and asymmetric information can significantly alter firms' investment behaviour. Consequently, when a firm invests in foreign countries, it will be at a disadvantage compared with local companies. Therefore, when a firm engages in FDI, it must own particular advantages that exceed the disadvantages of investing abroad. This hypothesis by Hymer laid the foundations for many subsequent theories of FDI, including the eclectic or OLI paradigm elaborated by Dunning (1977, 1988).

Among the theories of FDI, the eclectic or OLI paradigm is one of the theories that is often used to explain the location choice of FDI (Paul & Singh 2017). It is called the eclectic paradigm because it integrates industrial organisation theory, location theory and

internalisation theory (Moosa 2015).[3] Extending the work of Hymer, Dunning (1977, 1988), through the eclectic paradigm, argued that for a firm to engage in FDI, it must possess three types of specific advantage: ownership (O), location (L) and internalisation (I) advantages. These three types of advantage are the necessary and sufficient conditions for FDI to take place.

As postulated by Hymer (1976), to engage in cross-border business activities, firms need to possess specific advantages that will help in competition with firms in the host countries. According to Dunning (1977), one of the sources of these specific advantages is the ownership of assets that are unique to the firms, such as human resources, capital and technology. These ownership advantages can arise from the possession of monopoly power (such as due to intellectual property rights), resources and capabilities to achieve economic efficiency, and management competency to coordinate resources across jurisdictions. In line with resource-based theory, these advantages are rare and unique to the firms and thus difficult to imitate by competitors (Barney 1991; Lundan 2010). As a result, they create barriers to entry and provide competitive advantages for the firms (Grant 1999).

Given the possession of ownership advantages, a firm is faced with a choice between setting up business activities in its country of domicile or in a foreign country. Because of differences in factor endowments of each country, this choice will depend on the comparative advantages of each location. Unlike ownership advantages, which can be transferred across units within an enterprise, location advantages are bound to a specific location, and thus are immobile (Dunning 1988). These advantages include various factors in the host country, such as market size; labour (particularly wage and labour productivity); material inputs (e.g., raw materials and natural resources); infrastructure; and institutional qualities such as cultural, political and legal environment (Dunning & Lundan 2008). In sum, a firm will choose a location that will best serve its objectives to invest.

According to (Dunning 2000), there are four main motivations for a firm to invest in a foreign country: market seeking, resource seeking, efficiency seeking and strategic asset seeking. Market seeking FDI exists when the FDI motivation is to meet the demand of foreign markets or to acquire new markets. Resource seeking FDI occurs when MNEs

[3] Location theory concerns the optimum location of economic activity. In the context of FDI, location theory posits that FDI occurs because of the immobility of location-specific endowments such as market, labour and raw materials (Buckley 1985).

aim is to gain access to specific resources in the host country, such as agricultural products and natural resources. Efficiency seeking FDI occurs when the FDI motivation is to improve MNEs' overall efficiency by taking advantage of differences in factor endowments across countries, for example, through fragmentation of production.[4] Strategic asset seeking FDI exists when the FDI motivation is to enhance the existing ownership advantages by acquiring strategic assets.[5] Consequently, each motivation of FDI requires a different set of location advantages (Lundan 2016). Therefore, the comparative advantages of each location will be different among firms.

Having the ownership and location advantages, the next question for MNEs is what could be the best mode to exploit the O and L advantages. The available options include servicing the markets through export, franchising, licencing and FDI. In this case, FDI will only take place when the firm perceives that it is best to keep the O and L advantages within the boundaries of the firm rather than engage in contractual agreement with third parties (Dunning & Lundan 2008). In other words, FDI occurs when the benefits of internalising cross-border activities within the hierarchies of the firm outweigh those offered by other entry modes. By internalising the market, MNEs can avoid high transaction costs such as brokerage costs and tariffs imposed by the host countries (Rugman 2006). Moreover, dealing with external parties may involve risk and uncertainty such as the risk of adverse selection and broken contracts (Dunning & Lundan 2008). In addition, internalisation is needed to ensure full control of the firm's O advantages, particularly to protect intangible assets such as brand recognition and patented technology (Qian & Delios 2008). Thus, the stronger the O advantages, the stronger the incentive for MNEs to internalise the market.

Connecting tax policy and FDI, tax policy is one of the location advantages that a firm can take into consideration in FDI decisions (Bellak & Leibrecht 2009; Tavares-Lehmann, Coelho & Lehmann 2012). Tax policy features such as low corporate tax rate and tax incentives may increase profitability and thus are attractive for investors. Moreover, tax policy may affect the decision for internalisation because one of the incentives to internalise is the potential benefit of intra-firm transfer pricing mechanisms (Dunning & Lundan 2008). By altering the prices for intra-firm transactions, MNEs may

[4] Production fragmentation is when the production process of a product is divided into several stages, with each step of production located in different countries (Fung, Iizaka & Siu 2012).
[5] Strategic assets are defined as valuable resources and capabilities that create competitive advantages for the firm, such as technology, brand and managerial skills (Amit & Schoemaker 1993; Cui, Meyer & Hu 2014).

shift profit across borders and thus reduce their overall global tax liability. More discussion on this subject is presented in Section 2.4.2.

Despite the widespread acceptance of the eclectic paradigm, it is not immune from criticisms. The eclectic paradigm has been criticised as a shopping list of variables because it includes numerous variables as the determinants of FDI (Dunning 2001). In the same vein, Rugman (2010) criticised it as being too eclectic, in the sense that the eclectic paradigm has a very general definition of ownership and location advantages. Another criticism came from Itaki (1991), who argued that the concepts of O and L advantages are inseparable and thus can be considered redundant. Notwithstanding these criticisms, Dunning's eclectic paradigm remains the most prominent framework in explaining FDI (Paul & Singh 2017). Compared with other theories, the eclectic paradigm is more comprehensive because it takes into account firms' characteristics and country-level variables. While its broad concept is viewed by many as a weakness, it is also the strength of the paradigm because it provides flexibility for research in FDI. Depending on the research questions, the eclectic paradigm can be used as a guideline in FDI studies at the macro, meso (industry level) and micro levels (Eden 2003).

2.2.3 Gravity Model

Another framework that has been frequently used in FDI studies is the gravity model. This model was inspired by Newton's law of gravity, which stated that the attraction forces between two objects are a function of their masses and distance (Adam & Chaudhry 2014). This model was adopted to explain international trade by Tinbergen (1962), who proposed that trade flow between two countries is proportional to the size of their economy and in inverse proportion to their distance. Initially, the gravity model was heavily criticised as having no theoretical foundations (Van Bergeijk & Brakman 2010). However, as more and more scholars were able to relate the gravity model to trade theories, such as Bergstrand (1990), Eaton and Kortum (2002), and Anderson and Van Wincoop (2003), its application in international trade has gained more popularity. Further, since the gravity model has successfully predicted trade flows, its implementation has expanded to other areas in economics such as economic geography and international business studies.

Applying the gravity model in FDI studies implies that FDI flows depend on the sizes of the home and host country economies, and the distance between the two markets (Van Bergeijk & Brakman 2010). In this case, FDI is a result of the proximity and concentration

trade-off because FDI will only take place if a firm is willing to give up the concentration of production in one plant by setting up production facilities in other countries to gain proximity to its customers (Brainard 1997). In this concept, distance is viewed as the proxy of transportation cost, which implies that the greater the distance between the two markets, the bigger the incentive for FDI because firms can avoid high trade costs (Loungani, Mody & Razin 2002). However, empirical findings from previous studies tend to find negative correlation between distance and FDI, which suggests that rather than representing transportation costs, distance may represent information costs, which is an impediment to FDI flows (Bergstrand & Egger 2013; Bevan, Estrin & Meyer 2004). Consequently, distance in the gravity model is often viewed as the representation of economic frictions between home and host countries, and thus also includes policy variables such as tax policy (Bergstrand & Egger 2013).

Despite its frequent use in FDI studies, the gravity model is still viewed as lacking in theoretical foundations, particularly because it does not relate to any formal theories of FDI (Blonigen & Davies 2004). Moreover, Blonigen (2005) argued that FDI is far more complex than trade flows. Therefore, the gravity model may not capture all the factors that affect FDI. Because of these shortcomings, several studies have combined the gravity model with other theories of FDI as the theoretical framework, such as the eclectic paradigm (Falk 2016), new economic geography (NEG) (Hansson & Olofsdotter 2013) and knowledge-capital model (Egger & Winner 2006).[6] Among these studies, Hansson and Olofsdotter (2013) specifically addressed the effects of tax policy on FDI. Other studies that focused on tax policy by using the gravity model are Bénassy-Quéré, Fontagné and Lahrèche-Révil (2005) and Bellak and Leibrecht (2009). However, because it is difficult to directly relate tax policy and FDI by using the gravity model, these studies also combined the gravity model with other FDI theories. Overall, as with other theories of FDI, the gravity model views tax policy as a form of economic friction that affects a firm's proceeds from an investment, and thus will influence FDI flows.

Based on the theories of FDI that have been discussed so far, it is clear that each theory has its advantages and disadvantages. One aspect that these theories have in common is profit as the central motivation for FDI. Accordingly, tax policy affects FDI through its effect on a firm's profitability. Table 2.2 provides the rationale for the effect of tax policy

[6] Similar to location theory, NEG concerns the location of economic activity, particularly the uneven distribution of firms and industry. According to NEG, to achieve economy of scale, firms tend to cluster in locations where the market is large (Krugman 1991).

on FDI according to each theory, along with the advantages and disadvantages in applying the theory to explain the determinants of FDI. As pointed out by Faeth (2009) and Moosa (2015), each theory is only able to partially explain FDI. Thus, FDI should be viewed using a multi-theoretical approach. On the basis of the comparison of these theories as presented in Table 2.2, the eclectic paradigm provides a more comprehensive viewpoint because it integrates industrial organisation theory, location theory and internalisation theory. For this reason, this study applies the eclectic paradigm as the theoretical framework, which is discussed in Chapter 4 (Section 4.2).

Table 2.2 Comparison of Selected Theories of FDI

Theory	Rationale	Advantages	Disadvantages
Neoclassical investment theory	Tax policy affects FDI through the cost of capital	Provides direct link between tax and FDI Able to quantify the effect of tax on FDI	Unrealistic assumptions, such as perfect market competition No distinction between domestic and foreign investment Does not take into account various factors that may affect FDI, such as risk and uncertainty
Eclectic paradigm	Tax policy affects FDI through location and internalisation advantages, which a firm takes into consideration in FDI decisions	Multi-theoretical approach Incorporates various motivations of FDI Takes into account firm and host country characteristics	Criticised as a shopping list of variables Too eclectic/too broad Some concepts in the O-L-I advantages are considered redundant
Gravity model	Tax policy is one of the economic frictions that affect FDI	Successfully predicts bilateral FDI flows Simplicity, market size and distance as the core variables	Lacking in theoretical foundation May not cover all determinants of FDI because FDI is more complex than international trade Does not take into account firm characteristics

2.3 Determinants of Foreign Direct Investment

The OECD (2009) defines FDI as an investment made by a resident of a country in an enterprise of another country to establish a lasting interest in the direct investment enterprise. This definition is in line with the IMF's definition of FDI as outlined in the IMF's Balance of Payments and International Investment Position Manual (IMF 2009).

Based on this definition, a prominent feature of FDI is that it aims to establish a strategic long-term relationship with the investee to guarantee significant influence in the management. For consistency, a minimum of 10% of equity ownership is used as the threshold to indicate sufficient influence in the management.

Because FDI aims to establish a lasting interest in the direct investment enterprise, the choice of FDI location is crucial as it will affect the outcome of the investment (Papadopoulos & Denis 1988). The location for FDI needs to ensure the combination of sufficient profitability and acceptable risk, particularly because FDI involves the engagement of substantial assets and is often irreversible (UNCTAD 1998). Therefore, it is not surprising that the decision of location choice for FDI is a highly complex and challenging task (Maitland & Sammartino 2015), which requires not only analytical reasoning but also professional judgement (Clark, Li & Shepherd 2018).

On the basis of studies on the FDI decision process, it is generally accepted that FDI location decision is a multistage process where at the initial stage managers evaluate location candidates to be included or excluded in the choice stage (Mataloni Jr 2011). In the initial stage, prior experience and country familiarity play an important role in screening numerous possible locations into manageable potential locations (Clark, Li & Shepherd 2018). Familiarity and prior experience imply more knowledge about the host country, and thus reduce the risk and uncertainty of conducting business in a foreign country. In the choice stage, managers again evaluate the shortlisted location candidates before eventually deciding the final location for FDI (Buckley, Devinney & Louviere 2007).

On the basis of structured experimentation conducted by Buckley, Devinney and Louviere (2007), in deciding the location choice of FDI, managers take a two-step approach, which consists of ‘consider’ and ‘invest’. When considering where to invest, factors that are directly related to profitability, such as market potential and return on investment, seem to be predominant. However, after the potential locations are shortlisted according to economic indicators, the final decision of investment location is less aligned with economic theories. Factors that may not be important in the previous stage, such as culture and political stability, appear to be the deciding factors in the location decision. From this finding, it can be concluded that economic and non-economic variables may affect the location choice of FDI, and reflect the numerous considerations in FDI location decision (Clark, Li & Shepherd 2018).

According to the eclectic paradigm, the location choice of FDI depends at least on two factors: the location advantages of the host country and the MNE motivation to engage in FDI. Because investors may have different motivations for FDI, they will look for different location attributes that best serve their goals (Mataloni Jr 2011). Firms that are motivated by market seeking strategy may be compelled by proximity to customers, which will enable them to avoid high transportation costs and tariffs. Resource seeking firms may pursue locations with natural resources that can be exploited either for their own supply or to supply the markets. MNEs that are efficiency seeking will take advantage of differences in countries' endowment of labour to improve efficiency through production fragmentation, while MNEs that are motivated by strategic asset seeking may look for a host country that possesses strategic assets such as technology and knowledge resources that are not available in the home country (Makino, Lau & Yeh 2002). Nevertheless, it should be noted that these FDI motivations are not mutually exclusive because MNEs may have multiple objectives, and thus will select a location that will contribute to the overall goal of achieving long-term profitability (Dunning & Lundan 2008; Kusek & Silva 2017).

Notwithstanding the motivation for FDI, the characteristics of the host country play a vital role in the location choice of FDI. Because MNEs' ultimate objective is to acquire long-term profitability, they will choose a location for FDI that will enable them to earn more profit by exploiting the ownership, location and internalisation advantages (Brouthers et al. 2009). Nevertheless, which host country characteristics are considered the key determinants of FDI remains inconclusive because many variables have been found to affect FDI, such as macroeconomic conditions (Boateng et al. 2015), government policy (Mudambi, Navarra & Delios 2013) and institutional quality (Bailey 2018). Consequently, to determine the most critical factors in location choice of FDI is often challenging. Further, as the global market evolves over time, the relative importance of these location determinants may change from time to time (Flores & Aguilera 2007). Thus, despite the numerous FDI studies, examining the determinants of FDI is still a relevant issue.

According to the UNCTAD, the determinants of FDI at country-level can be grouped into three categories: economic determinants, policy framework and business facilitation (UNCTAD 1998). Economic determinants refer to the economic characteristics of the host country that provide the primary reason for MNEs to invest abroad. In other words, economic determinants reflect the motivation of MNEs to invest in a host country. Policy

framework consists of rules and regulations that govern the functioning of the market, such as trade policy and macroeconomic policy (e.g., monetary and fiscal policies), whereas business facilitation refers to proactive measures taken by the government to facilitate business processes, particularly for foreign investors. These measures include FDI promotion, incentives for investors and reduction of hassle costs. Unlike the economic determinants, both policy framework as well as business facilitation may not be directly related to the motivation of MNEs to engage in FDI. However, they are viewed as important in affecting location choice of FDI regardless of the MNE motivation. Based on the UNCTAD framework, host country determinants of FDI are illustrated in Table 2.3.

Table 2.3 Host Country Determinants of FDI

Determinants of FDI	Motivation for FDI		
	Market Seeking	Resource Seeking	Efficiency Seeking
Economic determinants	Market size Market potential Market growth	Natural resources	Labour cost Labour quality Labour productivity
Policy framework	Trade policy Tax policy Infrastructure Economic, political and social stability		
Business facilitation	Investment incentives Hassle costs (e.g., corruption and administrative efficiency)		

Source: Adapted from UNCTAD (1998, p. 91).

In line with the UNCTAD framework, previous studies have shown that a wide range of factors may affect the location choice of FDI.[7] Generally, most of the studies have included both economic and non-economic variables as the determinants of FDI. However, proxies for the variables may differ from study to study. For example, even though market size is unanimously regarded as an important determinant for market seeking FDI, it can be measured using different proxies such as GDP, per capita GDP and number of population.[8] Similarly, there are various proxies for macroeconomic conditions, such as inflation rate, exchange rate and interest rate. As a result, numerous

[7] Different terminologies have been used for host country location determinants of FDI, such as location advantages (Dunning 2000), country specific advantages (Rugman, Verbeke & Nguyen 2011) and national competitive advantages (Porter 1998).

[8] While GDP and population may capture the size of an economy, and thus reflect the size of the market, per capita GDP may be a better proxy because it reflects the purchasing power of a host country.

variables have been proposed as the determinants of FDI. A summary of these variables and their rationale as the determinants of FDI is presented in Table 2.4.

Table 2.4 Determinants of FDI Based on Previous Studies

Determinants	Proxies	Previous Studies	Rationale
Market size	GDP	Mahalakshmi, Thiyagarajan and Naresh (2015); Tang, Yip and Ozturk (2014)	Increase in market size is associated with higher demand of products and services.
	Per capita GDP	Cleeve, Debrah and Yiheyis (2015); Falk (2016)	
	Population	Bailey and Li (2015); Kahouli and Maktouf (2015)	
Market potential	GDP of neighbouring countries	Hansson and Olofsdotter (2013); Siedschlag et al. (2013)	Access to regional market increases firms' market size, thus may increase demand of products and services.
Market growth	Growth rate of GDP	Mhlanga, Blalock and Christy (2010); Bailey and Li (2015)	A rapidly growing economy indicates a growing market, and thus provides a better opportunity for making profits.
Natural resources	Share of fuel and minerals in total exports	Asiedu and Lien (2011); Bokpin, Mensah and Asamoah (2015)	Natural resources are needed to guarantee a safe supply of natural resources at a lower cost, to be used either as commodities or production inputs.
Labour cost	Unit labour cost	Hansson and Olofsdotter (2013); Baltas, Tsionas and Baltas (2018)	FDI aims to achieve production efficiency through low labour costs and/or high productivity.
	Average wage in manufacturing	Kinuthia and Murshed (2015)	

Determinants	Proxies	Previous Studies	Rationale
Labour quality	Rate of tertiary education	Kahouli and Maktouf (2015)	
Labour productivity	Value added to labour ratio	Le and Tran-Nam (2018)	
Trade policy	Ratio of exports and imports to GDP	Hansson and Olofsdotter (2013); Boateng et al. (2015)	Trade openness suggests no extreme control in the form of taxes, tariffs and quotas, thus conducive for MNEs' activities in imports and exports.
Economic stability	Exchange rate	Tang, Yip and Ozturk (2014); Mahalakshmi, Thiyagarajan and Naresh (2015)	Host country's currency depreciation or appreciation affects FDI by altering the relative wealth and production costs of affiliates.
	Inflation rate	Hansson and Olofsdotter (2013); Boateng et al. (2015)	A high level of inflation represents unstable macroeconomic conditions, and thus will discourage FDI. Further, high inflation reduces the real value of earnings in host country's currency.
Tax policy	Statutory corporate tax rate	Tang, Yip and Ozturk (2014); Merz, Overesch and Wamser (2017)	Higher tax rates increase cost of capital and reduce returns on investment.
	Profit tax (% of commercial profits)	Falk (2016), (Economou et al. 2017)	
Infrastructure	Telephone lines per 100 inhabitants	Mhlanga, Blalock and Christy (2010); Asiedu and Lien (2011)	Infrastructure is needed to facilitate the production and distribution of goods and services. Therefore, it will affect firms' operating costs.
Political risk	Political constraint index	Olney (2013); Jiménez, Luis-Rico and Benito-Osorio (2014)	Political risk represents the likelihood of an unexpected change in business environment due to major policy shifts.

Determinants	Proxies	Previous Studies	Rationale
Investment incentives	Tax incentives	Klemm and Van Parys (2012); Van Parys and James (2010)	Tax incentives affect firms' profitability by lowering the cost of capital.
Hassle costs	Corruption index	Brouthers, Yan and McNicol (2008); Mathur and Singh (2013)	Corruption constrains the development of fair and efficient markets, raises the cost of goods and creates uncertainty.

In addition to the variation of proxies, previous studies have varied in terms of the findings—not only with regard to the relative importance of the variables, but also the direction of the impact (Assunção, Forte & Teixeira 2011; Nielsen, Asmussen & Weatherall 2017). Further, the robustness of the variables is often questionable as many determinants of FDI are found to be sensitive to small alterations in empirical estimations (Chanegriha, Stewart & Tsoukis 2017; Eicher, Helfman & Lenkoski 2012). For example, wage as the proxy of labour cost is often reported to have a negative and significant coefficient when combined with GDP growth rate and inflation, but shows a statistically positive coefficient when combined with taxes and trade openness (Chakrabarti 2001). Similarly, Blonigen and Piger (2014) found that policy variables such as infrastructure and political institution may not be robust as the determinants of FDI. As a result, despite the numerous studies on FDI, finding the key determinants of FDI remains a challenging task for many researchers.

In the context of Southeast Asia, a number of studies have examined the determinants of FDI into this region. These studies vary in terms of the focus, such as economic determinants (Xaypanya, Rangkakulnuwat & Paweenawat 2015), institutional quality (Masron 2017) and business regulations (Vogiatzoglou 2016). Moreover, each study has used different proxies for determinants of FDI, thus resulting in a large number of variables proposed to affect FDI. In addition, the findings from these studies varied in terms of statistical significance as well as the direction of the effects, which makes it difficult to draw a general conclusion on what can be regarded as the key determinants of FDI into Southeast Asia. For an overview, a summary of selected FDI studies in the context of Southeast Asia is presented in Table 2.5.

Table 2.5 Summary of Selected Studies on the Determinants of FDI in Southeast Asia

	Determinants of FDI	Selected Empirical Studies								
		[1]	[2]	[3]	[4]	[5]	[6]	[7.1]	[7.2]	[7.3]
1	Host country's GDP		(+)	(+)	(+)	( )	( )	(+)	(+)	(+)
2	Host country's GDP per capita	(+)								
3	Host country's GDP growth						( )			
4	Home country GDP					( )				
5	Market accessibility & economic potential							(+)	(+)	(+)
6	Cost of labour		(+)		( )	(+)	( )			
7	Natural resource endowment						(+)			
8	Level of education					( )				
9	Human capital		(+)					(+)	(+)	(+)
10	Education expenditure				( )					
11	Labour productivity		(+)							
12	Patent applications					(+)	( )			
13	Trade openness		(+)	(-)	(+)		( )	(+)	(+)	(+)
14	Exchange rate		(-)	( )						
15	Inflation rate	(-)	( )	(+)			( )	(-)	( )	(-)
16	Interest rate		(-)							
17	Infrastructure		(+)	( )				(+)	(+)	(+)
18	Corporate tax rate	( )						(-)	( )	(-)
19	Financial development		( )							
20	Fiscal balance	( )								
21	Domestic savings	( )								
22	Economic regimes						(-)			
23	FDI into China					(+)				
24	FDI restriction						( )			
25	Investment policy					(+)				
26	Bilateral trade							(+)	(+)	( )
27	Political risk		(-)							
28	Property rights	( )								
29	Regulatory quality	(+)								
30	Rule of law	(+)								
31	Legal regimes						( )			
32	Institutional quality				(+)					
33	Governance quality					( )				
34	Government effectiveness	( )								
35	Corruption		(+)							
36	Common language					(+)				
37	Colony					( )				
38	Cultural distance						(+)			
39	Bilateral distance					(-)	(+)	( )	( )	(-)

Note: parenthesis ( ) without symbol denotes that the variable is insignificant at the conventional critical level (5% or 10%)

[1] = Buracom (2014), [2] = Hoang and Bui (2015), [3] = Xaypanya, Rangkakulnuwat, and Paweenawat (2015),
[4] = Masron and Nor (2013), [5] = Athukorala and Waglé (2011), [6] = Kang and Jiang (2012),
[7] = Vogiatzoglou (2008) (7.1 = FDI from US, 7.2 = FDI from EU, 7.3 = FDI from Japan)

In regard to motivation for FDI, no conclusive evidence can be inferred from previous studies. Among the selected empirical studies in Table 2.5, Kang and Jiang (2012) is the only study that explicitly links motivation and determinants of FDI. They concluded that FDI into Southeast Asia is motivated by resource seeking because natural resources endowment was found to have positive and significant effect on FDI. Contrarily, GDP and growth of GDP, which represent market size, appeared to be statistically insignificant. However, this study only investigated FDI originated from China, and therefore may not represent the overall motives of FDI into Southeast Asia. Further, other studies such as Vogiatzoglou (2008) and Buracom (2014) generally found GDP of the host country as one of the determinants of FDI, which indicates the presence of market seeking FDI in Southeast Asia. In addition, ASEAN's Secretariat (ASEAN 2016) claimed that the four motives for FDI can be found in this region. However, as the report is based on case-by-case examples, the finding may not be generalizable to the overall motivation for FDI into Southeast Asia.

Considering the numerous variables proposed to be the determinants of FDI, identifying the motivation for FDI is important to select a set of variables that reflects the primary determinants of FDI into Southeast Asia. Further, as various policies may influence FDI differently depending on MNE motives for FDI (Kusek & Silva 2017), understanding FDI motivation is important for policymakers to design policy and incentives that can effectively promote FDI. Nonetheless, previous studies of FDI into Southeast Asia generally did not incorporate motivation for FDI in their studies, and thus may suffer from omitted variable bias.

2.4 Effects of Tax Policy on Foreign Direct Investment

Among the variables proposed to affect FDI, tax policy has gained considerable attention. There are several ways in which tax policy may affect FDI. First, taxes affect firms' profitability because they reduce proceeds from an investment that can be distributed to shareholders. As a result, all other factors being equal, MNEs prefer a location with a favourable tax policy such as low CIT rate and generous tax incentives. Second, taxes are the primary source of a government's revenue, and thus may affect the government's capability in providing public goods such as infrastructure and education (Bellak, Leibrecht & Damijan 2009). Therefore, taxes indirectly affect FDI through the quality of infrastructure and human capital. Last, with improvements in the macroeconomic

environment in developing countries and as most governments have removed non-tax barriers such as tariffs and trade restrictions, it is expected that the role of tax policy in FDI decisions will become increasingly important (OECD 2007b). For these reasons, many governments have utilised tax policy to attract FDI, which can be seen from the declining CIT rates around the world (KPMG 2020). Likewise, to boost FDI, tax incentives have become more generous, particularly in developing countries (World Bank 2017).

Broadly speaking, various features of tax policy may influence FDI. Because MNEs are subject to tax policy in the host country as well as in the home country, the overall effects of tax policy on FDI is affected by tax regulations in both countries and how these countries deal with double taxation.[9] In addition, the effects of tax policy on FDI depend on how MNEs manage their global tax liability, for example, whether or not MNEs employ tax planning to reduce tax liability. As a result, many aspects of tax policy may affect FDI, such as tax rate, tax planning and complexity of the tax system (Simões, Ventura & Coelho 2015). Nevertheless, this study focuses only on CIT and tax incentives because they are directly related to a firm's profitability, and therefore most likely to influence investment decisions. In addition, this study examines the effect of tax planning on FDI as it is closely related to CIT. Tax planning may enable MNEs to reduce the tax burden despite high tax rates in host countries. Thus, it may alter the effect of CIT on FDI. The next subsections review the literature on these subjects to highlight what is currently known on these topics.

2.4.1 Corporate Income Tax and Foreign Direct Investment

Among the various aspects of tax policy, the effect of CIT on FDI is the most frequently studied. Because CIT reduces the net return of an investment, higher CIT rate is presumed to deter FDI. On the basis of this reasoning, many countries have reduced their CIT rate over the years. Because of this, the global average CIT rate declined from 29.42% in 2003 to 24.03% in 2018 (KPMG 2020). As of 2018, Europe has the lowest average CIT rate (19.48%), followed by Asia with a CIT rate average of 21.21%. Moreover, the recent tax

[9] Double taxation happens when multiple countries levy taxes on the same taxpayer for the same income (OECD 2015). Generally, double taxation happens when a country levies taxes not only on income arising within the country but also from transactions in other countries, which is known as the worldwide tax system. As a result, there may be overlapping of tax claims among the related countries.

cut by the United States (US) in late 2017 showed that this phenomenon occurs in both developed and developing countries.

Even though the declining CIT rate is not a new phenomenon, unlike other countries that have gradually reduced their tax rate, the CIT rate in the United States had remained stable for the past 30 years. The US had maintained a high CIT rate since 1986 until the implementation of the Tax Cuts and Jobs Act of 2017, which reduced the federal CIT rate from 35% to 21% (excluding state taxes).[10] Apart from the tax rate cuts, the US 2017 tax reform is accompanied by other features that are intended to increase profit repatriation of US MNEs, as well as address the problem of profit shifting (Beer, Klemm & Matheson 2018). Beer, Klemm and Matheson (2018) also argued that tax reform by the US may intensify tax competition for FDI as other countries may respond by adjusting their tax systems, for example, by reducing CIT rate.

The US recent tax reform indicates the importance of tax policy in influencing MNE behaviour, at least in the views of policymakers. However, surveys to investors often reveal a different result. The Global Investment Competitiveness (GIC) Survey by the World Bank shows that corporate tax rate is not the primary factor that investors take into account in FDI decisions (World Bank 2017). From this survey, in terms of host government's policy framework, the majority of investors cite political stability, as well as legal and regulatory environment, as the most critical factor. Nevertheless, this finding does not deter governments from utilising tax policy to attract FDI, particularly in developing countries.

Notwithstanding the results of investor surveys, empirical evidence tend to find a negative effect of CIT rate on FDI (Tavares-Lehmann, Coelho & Lehmann 2012). A meta-analysis by Feld and Heckemeyer (2011) showed that of 704 tax estimates in their sample, only 13.4% of estimates found zero or positive effect of CIT on FDI. However, in terms of statistical significance, the importance of CIT as a determinant of FDI can be considered inconclusive as only 55% of the sample showed a statistically significant effect of CIT on FDI. Further, the magnitude of the effect, which is known as tax elasticity, varied considerably not only across studies but also within studies.

Tax elasticity or tax rate elasticity can be defined as the percentage change in FDI as a response to a change in the host country's tax rate (De Mooij & Ederveen 2003; Feld &

[10] Including the state taxes, the US average corporate income tax rate had been reduced from 39% to 26% (OECD 2019).

Heckemeyer 2011). It can be measured as an elasticity or semi-elasticity depending on the empirical specification of the study. Various factors may contribute to the differences in cross-country tax elasticity, including the level of CIT rate and host country characteristics such as macroeconomic conditions and government policies (OECD 2007b). Further, firm characteristics such as motivation for FDI and type of business activities may affect tax responsiveness of FDI (Herger, Kotsogiannis & McCorriston 2016; Lawless et al. 2018; Overesch & Wamser 2009). In addition to these factors, characteristics of the study such as empirical estimation, measurement of FDI activity and proxy for the tax burden may affect the resultant tax elasticity. As a result, it is difficult to compare tax elasticity among FDI studies because of the differences in the characteristics of the studies.

To transform tax elasticity based on previous studies into a comparable measure, De Mooij and Ederveen (2003) as well as Feld and Heckemeyer (2011) performed meta-analyses to synthesise the findings from previous studies. From the findings of 25 empirical studies from 1984 to 2001, De Mooij and Ederveen (2003) reported a median tax semi-elasticity of 3.3, which implies that a 1-point increase in tax rate (e.g., from 30% to 31%) will reduce FDI by 3.3%. Interestingly, Feld and Heckemeyer (2011), who continued the work of De Mooij and Ederveen, reported a smaller median tax semi-elasticity of 2.49.

As CIT is not the only factor that affects location choice for FDI, its impact on FDI may depend on the other determinants. Therefore, when assessing the effect of CIT rate on FDI, the inclusion of the other FDI determinants is very important. For example, De Mooij and Ederveen (2005) found that the inclusion of openness and agglomeration variables tend to reduce tax elasticity. Similarly, Bénassy-Quéré, Fontagné and Lahrèche-Révil (2005) found that the inclusion of government spending in the model specification weakens tax elasticity, whereas Hajkova et al. (2007) found that including broader measures of FDI determinants significantly reduces tax elasticity. They concluded that studies that omit important FDI determinants (other than tax rates) may overstate tax elasticity. Moreover, compared with the other variables, the effect of CIT rate on FDI is relatively minor. This finding is in line with the results of investor surveys that tend to put tax policy as less important in FDI decisions.

Among the variables that affect FDI, the quality of infrastructure in the host country is often considered to influence the effect of CIT on FDI. Similar to taxes, the quality of

infrastructure affects a firm's profitability through its impact on production costs. Therefore, an increase in the quality of infrastructure and/or a decrease in CIT rate may increase FDI into the host country (Bellak, Leibrecht & Damijan 2009), and as the quality of infrastructure depends on government spending, higher taxes may not discourage FDI because MNEs perceive higher CIT as necessary for high quality of infrastructure (Bénassy-Quéré, Gobalraja & Trannoy 2007). Therefore, considering that infrastructure and CIT are closely related, their effects on FDI should not be analysed in isolation.

In addition to infrastructure, agglomeration economy is considered to mitigate the negative effect of CIT on FDI. In a broad sense, agglomeration economy may be defined as the economic benefits that a firm can accrue from being in proximity with other firms (Frenken, Van Oort & Verburg 2007). These benefits include proximity to market and labour, sharing of inputs (such as infrastructure and quality of education) and knowledge spillover (Rosenthal & Strange 2004). To some extent, these benefits may offset the negative effect of taxes; thus, higher tax rates may not discourage FDI (Baldwin & Krugman 2004). Using various proxies of agglomeration economy, Hansson and Olofsdotter (2013) tested this proposition and found that indicators of agglomeration economy, such as population density, use of intermediate products, and research and development (R&D) intensity, mitigate the adverse impact of taxes on FDI.[11] Similar results are reported by Brülhart, Jametti and Schmidheiny (2012), who concluded that the negative effect of taxes is weaker in sectors with high industrial clustering.

In addition to agglomeration economy, various other factors may affect FDI's responsiveness to CIT. For example, comparing the effect of CIT on FDI into developing and developed countries, Azémar and Delios (2008) found that FDI is more responsive to taxes in developing countries compared to developed countries. Meanwhile, Overesch and Wamser (2009) found an asymmetric effect of CIT on three aspects of FDI: motivation for FDI, type of business activities and the degree of internationalisation. The results of the study showed that in terms of tax responsiveness, vertical FDI is more responsive than horizontal FDI, non-manufacturing sector FDI is more responsive than manufacturing FDI, and MNEs with lower degree of internationalisation are more responsive to CIT. From these studies, it can be deduced that various factors influence

[11] Hansson and Olofsdotter (2013) used interaction terms to test the interplay between CIT rate and indicators of agglomeration economy.

the magnitude of the effect of CIT on FDI. Therefore, tax elasticity of FDI may be different from one context to another.

While the majority of the studies concluded that CIT has a negative effect on FDI, a few studies reported different results. Jensen (2012), who studied the effect of CIT rate on FDI into OECD countries, found that CIT rate did not have significant effect on FDI.[12] Slightly different from Jensen (2012), Economou et al. (2017), who investigated the determinants of FDI in OECD and developing countries, reported that while CIT rate had significant negative effect on FDI into OECD countries, it did not have significant effect on FDI into developing countries. They argued that for developing countries, the tax system as a whole and other tax incentives may be more important than the tax rate itself. This finding is in contrast to the proposition that FDI into developing countries is more sensitive to tax rate because low CIT rate may be used by developing countries to compensate for unfavourable macroeconomic conditions (Azémar & Delios 2008; Ghinamo, Panteghini & Revelli 2010).

Another study that found no significant relationship between tax rate and FDI is by Hunady and Orviska (2014), who investigated the determinants of FDI in the context of European Union (EU) countries. They found that the effect of CIT rate on FDI was not statistically significant, albeit showing the expected negative sign. Hunady and Orviska (2014) provided two explanations for this finding. First, tax was not the most important determinant of FDI, unlike labour cost and trade openness. Second, firms might be able to avoid taxes by shifting profit to low tax locations. The effect of CIT rate on FDI when MNEs engage in profit shifting is discussed in more detail in Section 2.4.2.

Even though they can be considered rare, a few studies found a positive effect of CIT on FDI. An early study by Swenson (1994) found that the increasing CIT rate after the US Tax Reform Act of 1986 has had a positive effect on FDI into the US. Swenson (1994) argued that the increase in CIT rate did not necessarily mean an increase in tax burden but simply a reallocation of the amount to be paid in the home and host countries.[13] Thus, higher CIT rate may not always discourage FDI. Bobonis and Shatz (2007) also found a positive effect of CIT on state level FDI in the US, but they did not provide clear interpretation of this result. Meanwhile, Rasciute and Downward (2017), who also found

[12] The author has performed various robustness tests to account for omitted variable bias and misspecification in empirical strategy, and the result is robust to alternative model specifications.
[13] Under the worldwide tax system, taxpayers are taxed for the income they receive from all over the world and tax credit is given for the tax paid abroad. Thus, increase in the host country tax rate means that less tax will be paid in the home country.

a positive and significant effect of CIT on FDI, argued that higher CIT rate may be seen as an indicator of better public provisions in the host country. Therefore, high CIT rate may encourage FDI into the host countries.

Even though there are many studies that have examined the effect of CIT rate on FDI, the majority of these studies are in the context of developed countries such as OECD members (Azémar & Desbordes 2013; Jensen 2012) or emerging markets in Europe (Hansson & Olofsdotter 2013; Jensen 2012). Because of data limitations, few studies have investigated the effect of CIT on FDI into developing countries, particularly in the context of Southeast Asia. Early study by Chantasasawat et al. (2004), who studied FDI into Asian economies (including major countries in Southeast Asia), found that CIT rate is one of the most important determinants of FDI. CIT rate showed a significant negative sign in four of five model specifications. Slightly different from Chantasasawat et al. (2004), Vogiatzoglou (2008), who studied FDI into ASEAN from the US, EU and Japan, also found that CIT rate had a significant effect on FDI from the US and Japan, but not for FDI from the EU. However, the effect of CIT rate on FDI based on this study was only significant at the 10% level of significance and was found to be insignificant in most of the estimations, which indicates that CIT effect on FDI is sensitive to any changes in model specifications.

Focusing on taxation and business regulations, Sudsawasd (2008) examined the effects of CIT, tax treaty and business regulations on FDI into 11 Asian countries (including five ASEAN countries). Using the gravity model as the framework, this study only included GDP, GDP per capita and distance as the control variables. Unlike other studies that use CIT rate as proxy for the tax burden, this study employed ratio of tax revenue to GDP as the proxy for CIT. The results showed that host country CIT did not have significant effect on FDI. On the contrary, tax treaty showed a positive effect on FDI, which implied that the presence of tax treaty helps to improve bilateral FDI.

Another study in the context of Southeast Asia that included CIT as one of the determinants of FDI was conducted by Buracom (2014). This study did not find CIT rate to have significant effect on FDI into Southeast Asia. Buracom (2014) argued that this result might have been affected by the choice of tax rate as he used the top marginal CIT rate as the proxy of the tax burden while very few firms ever pay their taxes at the top

marginal tax rate.[14] On the contrary, Nagano (2013), who investigated the determinants of cross-border mergers and acquisitions (M&A) and greenfield FDI in 12 Asia and Oceania countries (including five ASEAN countries), found CIT rate (proxied by the top marginal CIT rate) to be a significant determinant for both types of FDI.

From the mixed findings from previous studies, it can be concluded that the effect of CIT on FDI into Southeast Asia is inconclusive. Moreover, because the primary objectives are the determinants of FDI, the effect of tax policy on FDI is not sufficiently examined in the extant studies. As a result, at the current stage, it is difficult to conclude whether CIT has a significant effect on FDI into Southeast Asia and what the magnitude of the effect is. Therefore, more studies are needed to carefully examine the effect of CIT on FDI into Southeast Asia.

2.4.2 Tax Havens and Foreign Direct Investment

Several studies that found that corporate tax rate did not have significant impacts on FDI cited the possibility of profit shifting as one of the possible reasons (Hunady & Orviska 2014; Jensen 2012). This argument is triggered by the evidence that many large MNEs have engaged in profit shifting (Klassen, Lisowsky & Mescall 2017; Lessambo 2016). Companies such as Apple, Pfizer and General Electric have been reported to have numerous affiliates in tax havens with millions of dollars held offshore (Phillips et al. 2017). In addition, many studies have shown that firms with affiliates in tax havens tend to report lower profit as well as lower CIT burden compared with firms without affiliates in tax havens (Dyreng & Lindsey 2009; Jaafar & Thornton 2015). From these facts, it can be inferred that MNEs have engaged in aggressive tax planning to minimise the tax burden.

The OECD defines tax planning as ‘the changes in the corporation’s finance and investment behaviour in order to minimize its corporate tax liability’ (OECD 2007a, p. 76). From this definition, it is clear that the objective of tax planning is to minimise or reduce the tax burden. More precisely, tax planning aims to reduce the tax liabilities in order to increase the after-tax return (Wahab & Holland 2012). Tax planning can range from a simple accounting practice such as choosing the most advantageous depreciation method to more sophisticated methods that involve complex financial arrangements.

[14] According to World Development Indicators (WDI) 2010 by the World Bank, highest marginal tax rate refers to the highest CIT rate applied to corporate taxpayers according to income tax laws. In other words, this rate refers to the top statutory tax rate. This indicator is no longer available from WDI 2011 onwards.

More sophisticated tax planning may require substantial costs such as costs to hire tax consultants and to manage tax departments (Garbarino 2011). Aside from financial costs, other factors may affect the decision to engage in tax planning, such as reputational concerns (Graham et al. 2014) and potential increase in earnings (Jacob, Rohlfing-Bastian & Sandner 2019). The higher the increase in earnings, the more motivated are firms to engage in tax planning (Jacob, Rohlfing-Bastian & Sandner 2019). Therefore, it is not surprising that firms that engage in aggressive tax planning are MNEs with extensive foreign operations and large income (Desai, Foley & Hines 2006; Rego 2003).

There are various schemes that can be used as tax planning strategies.[15] In the context of MNEs, the most common approach is to move profit from high to low tax locations (Gravelle 2015). Reducing the profit recorded in subsidiaries located in high tax countries and increasing profit in subsidiaries in low tax countries enables MNEs to reduce their overall tax liability. As a result, profit shifting by MNEs has been blamed as one of the sources of tax revenue erosion in both developed and developing countries (Crivelli, De Mooij & Keen 2016). Moreover, the impact of profit shifting on tax revenue seems to be more profound in developing countries compared to developed countries. Crivelli, De Mooij and Keen (2016) estimated that while revenue losses from profit shifting are around 1% of GDP for OECD members, for non-OECD members, the losses are around 1.3% of GDP. To address base erosion and profit shifting (BEPS), the OECD has proposed various initiatives to help countries deal with these problems.[16]

To shift profit to low tax locations, the most common schemes that have been employed by MNEs are transfer pricing and intra-group debt (Dharmapala 2014; Riedel 2018). Among these schemes, Heckemeyer and Overesch (2017) argued that transfer pricing is predominant, particularly transfer pricing of intangible assets. Various studies have provided empirical evidence for this proposition. For example, Taylor, Richardson and Lanis (2015) found that MNEs with subsidiaries in tax havens and high intangible assets are associated with aggressive transfer pricing. Similar results are reported by Klassen, Lisowsky and Mescall (2017), who concluded that firms that are committed in tax planning through transfer pricing, that have experience with tax havens and that have high R&D expenses reported lower effective tax rate compared with non-avoiders.

[15] For a discussion on various tax planning strategies, see (Scholes et al. 2015).
[16] OECD guidelines on base erosion and profit shifting (BEPS) can be found on the OECD website (http://www.oecd.org/tax/beps/beps-actions.htm).

Transfer pricing may be defined as the manipulation of transfer prices among intra-group members with the objective of reducing the overall tax liability (Taylor, Richardson & Lanis 2015). This can be done by under- and over-invoicing transfer prices, as illustrated in Table 2.6. [17] From this illustration, it can be seen that using the arm's length price will result in total tax payments of $20,500.[18] However, when Subsidiary A in a high tax location reduces the transfer price to Subsidiary B in a low tax jurisdiction, the overall tax payment can be reduced to $17,000, thus resulting in a tax saving of $3,500. Hence, by altering the transfer prices of the two subsidiaries, profit can be transferred from high to low tax jurisdictions.

Table 2.6 Illustration of Profit Shifting through Transfer Pricing

Arm's Length Price			
Subsidiary A (Country A)		Subsidiary B (Country B)	
Sales price	$150,000	$200,000	Sales price to customers
Cost	$100,000	$150,000	Price paid to Subsidiary A
Profit	$50,000	$50,000	
CIT (25%)	$12,500	$7,500	CIT (15%)
Total tax payments: $12,500 + $7,500 = $20,500			
Transfer Pricing			
Subsidiary A (Country A)		Subsidiary B (Country B)	
Sales price	$120,000	$200,000	Sales price to customers
Cost	$100,000	$120,000	Price paid to Subsidiary A
Profit	$20,000	$80,000	
CIT (25%)	$5,000	$12,000	CIT (15%)
Total tax payments: $5,000 + $12,000 = $17,000			

As stated by Heckemeyer and Overesch (2017), most of the transfer pricing schemes of MNEs are related to intangible properties. This is not surprising as the opportunity for transfer pricing is greater for intangible properties than tangible assets due to the difficulty in finding comparable arm's length price (Karkinsky & Riedel 2012). According to the OECD Transfer Pricing Guidelines, intangible properties are any non-physical or non-financial assets that can be used in commercial activities (OECD 2017a). These include among others patent, trademark, know-how and trade secrets. As these intangible assets

[17] A transfer price is 'the price charged in transactions between firms that are related' (Eden 2001). The terms under- and over-invoicing refer to the misrepresentation of the price of the goods/services in the accounting process to gain tax benefits.
[18] Arm's length price is the price charged between unrelated parties in competitive markets (Eden 2001).

are unique for each firm, it is difficult to determine their values, and comparable arm's length price may not be available. Consequently, it is difficult for tax authorities to determine whether their prices are set appropriately (Gravelle 2015). For these reasons, royalty payments from intangible assets have been widely used in transfer pricing schemes and many MNEs have located the ownership of intangible properties in low tax locations such as tax havens (Jones & Temouri 2016; Karkinsky & Riedel 2012).

In addition to transfer pricing, intra-group debt has been used by MNEs as one of their tax planning strategies (Feld, Heckemeyer & Overesch 2013). As interest paid to debtors are deductible expenses while dividends are not, financing investment using debt instead of equity has become one of the alternatives to minimise the tax burden. By financing investment in high tax jurisdictions with loans from subsidiaries in low tax jurisdictions, MNEs can reduce the overall tax liability (Sorbe, Johansson & Skeie 2017), as illustrated in Table 2.7. Because interest payment is a deductible expense, it can be deducted from gross profit, thus resulting in a lower taxable profit compared with when using equity financing. Consequently, the overall tax liability is lower when using debt financing, even after considering the withholding tax on interest or dividends.

Table 2.7 Illustration of Profit Shifting through Debt Financing

Equity Financing			
Subsidiary A (Country A)		Subsidiary B (Country B)	
EBIT	$100,000	-	No tax payment as tax paid in Country A can be credited in Country B
Interest payments (20%)	-	-	
Net profit	$100,000	-	
Dividend payments	$20,000	$20,000	
Withholding tax (15%)	$3,000	-	
CIT (25%)	$25,000	-	CIT (15%)
Total tax payments: $3,000 + $25,000 = $28,000			
Debt Financing			
Subsidiary A (Country A)		Subsidiary B (Country B)	
EBIT	$100,000	-	No tax payment as tax paid in Country A can be credited in Country B
Interest payments (20%)	$20,000	$20,000	
Net profit	$80,000	-	
Dividend payments	-	-	
Withholding tax (15%)	$3,000	-	
CIT (25%)	$20,000	-	CIT (15%)
Total tax payments: $3,000 + $20,000 = $23,000			

Notes: EBIT = earnings before interest and taxes.

Regardless of the choice of tax planning strategies, both transfer pricing and debt financing require a subsidiary or an affiliate to be established in a low tax location. This low tax location is commonly known as a tax haven. The OECD defines tax haven as a jurisdiction that is characterised by no or very low income tax rate, no effective exchange of information with other tax authorities, lack of transparency and no requirement of real economic activities to be carried on in the jurisdiction (OECD 1998). Slightly different from the OECD, the (IMF 2000) uses the term offshore financial centre (OFC) to identify countries or jurisdictions with low or zero taxation, moderate or light financial regulation, banking secrecy and anonymity. Therefore, tax haven and OFC can be considered synonymous.

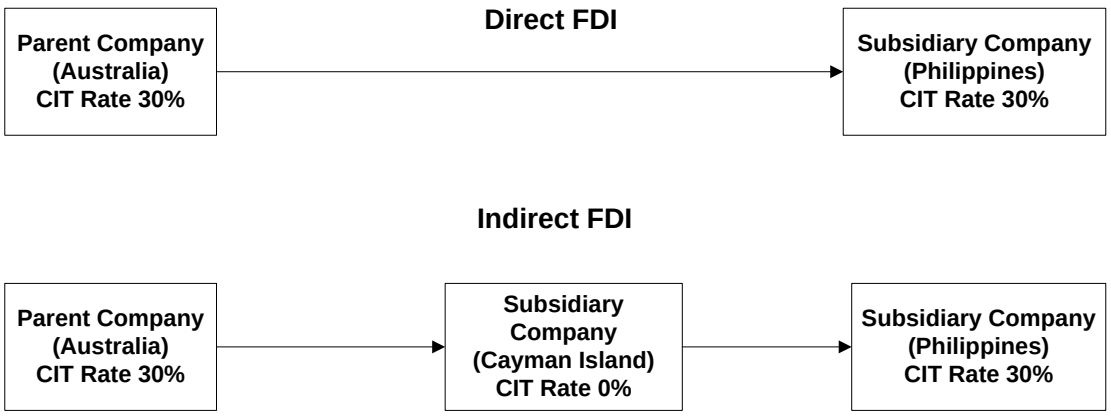
Despite the similarity in the criteria of tax havens, tax authorities, international agencies and researchers have had different interpretations of these criteria. As a result, there are various lists of countries that can be considered tax havens. The compilation of some of these lists can be found in (Palan, Murphy & Chavagneux 2013b). Nevertheless, several countries such as Bahamas, Bermuda and Cayman Islands have appeared in all the lists, indicating the international consensus of the status of these countries as tax havens. Among the tax haven lists, the one by (Hines & Rice 1994) is frequently used in other studies.[19] Hines and Rice (1994) identified 41 countries that can be considered tax havens; of these, 34 countries with small population and GDP are categorised as 'dot tax havens' and the remaining seven as the 'Big-7'. The Big-7 are countries with population more than 1 million and accounted for 89% of total tax haven GDP at the time of the study. These countries include Hong Kong, Ireland, Lebanon, Liberia, Panama, Singapore and Switzerland. This distinction is needed to account for different roles of the two groups. Dot tax havens, because of the small size of their economy, are seen as lacking the demand for goods and services; hence, there is high probability that subsidiaries in these countries were established only for tax consideration. As the majority of the countries in the Big-7 are well known as the world's major banking centres (Rim & Daekeun 2016), there is the possibility that subsidiaries established in these countries engage in real economic activity (Jones & Temouri 2016).[20]

Because of their characteristics of having low CIT rate, high secrecy and flexible incorporation, tax havens have been used by MNEs as investment hubs that enable them

[19] Several studies that used the tax havens list by Hines and Rice (1994) are Desai, Foley and Hines (2006); Dharmapala and Hines (2009); and Jones and Temouri (2016).
[20] Hong Kong, Panama, Singapore and Switzerland are in the top 15 of the major banking centres in the world (Rim & Daekeun 2016).

to lower the global tax burden (UNCTAD 2015). Instead of directly investing in a host country, MNEs may use their affiliates in tax havens as an intermediate for FDI (Figure 2.1). This type of FDI is known as indirect FDI.[21] The objective is to establish a link for tax planning schemes such as transfer pricing and intra-group debt (Janský & Prats 2015). As a result, a substantial amount of FDI has been channelled through tax havens. Haberly and Wójcik (2015) stated that at least 30% of worldwide FDI is owned through intermediate entities in tax havens, whereas Sutherland and Anderson (2015) cited an even higher figure for FDI from China. According to them, over 60% of Chinese outward FDI is channelled through tax havens. Likewise, Buckley et al. (2013) reported that considerable amounts of outward FDI from Brazil, India and Russia are located in tax havens. According to these data, the importance of tax havens as investment hubs cannot be underestimated.

Figure 2.1 Direct versus Indirect FDI



Source: Adapted from Wamser (2011)

The importance of tax havens as investment hubs can also be observed from the inflow and outflow of FDI from these countries. In 2013 for example, the amount of FDI into British Virgin Islands (BVI) was $109 billion, much higher than FDI into United Kingdom ($51 billion), which has an economy almost 3,000 times larger.[22] Conversely, FDI outflow from BVI was $110 billion, which was disproportional to the size of its economy. From these data, it can be seen that substantial amounts of FDI are channelled through tax havens to minimise the tax burden. Nevertheless, it should be noted that using tax havens as an intermediate for FDI is not the only tax planning strategy. Alternatively,

[21] There are various terminologies to indicate FDI that is intermediated through a third country, such as 'indirect FDI' (Kalotay 2012), 'onward-journeying' (Sutherland & Ning 2011), 'transit FDI' (UNCTAD 2015) and 'offshore FDI' (Haberly & Wójcik 2015). The term 'indirect FDI' is used throughout this thesis.
[22] Data of FDI based on the World Investment Report 2018 (UNCTAD 2018).

MNEs may use other countries as intermediators, for example, countries that can provide benefits through tax treaty networks. The Netherlands is an example of a country that has been widely used for tax treaty shopping (Hong 2018; Weyzig 2013).[23]

Despite the pervasiveness of tax avoidance via tax havens, only very few studies have investigated how tax policy affects indirect FDI through tax havens. Because the objective of indirect FDI is to reduce the tax burden, high corporate tax rate in home or host countries may not discourage indirect FDI. A study by Wamser (2011) showed that while CIT rate had negative effect on direct FDI, it had positive effect on indirect FDI. According to this study, a 1-point increase in CIT rate is associated with a 1.43% increase in indirect FDI, which indicates that higher CIT rate will encourage indirect FDI.

Along the same line, Egger, Merlo and Wamser (2014) emphasised the importance of distinguishing between tax avoiders and non-avoiders in FDI studies because tax responsiveness of FDI will depend on this distinction.[24] They argued that tax avoiders are less responsive to CIT because they are able to reduce the tax liability. Thus, not distinguishing between the two groups will result in downward bias of tax elasticity. In their study, while CIT rate showed a significant negative effect on FDI of non-avoiders with tax semi-elasticity of -0.81, it did not have a significant effect on FDI of avoiders. However, when pooling avoiders and non-avoiders in a single estimation, CIT rate did not exhibit significant effect on FDI. Apart from these results, Egger, Merlo and Wamser (2014) found that the other determinants of FDI have similar effect on both avoiders and non-avoiders.

Acknowledging the significance of tax havens as investment hubs, Haberly and Wójcik (2015) investigated the determinants of tax haven FDI into non-tax haven economies (offshore FDI) in comparison with determinants of FDI among non-tax havens (real FDI). Five groups of potential determinants of FDI were chosen as independent variables: level of development, proximity, economic agreements, taxation and quality of institutions. The results of this study are in line with Egger, Merlo and Wamser (2014). Regarding the tax variables, the study concluded that while CIT had significant negative effect on real

[23] Tax treaty shopping is a form of tax avoidance where MNEs use intermediate countries in international transactions to reduce withholding tax rates through tax treaty networks (Weyzig 2013).
[24] Proxies for tax avoiders include firm characteristics such as number of foreign affiliates, internal debt to equity ratio, and whether or not the firm is in an R&D intensive sector.

FDI, it did not significantly affect offshore FDI. Meanwhile, for the other determinants, offshore and real FDI had similar determinants of FDI.

In the context of Southeast Asia, no studies have examined the effects of tax policy on indirect FDI. However, there are a few studies that have examined profit shifting by MNEs in the context of individual countries in Southeast Asia. For example, Salihu, Annuar and Obid (2015) studied the relationship between foreign ownership and corporate tax avoidance in the context of Malaysia. From the data of 100 top firms of the FTSE Bursa Malaysia, they concluded that foreign ownership is positively correlated with corporate tax avoidance, which can be seen by the low ratio of tax burden by large companies. Similarly, Sundari and Susanti (2016) and Purba (2018) found comparable results in the context of Indonesia. They found that CIT rate and foreign ownership significantly affect a company's decision to reduce the tax burden through transfer pricing. These studies indicate that aggressive tax planning by MNEs is also a problem for governments in Southeast Asia.

To sum up, the extant studies have indicated that FDI responsiveness to CIT is influenced by whether or not MNEs are able to lessen the tax burden through tax planning or tax avoidance. In other words, CIT may have asymmetric effects on FDI depending on whether or not MNEs are engaged in tax avoidance. Nevertheless, despite the pervasiveness of tax avoidance among MNEs, only very few studies have examined the role of tax planning in FDI studies, particularly whether or not tax planning alters the effect of CIT on FDI. This area of research is of utmost important in the context of developing countries considering the importance of FDI and tax revenue for developing countries.

2.4.3 Tax Incentives and Foreign Direct Investment

Another aspect of tax policy that is presumed to affect investment decisions is tax incentives. Tax incentives may be defined as preferential tax treatments given to qualified investment projects to encourage certain economic activities (Klemm & Van Parys 2012). The rationale for offering tax incentives is in line with neoclassical investment theory, which argues that tax reduction (in this case through tax incentives) will decrease cost of capital and increase rate of return, and thus will encourage investment (Klemm & Van Parys 2012; Zee, Stotsky & Ley 2002). In other words, offering tax incentives is presumed to have the same effect as lowering tax rate as both are meant to reduce the cost of capital. In addition, tax incentives are often used to direct investment to specific sectors or

regions, particularly to promote investment into underdeveloped regions (UNCTAD 2000). In this case, tax incentives are used to compensate for the structural weaknesses in underdeveloped regions.[25]

Tax incentives are widespread in developing countries. According to the World Bank's Developing Country Tax Incentives Database, at least 107 countries offer tax incentives to stimulate investment (World Bank 2017). According to this database, tax holiday and preferential tax rate are the most common tax incentives. Tax holiday is given in the form of full or partial reduction of CIT for a certain period, while preferential tax rate is given in the form of reduced CIT rate for qualified investments (UNCTAD 2000). In addition to these incentives, investment allowance is also prevalent in developing countries. This type of incentive allows investors to subtract a certain percentage of new investments from income which are subject to CIT (UNCTAD 2000). This deduction is an addition to the general depreciation allowance, and thus may help investors to quickly recoup their investments.[26]

According to the nature of the incentives, tax incentives can be categorised into profit-based incentives and cost-based incentives (IMF et al. 2015). Profit-based incentives reduce the tax liability through reduction of tax rate or exemption of a firm's profit. Thus, tax holiday and preferential tax rate fall into this category, whereas cost-based incentives are targeted to lower the cost of capital by providing firms generous schemes to recover costs of investment compared with the general income tax regulations. The general consensus is that cost-based incentives are preferable to profit-based incentives (IMF et al. 2015; World Bank 2017).

As profit-based incentives are applicable when firms earn a profit, the value of the incentives relies on the profitability of the firms. Consequently, this incentive is favourable for firms with high profitability, but does not benefit firms that incur losses at the initial stages of development. Therefore, this type of incentive is often redundant because firms with expected high profitability most likely will make the investment even without any incentives (IMF et al. 2015; World Bank 2017). As a result, profit-based incentives are associated with potential loss of revenue from profitable investment projects (IMF et al. 2015). In contrast, cost-based incentives do not depend on the level

[25] Tax incentives for underdeveloped regions can also be justified as the government's effort to correct market failures as investment will be suboptimal if left to market forces (Zee, Stotsky & Ley 2002).
[26] Apart from these incentives, there are various other types of corporate income tax incentive, such as longer carry forward of losses, accelerated depreciation and R&D incentives, which are not discussed in this thesis.

of profitability but instead depend on the amount of the investment. Large investment will entitle to large tax deductions, thus it may encourage large size investment projects. For these reasons, international organisations generally advise developing countries to move from profit-based to cost-based tax incentives (OECD 2018; World Bank 2017).

In addition to the prevalence of tax incentives, Kusek and Silva (2017) reported the increasing trend of tax incentives. According to the World Bank (2017), during the period 2009–2015, 46% of countries in the tax incentives database implemented new incentives or increased the generosity of the existing schemes. This trend has raised concerns of the negative impacts of tax incentives, such as distortion of production efficiency and loss in tax revenue (IMF et al. 2015). By providing incentives for specific sectors or regions, tax incentives distort allocation of resources by promoting economic sectors that are not necessarily productive (Klemm 2010; Zee, Stotsky & Ley 2002). In terms of fiscal losses, the size of foregone revenue due to tax incentives varies across countries.[27] The World Bank technical assistance estimated that tax expenditure might reach 5.2% of GDP in Ghana and 3.9% of GDP in Dominican Republic (World Bank 2017). Meanwhile, in the Eastern Caribbean countries, Chai and Goyal (2008) estimated the fiscal losses to range from 9.5% to 16% of GDP per year. In the case of Eastern Caribbean countries, Chai and Goyal (2008) argued that despite the substantial fiscal losses, tax incentives only have marginal effect on investment.

In terms of effectiveness, economists tend to be sceptical about tax incentives efficacy in stimulating investment, particularly FDI. Various surveys to investors have revealed that tax incentives had very little impact on the location choice of investment (IMF et al. 2015; James 2013). Most respondents of these surveys stated that they would have made the investments even in the absence of incentives. Similarly, the World Bank's GIC Survey reported that investors generally do not consider tax incentives as the key factors in investment decisions (World Bank 2017). Other factors such as market size and political and macroeconomic stability are often cited as more important determinants. As a result, the efficacy of tax incentives in boosting investment is conditional upon other factors such as investment climate in general (Tuomi 2011).[28] Tax incentives may be effective in locations with attractive investment climate, but the presence of tax incentives will not be able to attract investment in countries with poor investment climate (James 2013).

[27] Foregone tax revenue due to tax incentives is often referred to as tax expenditure. Data on tax expenditure in the context of Southeast Asia are presented in Chapter 3 Section 3.5.
[28] Investment climate is defined as 'the institutional, policy, and regulatory environment in which firms operate' (Dollar, Hallward-Driemeier & Mengistae 2006, p. 1499).

According to James (2013), the effect of tax incentives in stimulating investment is eight times stronger in countries with good investment climate. Moreover, with the declining trend of CIT rate around the world, tax incentives have become less attractive as they generate less tax saving (Klemm & Van Parys 2012).[29] Therefore, tax incentives may not be of much importance for investors.

Another factor that may hinder the effectiveness of tax incentives is the investor's home country tax treatment of foreign income. Generally, a country can adopt a worldwide or territorial tax system. With the worldwide tax system, residents of a country are taxed on income they receive from within as well as outside the country of residency. To avoid double taxation, a credit will be given for taxes paid abroad. Meanwhile, under the territorial tax regime, a company is taxed only on the income or profit generated within the country. Thus, when a company receives income from abroad, it will be exempted from income tax. Nevertheless, no country adopts a pure worldwide or territorial tax system. Most countries operate somewhere in between with some part of the legislation reflecting both regimes. For example, most countries with a worldwide tax system do not tax profit from foreign subsidiaries until it is distributed as dividend payments. Likewise, countries with a territorial tax regime generally provide limitations on foreign income that is exempted from income tax. For example, most territorial countries exempt foreign dividends from income tax, but still impose taxes on other foreign income such as interest and royalty (Azémar & Dharmapala 2019).

Under the worldwide tax system, the benefit that a firm receives from tax incentives will be overruled by the home country's tax regulations. This is because the income tax that has been waived because of tax incentives will reduce the foreign tax credit and lead to a higher CIT in the home country (see Table 2.8 for illustration). Thus, even when the host countries grant tax incentives, MNEs still have to pay high CIT in their home countries. To avoid this problem, countries have incorporated tax sparing provisions in bilateral tax treaties. Under the tax sparing provisions, income tax that has been spared because of tax incentives is granted as foreign tax credit, thus reducing the amount of tax to be paid (Brooks 2009). Therefore, tax sparing provisions may help developing countries to ensure the effectiveness of tax incentives.

[29] For example, the tax saving generated by tax allowance is obtained by multiplying investment allowance with CIT rate. Therefore, when CIT rate is reduced, so is the value of tax allowance (Klemm & Van Parys 2012).

Table 2.8 Illustration of Tax Incentives under Worldwide and Territorial Tax Systems

Host Country	Without Tax Holiday		With Tax Holiday		
Profit of subsidiary	100		100		
CIT (25%)	25		0		
After-tax profit	75		100		
Dividend	75		100		
Withholding tax (10%)	7.5		0		
Home Country	Territorial	Worldwide	Territorial	Worldwide	
				No Tax Sparing	Tax Sparing
Dividend received	67.5	67.5	100	100	100
Grossed-up dividend	-	100	-	100	100
CIT (30%)	-	30	-	30	30
Foreign tax credit	-	32.5	-	0	32.5**
Net CIT	-	0*	-	30	0
Host country's tax	32.5	32.5	0	0	0
Home country's tax	0	0	0	30	0
Total tax paid	32.5	32.5	0	30	0
After-tax profit	67.5	67.5	100	70	100

* No CIT is paid in the home country when foreign tax credit exceeds the home country's CIT.

** When there is tax sparing provision, income tax that has been waived because of tax holiday is treated as foreign tax credit, even though no actual tax is paid.

Source: Adapted from the OECD (2001, p. 44).

Azémar, Desbordes and Mucchielli (2007) and Azémar and Dharmapala (2019) provide evidence that tax sparing agreements affect FDI positively. According to these studies, countries with tax sparing agreements receive more FDI compared with non-tax sparing countries. Moreover, Azémar and Dharmapala (2019) concluded that this relationship applies for both worldwide and territorial tax systems. In contrast, Brooks (2009) argued that tax sparing is ineffective in facilitating tax incentives to attract FDI. According to Brooks (2009), tax sparing has no effect in countries with territorial tax systems, whereas for countries with worldwide tax regimes, firms can avoid paying income tax by deferring dividend repatriation.[30] Therefore, the core of the problem lies in the efficacy of tax

[30] To avoid paying high CIT in the home countries, MNEs often delay dividend repatriation. This is also one of the motivations of countries to move from a worldwide to a territorial tax system (Matheson, Perry & Veung 2013; PwC 2013).

incentives in boosting investment in developing countries, not in the presence of tax sparing agreements.

Despite the widespread use of tax incentives, only limited studies have investigated their effectiveness in attracting FDI. Lack of reliable and broad datasets has been cited as one of the primary reasons Klemm (2010). Tax incentives information is typically obtainable from the tax laws, which vary across countries (Klemm & Van Parys 2012), and may not be available in English. Fortunately, more and more accounting firms such as PwC, EY and Deloitte have provided information on tax systems across countries, including tax incentives. Nevertheless, this information is scattered in various sources and is not standardised, making comparisons difficult (OECD 2018). Another challenge with study on tax incentives is related to the empirical approach. Governments generally implement tax incentives as a part of comprehensive economic reforms that are aimed at improving investment climate. Therefore, it is often challenging to determine the additional investments attributable to tax incentives and those due to other policies (UN & CIAT 2018). Because of these challenges, the efficacy of tax incentives in stimulating FDI remains an under-researched subject.

According to Zee, Stotsky and Ley (2002), the effectiveness of tax incentives can be assessed through their effect on effective tax rate (ETR). ETR is a measure of the effective tax burden, which is the difference between pre-tax and post-tax rate of return.[31] ETR combines STR with other provisions in the tax laws, such as depreciation and tax incentives, into a single measure (Klemm 2010). The greater the ability of the incentive to lower ETR, the more effective it should be in attracting investment. Following this approach, Abbas and Klemm (2013) computed the effect of tax incentives on ETR in developing countries, whereas Suzuki (2014) calculated the ETR for 12 Asian countries. These studies concluded that tax incentives have substantially lowered ETR in developing countries, particularly in African countries where ETR has fallen to almost zero. Thus, even though statutory CIT rate may be comparable across countries, developing countries appear to engage in tax competition by using tax incentives to lower ETR.

Most studies on tax incentives did not find any significant relationships or partially supported the proposition that tax incentives improve FDI (a summary of selected studies is presented in Table 2.9). Cleeve (2008), for example, investigated tax incentives in the context of Sub-Saharan countries and found that while tax holiday had significant positive

[31] Detailed discussion of effective tax rate is presented in Chapter 4 (Research Methodology).

effect on FDI, tax concession did not significantly affect FDI. On the contrary, Van Parys and James (2010) did not find tax holiday to have significant effect on FDI into West and Central African countries. However, for exporters, tax holiday did have significant positive effect on FDI, albeit a weak effect ($p < .1$).[32] Notwithstanding the magnitude of the effect, this finding is in line with the World Bank's GIC Survey, which reported that tax holiday is more important for export-oriented efficiency seeking FDI compared with other types of FDI (World Bank 2017). This is because export-oriented firms generally operate in very competitive markets with low margins. Thus, cost consideration is very important for this type of FDI (Wells et al. 2001). In addition, Van Parys and James (2010) found that the tax incentives complexity, which is proxied by the number of tax incentives schemes, negatively affects FDI. They concluded that reducing the complexity of tax incentives regime will help to improve FDI.

Another study that investigated the effect of tax incentives on FDI was conducted by Klemm and Van Parys (2012). They examined the effects of tax holiday and investment allowance in the context of Latin America, the Caribbean and African countries. Pooling 40 countries in three different regions, they found CIT rate to have significant negative effect on FDI. Regarding tax incentives, they found positive effect of tax holiday on FDI but no significant effect of investment allowance.[33] However, these results differ substantially when incorporating the region of the countries under study. For example, when focusing on Africa, this study found CIT rate and tax incentives did not significantly affect FDI, whereas the results for Latin America and the Caribbean showed that FDI was more responsive to CIT rate and tax holiday compared with previous estimations using the whole sample. However, when the Caribbean was excluded from the sample, only CIT rate remained significant, whereas tax holiday did not show significant effect on FDI. This study implied that the effect of tax incentives on FDI may be affected by the characteristics of the region. While lower CIT rate and longer tax holiday may be effective in attracting FDI in Latin America and the Caribbean, they do not seem to have significant effects in African countries.

[32] The significant effect of tax holiday for exporters did not appear in the robustness check, and the economic significance was relatively low.
[33] Investment allowance did not show significant effect on FDI in all estimations, even when the authors experimented with combinations of different regions.

Table 2.9 Summary of Selected Studies on the Effect of Tax Incentives on FDI

Authors and Year	Sample	Dependent Variable	Explanatory Variables (Tax)	Control Variables	Analytical Approach	Key Findings
Banga (2006)	15 Asian countries From 1980 to 2000	FDI	Incentives index	Economic fundamental Tariff policies Restrictions on FDI Bilateral and regional investment agreements	Random Effect Model (REM)	Incentives index ranging from 0 to 2 depending on the availability of incentives such as tax holiday, tax concession, and restriction on repatriation of profits and dividends Fiscal incentives did not have significant effect on FDI
Cleeve (2008)	16 countries in Sub-Saharan Africa (SSA) From 1990 to 2000	FDI	Tax holiday Tax concession	GDP per capita GDP growth Openness Political stability Human capital Infrastructure Exchange rate Corruption Repatriation of profits restriction	Fixed Effect Model (FEM) and Random Effect Model (REM)	Tax holiday had significant effect on FDI (only on REM, but not FEM) Tax concession did not have significant effect on FDI (Tax concession was significant in FEM but with negative sign, thus counterintuitive)

Authors and Year	Sample	Dependent Variable	Explanatory Variables (Tax)	Control Variables	Analytical Approach	Key Findings
Van Parys and James (2010)	12 countries in West and Central Africa From 1994 to 2006	FDI Total private investment	Tax holiday Tax holiday for exporters Number of tax incentives Number of legal guarantees	STR GDP GDP per capita GDP growth Inflation Terms of trade Govt expenditure Openness Population	Least square dummy variables	Tax holiday did not have significant effect on FDI Tax holiday for exporters had positive effect on FDI ($p < .1$) Decreasing the complexity of tax incentives (proxied by the number of tax incentives regimes) was important for FDI The number of legal guarantees had positive effect on FDI
Klemm and Van Parys (2012)	40 countries in Latin America, Caribbean and Africa From 1985 to 2004	FDI Total private investment	STR Tax holiday Investment allowance	Inflation Govt expenditure GDP Population Openness Law & order Corruption	GMM Within-groups estimator	Lower CIT rate and longer tax holiday were effective in attracting FDI in Latin America and the Caribbean but not in Africa Investment allowance did not have significant effect on FDI (counterintuitive result and insignificant in 3 of 4 model specifications)

Authors and Year	Sample	Dependent Variable	Explanatory Variables (Tax)	Control Variables	Analytical Approach	Key Findings
Abbas and Klemm (2013)	50 developing countries (worldwide) From 1996 to 2007	FDI Total private investment	EMTR EATR	Inflation Openness GDP GDP growth	GMM Within-groups estimator	EATR was extremely low under tax incentives EMTR had no impact on total investment and FDI EATR showed significant negative impact on total investment and FDI EATR under tax incentives did not have significant effect on investment
Fowowe (2013)	Nigeria From 1973 to 2006	FDI Total private investment	Incentives index	Inflation GDP per capita Political index	Time-series regression	Incentives index ranging from 0 to 4 depending on the availability of incentives There was negative relationship between fiscal incentives and FDI in Nigeria; rather than attracting FDI, fiscal incentives had detrimental effect on FDI
Fahmi (2012)	Indonesia From 1981 to 2010	FDI	STR Tax holiday	GDP growth Gross fixed capital formation Inflation Openness	Time-series regression	STR had negative effect on FDI Tax holiday did not have significant effect on FDI

Unlike previous studies that tested tax holiday or investment allowance as explanatory variables, Abbas and Klemm (2013) assessed the effectiveness of tax incentives through their effects on ETRs. This study can be considered the most complete in terms of the sample because it covers 50 developing economies in Asia, Africa, Latin America and Europe. First, the authors tested the effect of EATR and effective marginal tax rate (EMTR) on FDI and found that only EATR had significant negative effect on FDI.[34] This result is in line with Devereux and Griffith (1998), who argued that EATR is the appropriate measure of the tax burden in FDI location choice. Second, the authors computed EATR in the presence of tax incentives and found that tax incentives substantially lower EATR. However, EATR under tax incentives did not show significant effect on FDI. Thus, it can be concluded that tax incentives may not be of much importance for investors when deciding where to invest.

In the context of Southeast Asia, very limited studies have investigated the effectiveness of tax incentives in stimulating FDI into this region. However, a few studies have assessed the comparability of tax incentives in the region by examining their effect on ETR. Botman, Klemm and Baqir (2010) and Parel (2017) found that tax holiday substantially lowers the ETR, particularly when the investments use debt financing.[35] Among the ASEAN countries, Brunei Darussalam and Singapore had the lowest EATR and EMTR, which were nearly zero, whereas the Philippines had the highest ETR, which was about 10% to 12% depending on the assets (building or plant and machinery). Similarly, Muthitacharoen (2016) found that tax holiday considerably lowers ETR in Southeast Asia. Slightly different from the previous studies, this study investigated the effect of tax holiday on ETR in different sectors, thus reflecting targeted industries in each country. It can be seen from Table 2.10 that regardless of the sector, tax holiday significantly reduced ETR. Even though these studies showed that tax holiday successfully lowers ETR, they did not provide evidence on the effect of tax holiday on FDI. Therefore, it is unclear whether tax incentives are capable of stimulating investment.

[34] EATR had significant negative effects on FDI when using within-group estimator regression but not in GMM estimation.

[35] These studies calculated ETR on the basis of type of assets (building and machinery), type of financing (equity and debt) and level of profitability (20% and 50%). The results are presented in graphs; no absolute numbers are provided.

Table 2.10 Effective Tax Rates in Selected ASEAN Countries (2016)

Corporate Income Tax Rate	Indonesia	Malaysia	Thailand	Vietnam
Statutory tax rate (STR)	25	24	20	20
EATR (standard)	23.6	22.5	18.2	19.2
EATR (tax holiday) – Auto	6.2	4.0	5.6	5.8
EATR (tax holiday) – Biotech	6.4	1.1	5.6	6.0
EATR (tax holiday) – Electronic	6.5	4.9	6.1	5.6

Source: Muthitacharoen (2016).

Regarding the effectiveness of tax incentives, very few studies have provided empirical evidence on their effectiveness in stimulating FDI into Southeast Asia. Moreover, most of these studies are in the context of individual countries.[36] For example, Anh, Thái and Thang (2007) examined the effect of tax incentives on investment in the context of Vietnam. They reported that to attract FDI, many provinces in Vietnam had granted tax incentives beyond which were stipulated by the central government, a phenomenon known as 'fence-breaking'. Even so, because most of the fence-breakers are less developed provinces, even offering extra incentives did not significantly affect FDI into these provinces. Similarly, Canh et al. (2013) did not find a significant effect of tax incentives on domestic investment in Vietnam. Further, this study asserted that the presence of incentives may lead to substantial fiscal losses due to high redundancy rate.[37]

Similar to Canh et al. (2013), Reside (2006) found high redundancy rate in the context of the Philippines. This study estimated foregone tax revenue due to tax holiday at about 1% of GDP in 2004. Notwithstanding this result, on the basis of interviews and surveys of investors, Aldaba (2012) reported that investment incentives and tax rate were the most important factors in investment decisions in the Philippines. This study implied that tax incentives were effective in influencing investment decisions. On the contrary, surveys and interviews of investors in the Thailand's software industry revealed overall investment climate such as human resources and infrastructure to be more important than investment incentives (Larsson & Venkatesh 2010). In the context of Indonesia, Fahmi (2012) examined the effect of tax holiday in promoting FDI. Using time-series data from

[36] Several early studies on the effects of tax incentives on FDI can be found in Shah (1995).
[37] Redundancy rate is the ratio of investors who receive tax holiday who would have made the investment even without the presence of such incentives (Wells et al. 2001).

1980 to 2010, this study concluded that tax holiday did not significantly affect FDI into Indonesia.

From the review of the literature, it can be inferred that the proposition that tax incentives may stimulate FDI appears to be dubious. The majority of the studies concluded that tax incentives did not significantly affect investment, with only a few studies showing the opposite results. Nevertheless, these findings do not seem to discourage governments in utilising tax incentives to attract FDI. In Southeast Asia, the proliferation of tax incentives might have been triggered by the lack of research on the efficacy of tax incentives in this region. As most of the extant studies are in the context of a single country in Southeast Asia, they may have limited power in explaining the relationship between tax incentives and FDI. Moreover, the limited sample may affect the results of regression analysis. Because tax incentives provisions rarely change, it is possible that regression may not detect any significant impact of tax incentives on FDI. In this case, panel data regression may be more beneficial as it includes variation within and across countries. Considering the limitations of previous studies, more studies are needed to provide empirical evidence on the role of tax incentives in improving FDI in Southeast Asia.

2.5 Research Gap

The review of existing studies reveals that the effects of tax policy on FDI are a subject that has gained considerable attention. Various studies have tried to investigate the effects of tax policy on FDI, particularly as a part of the determinants of FDI. Among these studies, those that focus on tax policy as the key variable of interest generally are aimed to assess the magnitude of the impact of CIT on FDI, which is known as tax elasticity. Of this stream of research, only a small part has examined the asymmetric effect of tax on FDI, such as the effect of CIT on horizontal and vertical FDI (Herger, Kotsogiannis & McCorriston 2016), different types of business sector (Lawless et al. 2018) and MNEs' opportunity for tax avoidance (Egger, Merlo & Wamser 2014; Wamser 2011). Among these studies, this thesis is closely related to the last one, the asymmetric effect of CIT on FDI in the presence of tax planning or tax avoidance. Therefore, the present study contributes to the body of knowledge by adding to the limited number of studies on this subject.

From the extant studies that have incorporated tax avoidance when assessing the effect of CIT on FDI, the following research gaps can be identified. First, most of these studies

only examine FDI from one home country such as Germany (Egger, Merlo & Wamser 2014; Wamser 2011) or Japan (Azémar & Corcos 2009). Hence, they may not reflect the overall effect of CIT on FDI in a particular country. An exception is Haberly and Wójcik (2015), who employed worldwide bilateral FDI data in their study. Second, most of the aforementioned studies have only limited control variables. For example, Haberly and Wójcik (2015) did not include key determinants of FDI, such as infrastructure and macroeconomic stability. Consequently, this may affect the resultant tax elasticity because many factors may mitigate the effect of tax on FDI (De Mooij & Ederveen 2005; Hajkova et al. 2007).

Having identified the shortcomings from previous studies, the present research fills the gaps in the following ways. Rather than focusing on certain home countries, this study employs aggregate country-level data to capture the overall effect of CIT on FDI. This approach is also in line with the objective of the study to provide policy recommendations that may attract FDI into Southeast Asia. In addition, the present study emphasises the importance of determinants of FDI as the control variables as they may affect the tax elasticity of FDI. Therefore, this study takes the general to specific approach by first identifying the key determinants of FDI into Southeast Asia to be included as the control variables.

Similar to the scarcity of studies on the asymmetric effect of CIT on FDI, only a limited number of studies have examined the effect of tax incentives on FDI. In the context of Southeast Asia, all of the extant studies are in the context of a single country (Aldaba 2012; Anh, Thái & Thang 2007; Larsson & Venkatesh 2010), and the majority found that tax incentives did not have significant effects on FDI. Nevertheless, these findings may be driven by the lack of variation in the dataset because the studies are in the context of individual countries and tax incentive regulations are rarely changed. Thus, the regressions may fail to detect a significant relationship. Conversely, a few other studies such as Botman, Klemm and Baqir (2010) and Muthitacharoen (2016) have assessed the impact of tax incentives on ETR. The results show that tax incentives have substantially lowered ETR in Southeast Asia. Nonetheless, the results of these studies did not provide evidence of the effect of tax incentives on FDI.

Among the studies that investigate the effect of tax incentives on FDI, the study by Abbas and Klemm (2013) has the dataset with the widest coverage. However, the shortcoming of this study is that it assessed the effect of tax incentives on FDI through their effect on

ETR. While this may be theoretically correct, it may not reflect the actual condition as tax incentives are generally granted to a small number of firms that satisfy certain requirements. For this reason, this study employs tax holiday and investment allowance as the independent variables rather than assessing their effect through ETR. This approach is similar to Klemm and Van Parys (2012) in the context of Latin America, the Caribbean and Africa. However, unlike their study, which employed maximum tax holiday and investment allowance as the measurement of tax incentives, this study uses average tax holiday and investment allowance as the proxy because maximum tax incentives are only given to a few firms with high qualifications. Further, unlike previous studies that only cover a single country in Southeast Asia, this study employs panel data of six countries for the period 1996–2017. As stated by Baltagi (2008a), one of the advantages of using panel data is that it enables the researcher to better measure or identify the effects of a variable, which may not be detected when using time-series or cross-section data.

2.6 Summary

Considering the importance of FDI, numerous studies have investigated various factors that may affect location choice of FDI. In the context of Southeast Asia, extant studies vary in terms of the focus of the study, thus resulting in numerous variables that have been proposed as the determinants of FDI. Further, these studies often result in contradictory findings, thus making it difficult to draw a general conclusion on what can be considered the most important determinants of FDI.

Among the various policies that governments have used to promote FDI, tax policy is one of the most popular instruments. To attract FDI, lowering CIT rate and offering generous tax incentives are frequently used by developing countries. Nevertheless, the efficacy of these strategies in increasing FDI remains debatable as other determinants such as economic fundamentals and institutional quality are often more important than tax policy. Moreover, MNEs may be able to reduce the global tax liability by engaging in tax planning, which may alter the effect of tax policy on FDI.

Similar to other regions in the world, Southeast Asian countries have utilised tax policy to attract FDI. Nevertheless, only very few studies have incorporated CIT rate as one of the determinants of FDI, with mixed findings, indicating that further research is needed to analyse the effect of CIT on FDI. Further, extant studies in the context of Southeast Asia have not explored the role of tax planning on FDI location choice, particularly

whether tax planning mitigates the effect of CIT on FDI. In addition, the effect of tax incentives on FDI is another area that is under-researched because most of the extant studies are in the context of individual countries in Southeast Asia. It is the objective of this study to fill these gaps by providing more comprehensive analysis on the effect of tax policy on FDI.

CHAPTER 3
OVERVIEW OF FOREIGN DIRECT INVESTMENT AND TAX POLICY IN SOUTHEAST ASIA

3.1 Introduction

The previous chapter has provided a review of the extant literature on the determinants of FDI which includes the discussion on the theories of FDI and a review of extant studies on the determinants of FDI, with special reference on the effect of tax policy on FDI. On the basis of the survey of the literature presented in Chapter 2, there are several areas in FDI studies that need further exploration. In particular, the effects of tax policy on FDI have not been fully investigated in the context of Southeast Asia. This chapter will further discuss Southeast Asia as a region which will help to understand the context of this study.

In this chapter, the rationale for Southeast Asia as the context of the study is provided, followed by an overview of Southeast Asia as a region, which outlines the variability in Southeast Asian countries. The following sections discuss the trend of FDI in Southeast Asia and an overview of tax policy adopted by Southeast Asian countries. Throughout the discussion, the role of ASEAN as the regional cooperation organisation is emphasised.

3.2 Rationale for Southeast Asia as the Context of the Study

At the heart of international business studies is the debate between the globalisation and the regionalisation view of MNEs' internationalisation strategy. According to the globalisation point of view, MNEs' business activity is increasingly globalised (Bende-Nabende 2018; Clark & Knowles 2003) because of factors such as advances in transportation, information and communication technologies (Friedman 2006). On the contrary, regionalists argue that only a few MNEs have successfully penetrated the global markets, while the majority are concentrated within certain regions. Rugman and Verbeke (2004, 2008) reached this conclusion from evidence that the sales of 500 top worldwide MNEs were dominant in specific regional markets, particularly in Europe, North America and Asia. This regionalist perspective is in line with the semi-globalisation view proposed by Ghemawat (2003), who acknowledged that MNEs' business activity has gone beyond national boundaries but has not yet reached complete global integration.

Even though statistical data tend to support the argument for regionalisation, Dunning, Fujita and Yakova (2007) argued that it does not imply that MNE decision-makers are intentionally choosing a regional instead of global strategy. Rather, it shows the comparative advantages of certain regions compared with others. Using macro data of FDI, Dunning, Fujita and Yakova (2007) also found that the geography of FDI is concentrated in certain regions. This finding indicates that some regions are more attractive than others because of comparative advantages such as the size of the markets and natural resources endowment. Regardless of whether MNEs follow a regional or global strategy, statistical and empirical evidence tend to support the importance of regions in MNEs' business activity (Arregle, Beamish & Hebert 2009; Arregle et al. 2013).

Despite the importance of regions in MNEs' internationalisation strategy, there are no agreed criteria of the term regions in FDI studies. As a result, there has been wide variability in supranational groupings in FDI studies, such as based on geographic, economic or sociocultural perspectives (Aguilera, Flores & Vaaler 2007). Noting this shortcoming, Flores et al. (2013) examined various regional groupings that have been used in FDI studies to identify their fitness in model building. They identified three major schemes of supranational grouping based on geography, culture, and trade and investment. Each of these schemes is based on an underlying source of similarity, which makes the groups suitable for empirical studies. Using a simulated annealing optimisation logarithm, Flores et al. (2013) examined their fitness in international business research and proposed the preferred schemes that perform better in each class. The rationale and preferred grouping schemes as recommended by Flores et al. (2013) are summarised in Table 3.1.

The aforementioned study provides justification for Southeast Asia as the context of the study because the classification of countries into this region is in accordance with the preferred schemes proposed by Flores et al. (2013). Moreover, Southeast Asia fits into all three categories of supranational grouping, which implies that the structural coherence of countries within this region is not merely due to geographical proximity, but also encompasses other areas such as economic and sociocultural perspectives. Most notably, Southeast Asia as a region is characterised by high economic integration and various levels of economic cooperation among its members, which make it an appropriate sample for FDI studies. Further, as elaborated in the following sections, Southeast Asian countries have actively utilised tax policy to attract FDI, particularly by reducing CIT rate

and offering tax incentives. The following sections provide an overview of Southeast Asia as a region, particularly relating to FDI and tax policy in Southeast Asian countries.

Table 3.1 Regional Grouping Schemes

Grouping Schemes	Rationale	Preferred Schemes
Geography	Shared geographic borders among countries often imply other similarities (e.g., trade flows, bilateral and multilateral agreements)	United Nations (2013), 19-group scheme, including Southeast Asia
Culture	Similarity in personal attitudes and beliefs	Ronen and Shenkar (1985), 10-group scheme, including Far Eastern[38]
Trade and investment	Economic similarity among members FDI often follows trade and bilateral/multilateral agreement	Donnenfeld (2003), 8-group scheme, including ASEAN

Source: Flores et al. (2013).

3.3 Overview of Southeast Asia

According to the United Nations classification of geographic regions, Southeast Asia consists of 11 countries: Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste and Vietnam.[39] These 11 countries are diverse in various aspects such as the size of the country, economic performance and quality of institutions. As can be seen from Table 3.2, in 2019 per capita income in this region ranged from US$1,294 in Timor-Leste to US$65,233 in Singapore. Thus, this region hosts one of the poorest as well as one of the richest nations in the world. Similarly, there is diversity in terms of human development and business environment as indicated by Human Development Index (HDI) and Ease of Doing Business ranks. Nevertheless, despite the variability in the level of development, most Southeast Asian countries have shown a positive trend in economic performance. Because of the limitation of the data on Timor-Leste, the discussion of Southeast Asian countries focuses on ASEAN members.

[38] Far Eastern consists of Hong Kong, Indonesia, Malaysia, Philippines and Singapore.
[39] Timor-Leste was part of Indonesia until 2002 when the country gained independence.

Table 3.2 Diversity of Southeast Asian Countries

Country	Income Group	Surface Area (sq. km)	Population (2019)	Real GDP (Mn USD)		Per Capita GDP (USD)		GDP Growth* (%)	HDI Rank (2018)	Ease of Doing Business Rank (2019)
				2010	2019	2010	2019			
Brunei Darussalam	High income	5,770	433,285	13,707.37	14,006.98	35,270	31,087	0.50	43	66
Cambodia	Lower middle income	181,040	16,486,542	11,242.28	20,920.95	786	1,643	7.03	146	144
Indonesia	Lower middle income	1,910,931	270,625,568	755,094.16	1,204,479.85	3,122	4,136	5.42	111	73
Lao PDR	Lower middle income	236,800	7,169,455	7,127.79	13,195.41	1,141	2,535	7.23	140	154
Malaysia	Upper middle income	330,800	31,949,777	255,016.61	398,676.10	9,041	11,415	5.32	61	12
Myanmar	Lower middle income	676,590	54,045,420	49,540.81	86,931.31	979	1,408	6.78	145	165
Philippines	Lower middle income	300,000	108,116,615	208,368.89	360,858.88	2,217	3,485	6.40	106	95
Singapore	High income	719	5,703,569	239,809.39	335,538.88	47,237	65,233	4.88	9	2
Thailand	Upper middle income	513,120	69,625,582	341,104.82	452,750.62	5,076	7,808	3.64	77	21
Timor-Leste	Lower middle income	14,870	1,293,119	881.83	1,111.47	806	1,294	3.33	131	181
Vietnam	Lower middle income	330,967	96,462,106	115,931.75	200,857.61	1,318	2,715	6.31	118	70

Notes: GDP growth is the average of annual growth for the period 2010–2019.
Source: World Development Indicators 2020 (World Bank 2020).

Apart from Timor-Leste, all of the other countries are members of ASEAN. Established in 1967, ASEAN's goals are to promote economic, social and cultural development in Southeast Asia. As a regional organisation, ASEAN can be considered successful in fostering development and regional cooperation among its members. By respecting each country's sovereignty and adopting a non-interference approach, ASEAN has been able to maintain regional peace and stability in Southeast Asia (Kivimäki 2014; Nesadurai 2008). Further, ASEAN through various economic initiatives is also successful in facilitating FDI and trade, which ultimately contribute to the prosperity of its members (Stubbs & Mitrea 2017). Considering the benefits of being a member of ASEAN, Timor-Leste has also applied to be ASEAN member since 2011. However, there is still no progress of admittance into ASEAN since several ASEAN members are concerned that Timor-Leste's lack of capacity building may hinder ASEAN's goal to establish ASEAN Community (Seixas, Mendes & Lobner 2019).

Even though ASEAN was initially established for political reasons, over time economic cooperation has become the centre stage of the organisation. To promote economic development in Southeast Asia, various economic initiatives have been implemented by ASEAN. One of the major economic initiatives that marked the beginning of Southeast Asia economic integration was the implementation of the ASEAN Free Trade Area (AFTA) in 1993. The AFTA was launched as a policy response to the enactment of the North American Free Trade Agreement (NAFTA) and a single European market, which potentially could divert FDI from ASEAN countries (Means 1995). It was expected that the AFTA could promote FDI into Southeast Asia by the creation of an integrated market

(Nesadurai 2008). The primary tool to achieve this objective was through the implementation of Common Effective Preferential Tariff (CEPT), which required ASEAN members to gradually reduce tariff rates on goods originating within ASEAN to a range of 0–5%. As a result, tariff rates in Southeast Asia have been considerably reduced, which consequently stimulates trade, not only among ASEAN members but also with partners outside Southeast Asia (Okabe & Urata 2014; Tang 2005).

Following the implementation of the AFTA, ASEAN broadened the economic cooperation to other areas such as trade in services and investment. In 1995, ASEAN launched the ASEAN Framework Agreement on Services to liberalise trade in services among ASEAN members. Three years later, ASEAN members signed the ASEAN Investment Area (AIA) agreement, which aimed to create a competitive and liberal investment environment. The AIA required ASEAN members to remove investment barriers and grant preferential treatments to investors from ASEAN. In 2003, ASEAN leaders agreed to further integrate ASEAN economies by creating the ASEAN Economic Community (AEC). The AEC aims to transform Southeast Asia into a highly competitive region with free flows of goods and services, and skilled labour, as well as free flows of investment (ASEAN Secretariat 2008). Among all the economic initiatives by ASEAN, the AEC may be considered the most ambitious project, requiring stronger economic integration among its members (Hew 2007).

To transform Southeast Asia into a fully integrated economic space, there are four regional features that the AEC strives to achieve, representing the four pillars of the AEC: (1) a single market and production base, (2) a highly competitive economic region, (3) a region of equitable economic development and (4) a region fully integrated into the global economy (ASEAN Secretariat 2008). The AEC Blueprint provides the details of the core elements of each pillar, as well as the actions and timeline that each member state needs to accomplish to ensure the deliverability of the project. The AEC was officially launched at the end of 2015 and is still in progress in achieving its milestones. While there have been notable accomplishments, challenges remain, particularly in ASEAN's efforts to integrate the market and production base. Even though ASEAN has been successful in reducing tariff rates, non-tariff barriers such as red tape in customs administration persist and impede Southeast Asia from becoming a highly competitive region (Menon & Melendez 2017).

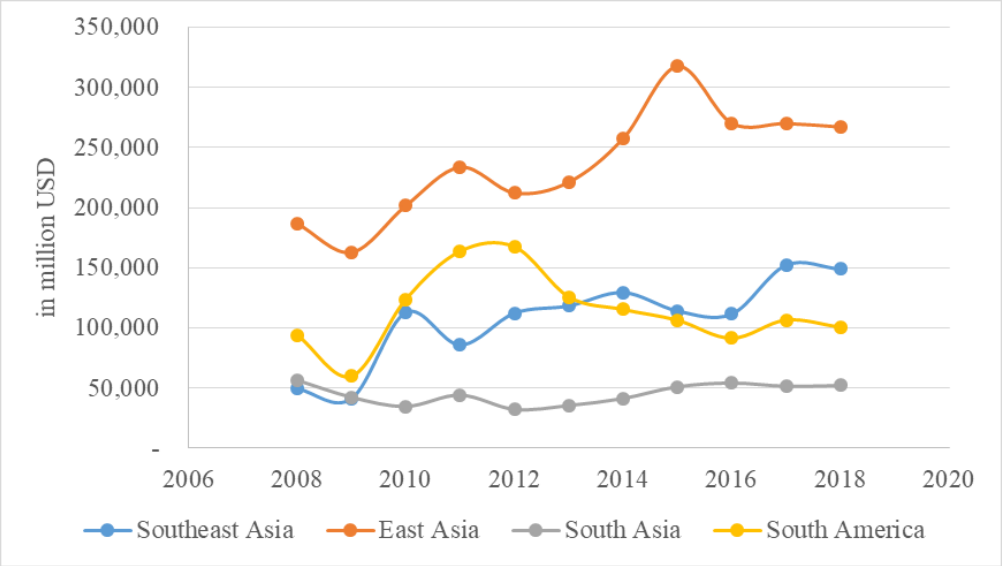
Apart from fostering economic integration, ASEAN engaged in several multilateral economic agreements to further enhance its members' global networking. Two examples of these agreements are the Asia-Pacific Economic Cooperation (APEC), which consists of 21 developed and developing economies in Asia-Pacific, and the Regional Comprehensive Economic Partnership (RCEP), which currently is still under negotiations. If implemented, the RCEP will consist of ASEAN and its six major trading partners: Japan, Korea, China, India, Australia and New Zealand. In addition, each Southeast Asian country actively seeks trade agreements with its major trading partners. Among ASEAN members, Singapore has the highest number of Free Trade Agreements (FTAs) with 36 FTAs, followed by Malaysia and Thailand, each with 23 FTAs (Asian Development Bank [ADB] 2018).

In sum, faced with the tough competition for FDI, ASEAN has implemented various measures to promote Southeast Asia as a highly competitive region. Even though ASEAN can be considered successful in promoting Southeast Asia as an attractive region, the final outcome of whether or not FDI flows into this region still depends on the comparative advantages of each Southeast Asian country. Considering that there is wide variability in terms of economic and institutional quality, Southeast Asian countries have to compete for FDI not only with the other ASEAN members but also with other developing countries. For Timor-Leste, being the only Southeast Asian country which is not a member of ASEAN, attracting FDI is even more challenging without the various economic cooperation provided by ASEAN.

3.4 Trends and Patterns of FDI in Southeast Asia

Acknowledging the importance of FDI for its members, ASEAN has implemented various economic initiatives to transform Southeast Asia into a highly competitive region. As a result, Southeast Asia has shown a positive trend in FDI inflows and has steadily emerged as the second largest FDI recipient among developing economies (Figure 3.1). Nevertheless, the amount of FDI into Southeast Asia is still substantially below that of East Asia and only slightly better than that of South America. Therefore, it is important for Southeast Asia to improve its competitiveness to attract more FDI.

Figure 3.1 Top Recipients of FDI in Developing Economies from 2008 to 2018



Source: World Investment Report 2020 (UNCTAD 2020)

Even though Southeast Asia generally has shown a positive trend in FDI inflows, FDI performance of each country varies considerably (Table 3.3). While Cambodia, Myanmar, Philippines, Singapore and Vietnam generally show an increasing trend, other countries' FDI inflows fluctuate greatly. Moreover, there is a wide gap in FDI inflow between larger economies such as Indonesia, Malaysia, and Thailand, and smaller countries such as Brunei Darussalam, Lao PDR, and Timor-Leste. This disparity is even more contrast when comparing ASEAN members to Timor-Leste which is clearly lagged behind in terms of FDI performance. Apparently, some of the variability in FDI performance may be attributed to the diversity in Southeast Asian countries, as presented in the previous section. Nevertheless, closer examination is needed to discover the key factors that cause the variability in FDI performance.

Table 3.3 FDI in ASEAN by Host Country from 2008 to 2018

(in Million US$)

Country/Region	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Brunei Darussalam	322.59	370.08	480.72	691.17	864.91	775.64	567.89	173.24	-149.64	460.08	382.02
Cambodia	876.88	984.71	1,404.32	1,538.88	2,003.85	2,068.47	1,853.47	1,822.80	2,475.92	2,785.73	3,207.59
Indonesia	9,318.45	4,877.87	13,770.58	19,241.25	19,137.87	18,816.66	21,810.52	16,641.45	3,921.23	20,579.23	20,563.47
Lao PDR	227.70	189.50	278.80	300.75	617.76	681.40	867.65	1,077.76	935.30	1,686.28	1,319.61
Malaysia	7,172.13	1,452.97	9,059.98	12,197.71	9,238.86	12,115.55	10,877.34	10,082.45	11,335.97	9,398.81	7,618.34
Myanmar	603.42	27.15	6,669.40	1,117.69	496.88	584.30	946.22	2,824.00	2,989.00	4,341.00	3,554.05
Philippines	1,544.03	1,990.34	1,298.47	2,043.47	2,449.31	2,279.90	5,284.81	4,446.58	6,915.15	8,703.55	6,602.46
Singapore	11,810.14	18,531.88	57,460.08	39,890.36	60,102.99	56,671.62	73,286.61	59,700.11	68,817.92	83,603.95	79,738.37
Thailand	8,054.35	5,361.81	14,554.95	1,370.36	9,135.22	15,493.03	4,809.07	5,623.78	1,815.28	6,661.24	10,399.04
Timor-Leste	39.70	49.93	28.52	47.08	38.53	49.62	49.34	42.99	5.48	6.72	47.93
Vietnam	9,579.00	7,600.00	8,000.00	7,519.00	8,368.00	8,900.00	9,200.00	11,800.00	12,600.00	14,100.00	15,500.00
Total FDI	49,548.40	41,436.24	113,005.82	85,957.72	112,454.17	118,436.18	129,552.92	114,235.17	111,661.60	152,326.58	148,932.86

Source: World Investment Report 2020 (UNCTAD 2020).

Overall, the major recipients of FDI in Southeast Asia are Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam. These six countries account for more than 90% of FDI into Southeast Asia. Among these countries, Singapore dominates the share of FDI, with more than 50% of total FDI into Southeast Asia in 2018. While this might reflect the uneven distribution of FDI in Southeast Asia, the overall distribution is still better than in East Asia, where China and Hong Kong account for about 90% of FDI into this region, or in South Asia, where India accounts for more than 80% of FDI into this region (UNCTAD 2020). Moreover, it should be noted that Singapore is one of the well-known OFCs in the world (Zoromé 2007).[40] Therefore, it is not surprising that it receives a large amount of FDI, considering that OFCs are often used as investment hubs (Low, Ramstetter & Yeung 1998; Palan, Murphy & Chavagneux 2013a).

Among the source countries of FDI, the US, Japan and the EU are the primary investors in Southeast Asia (Table 3.4).[41] In 2018, 28 countries in the EU contributed 14.15% of FDI into Southeast Asia, followed by Japan (13.72%) and China (6.51%). From Figure 3.2, it can be seen that FDI inflows from each source country fluctuate markedly, particularly for FDI from EU-28. Compared to the previous years, FDI from US declined sharply in 2018 due to large repatriation of US MNEs as the result of the implementation of Tax Cuts and Job Acts 2017 (UNCTAD 2019). In addition to these countries, intra-ASEAN FDI accounted for 15.18% of total FDI into Southeast Asia, with more than 60%

[40] In addition, Singapore appeared in 9 of 11 lists of tax haven countries cited in (Palan, Murphy & Chavagneux 2013b).
[41] The data of FDI based on source country only include ASEAN members due to unavailability data for Timor-Leste.

coming from Singapore (ASEAN Secretariat 2019). These data reinforce the role of Singapore as one of the investment hubs of the world.

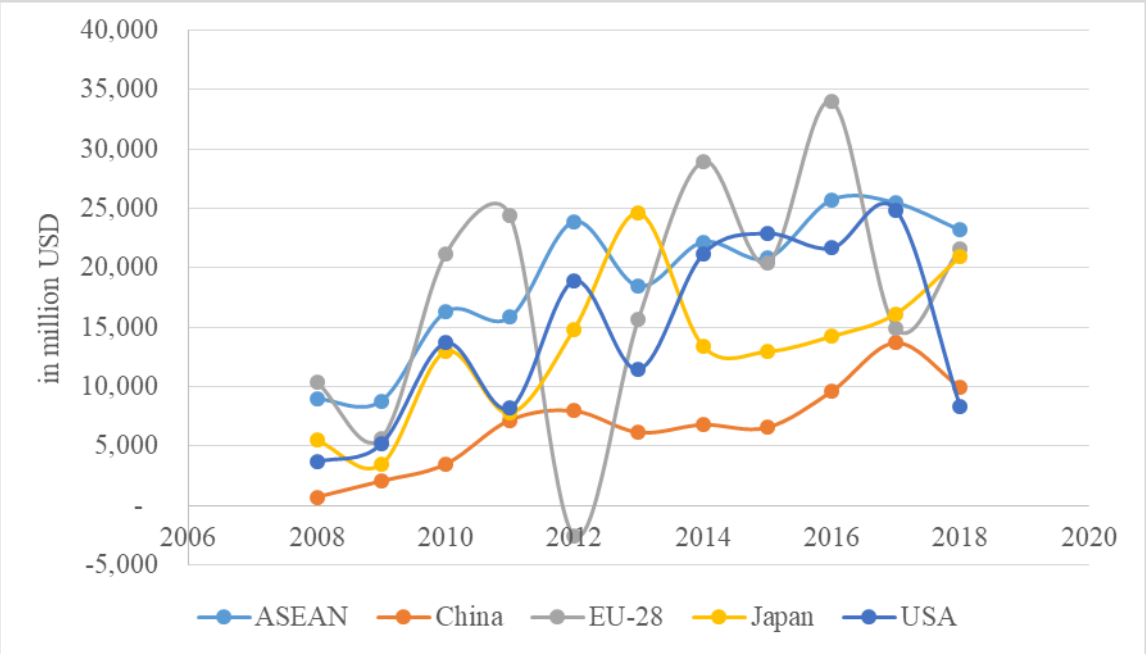
Table 3.4 FDI in ASEAN by Source Country from 2008 to 2018

(in Million US$)

Source Country	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ASEAN	8,988	8,808	16,306	15,837	23,901	18,464	22,181	20,819	25,729	25,474	23,188
Australia	1,017	125	3,959	4,847	741	2,165	4,032	1,407	2,218	1,313	1,216
China	733	2,069	3,489	7,194	7,975	6,165	6,812	6,572	9,610	13,701	9,940
EU-28	10,409	5,660	21,145	24,419	- 2,537	15,718	28,943	20,373	34,015	14,916	21,614
India	1,442	283	3,801	- 2,106	7,041	1,731	1,164	1,473	- 198	- 108	1,516
Japan	5,512	3,451	12,987	7,798	14,853	24,609	13,436	12,962	14,242	16,149	20,955
Republic of Korea	1,397	1,804	4,319	1,774	1,279	4,303	5,257	5,609	7,088	4,535	- 223
USA	3,685	5,181	13,682	8,197	18,911	11,458	21,141	22,912	21,663	24,891	8,341
Others	15,831	15,985	28,486	19,602	44,611	36,352	27,148	26,539	4,593	46,214	66,210

Source: ASEAN Statistical Yearbook 2019 (ASEAN Secretariat 2019).

Figure 3.2 Trend of FDI in ASEAN by Source Country from 2008 to 2018

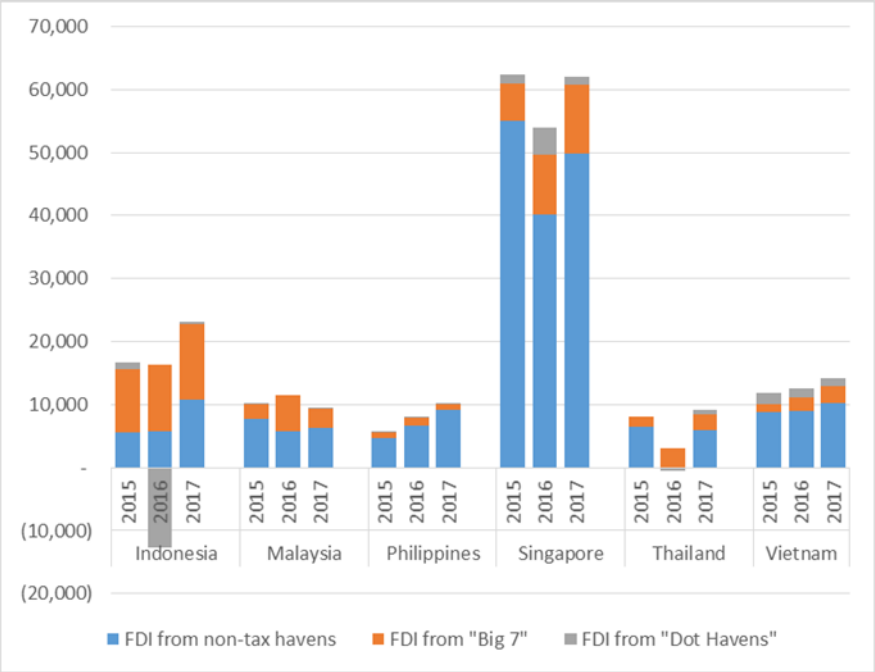


Source: ASEAN Statistical Yearbook 2019 (ASEAN Secretariat 2019)

Apart from Singapore, there are many other countries that may be used as investment hubs, particularly as part of tax planning strategies. To reduce the global tax burden, many MNEs have channelled their FDI through tax havens (Haberly & Wójcik 2015; Palan, Murphy & Chavagneux 2013a). In Southeast Asia, FDI from tax havens varies across countries (Figure 3.3). In general, FDI from 'dot havens' accounts for less than 10% of FDI inflow. However, FDI from the 'Big-7' can be relatively high in some ASEAN

members.[42] In Indonesia, FDI from the Big-7 accounts for more than 50% of total FDI, whereas in other countries the figure fluctuates but can be substantial in some countries such as Thailand and Malaysia. Surprisingly, the Philippines, which has the highest CIT rate, receives the least FDI from tax havens. Therefore, from the data, it is unclear if indirect FDI through tax havens is motivated by tax reduction or caused by other factors. Nevertheless, as indirect FDI through tax havens may be used as aggressive tax planning strategy, which potentially reduces the tax revenue of the host country, it is important to determine the factors that affect indirect FDI.

Figure 3.3 FDI from Tax Havens and Non-Tax Havens in ASEAN6, 2015 to 2017



Source: ASEAN Statistics Database, list of tax havens based on Dharmapala and Hines (2009)

3.5 Overview of Tax Policy in Southeast Asia

Even though ASEAN has achieved substantial progress in the economic integration of Southeast Asia, there have not been any efforts to minimise the variability in terms of tax policy. As a result, tax policy such as income tax and withholding tax rate vary among ASEAN members. Further, even though each country offers investment incentives, these incentives vary across countries. This variability of tax features is presented in Table 3.5.

[42] The 'Big-7' consists of Hong Kong, Ireland, Lebanon, Liberia, Panama, Singapore and Switzerland (Hines & Rice 1994).

From this table, it can be seen that the majority of Southeast Asian countries follow the worldwide income tax regime. Only Brunei Darussalam, Malaysia and Singapore adopt territorial tax systems in regard to taxing foreign income.

Table 3.5 Overview of Tax Policy in Southeast Asian Countries

Country	Tax Regime	CIT Rate	Withholding Tax Rates to Non-residents*				Tax Treaties		Tax Sparing**
			Dividend	Royalty	Interest	Others	Total	ASEAN	
Brunei Darussalam	Territorial	18.5%	-	10%	15%	20%	17	5	n.a
Cambodia	Worldwide	20%	14%	14%	14%	14%	2	2	0
Indonesia	Worldwide	25%	20%	20%	20%	20%	76	7	10
Lao PDR	Worldwide	24%	10%	5%	10%	10%	8	5	0
Malaysia	Territorial	24%	-	10%	15%	10%	74	8	14
Myanmar	Worldwide	25%	-	15%	15%	2.5%	8	5	n.a
Philippines	Worldwide	30%	30%	30%	30%	30%	41	5	12
Singapore	Territorial	17%	-	10%	15%	17%	84	9	n.a
Thailand	Worldwide	20%	10%	15%	15%	15%	60	7	11
Timor-Leste	Worldwide	10%	10%	10%	-	10%	2	0	n.a
Vietnam	Worldwide	20%	-	10%	5%	5%	70	8	14

* Withholding tax rates may be reduced subject to bilateral tax treaty.

** Number of tax sparing agreements signed with the 23 OECD countries based on Azémar and Dharmapala (2019).

Source: Author's compilation, as of April 2019.

The variability of tax policy in Southeast Asian countries can be seen from the number of bilateral tax treaties or double tax agreements (DTAs) of each country. Bilateral tax treaties or DTAs are needed to avoid double taxation and to facilitate trade and investment. An absence of DTAs may result in withholding tax rates higher than the tax rates in investors' home countries, which eventually will discourage FDI. Nevertheless, smaller countries such as Lao PDR, Cambodia, Myanmar and Timor-Leste only have very few DTAs. This limited DTA network may lead to high transaction costs and administrative burdens, thus creating disincentive for FDI (Farrow & Jogarajan 2007). Unlike these small countries, larger economies such as Singapore, Indonesia and Vietnam have DTAs with more than 70 countries. Surprisingly, Vietnam as the newly developing economy in Southeast Asia have more DTAs than larger countries such as Indonesia and Malaysia. As a result, the wide network of DTAs has helped Vietnam to reach an impressive trade and FDI performance (Pham, Pham & Ly 2019).

The only aspect of tax policy in Southeast Asia that seems to follow the same trend is the declining CIT rate (Table 3.6). Apart from Cambodia and Timor-Leste, every Southeast Asian countries has reduced its CIT rate in the last 10 years.[43] The biggest cut was performed by Brunei Darussalam, which gradually reduced its CIT rate from 30% in 2007 to 18.5% in 2015. As a result, Brunei Darussalam has the third lowest CIT rate in Southeast Asia after Timor-Leste and Singapore, which imposes a CIT rate of 10% and 17% respectively. On the contrary, the Philippines still maintains a high CIT rate of 30%, which is the highest in Southeast Asia, followed by Indonesia and Myanmar with a CIT rate of 25%. Currently, the Philippines is considering reducing its CIT rate to be more competitive (PwC 2018). Because of this CIT rate-cutting, the average CIT rate in Southeast Asia has declined from 28.73% in 2006 to 21.23% in 2019. This average CIT rate is slightly higher than the average in Asia and the EU, which are 21.18% and 20.98% respectively, but slightly lower than the average of OECD countries, which is 23.23% (KPMG 2020).

Table 3.6 CIT Rate in Southeast Asia, 2008–2019

Country	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Brunei Darussalam	27.5%	25.5%	23.5%	22%	20%	20%	20%	18.5%	18.5%	18.5%	18.5%	18.5%
Cambodia	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Indonesia	30%	28%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Lao PDR	35%	35%	35%	35%	24%	24%	24%	24%	24%	24%	24%	24%
Malaysia	26%	25%	25%	25%	25%	25%	25%	25%	24%	24%	24%	24%
Myanmar	30%	30%	30%	30%	25%	25%	25%	25%	25%	25%	25%	25%
Philippines	35%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
Singapore	18%	18%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%
Thailand	30%	30%	30%	30%	23%	20%	20%	20%	20%	20%	20%	20%
Timor-Leste	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Vietnam	28%	25%	25%	25%	25%	25%	22%	22%	20%	20%	20%	20%

Source: Corporate Tax Rates Online Database (KPMG 2020)

In addition to reducing CIT rate, all Southeast Asian countries provide tax incentives to attract more FDI. More specifically, tax incentives are aimed to encourage investment in certain sectors or industries considered essential for the country's development (often referred to as pioneer sectors/industries). Therefore, tax incentives often come with specific requirements such as type of sector or industry, size of investment and number employed. In Southeast Asia, these requirements vary across countries according to each country's priority areas of development. In addition to promoting investment in targeted

[43] Timor-Leste reduced its CIT rate from 30% to 10% in 2008.

sectors, tax incentives in Southeast Asia are targeted to encourage investment in remote and less developed areas. Because of lack of infrastructure, investments in regions with disadvantaged socio and economic conditions generally receive more favourable tax incentives.

There are various tax incentives offered by Southeast Asian countries. These incentives consist of income tax incentives such as tax holiday and reduction of CIT rate, and indirect tax incentives such as exemption of value added tax (VAT) and import duties. Indirect tax incentives are generally comparable among Southeast Asian countries because all countries provide exemptions from import duties of machinery and raw materials for qualified investment projects. However, income tax incentives vary considerably among countries in terms of not only the incentives offered but also the generosity of the schemes (Table 3.7). While larger countries such as Indonesia, Malaysia and Thailand offer numerous generous incentives, smaller countries such as Cambodia and Lao PDR only provide limited incentives. Lao PDR only offers tax holiday, while Cambodia provides investors a choice between tax holiday and accelerated depreciation.

Table 3.7 Available Tax Incentives in Southeast Asian Countries

Tax Incentives	Brunei	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Thailand	Timor-Leste	Vietnam
Longer carry forward of losses	-	-	√	-	-	√	-	-	-	-	-
Tax holiday/tax exemption	√	√	√	√	√	√	√	√	√	√	√
Reduced CIT	√	-	√	-	√	√	√	√	√	-	√
Investment allowances	√	-	√	-	√	-	-	√	√	√	-
Reduction of withholding tax	√	-	√	-	-	-	-	√	√	-	-
Accelerated depreciation	-	√	√	-	√	-	-	-	-	-	-
R & D Incentives	-	-	-	-	√	-	-	√	√	-	-
Regional/international headquarter	-	-	-	-	√	-	√	√	√	-	-

Notes: Details of tax incentives are presented in Appendix 1.

Source: Author's compilation, as of April 2019.

Among the various types of income tax incentive, tax holiday is the only incentive offered by all Southeast Asian countries. In general, tax holiday is granted when a firm starts its commercial operations. A full tax holiday provides complete exemption from CIT obligations, whereas a partial tax holiday offers partial exemption of CIT obligations. In Southeast Asia, tax holiday ranges from a maximum of 4 years in Vietnam to 20 years in Brunei Darussalam and Indonesia. The requirements for tax holiday vary across countries, but generally it is targeted to encourage investments in high-tech industry and less developed regions.

In addition to tax holiday, most Southeast Asian countries offer a reduction of CIT in the form of either reduced CIT rate for qualified investments or preferential CIT rate for targeted sectors. Generally, reduction of CIT and tax holiday are mutually exclusive, except for Indonesia and Vietnam, where reduced CIT rates are granted after the completion of the tax holiday period. Slightly different from Indonesia, Thailand also offers reduced CIT in conjunction with tax holiday, specifically for investments in designated provinces or promoted activities. In Malaysia, Philippines and Thailand, reduced CIT is offered to MNEs that establish regional or international headquarters, while in Vietnam, a preferential CIT rate of 10–17% is widely used to encourage investment in targeted sectors and regions.

To help investors quickly recoup their investments, governments in Southeast Asia provide other incentives that are aimed to reduce the cost of capital, typically in the form of allowances or additional deductions. Investment allowance is an additional deduction from taxable income based on a specified percentage of new investments. This deduction is an addition to the general capital allowance or depreciation. In Southeast Asia, six countries provide investment allowance, which ranges from a maximum of 30% in Indonesia to 100% in Brunei Darussalam, Malaysia and Singapore. As an alternative to investment allowance, additional deductions may be given to encourage investments in specific business activities. Malaysia, Singapore and Thailand, for example, provide double deductions for R&D activities. Consequently, firms that are granted investment allowance or double deduction will be eligible for larger tax deductions compared with non-incentivised firms.

In addition to the incentives mentioned above, several other tax incentives are available in Southeast Asia, such as longer carry forward of losses and accelerated depreciation. Apart from Malaysia, Singapore and Timor-Leste, all other Southeast Asian countries provide limitations on how long losses can be carried forward to offset against future profit. This carry forward period ranges from 3 to 6 years, but only Indonesia and Myanmar provide longer carry forward of losses as an incentive. Similarly, only a few countries offer accelerated depreciation as an incentive. Accelerated depreciation enables firms to write off their capital expenditures at a faster rate than the regular depreciation; thus, it allows investors to quickly recoup their investments. In Southeast Asia, only Cambodia, Indonesia and Malaysia offer accelerated depreciation as an incentive.

In addition, several Southeast Asian countries offer reduction or exemption of withholding taxes. This incentive includes exemption or lower rate of withholding tax on dividends and interest paid to non-residents. Ideally, this incentive is more appropriate for countries with limited DTAs because withholding tax rates according to DTAs generally are lower than the regular withholding tax rates. In Southeast Asia, four countries provide this incentive: Brunei Darussalam, Indonesia, Singapore and Thailand. Among these countries, only Brunei Darussalam has very few DTAs. Surprisingly, the Philippines, which has the highest withholding tax rates among Southeast Asian countries, does not provide this incentive.

Despite the prevalent use of tax policy to promote FDI, its implementation may cause substantial fiscal losses, particularly because CIT is an important source of tax revenue in Southeast Asian countries. In Malaysia, CIT contributes to 35% of tax revenue, while in Thailand, Vietnam and Indonesia, it accounts for about 25% of tax revenue (OECD 2018). Nevertheless, only very few countries estimate the foregone tax revenue due to tax incentives, which is known as tax expenditure (World Bank 2015). In Thailand, tax expenditure was estimated to be 1.7% of GDP in 2014 (Muthitacharoen 2016), while in the Philippines, it was estimated as 1.49% of GDP in 2012 (World Bank 2015). Recently, Indonesia has published its tax expenditure as an estimated 1.14% of GDP in 2017 (Badan Kebijakan Fiskal 2018). Therefore, considering the adverse effects of tax incentives on government revenue, using tax incentives to attract FDI should be based on careful consideration.

3.6 Summary

Acknowledging the importance of FDI for its members, ASEAN has implemented numerous economic initiatives to transform Southeast Asia into a highly competitive region. Through the reduction of tariffs, removal of investment barriers and participation in global networks through multilateral trade agreements, Southeast Asia has arisen as one of the major FDI recipients among developing economies. Even though these initiatives have resulted in a positive trend of FDI into Southeast Asia, the performance of each country in terms of FDI inflows varies widely and tends to be highly fluctuated. Further, economic integration in Southeast Asia can pose as both opportunity and challenge for ASEAN members. On the one hand, it creates a bigger market, which can attract more FDI; conversely, it intensifies the competition for FDI because firms can supply the regional market from a single location. For Timor-Leste as the only non-

ASEAN member in Southeast Asia, competition for FDI is even more challenging due to the exclusion from ASEAN's economic cooperation.

To attract more FDI, Southeast Asian countries have utilised tax policy as one of the tools to increase FDI inflows. Two common approaches that have been used are reducing CIT rate and offering tax incentives. Nevertheless, the types of incentive offered and the generosity of the schemes vary across countries. Overall, tax incentives in Southeast Asia are aimed to stimulate investment in targeted sectors and less developed regions. Despite these efforts, it is unclear whether tax policy is effective in attracting more FDI because taxes are only one of the various factors that affect FDI.

CHAPTER 4
RESEARCH METHODOLOGY

4.1 Introduction

Chapter 3 has presented an overview of Southeast Asia as the context of the study which highlights the heterogeneity of countries in this region. The previous chapter has also discussed the trend of FDI into this region and provided an overview of tax policy implemented in Southeast Asian countries. Considering the diversity of the countries under study, and taken into account the heterogeneity of extant studies on FDI as presented in the literature review, this current chapter will discuss the choice of research methodology which can be employed to answer the research questions.

To investigate the effects of tax policy on FDI, the eclectic paradigm is chosen as the basis of the conceptual framework, which provides guidance on the choice of explanatory variables. In this chapter, the development of the conceptual framework is presented, followed by discussion on the research design, which includes selection of variables and their proxies, data sources and an overview of empirical strategy. A summary is provided at the end of the chapter.

4.2 Conceptual Framework

As discussed in the literature review, there are numerous theories that attempt to explain the determinants of FDI. Among these theories, the eclectic or OLI paradigm provides a comprehensive elaboration on the rationale and determinants of FDI because it is based on a multi-theoretical approach that incorporates firm-level as well as country-level variables that may affect FDI. According to the eclectic paradigm, to engage in FDI, MNEs must possess ownership (O), location (L) and internalisation (I) advantages (Dunning 1988). Because the primary objective of the study is to examine the role of tax policy as one of the determinants of FDI, this study focuses on the host country location (L) advantages and assumes that firms already possess the ownership (O) and internalisation (I) advantages.

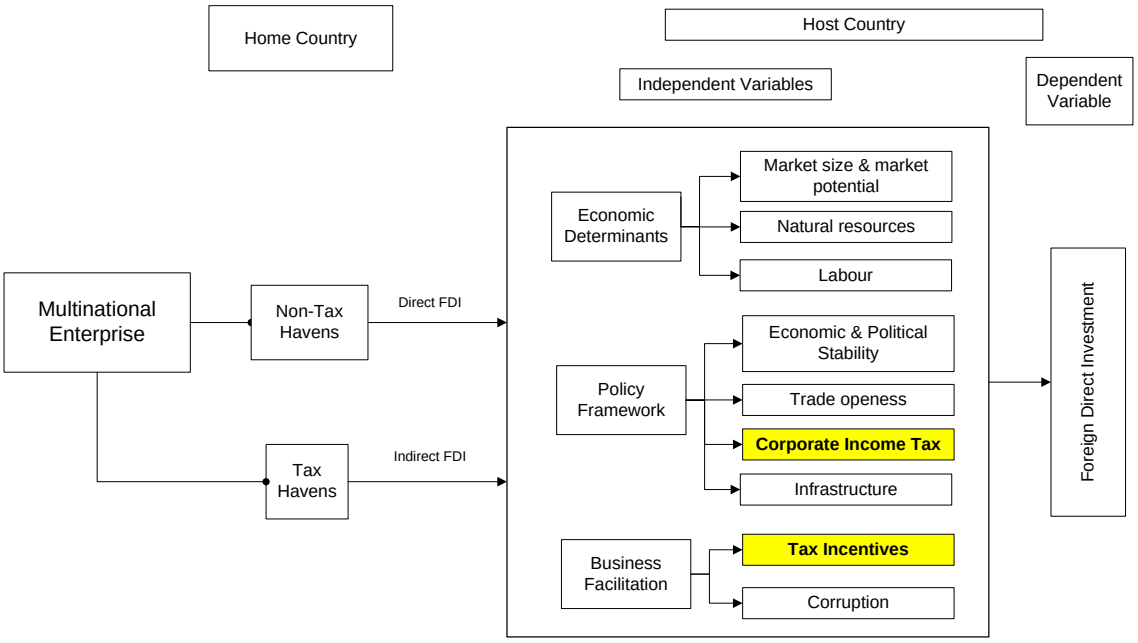
According to the eclectic paradigm, MNEs will choose a location for production that offers the most advantages to the firms. These comparative advantages vary depending on the characteristics of the firms, industries and host countries, as well as the motivation

of MNEs to invest abroad (Dunning 1988). Dunning (2000) differentiated four types of motivation for FDI: market seeking, resource seeking, efficiency seeking and strategic asset seeking FDI. According to Wadhwa (2011), the majority of FDI into developing countries is motivated by market seeking, resource seeking and efficiency seeking, whereas strategic asset seeking FDI is more likely to occur in developed countries (Galan, Gonzalez-Benito & Zuñiga-Vincente 2007; Makino, Lau & Yeh 2002). Moreover, Rugman (2010) argued that not many strategic asset seeking FDIs actually take place. For these reasons, the choice of explanatory variables for this study only considers market seeking, resource seeking and efficiency seeking as the primary motivations for FDI into Southeast Asia.

At the country level, the location advantages of a host country depend on various economic and non-economic variables. Following the UNCTAD (1998), these variables are categorised as economic fundamentals, policy framework and business facilitation (see Table 2.3). In this categorisation, tax policy can be included in policy framework and business facilitation. CIT rate is one of the government policies that may affect investment, thus it is a part of policy framework, whereas tax incentives can be considered one of the government's proactive measures to stimulate investment, and thus are part of business facilitation.

To achieve the objective of long-term profitability, one of the strategies that MNEs may use is to channel their FDI through a location that will enable them to reduce the overall tax liability. According to previous studies, countries or jurisdictions with a low tax rate, known as tax havens, are commonly used for this purpose. Thus, FDI may flow directly from a home country to a host country (direct FDI) or via an intermediate country such as a tax haven (indirect FDI). Figure 4.1 depicts the flow of FDI from a home country to a host country and a set of potential variables that may affect FDI. This figure represents the conceptual framework, which outlines the relationship among variables employed in this study.

Figure 4.1 Conceptual Framework for the Determinants of FDI.



4.3 Description of Variables and Data Collection

This section discusses the variables and data that are employed in this study. As one of the expected contributions of this study is to provide inputs and recommendations for policy framework in FDI, it is important to gain understanding on the determinants of FDI at aggregate level. Moreover, as the main variable of interest is tax policy, and tax policy is generally set at national level, this study assesses the effect of tax policy on aggregate FDI. For these reasons, country-level data are used in this study. In addition, this section discusses the rationale and proxy for each variable. As explained in the following subsections, often the choice of proxy for a variable is constrained by the availability of the data.

4.3.1 Sample and Data

To investigate the effects of tax policy on FDI, six countries in Southeast Asia are used as the sample: Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam. These six countries are the major economies in Southeast Asia and account for more than 90% of GDP and FDI in this region. Thus, they can be considered as a representative sample. Annual country-level data are employed in this study, which covers the period 1996–2017. The data are collected from secondary sources such as the ASEAN Statistical Database, World Development Indicators (WDI) and International Labour Organization (ILO) Database.

Because of the small sample size, missing data may affect the results of empirical estimations. Therefore, to avoid this problem, missing data are substituted with comparable data from the corresponding country's national statistical office or interpolated according to available data. As a result, the dataset is balanced across cross-section units with a total number of observations of 132.

For easy interpretation and to avoid the presence of outliers, all variables are transformed into natural logarithms whenever possible. By transforming the variables into logarithms, the coefficients of the regression can be directly interpreted as the elasticities. However, because FDI as the dependent variable contains negative values, semi-log transformation is performed to transform negative values into logarithms. Following Yeyati, Panizza and Stein (2007), the logarithm transformation for FDI variables is as follows:

$$\text{Ln FDI} = \text{sign(FDI)} \log(1 + |\text{FDI}|) \qquad (4.1)$$

A caveat of using the above transformation is that the interpretation of the elasticity is dependent on the measurement of FDI. Therefore, for the purpose of logarithmic transformation, FDI is not measured in million dollars but in dollars. Thus, the addition of 1 in Equation 4.1 is equivalent to adding one USD to FDI inflows, which can be considered negligible. As a result of this limitation, the above transformation is not applicable for variables with small values. For this reason, other variables that contain negative values, such as growth of inflation (INFL) and political stability (POL), are not transformed into logarithms because their values are small.

4.3.2 Dependent Variable

4.3.2.1 Proxy for Foreign Direct Investment

The dependent variable in this study is FDI into Southeast Asian countries. There are several proxies that have been used in FDI studies, such as FDI flows based on balance of payment (BOP), FDI stocks based on international investment position (IIP), data on cross-border M&A and data on greenfield investments (Fujita 2008).[44] Ideally, data on greenfield investments are preferable as the proxy for FDI because it represents investment in real capital (fixed assets), which is associated with positive externalities for the host country such as generating new employment and transfer of technology

[44] Greenfield investment is investment in the form of setting up new plant or production facilities, whereas M&A refers to the partnership of multiple firms to establish a new legal entity or the acquisition of ownership from local firms.

(Devereux & Griffith 2002). Nevertheless, such data are not available in the context of Southeast Asia; thus, the choice of dependent variable to be considered is FDI based on flows or stocks, which include data on M&A. Moreover, among the proxies for FDI, FDI flows and FDI stocks are the most frequently used in FDI studies (Fujita 2008; Nielsen, Asmussen & Weatherall 2017).

For developing countries, the most widely available data on FDI are the statistics on FDI flows and stocks. FDI flows record the value of cross-border transactions during a given period such as a quarter or a year, whereas FDI stocks record the total level of FDI at a certain point of time, for example at the end of a quarter or a year.[45] In both concepts, FDI is defined as an investment made by a resident of a country in an enterprise of another country to establish a lasting interest in the direct investment enterprise (IMF 2009; OECD 2009). As a benchmark, a minimum of 10% of equity ownership is used as an indicator of 'lasting interest' or a significant degree of influence. Thus, M&A that satisfy this definition are also recorded as part of FDI flows and stocks.

The main difference between FDI flows and FDI stocks is the computation method. From the point of view of the host country, investments from foreign investors are recorded as FDI inflows or inward FDI stocks. FDI inflows are recorded on a net basis by subtracting investment taken out by investors (e.g., disinvestment and dividend payments) from inward investment into the host country. As a result, FDI inflows tend to be highly volatile and there are many cases where FDI inflows show a negative value. For example, Indonesia has a negative value for FDI during 1998–2001, which indicates that more money was taken out by foreign investors than the amount that they invested during this period. Unlike FDI flows, FDI stocks records the total amount of FDI at a specific point in time, measured at current market prices. Thus, FDI stocks tend to be less volatile than FDI flows because of the steady rise in capital prices.

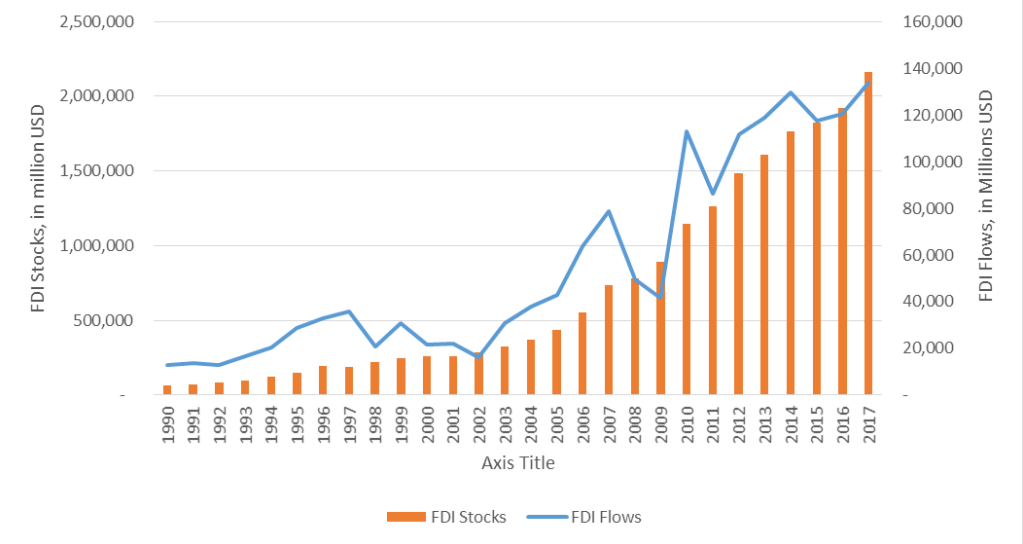
A few authors argue that FDI stocks is a better proxy for FDI because it reflects MNEs' level of activity in a host country (Daude & Stein 2007; Kahouli & Maktouf 2015). Bénassy-Quéré, Coupet and Mayer (2007), for example, pointed out several benefits of employing FDI stocks data rather than FDI flows. According to these authors, to achieve optimal production, investors consider the level of global allocation of output. Therefore, FDI stocks is the appropriate proxy for FDI as it reflects the level of foreign capital in a

[45] In other words, FDI stocks is the accumulation value of past FDI flows at a given point in time, adjusted at current market prices (Wacker 2016).

country. In addition, they argued that unlike FDI flows, FDI stocks include FDI that is funded through the local market and is less volatile. Conversely, Wacker (2016) pointed out that compared with FDI flows, FDI stocks is more problematic because appraising the value of past investment in current market price can be challenging. Further, because FDI stocks should be valued at current market price, it may reflect not only the accumulation of FDI over time but also other adjustments due to changes in currency valuation and market prices.[46]

Notwithstanding the advantages of using FDI stocks, the majority of FDI studies use FDI flows as the dependent variable (Nielsen, Asmussen & Weatherall 2017). According to Bellak, Leibrecht and Damijan (2009), FDI flows is a better proxy for FDI because it represents MNEs' decision to invest in the form of greenfield investments, to invest in M&A or even to divest from a particular location. Thus, it is the appropriate proxy for location choice of FDI. Nevertheless, as pointed out by Bénassy-Quéré, Coupet and Mayer (2007), FDI flows tends to be more volatile compared with FDI stocks, as can be seen in Figure 4.2. Even so, both data appear to follow a similar trend. Further, the sharp fluctuation in FDI flows is reasonable because it usually occurs during an economic crisis, such as during 2007–2009. In contrast, FDI stocks always exhibit positive trends regardless of the economic condition.

Figure 4.2 FDI Flows and FDI Stocks in Southeast Asia from 1990 to 2017



Source: Data based on World Investment Report 2018 (UNCTAD 2018)

[46] The IMF's Balance of Payments and International Investment Position Manual (BPM6) recommends that FDI stocks is measured at the current market value (IMF 2009). According to Cantwell and Bellak (1998), this may lead to overestimation of FDI because stock prices tend to rise faster than capital good prices.

To sum up, both FDI flows and FDI stocks have their own advantages and disadvantages. However, as the objective of the study is to investigate the role of tax policy as one of the determinants of FDI, FDI flows is considered the most appropriate proxy because it represents the attractiveness of location for FDI. Further, to assess the effect of CIT on indirect FDI, data of FDI by country of origin are needed for this study, and complete datasets for this variable are only available for FDI flows. These data are collected from the ASEAN Statistics Database, ASEAN Statistical Yearbook and UNCTAD bilateral FDI statistics. One caveat relating to these data is the difference level of detail for FDI by country of origin. The ASEAN Statistics Database provides detailed data of FDI by source country only from 2010 onwards. Thus, for the previous years, data are collected from the ASEAN Statistical Yearbook and UNCTAD bilateral FDI statistics, which only include major tax havens. Following Neumayer (2007), FDI inflows as the dependent variable is not measured as a share of GDP because the ratio of FDI to GDP represents the changes in relative importance of FDI to the host country rather than the changes in FDI flows.

4.3.2.2 Foreign Direct Investment from Tax Havens

To assess the effect of tax planning on FDI, this study examines the asymmetric effect of CIT rate on direct and indirect FDI. Thus, the amount of total FDI in a host country is divided into 2 groups based on the home country of the investors, with FDI from non-tax havens represents direct FDI and FDI from tax havens represents indirect FDI.[47] As discussed in the literature review, to reduce the global tax liability, MNEs may channel their FDI via intermediate countries. This type of FDI is known as indirect FDI or transit FDI. Thus, the share of indirect FDI in a host country may represent the share of MNEs that engage in tax planning. In this study, FDI from tax havens is used as the proxy for indirect FDI as tax havens are often used as investment hubs (Haberly & Wójcik 2015; UNCTAD 2015).

Of the various lists of tax havens, the list by the OECD (2000b) is often considered the most prominent (Gravelle 2015). According to the OECD (1998), characteristics of tax havens are having no or low tax rate, lack of exchange of information with other tax authorities, lack of transparency, and no requirement of substantial activity. However, afterwards, the OECD placed more emphasis on the exchange of information requirement and removed countries from the tax havens list if they agreed to cooperate (Gravelle

[47] The sum of direct and indirect FDI is equal to the amount of total FDI in a host country.

2015). As a result, the OECD's tax havens list has dwindled until no country remains on the list (Cobham 2017). While the OECD claims this as an achievement, many authors have criticised the OECD as undermining the efforts to tackle harmful tax practices (Addison 2009; Sullivan 2007; Zucman 2015). Notwithstanding this development, many studies still refer to the OECD's tax havens list in their studies because, apart from the exchange of information requirement, other criteria are still applicable (Fuest & Riedel 2012; Klassen, Lisowsky & Mescall 2017; Taylor, Richardson & Lanis 2015).

Another list of tax havens that is frequently referred to in FDI studies is proposed by Hines and Rice (1994). They identified 41 countries as tax havens according to low tax rate, acknowledgement as OFCs and recognition as tax havens by tax authorities (Hines 2010). By the size of the economy, Hines and Rice (1994) categorised 34 countries with small population and GDP as 'dot tax havens' and the remaining seven larger countries as the 'Big-7'. Coincidently, most dot tax havens also appear in the OECD's tax havens list. While subsidiaries in dot tax havens generally are special purpose entities (SPEs), those in the Big-7 may engage in real economic activity (Dyreng & Lindsey 2009).[48] Thus, a few authors such as Jones and Temouri (2016) followed a conservative approach and only included dot tax havens in their study.

In this study, the identification of countries as tax havens is based on Dharmapala and Hines (2009). In their investigation of characteristics of tax havens, Dharmapala and Hines (2009) combined the tax havens lists by Hines and Rice (1994) and the OECD (2000b), resulting in 48 countries considered tax havens.[49] As a result, this list can be considered more comprehensive. The complete list of tax havens based on Dharmapala and Hines (2009) is presented in Table 4.1. On the basis of the dataset, the majority of FDI from tax havens into Southeast Asia is coming from the Big-7 such as Singapore, Hong Kong and Ireland. Less than 10% of total FDI is from dot tax havens such as Luxembourg and BVI. Therefore, in this study, no distinction is made between the Big-7 and dot tax havens.

[48] The OECD (2009, p. 100) defines SPEs as 'legal entities that have little or no employment, or operations, or physical presence in the jurisdiction in which they are created'.
[49] Even though both OECD and Hines and Rice's tax havens list appear to be outdated, they are still widely used in empirical studies as most of the characteristics of tax havens are still applicable to the countries on these lists.

Table 4.1 List of Countries/Jurisdictions Identified as Tax Havens

1. Andorra	14. Cyprus	29. Marshall Islands	40. Samoa
2. Anguilla	15. Dominica	30. Mauritius	41. San Marino
3. Antigua & Barbuda	16. Gibraltar	31. Monaco	42. Seychelles
4. Aruba	17. Grenada	32. Montserrat	43. Singapore
5. Bahamas	18. Hong Kong	33. Nauru	44. Switzerland
6. Bahrain	19. Ireland	34. Netherlands Antilles	45. Tonga
7. Barbados	20. Isle of Man	35. Niue	46. Turks & Caicos Islands
8. Belize	21. Jordan	36. Panama	47. Vanuatu
9. Bermuda	22. Lebanon	37. Saint Kitts & Nevis	48. Virgin Islands (US)
10. British Virgin Islands	23. Liberia	38. Saint Lucia	
11. Cayman Islands	24. Liechtenstein	39. Saint Vincent and the Grenadines	
12. Channel Islands	25. Luxembourg		
13. Cook Islands	26. Macao		
	27. Maldives		
	28. Malta		

Source: Dharmapala and Hines (2009).

4.3.3 Independent Variables

The main variable of interest in this study is tax policy as one of the determinants of FDI. Two aspects of tax policy are investigated: CIT and tax incentives. Compared with tax incentives, a large number of studies have examined the effects of CIT on FDI. However, these studies vary in regard to the proxy for CIT. The following subsections briefly discuss the proxy for CIT on the basis of previous studies as well as provide the rationale for the tax variables that are employed in this study.

4.3.3.1 Proxy for Corporate Income Tax

Among the variations in the characteristics of FDI studies, De Mooij and Ederveen (2003, 2005) found the proxies for tax rate to contribute to the variations in tax elasticity. In principle, these proxies can be classified into two categories: STR and ETR. However, there are various methods for calculating ETR, which results in several types of tax rate under this category. As is discussed shortly, each type of proxy has its strengths and weaknesses, which indicates that these measures are only rough estimations of the tax burdens on investment.

The most common proxy to measure the tax burden is the nominal tax rate or STR, which refers to the percentage of tax levied on a corporate's taxable income according to income tax law. The advantages of using STR as a proxy are simplicity and availability of data. It is simple because it does not require any additional computation, and the data are

available in long time-series for almost every country. Nevertheless, the drawback is that it does not take into account various provisions in income tax regulations, such as depreciation of fixed assets and definition of taxable income, which vary across countries. Thus, STR may not reflect the appropriate tax burden.

To overcome the limitations of STR, several other measures of ETR have been proposed to take into account the differences in tax provisions across countries. De Mooij and Ederveen (2003) defined ETR as the proxy that summarises the interaction of various tax regulations on an investment. Depending on the calculation method, ETR can be classified into backward-looking and forward-looking ETR. Backward-looking tax rate is calculated according to the actual taxes paid on income derived from previously acquired capital, whereas forward-looking tax rate is calculated according to hypothetical investment projects in accordance with specific assumptions such as level of profitability, mode of finance and type of assets (OECD 2000a; Sørensen 2004). Despite this effort to incorporate tax provisions in ETR formulation, because of complexity in tax regulations across countries, it is still impossible to capture the variations of tax codes in a single tax rate. Thus, ETR also has its own strengths and weaknesses.

As previously mentioned, backward-looking ETR is calculated according to the actual taxes paid by corporations, either derived from macro data such as national accounts or from micro data such as firms' tax returns and financial statements. This ETR measures the total taxes paid by firms as a percentage of the tax base. It is regarded as backward-looking because it reflects firms' past investment behaviour (Suzuki 2014).

An example of backward-looking ETR based on macro data is the tax to GDP ratio, in which the ratio of tax revenues to GDP is seen as the indicator of the tax burden (OECD 2000a; Sudsawasd 2008). The advantages of this measure lie in the availability of the data and simplicity in computation. The drawback of this measure is that it may be misleading because it is affected by the level of tax evasion in a country. Moreover, GDP may not be a good proxy for corporate tax base as it reflects the tax base for households as well as firms. Because of these shortcomings, most backward-looking ETRs are computed using micro data.

In backward-looking ETR based on micro data, ETR is calculated as the ratio of CIT to pre-tax profit. This type of ETR is commonly known as the average tax rate (ATR). The advantage of ATR is that it is based on the actual taxes paid (or accrued) by corporations. Therefore, implicitly it has taken into account the variations in tax codes as well as tax

planning by firms. Meanwhile, the drawback is that ATR is based on previous tax provisions, which may no longer be available, and it may be affected by firms' special circumstances such as loss carry forward and tax incentives. As a result, backward-looking ETR may not be appropriate in FDI studies because investment decisions are generally forward-looking, based on the expected profits of an investment.

Unlike backward-looking ETR, which implicitly incorporates variations of tax regulations in its computation, forward-looking ETR estimates the tax burden of prospective investment projects based on existing tax regulations. In this approach, the tax burden is measured as the ratio of the present value of CIT to pre-tax profit, taking into account the provisions in income tax law such as STR and depreciation of fixed assets (Abbas & Klemm 2013). In addition to tax provisions, forward-looking ETR incorporates a number of factors that may influence the net present value of investment, such as expected profit, inflation and interest rate.[50] As a result, the computation of forward-looking ETR is rather complex and may vary across studies because of differences in assumptions. Further, authors have shown differences in opinion on the most appropriate forward-looking ETR as the proxy of corporate tax burden, such as EMTR (Slemrod 1990), EATR (Devereux & Griffith 2003) or bilateral effective average tax rate (BEATR) (Bellak & Leibrecht 2009). Because of this lack of consensus, many authors have employed several proxies of CIT rate in their studies (Herger, Kotsogiannis & McCorriston 2016; Overesch & Wamser 2009). Table 4.2 summarises the definition for these tax rates as well as their advantages and limitations.

[50] For detailed computation of forward-looking ETR, see Devereux and Griffith (2003).

Table 4.2 Summary of Tax Measures Employed in Previous Studies

Tax Measure	Description	Advantages	Limitations	Previous Studies
Statutory tax rate (STR)	The percentage of tax that is levied on a corporate's taxable income according to income tax law	Simplicity Availability of data	Does not take into account differences in tax provisions across countries	Azémar and Desbordes (2013); Nagano (2013); Hansson and Olofsdotter (2013)
Average tax rate (ATR)	Measures the total taxes paid by firms as a percentage of the tax base	Takes into account variation in tax regulations and tax planning by firms	Based on previous tax provisions Affected by firms' specific characteristics such as loss carry forward and tax incentives Endogeneity problem	Mutti and Grubert (2004); Economou et al. (2017)
Effective marginal tax rate (EMTR)	Measures the tax wedge between cost of capital before and after the inclusion of CIT on marginal investment that does not yield economic rent	Based on economic theory Assesses the effect of CIT on cost of capital and profitability Incorporates main tax provisions as well as other factors that affect investment decision (e.g., inflation, interest rate)	Complexity in calculation Does not capture tax planning and complex tax provisions Varies across studies because of different assumptions	Overesch and Wamser (2010); Egger, Merlo and Wamser (2014); Herger, Kotsogiannis and McCorriston (2016)
Effective average tax rate (EATR)	Measures the tax wedge between pre- and post-tax profits of an investment			
Bilateral effective average tax rate (BEATR)	EATR that is adjusted to home and host country relevant tax provisions such as bilateral tax treaty (Bellak, Leibrecht & Römisch 2007)	Incorporates tax provisions in home and host country	Complexity in calculation Impractical due to the large number of country pairs	Bellak and Leibrecht (2009); Egger et al. (2009)

From the above discussion, it is clear that each proxy of tax burden has strengths and drawbacks. In this study, STR is employed as the proxy of CIT for the following reasons. First, STR and EATR generally exhibit similar trends because EATR converges to STR as the level of profitability rises (Devereux & Griffith 2003). Second, for tax planning strategies, the incentive for profit shifting is determined by STR (Leibrecht & Hochgatterer 2012). The higher the STR, the higher firms' motivation to shift profits. Thus, STR is the appropriate proxy to investigate the effect of CIT on indirect FDI. Third, because of the complexity of tax regulations, MNEs may simply consider STR when making investment decisions (Graham et al. 2017; Overesch & Wamser 2010).[51] Last, STR is chosen as the proxy for tax burden because of the availability of the dataset. Even though several studies have computed ETR for several countries in Southeast Asia (Abbas & Klemm 2013; Muthitacharoen 2016; Setyowati 2015; Suzuki 2014), the datasets from these studies are not available for the whole sample and period under study. Further, the resultant EATRs differ across studies because of variations in the assumptions used. In addition, some studies have incorporated tax incentives in the computation of EATR. Therefore, it may not represent the actual tax burden of the majority of companies because tax incentives are granted to only a small number of companies. Despite these shortcomings, ETR is employed for the robustness check on the basis of available data.

4.3.3.2 Tax Incentives

Another area in tax policy that is examined in this study is tax incentives. On the basis of the literature review, tax incentives are widely used by developing countries to attract FDI. This phenomenon also applies to Southeast Asia, where tax incentives are prevalent. As discussed in Chapter 3 Section 3.5, tax incentives in Southeast Asia vary across countries. Among the tax incentives available, tax holiday is the most frequently used, followed by reduction of CIT and investment allowance.

In this study, two types of tax incentive are examined: tax holiday and investment allowance. The rationale for choosing these incentives is based on their different characteristics. Tax holiday is an example of a profit-based incentive, which reduces tax liability through the reduction of taxable profits, whereas investment allowance is an example of a cost-based incentive, which reduces tax liability by lowering cost of

[51] According to a study by Graham et al. (2017), the majority of executives employ the STR or backward-looking ETR in decision-making.

capital.[52] Hence, the findings of this study are beneficial to identify if either or both types of incentive are able to promote FDI.

The data for tax incentives are collected from relevant tax and investment regulations (see Appendix 1). Both tax holiday and investment allowance are measured as the average of available tax incentives for the period under study. All the countries in the sample offer tax holiday. However, only four of six countries offer investment allowance. The Philippines and Vietnam are the two countries that do not offer investment allowance as an incentive.

4.3.3.3 Key Determinants of Foreign Direct Investment

Apart from tax policy, a wide range of variables may affect FDI. Further, previous studies have shown that these factors may mitigate or even negate the effects of taxes on FDI. Therefore, the choice of FDI determinants to be included in the empirical estimation is crucial. Following the UNCTAD (1998), the key determinants of FDI are grouped into three categories: economic determinants, policy framework and business facilitation. Meanwhile, the choice of explanatory variables for each category is based on the literature review, which is summarised in Table 2.4 (see Chapter 2 Section 2.3).

Economic determinants of FDI consist of economic variables, which reflect MNEs' motivation to invest in the host country. As discussed in the literature review, the most common motivations for FDI are market seeking, resource seeking and efficiency seeking. To capture market seeking FDI, previous studies generally use GDP and GDP per capita as the proxy for market size. While GDP represents the size of the economy, GDP per capita captures the purchasing ability of the population. However, using GDP per capita as the proxy of market size can be problematic because it may also reflect labour cost and labour productivity (Globerman & Shapiro 2002). Therefore, in this study, GDP is used as the proxy for market size.

In addition to the market size, market seeking FDI may be attracted to the market potential of the host country. This variable is usually proxied by the growth rate of the host country's GDP (Iamsiraroj & Doucouliagos 2015). Besides growth rate of GDP, the GDP of neighbouring countries may be a relevant proxy for market potential, particularly in the context of Southeast Asia, which is characterised by high economic integration. Further, this variable is in line with the semi-globalisation view, which argues that a

[52] Similar to tax holiday, reduction of CIT rate is an example of a profit-based incentive.

country is selected as a location for FDI not only because of its factor endowments, but also because it can serve as a platform into the region (Arregle et al. 2013). Hence, the GDP of the other ASEAN countries is included as a proxy of market potential.

For resource seeking FDI, the most widely used variable is natural resources endowment of the host country. Among the proxies of this variable, share of mineral fuels in total exports is the most frequently used (Teixeira, Forte & Assunção 2017). In this study, in addition to mineral resources such as fuels and ores, agricultural raw materials is included as natural resources endowment as the majority of Southeast Asian countries are also exporters of agricultural products.

For efficiency seeking FDI, labour-related factors are generally employed as explanatory variables. In this study, monthly average wage is used to represent labour cost. The data are collected from the ILO database and the host countries' national statistical offices.[53] An exception is the Philippines, where minimum wage data are employed because there are many missing data for monthly average wage.[54] In addition to labour cost, quality of labour is important for efficiency seeking FDI, particularly for sectors that require highly skilled labour. Therefore, school enrolment in tertiary education is employed as the proxy of labour quality.

In addition to economic variables that represent the motivation for FDI, various policy frameworks in the host country are crucial as location determinants of FDI. Apart from tax policy, which is the main variable of interest, other policy frameworks included in this study are trade policy, economic and political stability, and infrastructure. Trade openness is used as the proxy for trade policy, inflation rate as the proxy for economic stability, and the World Bank Political Stability and Absence of Violence/Terrorism index as the proxy of political stability.

For infrastructure, the level of this variable in the host country can be measured by the quality of transportation, information and communication technology (ICT), and the availability of energy such as electricity and gas (Bellak, Leibrecht & Damijan 2009). Among these measures, only the proxies for ICT have a complete dataset. Previous studies generally employed the number of fixed telephone line subscriptions as the proxy

[53] Data of labour cost are in local currency unit. These data are converted into USD using exchange rate based on WDI database

[54] Unlike the other countries, for the Philippines, the values for minimum and average wage are similar. Thus, they can be considered comparable.

for infrastructure (Asiedu & Lien 2011; Mhlanga, Blalock & Christy 2010; Teixeira, Forte & Assunção 2017). However, a closer examination of the dataset shows that fixed telephone line subscriptions tend to show a declining trend despite the improvement of infrastructure in developing countries (Gurara et al. 2018). As a result, fixed telephone line subscriptions may not be an appropriate proxy for infrastructure. Therefore, this study uses the number of mobile phone subscriptions as the proxy for infrastructure.

In addition to economic determinants and policy framework, government measures for business facilitation are important for investors. Example of variables in this category are investment promotion, investment incentives and hassle costs (UNCTAD 1998).[55] To represent business facilitation measures, tax incentives are used as the proxy for investment incentives, and the corruption perception index (CPI) by Transparency International is employed as the proxy for hassle costs.[56]

From the discussion so far, a variety of variables may affect FDI into a host country. Therefore, in addition to tax policy, a wide range of potential FDI determinants are employed as control variables to avoid omitted variable bias. Table 4.3 provides the summary of the complete variables used in this study, including the description, measurement and source of data.

[55] Hassle costs can be defined as the costs associated with administrative barriers and red tape (Rajan 2004).
[56] Unlike CIT, which are applicable to all corporations, tax incentives only apply to eligible firms. Therefore, tax incentives can be regarded as part of investment incentives because they are specifically designed to promote investment in certain economic activities.

Table 4.3 Variables and Data Sources

Dependent Variable	Description of Proxy	Code	Measurement	Expected Sign	Data Source
FDI	Total FDI inflows to host country	FDI	US$	n.a.	ASEAN FDI Statistics and UNCTAD
Direct FDI	Total FDI inflows from non-tax havens	DFDI	US$	n.a.	
Indirect FDI	Total FDI inflows from tax havens	IFDI	US$	n.a.	
Independent Variable	Description of Proxy	Code	Measurement	Expected Sign	Data Source
Market size	Real GDP (constant 2010 US$)	GDP	Million US$	+	WDI
Market potential	Sum of the GDP of the other ASEAN members (constant 2010 US$)	SUM GDP	Million US$	+	WDI
Natural resources	Share of fuel, minerals and agricultural products in total exports	RES	%	+	WDI
Labour cost	Monthly average wage	WAGE	US $	-	ILO
Labour quality	School enrolment in tertiary education	EDU	%	+	WDI
Economic stability	Inflation rate	INFL	%	-	WDI
Political stability	Political Stability and Absence of Violence/Terrorism	POL	Index of -2.5 to 2.5	+	Worldwide Governance Indicators
Trade openness	Ratio of exports and imports to GDP	OPEN	%	+	WDI
Tax rate	Statutory corporate tax rate	STR	%	-	KPMG
Infrastructure	Mobile phone subscriptions (per 100 people)	MOB	Number of people	+	WDI
Tax incentives	Tax holiday	HOL	Years	+	Respective country's tax and investment regulations
	Investment allowance	ALLOW	%	+	
Corruption	Corruption perception index	CPI	Index of 0 to 100	+	Transparency International

4.4 Empirical Estimation

To assess the effects of tax policy on FDI, this study employs panel data of six countries in Southeast Asia for the period 1996–2017. As stated by Hsiao (2014), panel data provide a large dataset, which enables researchers to reduce the possibility of high collinearity among variables, increase degree of freedom and improve the efficiency of econometric estimations. Further, panel data provide more variability in the dataset. Thus, researchers may identify and measure relationships among variables that may not be detected using pure time-series or cross-section data (Baltagi 2008a). Therefore, employing panel data analysis is suitable for this study, considering the lack of variability in tax policy variables. Despite the aforementioned advantages, panel data also come with several issues that need to be addressed to achieve unbiased and efficient estimators.[57] These issues include parameter heterogeneity, dynamics and non-stationarity in the variables, and cross-section dependence (Smith & Fuertes 2016). Each of these issues is discussed in its related context.

In panel data analysis, there are various empirical approaches that may be employed to analyse the effect of explanatory variables on the dependent variable. The choice of this approach depends on the objective of the study as well as the characteristics of the dataset. For example, studies that employ count data as the dependent variable may use negative binomial or Poisson regression (Azémar & Desbordes 2013; Herger, Kotsogiannis & McCorriston 2016), whereas those that utilise continuous data may refer to fixed effect and random effect models (Bellak & Leibrecht 2009; Buchanan, Le & Rishi 2012).[58] Because the dependent variable in this study is a continuous variable, the discussion of the empirical methodology only covers regression techniques that are suitable for this type of data.

In general, the basic model specification in the panel data regression can be represented by the following equation (Baltagi 2008a):

[57] Some properties of a good estimator are being unbiased and efficient. An estimator is unbiased when its expected value approaches the true value, and efficient when its variance is as small as possible (Ketokivi & McIntosh 2017).

[58] Count data represent the number of specified occurrences in an interval of time. An example of this type of data in FDI studies is the number of affiliates or subsidiaries in a host country. Meanwhile, continuous data can take on any values within the range of the measurement, including a negative value.

$$Y_{it} = \alpha + \beta X_{it} + u_{it} \quad (4.2)$$

with

$$u_{it} = \mu_i + v_{it} \quad (4.3)$$

where Y is the dependent variable, α is the intercept, X is a vector of explanatory variables, β is the regression coefficients, u is the error term, i represents the cross-section unit and t denotes the time dimension. The error term u_{it} consists of two parts, μ_i, which represents the unobservable individual effect, and v_{it}, which represents the remainder disturbance (Baltagi 2008a).

The model specification as presented in Equation 4.2 can be estimated using different methods depending on the assumptions about the intercept, coefficients and error term. The most common regression methods for panel data are the pooled ordinary least squares (pooled OLS), fixed effect model (FEM) and random effect model (REM). Among these methods, pooled OLS is the simplest as it assumes a common intercept and coefficient across all cross-section units. However, as the cross-section units in the dataset may have different characteristics, this method may result in a bias estimator because it ignores the individual heterogeneity. Unlike pooled OLS, the FEM and REM allow heterogeneity across cross-section units and time dimension. Therefore, compared with pooled OLS, the FEM and REM are considered a better approach as they take into account the heterogeneity of the sample.

In the FEM and REM, the heterogeneity of the cross-section units is captured by the intercept and error term. In the FEM, the intercepts are set to be fixed for each individual. Thus, each individual has a different intercept (Asteriou & Hall 2011). Meanwhile, in the REM, the intercept represents the population mean, and heterogeneity in cross-section units is incorporated in the error term (Gujarati 2015). The main difference between these two methods lies in the assumption of the unobserved individual effect, which is captured by the error term (Wooldridge 2013b). When the unobserved individual effect is correlated with the regressors, the REM produces a bias estimate. On the contrary, the FEM yields efficient parameters because the unobserved individual effect is captured by the intercept. Thus, the FEM is able to mitigate the correlation between the regressors and the error term. The Hausman test is generally used to determine whether the error term is correlated with any of the explanatory variables, thereby indicating whether the FEM or REM is more appropriate.

When one or more of the explanatory variables are correlated with the error term, regression results in bias estimates because the coefficients of the regression capture not only the effect of the explanatory variables but also the effect that should be assigned to the error term (Kennedy 2008). This problem is known as the endogeneity problem, which can arise because of measurement error, simultaneity and omitted variables (Hill, Griffiths & Lim 2011).[59] Apart from the FEM, the most common method to address the endogeneity problem is by employing instrumental variables for the endogenous regressors. The basic prerequisites for an instrumental variable are that it must be correlated with the endogenous regressor but uncorrelated with the error term (Wooldridge 2013b). Hence, the instruments are able to capture the variation of the endogenous regressors and still maintain independence from the error term. Examples of instrumental variable estimators frequently used in panel data studies are two-stage least squares (2SLS) and the generalised method of moments (GMM). However, as the GMM is suitable for panel data with large cross-section units and short time period, this method is not suitable for this study (Breitung 2015).

In addition to the endogeneity problem, the non-stationarity of the variables under study may lead to bias and inefficient estimates. According to Gujarati (2015), a variable is considered stationary when the basic properties such as mean and variance are stable over time. In contrast, a non-stationary variable is characterised by changing mean and variance, which may happen when the variable exhibits trends (Baddeley & Barrowclough 2009). Brooks (2014) provides two reasons for the importance of stationarity in regression analysis. First, non-stationarity may have a strong effect on the behaviour of a variable. For example, in a non-stationary variable, a shock in one period may have lasting impact on the subsequent periods, unlike in a stationary variable where the effect of a shock gradually diminishes. As a result, it may be difficult to predict the future value of a variable when the variable is not stationary (Gujarati 2003c). Second, regression of non-stationary variables may lead to spurious results. As pointed out by Phillips (1998), when both the dependent and the explanatory variables exhibit trends, regression may show a significant relationship even though they may not be related. Therefore, before employing panel data regression, it is necessary to check the stationarity of all variables.

[59] Accordingly, the explanatory variable that is correlated with the error term is called the endogenous regressor.

There are various panel data unit root tests that can be utilised to determine the stationarity of a variable.[60] Among these tests, the tests by Levin, Lin and Chu (2002) (LLC hereafter) and Im, Pesaran and Shin (2003) (IPS hereafter) are the most frequently employed in empirical studies (Banerjee, Marcellino & Osbat 2005). These tests differ in their null hypothesis, where the LLC test assumes a common unit root process, while the IPS test assumes individual unit root processes. Thus, the alternative hypothesis for the LLC test is that all series are stationary. Meanwhile, for the IPS test, the alternative hypothesis is that a fraction of the series in the dataset is stationary. Because of its strong assumption of a common unit root process, the LLC test is often considered too restrictive. Therefore, many studies complement the LLC test with other unit root tests. Nevertheless, both the LLC and the IPS tests assume cross-section independence in the dataset, which may not be an appropriate assumption.

Cross-section independence implies that the cross-section units in the dataset are not correlated with each other. However, in cross-country studies, this assumption is likely to be violated because countries tend to be interdependent because of the growth of economic and financial integration. As a result, there may be a common shock or unobserved components that affect the cross-section units under study, which is ultimately captured by the error term (De Hoyos & Sarafidis 2006). Therefore, the residuals of the regression are correlated among the cross-section units, which is an indication of the cross-section dependence. In the presence of autocorrelation in the residuals, OLS results in unbiased but inefficient estimators (Gujarati 2003a). Similarly, in the context of the unit root test, the presence of cross-section dependence affects the efficiency of panel unit root tests.

In the presence of cross-section dependence, both the LLC and the IPS tests yield inaccurate results. Monte Carlo simulations by Banerjee, Marcellino and Osbat (2005) showed that when there is cross-section dependence, panel unit root tests such as the LLC and IPS suffer from size distortions, which may lead to incorrect inference. This finding implies that the LLC and IPS tests tend to over-reject the null hypothesis of non-stationarity when the cross-section units are correlated (Gengenbach, Palm & Urbain 2009). Therefore, several authors have proposed a second generation of panel unit root tests that can accommodate cross-section dependence. Two examples of these tests are

[60] When a variable is not stationary, it is said to exhibit a unit root. Therefore, the test for stationarity is called the unit root test

Pesaran's cross-sectional augmented IPS (CIPS) test (Pesaran 2007) and Bai and Ng's PANIC test (Bai & Ng 2004).[61]

From the above discussion, it can be concluded that to achieve unbiased and efficient estimators, there are various issues in panel data analysis that need to be addressed. For this reason, several diagnostic tests should be employed to identify any issues that may affect the estimation results. First, the stationarity of the variables should be examined using unit root tests. Second, when the variables are found to be non-stationary, the order of integration should be determined. The order of integration denotes the number of times a variable should be differenced to become stationary (Smith 1999). When a variable needs to be differenced once to make it stationary, it is said to be integrated of order one or I(1) (Verbeek 2017).[62] Third, when both dependent and independent variables are non-stationary, it is important to determine if the variables are cointegrated. Cointegration represents the condition when certain combinations of I(1) variables are stationary, which indicates the presence of long-run equilibrium among the variables (Engle & Granger 1987). Once the cointegration is established, panel cointegration regression can be performed to analyse the long-run relationship among variables.

For panel cointegration analysis, several methodologies have been frequently used in empirical studies. The choice of the appropriate method largely depends on the order of integration among variables. When all the variables are integrated of order one or I(1), fully modified OLS (FMOLS) proposed by Pedroni (2001) or dynamic OLS (DOLS) proposed by Kao and Chiang (2001) may be employed. However, when the variables are of mixed order of integration, panel autoregressive distributed lag (ARDL) models such as mean group (MG) and pooled mean group (PMG) are more appropriate (Pesaran, Shin & Smith 1999). According to Catao and Terrones (2005), panel ARDL models such as MG and PMG have advantages over other estimators because they can be implemented regardless of whether the variables are I(1) or I(0), and they can provide the estimates in both short-run and long-run relationships. Finally, when panel data analysis provides the evidence of significant relationship among variables, tests of causality such as panel vector error correction can be employed to determine the causality linkages among variables.

[61] PANIC is an abbreviation of Panel Analysis of Non-stationarity in Idiosyncratic and Common Components (Gengenbach, Palm & Urbain 2009).
[62] Similarly, a stationary variable is said to be integrated of order zero or I(0) if it does not need to be differenced to become stationary.

To sum up, even though panel data provide many benefits compared with pure cross-section or time-series data, various complexities exist that need to be considered to ensure that the empirical approaches produce efficient and unbiased estimators. Hence, the choice of the empirical approach to be employed depends largely on the issues that need to be addressed. For long panel data such as used in this study, the stationary properties of the variables is one of the areas that need careful attention to avoid spurious results. The detailed empirical strategies employed in this study are discussed in the Chapter 5.

4.5 Summary

In this chapter, a conceptual framework based on the eclectic paradigm as the conceptual basis is developed. This framework represents motivations of MNEs to engage in FDI, the choice between direct and indirect FDI, and a set of locational advantages in the host country that may affect the location choice of FDI. Among the location advantages of the host country, the current study focuses on tax policy as the main variable of interest, which includes CIT and tax incentives.

The current chapter also provides the rationale for proxies of dependent and independent variables. FDI inflows is employed as the dependent variable because it represents the attractiveness of a location for FDI, whereas for tax policy, STR is employed as the proxy for CIT. Despite its drawbacks for not reflecting the variations of tax regulations across countries, STR is the most suitable proxy for investigating the effect of CIT on indirect FDI because the incentive to channel FDI through tax havens is determined by STR. For tax incentives, tax holiday and investment allowance are used as the proxy. Apart from tax policy, a set of key determinants of FDI is employed as control variables to avoid omitted variable bias as well as to capture the main motivation of FDI into Southeast Asia.

The last part of this chapter provides an overview of various panel data analysis techniques that may be employed to investigate the relationship between tax policy and FDI. To summarise, there are various issues in panel data analysis that need to be addressed to produce efficient and unbiased estimators. Examples of these issues are non-stationarity of the variables and cross-section dependence. Therefore, various diagnostic tests should be performed to identify any issues that may affect the estimation results, and regression techniques to be employed depend on the results of these diagnostic tests.

CHAPTER 5
EMPIRICAL RESULTS AND DISCUSSION

5.1 Introduction

Chapter 4 has presented various aspects of research methodology as the basis of empirical estimations of this study, such as the rationale for the choice of explanatory variables, sample and data sources, as well as a number of regression techniques which can be employed to answer the research questions. In this current chapter, detailed empirical strategies which are employed in this study will be presented, followed by discussion on the results of the empirical estimations. For ease of reference, the research questions and sub-questions presented in Chapter 1 are repeated here:

1. What are the key determinants of FDI in Southeast Asian countries?
2. To what extent does tax policy influence FDI in Southeast Asian countries?
    a. Does CIT have a significant effect on FDI into Southeast Asian countries?
    b. Is there asymmetric effect of CIT on FDI from non-tax havens (direct FDI) compared with FDI from tax havens (indirect FDI)?
    c. Do tax holiday and investment allowance have significant effects on FDI?

To answer the research questions, several regression methods are performed, followed by various diagnostic tests to determine the most appropriate method. To perform the empirical estimations, Eviews version 10 and Stata version 13 are utilised as the statistical software. Prior to running the regressions, examination of the characteristics of the dataset is conducted, which includes an overview of the statistics of the variables, the magnitude of correlation among independent variables and the stationary properties of the variables. The remainder of the chapter presents the discussion of the estimation results, which provides the answer to each research question. To assess the robustness of the findings, robustness analysis is performed towards the end of this chapter.[63] Last, a summary of the estimation results concludes this chapter.

[63] An explanatory variable is considered to be robust if its significance and sign of the coefficient remain consistent subject to changes in empirical estimation (Chakrabarti 2001).

5.2 Empirical Estimations

5.2.1 Descriptive Statistics

Considering the diversity of the countries under study, it is important to first examine the characteristics of the sample through the statistics of the dataset, such as mean, median and standard deviation. Table 5.1 provides the descriptive statistics of all the variables employed in this study. These statistics reinforce the heterogeneity of the countries in Southeast Asia, as discussed in Chapter 3. However, it should be noted that the dataset spans over 22 years (from 1996 to 2017), which also contributes to the large variation in the dataset.

From the descriptive statistics, it can be seen that some of the variables have very large standard deviations. This is not surprising considering the heterogeneity of the countries under study, which range from Vietnam with GDP of 175.3 million USD to Indonesia with the largest GDP in Southeast Asia of 1.09 billion USD (data of 2017, measured in constant 2010 USD). Similar to GDP, the other explanatory variables show large variability due to different levels of development of the countries under study. Large variation is also found for FDI as the dependent variable, with the mean larger than the median indicating that the data are skewed to the right. One of the reasons for this skewness is the large inflows of FDI into Singapore, which is the largest recipient of FDI in Southeast Asia. Despite its small size, net FDI inflows to Singapore is much higher than FDI into the other ASEAN members. Breaking down the FDI data by the source country shows that on average only 20% of FDI comes from tax haven countries. However, the share of indirect FDI from tax havens differs across countries and there are sharp fluctuations compared with the direct FDI.

Unlike the other variables, which have large variations across countries, there is only modest variability in CIT rate. For example, the standard deviation of STR is 0.05 or 5%, which indicates that the majority of the STR is 5 points above or below the mean. Further, despite the declining trend of CIT rate, the average STR in the sample is still relatively high (27%). There are two reasons for this high average STR. First, the reduction of CIT rate occurred gradually. Second, several countries such as Indonesia and Thailand did not cut CIT rate until 2009 and 2012, respectively. Thus, for some countries in the sample, the within-country variation of STR may be very small.

Table 5.1 Descriptive Statistics from 1996 to 2017

Variable	Measurement	Observations	Mean	Median	Maximum	Minimum	Standard Deviation
FDI	Million US$	132	10,523.91	6,083.32	77,454.30	-4,550.37	14,914.64
DFDI	Million US$	132	8,137.51	4,662.07	59,401.80	-4,122.42	12,535.91
IFDI	Million US$	132	2,180.80	914.77	18,080.30	-2,252.20	3,371.59
GDP	Million US$	132	280,870.48	217,008.46	1,090,459.49	47,777.57	213,286.23
SUM GDP	Million US$	132	1,471,356.41	1,368,985.74	2,614,368.72	658,814.84	493,891.13
RES	%	132	17.55	13.55	49.51	2.67	11.51
WAGE	US$	132	619.64	225.63	3,730.71	25.31	912.44
EDU	%	132	34.10	30.18	92.20	4.04	17.70
INFL	%	132	4.60	3.50	58.45	-1.71	6.09
POL	Index of -2.5 to 2.5	132	-0.20	0.07	1.59	-2.09	0.98
OPEN	%	132	130.06	111.75	345.42	30.08	78.48
STR	%	132	0.27	0.28	0.35	0.17	0.05
MOB	Number of people	132	72.98	75.61	176.03	0.09	55.89
HOL	Years	132	4.63	5.00	7.50	0.00	2.05
ALLOW	%	132	0.28	0.13	0.80	0.00	0.29
CPI	Index of 0 to 100	132	42.82	34.00	94.00	17.00	22.92

While CIT rate can be considered comparable, tax incentive variables show more variability across countries. For tax holiday, the average tax holiday in the dataset is 4.63 years, with a maximum value of 7.5 years and minimum value of 0. All countries offer tax holiday during 1996 to 2017. However, for Indonesia, tax holiday was abolished in 2001 before being implemented again in 2011. For investment allowance, the minimum value is 0 as the Philippines and Vietnam do not offer this incentive, whereas the maximum value is 80% offered by Malaysia. Both tax holiday and investment allowance have very little within-country variation because tax incentive regulations rarely changed during the period under study.[64] For tax holiday, only Indonesia and Vietnam have within-country variation. Meanwhile, for investment allowance, only Indonesia has within-country variation. Because of this lack of within-country variation, the estimation of the effect of tax incentives on FDI requires a regression method that can accommodate rarely changing or time-invariant variables.

5.2.2 Pairwise Correlation

Having examined the basic statistics of the dataset, the next step is to examine the correlation among explanatory variables. The objective of this step is to determine if there are variables that are highly correlated as this makes the regression parameters less precise (Gujarati 2003b). This problem is known as multicollinearity. In practice, correlation among explanatory variables is a common occurrence, particularly for macroeconomic variables. However, in the presence of high correlation or severe multicollinearity among regressors, a few problems may arise. First, high multicollinearity results in large variance and standard errors, which make the regression coefficients imprecise (Gujarati 2003b). This includes having inaccurate *t*-statistics as well as wrong signs of coefficients (Asteriou & Hall 2011). Second, high multicollinearity makes it difficult for regression to assess the individual impact of an explanatory variable on the dependent variable (Studenmund 2010). Therefore, before proceeding to the regression analysis, it is necessary to examine the correlation among the independent variables. To do this, pairwise correlation is employed, and the result is presented in Table 5.2.

[64] Most changes in tax incentive regulations are related to the coverage of industry or the regions/provinces that are eligible for tax incentives.

Table 5.2 Correlation Matrix, 1996 to 2017

Variables	Ln FDI	Ln DFDI	Ln IFDI	Ln GDP	Ln SUM GDP	Ln RES	Ln WAGE	Ln EDU	INFL	POL	Ln OPEN	Ln STR	Ln MOB	HOL	ALLOW	Ln CPI
Ln FDI	1.000															
Ln DFDI	0.865	1.000														
Ln IFDI	0.356	0.273	1.000													
Ln GDP	-0.165	-0.202	-0.049	1.000												
Ln SUM GDP	0.423	0.394	0.151	0.074	1.000											
Ln RES	-0.206	-0.219	0.008	0.405	-0.121	1.000										
Ln WAGE	0.386	0.366	0.026	0.035	0.413	-0.160	1.000									
Ln EDU	0.331	0.292	0.023	0.297	0.521	-0.326	0.825	1.000								
INFL	-0.505	-0.468	-0.001	0.103	-0.290	0.246	-0.431	-0.367	1.000							
POL	0.399	0.416	0.180	-0.413	0.160	0.008	0.614	0.285	-0.301	1.000						
Ln OPEN	0.232	0.232	0.054	-0.457	0.183	-0.212	0.723	0.456	-0.227	0.743	1.000					
Ln STR	-0.221	-0.228	-0.064	-0.250	-0.556	-0.126	-0.746	-0.672	0.216	-0.527	-0.556	1.000				
Ln MOB	0.382	0.335	0.050	0.379	0.756	-0.061	0.609	0.750	-0.296	0.116	0.261	-0.611	1.000			
HOL	0.218	0.265	-0.079	0.023	0.184	-0.207	0.680	0.601	-0.264	0.440	0.408	-0.448	0.296	1.000		
ALLOW	0.114	0.105	-0.007	0.181	0.026	0.281	0.617	0.329	-0.266	0.458	0.485	-0.398	0.312	0.362	1.000	
Ln CPI	0.394	0.393	0.038	-0.078	0.258	-0.100	0.938	0.691	-0.412	0.746	0.770	-0.680	0.436	0.726	0.655	1.000

Notes: The highlighted cells denote high pairwise correlation.

Even though multicollinearity is a common problem in a regression, there is no standard critical value to identify severe multicollinearity. Thus, most studies generally rely on a rule of thumb in determining the presence of high multicollinearity among variables. Gujarati (2003b) and Kennedy (2008), for example, suggest a value of pairwise correlation higher than 0.8 (in absolute value) as an indication of high multicollinearity. Following this rule of thumb, only a few variables are found to be highly correlated. They are Ln WAGE and Ln EDU as well as Ln WAGE and Ln CPI. Thus, to avoid severe multicollinearity, these variables are employed in different model specifications.

5.2.3 Panel Unit Root Tests

To ensure that the appropriate regression techniques are employed, the stationarity of the variables under study first needs to be determined. This procedure is crucial considering the characteristics of the dataset, which comprises of a small number of cross-section units with long time-series.[65] To do this, panel unit root tests are performed to determine the order of integration of all variables. It should be noted that the tax incentive variables (tax holiday and investment allowance) have no within-country variation in most of the countries. Therefore, panel unit root tests are not applicable for these variables.[66]

As panel unit root tests often give inconclusive results, several unit root tests are employed: the Levin, Lin and Chu (LLC) test; the Im, Pesaran and Shin (IPS) test; and Pesaran's cross-sectional augmented IPS (CIPS) test. Among these tests, Pesaran's CIPS test is the preferred one because it can address the presence of cross-sectional dependence in the dataset. For the LLC and IPS tests, individual intercept and deterministic trend are included with automatic lag selection based on the SIC (Schwarz Information Criterion). Meanwhile, for the CIPS test, a maximum lag of 4 based on the Bayesian Information Criterion (BIC) is chosen, with individual intercept and deterministic trend also included. Considering the small sample size, a maximum lag of 4 is considered enough to detect the presence of unit root in the dataset. The results of the panel unit root tests are presented in Table 5.3.

[65] Panel data that consist of small cross-section units and long time-series (N < T) are also known as long panels, panel time-series or macro panels.

[66] The general idea behind a unit root test is to regress a time-series data against its previous value using the following equation: $Y_t = \rho Y_{t-1} + u_t$ (Gujarati 2003c). When $\rho = 1$ indicates the present of unit root or non-stationarity since the value of Y is a function of its previous value. From the formula it can be seen that it is not possible to perform a unit root test when there is no variation in time-series data (time-invariant).

Table 5.3 Panel Unit Root Tests, 1996 to 2017

Variables	Level			First Difference			Order of Integration
	LLC	IPS	CIPS	LLC	IPS	CIPS	
Ln FDI	-2.974**	-5.012**	-3.676**				I(0)
Ln DFDI	-4.191**	-5.219**	-3.689**				I(0)
Ln IFDI	0.566	-2.085*	-4.315**	-4.581**			I(0)
Ln GDP	-18.952**	-10.202**	-1.603			-3.767**	I(1)
Ln SUM GDP	-3.888**	-3.709**	-1.915			-4.216**	I(1)
Ln RES	1.566	2.119	-1.920	-7.497**	-5.769**	-4.978**	I(1)
Ln WAGE	-0.207	-0.209	-2.169	-6.730**	-4.771**	-4.169**	I(1)
Ln EDU	-1.822*	-0.904	-2.384	-3.843**	-4.512**	-3.992**	I(1)
INFL	-5.604**	-4.453**	-2.786			-3.379**	I(1)
POL	-2.688**	-2.609**	-3.081*				I(0)
Ln OPEN	-1.043	-1.335	-1.954	-6.191**	-6.706**	-3.938**	I(1)
Ln STR	-1.357	-1.180	-3.187*	-5.808**	-5.590**		I(1)
Ln MOB	-4.347**	-1.047	-3.797**		-5.509**		I(0)
Ln CPI	-1.585	-1.213	-2.704	-1.950*	-5.603**	-4.774**	I(1)

Notes: LLC test assumes common unit root process; IPS and CIPS tests assume individual unit root process.

* and ** denote significant at 5% and 1% levels of significance, respectively.

Table 5.3 shows that the variables employed in this study are of mixed order of integration. As expected, the three unit root tests show different results for several variables in the dataset. For example, whereas the LLC and IPS tests reject the null hypothesis of the unit root process at level for Ln GDP and Ln REER, the CIPS test fails to reject the null hypothesis and confirms these variables are only stationary after the first difference or I(1). On the contrary, whereas the LLC and IPS tests show that Ln STR is only stationary after the first difference or I(1), the CIPS test finds that this variable is stationary at level or I(0). Meanwhile, for several other variables, the IPS test shows different results from the LLC and CIPS tests. For the FDI variables, all tests conclude that Ln FDI and Ln DFDI are stationary at level. However, for Ln IFDI, the LLC test fails to reject the null hypothesis of the presence of unit root. Because the LLC test's assumption is often considered too restrictive (Baltagi 2008a), and considering that the IPS and CIPS tests all conclude that Ln IFDI is stationary at level, this variable is likely to be I(0). Therefore, it can be concluded that the dependent variables employed in this study (FDI, DFDI and IFDI) are stationary at level or I(0), whereas the regressors consist of I(0) and I(1).

5.2.4 Estimation and Model Specifications

The results of the panel unit root tests show that FDI as the dependent variable is stationary at level or I(0), while some of the explanatory variables are integrated of order 1 or I(1). As discussed in Chapter 4, the presence of non-stationary variables in the regression may affect the goodness of fit of a model so that, for example, it may lead to spurious results (Phillips 1998). However, this problem can be avoided if the non-stationary variables are cointegrated, which indicates the presence of long-term relationships among the variables. According to Pagan and Wickens (1989), when at least two explanatory variables are integrated of order 1 or I(1), there may be a cointegration among the I(1) variables, which results in a stationary disturbance term. In other words, the stationarity of the error term is one of the indicators of the presence of cointegration. Therefore, as pointed out by Baffes (1997), a stationary disturbance term is one of the criteria that a model performs well. On the basis of this consideration, conventional panel data regressions such as pooled OLS, the FEM and the REM are employed to answer the research questions, followed by an analysis of the residuals to determine the goodness of fit of the model.

To answer the research questions, pooled OLS, the FEM and the REM are all performed, and the relevant tests are utilised to choose the most appropriate method. For the time being, tax incentive variables are not included in the regression because these variables have very little within-country variation and may require a different regression approach to measure their effect on FDI. The effect of tax incentives on FDI and the appropriate method for this research question are discussed in more detail in Section 5.3.4.

For the FEM, only country effect is included in the regression because adding the period effect consumes a lot of degrees of freedom. Meanwhile, for the REM, Eviews provides three methods in performing the REM based on Swamy and Arora (1972), Wallace and Hussain (1969) and Wansbeek and Kapteyn (1982).[67] The Swamy–Arora method is not applicable for this study because it requires the number of cross-section units to be equal or more than the number of coefficients to be estimated, while the Wallace–Hussain method may result in bias estimators for a small sample (Bellmann, Breitung & Wagner 1989). Thus, the REM based on the Wansbeek–Kapteyn method is employed in this study.

From the results of the pairwise correlation, several independent variables are highly correlated and potentially may lead to severe multicollinearity. These variables are Ln WAGE and Ln EDU as well as Ln WAGE and Ln CPI. Therefore, to avoid a multicollinearity problem, two model specifications are employed to investigate the key determinants of FDI in Southeast Asia. In addition, all the explanatory variables are 1-year lagged because the effects of the explanatory variables on the dependent variable are expected to appear with a delay. This might happen because of the availability of information needed for investment decisions as well as the time span between the decision process and the actual investment (Bevan & Estrin 2004; Olney 2013). The model specifications for the regressions are as follows:

Model 1:

1. Total FDI

$$Ln\ FDI_{it} = \alpha + \beta_1\ Ln\ GDP_{it-1} + \beta_2\ Ln\ SUM\ GDP_{it-1} + \beta_3\ Ln\ RES_{it-1} + \beta_4\ Ln\ WAGE_{it-1} + \beta_5\ INFL_{it-1} + \beta_6\ POL_{it-1} + \beta_7\ Ln\ OPEN_{it-1} + \beta_8\ Ln\ STR_{it-1} + \beta_9\ Ln\ MOB_{it-1} + u_{it} \quad (5.1)$$

2. FDI from non-tax havens (Direct FDI)

[67] See Baltagi (2008b) for detailed computation of these methods.

$$Ln\ DFDI_{it} = \alpha + \beta_1 Ln\ GDP_{it-1} + \beta_2 Ln\ SUM\ GDP_{it-1} + \beta_3 Ln\ RES_{it-1} + \beta_4 Ln\ WAGE_{it-1} + \beta_5 INFL_{it-1} + \beta_6 POL_{it-1} + \beta_7 Ln\ OPEN_{it-1} + \beta_8 Ln\ STR_{it-1} + \beta_9 Ln\ MOB_{it-1} + u_{it} \quad (5.2)$$

3. FDI from tax havens (Indirect FDI)

$$Ln\ IFDI_{it} = \alpha + \beta_1 Ln\ GDP_{it-1} + \beta_2 Ln\ SUM\ GDP_{it-1} + \beta_3 Ln\ RES_{it-1} + \beta_4 Ln\ WAGE_{it-1} + \beta_5 INFL_{it-1} + \beta_6 POL_{it-1} + \beta_7 Ln\ OPEN_{it-1} + \beta_8 Ln\ STR_{it-1} + \beta_9 Ln\ MOB_{it-1} + u_{it} \quad (5.3)$$

Model 2:

1. Total FDI

$$Ln\ FDI_{it} = \alpha + \beta_1 Ln\ GDP_{it-1} + \beta_2 Ln\ SUM\ GDP_{it-1} + \beta_3 Ln\ RES_{it-1} + \beta_4 Ln\ EDU_{it-1} + \beta_5 INFL_{it-1} + \beta_6 POL_{it-1} + \beta_7 Ln\ OPEN_{it-1} + \beta_8 Ln\ STR_{it-1} + \beta_9 Ln\ MOB_{it-1} + \beta_{10} Ln\ CPI_{it-1} + u_{it} \quad (5.4)$$

2. FDI from non-tax havens (Direct FDI)

$$Ln\ DFDI_{it} = \alpha + \beta_1 Ln\ GDP_{it-1} + \beta_2 Ln\ SUM\ GDP_{it-1} + \beta_3 Ln\ RES_{it-1} + \beta_4 Ln\ EDU_{it-1} + \beta_5 INFL_{it-1} + \beta_6 POL_{it-1} + \beta_7 Ln\ OPEN_{it-1} + \beta_8 Ln\ STR_{it-1} + \beta_9 Ln\ MOB_{it-1} + \beta_{10} Ln\ CPI_{it-1} + u_{it} \quad (5.5)$$

3. FDI from tax havens (Indirect FDI)

$$Ln\ IFDI_{it} = \alpha + \beta_1 Ln\ GDP_{it-1} + \beta_2 Ln\ SUM\ GDP_{it-1} + \beta_3 Ln\ RES_{it-1} + \beta_4 Ln\ EDU_{it-1} + \beta_5 INFL_{it-1} + \beta_6 POL_{it-1} + \beta_7 Ln\ OPEN_{it-1} + \beta_8 Ln\ STR_{it-1} + \beta_9 Ln\ MOB_{it-1} + \beta_{10} Ln\ CPI_{it-1} + u_{it} \quad (5.6)$$

where *i* represents the host countries, *t* represents the time index, *Ln* is the natural logarithm, and the dependent and explanatory variables are as follows:

FDI = net FDI inflows into a host country
GDP = the GDP of the host country
SUM GDP = the sum of the GDP of the other ASEAN members
RES = natural resources endowment
WAGE = monthly average wage
EDU = school enrolment in tertiary education
INFL = inflation rate
POL = Political Stability and Absence of Violence/Terrorism index

OPEN = trade openness (measured as the ratio of exports and imports to GDP)

STR = statutory CIT rate

MOB = mobile phone subscriptions per 100 people

CPI = corruption perception index.

5.3 Empirical Findings and Discussion

5.3.1 Key Determinants of Foreign Direct Investment in Southeast Asia

To determine the most appropriate regression method, pooled OLS, the FEM and the REM are performed, followed by the relevant tests to determine the most appropriate method. To avoid heteroscedasticity, all the regressions are performed with White's corrected robust standard errors, which correct for heteroscedasticity (White 1980). In addition, the robust standard error is clustered by country to minimise the possibility of cross-section dependence.[68] To determine which regression approach is more appropriate, several tests are employed. First, to compare the results of pooled OLS and the FEM, a restricted *F*-test is performed to assess the joint significance of adding the fixed effects in the model. The objective of this test is to determine whether the assumption of heterogeneity in the dataset is met. The null hypothesis of this test is that there is no unobserved heterogeneity in the model and the pooled model is appropriate. Consequently, rejection of the null hypothesis implies that the FEM is more appropriate as there is heterogeneity in the dataset that should be accommodated by adding the country or period fixed effects. From the result of the *F*-test, the null hypothesis of no unobserved heterogeneity is rejected. Thus, the FEM is more appropriate than pooled OLS.

Second, the Hausman test is performed to determine whether the FEM or REM is more efficient. The objective of this test is to determine if the country's unobserved heterogeneity is not correlated with the regressors, which is the prerequisite of the REM. Hence, failure to reject the null hypothesis indicates that the unobserved heterogeneity, which is captured by the error term, is correlated with the regressors. In this case, the REM is no longer efficient and the FEM is more appropriate. Nevertheless, the Hausman test fails to determine the presence of random effects in the models, which can be seen from the zero value of the chi-square of the Hausman statistics. Therefore, among the

[68] In Eviews, options of cross-section weights and White cross-section are employed to generate robust standard errors in the presence of heteroscedasticity and cross-sectional dependence (Reed & Ye 2011).

three regression methods, the FEM is the most appropriate approach. The results of the regression based on the FEM are presented in Table 5.4.

To evaluate the goodness of fit of the FEM, residuals analysis is performed to assess the properties of the residuals, such as the stationarity and cross-section independence of the residuals. As discussed in Chapter 4, non-stationarity of the residuals is one of the indicators of spurious regression, whereas cross-section dependence may lead to bias estimators due to the correlation among the cross-section units. The result of the diagnostic tests is also presented in Table 5.4. All the unit root tests reject the null hypothesis of the presence of unit root at 5% level of significance. Thus, it can be concluded that the residuals are stationary at level or I(0). This result indicates that the variables in the models are cointegrated and that the possibility of spurious regression is unlikely. For the cross-section dependence tests, both Breusch-Pagan LM and Pesaran scaled LM fail to reject the null hypothesis of cross-section independence, which indicate that the residuals are free of cross-section dependence. Therefore, based on these diagnostic tests, it can be concluded that FEM performs satisfactorily.

On the basis of the results of the FEM, Model 1 and Model 2 generally show consistent results, particularly in terms of the direction of the impact. The signs of the coefficients are similar in Model 1 and Model 2, but the statistical significance differs for several explanatory variables. While Ln RES, INFL and Ln STR are found to have significant effects in Model 1, Model 2 shows that the effects are not statistically different from zero. In addition to these variables, Ln WAGE, POL, Ln MOB and Ln CPI show significant effects on FDI, whereas the remaining variables do not have significant impact on FDI into Southeast Asia.

Contrary to the widely held view that FDI into developing countries is motivated by market seeking, this study does not find market seeking as the primary motivation of FDI into Southeast Asia. GDP and SUM GDP, which are the proxies for market size and market potential, do not show any significant effects on FDI in both models. This result is similar to Athukorala and Wagle (2011) and Kang and Jiang (2012), who also found GDP to have no significant effect on FDI. Nevertheless, this finding is in contrast with previous studies that tend to find GDP as one of the key determinants of FDI into Southeast Asia, such as Hoang and Bui (2015); Xaypanya, Rangkakulnuwat and Paweenawat (2015); and Vogiatzoglou (2008). Therefore, the robustness of this result is further examined in the robustness analysis (Section 5.4).

Table 5.4 Key Determinants of FDI and the Effect of CIT on FDI in Southeast Asian Countries, 1996 to 2017

Variable	Ln FDI (FEM)		Ln DFDI (FEM)		Ln IFDI (POLS)	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	15.898	2.396	43.454	22.354	-69.146	-73.350
	(17.984)	(17.554)	(29.695)	(26.487)	-94.068	95.777
Ln GDP	-2.248	-1.023	-11.164***	-9.335***	1.515	1.783
	(2.212)	(1.790)	(3.448)	(2.700)	(3.207)	(2.915)
Ln SUM GDP	1.696	1.487	7.075**	7.029***	6.829	7.674
	(2.442)	(1.788)	(3.160)	(2.430)	(4.895)	(5.428)
Ln RES	0.583***	0.367	0.571*	0.336	-0.303	-0.060
	(0.204)	(0.255)	(0.323)	(0.481)	(0.764)	(1.017)
Ln WAGE	2.119***		2.192***		-2.681**	
	(0.744)		(0.811)		(1.298)	
Ln EDU		0.026		-0.297		(0.410)
		(0.526)		(0.994)		(2.225)
INFL	-0.112**	-0.048	-0.143***	-0.085*	-0.084	-0.080
	(0.053)	(0.037)	(0.053)	(0.044)	(0.104)	(0.094)
POL	1.324***	1.124***	3.061***	2.588***	5.359***	5.922***
	(0.361)	(0.322)	(0.788)	(0.808)	(1.930)	(1.704)
Ln OPEN	-0.507	-1.074	-1.600	-2.019	-1.880	-1.559
	(0.809)	(0.922)	(1.510)	(1.458)	(4.525)	(4.399)
Ln STR	2.393*	1.291	-4.081	-4.818	4.265	5.539
	(1.305)	(1.234)	(3.523)	(3.290)	(10.588)	(10.227)
Ln MOB	0.411**	0.523**	0.961***	1.037***	0.718	0.114
	(0.205)	(0.203)	(0.266)	(0.275)	(0.674)	(0.959)
Ln CPI		3.936*		3.741		-7.108*
		(2.071)		(2.956)		(3.690)
Goodness of fit						
R-squared	0.467	0.456	0.479	0.457	0.170	0.181
Adjusted R-squared	0.400	0.381	0.413	0.383	0.105	0.110
Prob. (F-Stat)	0.000	0.000	0.000	0.000	0.008	0.008
Restricted *F*- test						
Stats	4.582	4.565	2.339	2.194	0.983	0.429
Prob	0.001	0.001	0.046	0.060	0.432	0.827
Hausman test						
Chi-sq	0.000	0.000	0.000	0.000	0.000	0.000
Prob	1.000	1.000	1.000	1.000	1.000	1.000
Unit Root Tests (*p* -value)						
LLC	0.0268	0.0008	0.0004	0.0000	0.0001	0.0000
IPS	0.0062	0.0000	0.0000	0.0000	0.0000	0.0000
CIPS	0.0100	0.0200	0.0005	0.0013	0.0000	0.0000
Cross-section Dependence Tests (*p* -value)						
Breusch-Pagan LM	0.4719	0.6990	0.7421	0.8804	0.9074	0.9372
Pesaran scaled LM	0.9590	0.5511	0.4818	0.2689	0.2271	0.1793

Notes: ***, ** and * indicate significant at 1%,5% and 10% respectively; standard error is reported in parentheses; the null hypothesis for LLC, IPS, and CIPS unit root tests are non-stationarity in the dataset; the null hypothesis for Breusch-Pagan LM test and Pesaran scaled LM test are cross-section independence in the dataset.

With regard to the other motivations for FDI into Southeast Asia, there is evidence of resource seeking but not efficiency seeking FDI. Natural resources endowment (RES), which represents resource seeking FDI, shows a positive effect in both models, albeit it is only significant in Model 1. This finding is in line with Kang and Jiang (2012), who found the importance of natural resources as the determinants of Chinese MNEs' FDI into Southeast Asia. Conversely, labour cost (WAGE) shows a significant and positive effect on FDI, which is contrary to expectation as higher labour cost is associated with higher FDI. Even though this result seems to be counterintuitive, several studies in the context of Southeast Asia have also found similar results, such as Chantasasawat et al. (2010), Athukorala and Wagle (2011), and Hoang and Bui (2015). The general explanation of this finding is that higher wage can be interpreted as an indicator of either expensive labour or high-quality labour (Cheng 2006; Hoang & Bui 2015). Another possibility is that even though labour cost shows a positive trend, it will not discourage FDI if the labour cost in Southeast Asia is still relatively cheaper than the labour cost in home countries. Nevertheless, because the effect of labour quality (proxied by level of education) is not statistically significant, albeit showing the expected positive sign, it can be inferred that efficiency seeking is not the primary motivation of FDI into Southeast Asia.

Turning to the policy variables, inflation rate (INFL) as the proxy of macroeconomic conditions shows a negative effect on FDI, although only significant in Model 1. This finding is in line with the literature review, which proposes that high inflation rate is seen as an indicator of macroeconomic instability (Boateng et al. 2015; Hansson & Olofsdotter 2013). Thus, high inflation rate discourages FDI. This finding confirms previous studies by Buracom (2014) and Vogiatzoglou (2008), who also found the negative effect of inflation on FDI into Southeast Asia. In addition to inflation rate, political stability (POL) is found to have a significant effect on FDI. Political stability shows a positive effect on FDI, and this result is consistent in both models. Similar results are found by Mengistu and Adhikary (2011) and Rashid, Looi and Wong (2017) in the context of Asian countries (including major Southeast Asian countries). This finding implies that the host countries' political stability is important for investors as unstable political conditions pose risks and uncertainty for investors. Unlike inflation rate and political stability, trade openness (OPEN) does not show a significant effect on FDI, which implies that trade intensities may not be important for investors because nearly all countries have reduced tariff and trade restrictions. Nevertheless, this finding is in contrast with previous studies that found

trade openness to have a positive and significant effect on FDI into Southeast Asia (Hoang & Bui 2015; Masron & Nor 2013; Vogiatzoglou 2008).

In addition to inflation and political stability, quality of infrastructure and level of corruption have significant effects on FDI. Mobile phone subscriptions (MOB) as the proxy of infrastructure shows a positive and significant effect in both models, which indicates the importance of infrastructure for FDI. Similarly, control of corruption as proxied by the Corruption Perception Index (CPI) also has significant and positive effect on FDI. Moreover, compared to the other explanatory variables, the magnitude of the effect of CPI on FDI is the largest. All else being equal, 1% increase in Corruption Perception Index is associated with 4% increase in net FDI inflows. These findings imply that MNEs prefer a location with better infrastructure and low level of corruption. Similar results were found by Mengistu and Adhikary (2011) and Hoang and Bui (2015), who also confirmed the importance of infrastructure and control of corruption as the determinants of FDI in Southeast Asia.

Unlike the other variables, which conform to theoretical explanations, STR as the proxy of CIT shows a counterintuitive result, albeit only significant in Model 1. Coefficients of STR are positive in both models, but only significant at 10% level in Model 1. This counterintuitive finding needs careful interpretation and is explored in more detail in the next section.

To sum up, the panel data regression analysis on the key determinants of FDI finds resource seeking as the primary motivation of FDI into Southeast Asia. In addition, this study finds the importance of policy variables as the key determinants of FDI in Southeast Asian countries. More specifically, low level of inflation and corruption, as well as high level of political stability and infrastructure, encourage FDI into Southeast Asia. Contrary to the expectations, this study finds positive effects of labour cost and CIT rate on overall FDI into Southeast Asia. To ensure the robustness of these findings, robustness analysis is performed towards the end of this chapter.

5.3.2 Effect of Tax Policy on Foreign Direct Investment

5.3.2.1 Effect of Corporate Income Tax on Foreign Direct Investment into Southeast Asian Countries

Turning to CIT as the main variable of interest, STR as the proxy of CIT shows a counterintuitive result, albeit only weakly significant in Model 1. Contrary to the

prevailing wisdom that high CIT rate discourages FDI, this study finds CIT rate to have a positive effect on FDI. This finding is in contrast with previous studies that found either a negative effect (Nagano 2013; Vogiatzoglou 2008) or a negative but insignificant effect (Buracom 2014) of CIT on FDI into Southeast Asian countries.

Interpreting the positive effect of CIT on FDI is certainly not an easy task because it contradicts neoclassical investment theory, which argues that high CIT rate reduces net profit from the investment, which in turn discourages FDI. As a result, studies that find a positive effect of CIT on FDI often do not provide clear interpretation of the finding. For example, Bobonis and Shatz (2007, p. 37), who found a positive effect of corporate tax rate on state level FDI in the US, stated that they could not draw conclusions on this finding because the coefficients of corporate tax rate might have been measured imprecisely. Meanwhile, Rogers and Wu (2012) argued that the counterintuitive result may be attributed to differences in empirical approaches between their study and previous studies. Along the same line, Slemrod (1990) argued that the positive effect of CIT on FDI into the US is driven by the inclusion of a broad set of determinants.[69] Thus, he concluded that a negative effect of CIT on FDI may not be robust. Unlike the aforementioned studies, Rasciute and Downward (2017) interpreted a positive effect of CIT on FDI as the possibility that higher taxes may be seen as a signal of better provision of public goods and services in the host country. As a result, the positive effect of CIT on FDI may have various interpretations.

In line with Rogers and Wu (2012), there is no doubt that one of the reasons for the divergent findings may be attributed to the differences in empirical approaches. For example, Vogiatzoglou (2008) examined FDI from the US, the EU and Japan (in separate regressions), whereas Nagano (2013) only examined FDI from Japanese MNEs. Furthermore, the difference in term of statistical significance between Model 1 and Model 2 indicates that different set of explanatory variables may yield different results with respect to the effect of CIT on FDI. In other words, as pointed out by Slemrod (1990) and Hajkova et al. (2007), the effect of CIT on FDI is sensitive to the inclusion of the other determinants. Due to this methodological challenges, Nielsen, Asmussen and Weatherall (2017) advised that the positive effect of CIT on FDI should not be interpreted as FDI attraction to location with high CIT rate, since what makes high tax location is attractive

[69] When only including tax variables and rate of return as the explanatory variables, Slemrod (1990) found negative and significant effect of tax on FDI. However, when including non-tax determinants such as real exchange rate and unemployment rate, the coefficient for tax rate showed a positive and significant effect.

may not be the CIT per se 'but rather because of the systematic way in which high-tax locations differ from low-tax locations on other parameters' (Nielsen, Asmussen & Weatherall 2017, p. 71).

Apart from the differences in empirical approaches, there are several other factors that may explain the positive effect of CIT on FDI. First, as discussed in the literature review, the effect of CIT on FDI depends on not only tax policy in the host countries but also tax regulations of the home countries. For investors from countries that adopt the worldwide tax system, low CIT rate in the host country may not really matter as the overall tax burden is determined by the home country CIT rate (Wijeweera, Dollery & Clark 2007). Second, as stated by the New Economic Geography (NEG) theory, the benefits from agglomeration economy may outweigh the tax burden. Therefore, high tax rate may not discourage FDI (Baldwin & Krugman 2004). Last, MNEs may be able to avoid taxes through tax planning. In this case, high CIT rate does not necessarily mean a high tax burden. This proposition is the basis for research question 2b, which investigates the asymmetric effect of CIT on FDI from tax havens and non-tax havens. The results show that the effect of CIT on FDI also depends on the origin of the FDI, with CIT tending to have negative effect on FDI from non-tax havens (direct FDI) and positive effect on FDI from tax havens (indirect FDI).

To summarise, the empirical finding from this study shows that CIT has positive effect on FDI into Southeast Asian countries. However, the results of the regressions also indicate that the effect of CIT on FDI is sensitive to the inclusion of the other covariates. Therefore, the robustness of the positive effect of CIT on FDI is further examined in the robustness analysis.

5.3.2.2 Asymmetric Effect of Corporate Income Tax on Direct and Indirect Foreign Direct Investment

To investigate the role of tax planning in altering the effect of CIT on FDI, FDI as the dependent variable is differentiated according to the home country of the investors, whether the FDI comes from tax havens (indirect FDI) or non-tax haven countries (direct FDI). FDI from tax havens represents FDI from MNEs that engage in tax planning to reduce the tax burden, whereas FDI from non-tax havens represents investment from MNEs that have less opportunity for tax avoidance. In other words, regardless of the country of origin, all MNEs may engage in tax avoidance to reduce the tax burden. However, previous studies have shown that MNEs with tax haven affiliates have higher

probability of engaging in tax avoidance (Dyreng & Lindsey 2009; Jaafar & Thornton 2015), which is one of the underlying motives of indirect FDI.

Following the estimation approach of the key determinants of FDI, pooled OLS, the FEM and the REM are all performed, and the relevant tests are utilised to choose the most appropriate method, followed by residual analysis to assess the performance of the estimators. From the results of the restricted *F*-test and Hausman test, the FEM is considered the most appropriate method for FDI from non-tax havens, whereas for FDI from tax havens, pooled OLS is identified as the most appropriate method. The results of the regressions and residual analysis are presented in Table 5.4 (page 108) column 3 and 4 for direct FDI and column 5 and 6 for indirect FDI. The results of the diagnostic tests show that the residuals for both the FEM and pooled OLS are stationary at level or I(0) and there is no cross-section dependence. Thus, it can be concluded that the model specifications perform satisfactorily.

The result of the regressions show that the determinants of FDI from non-tax havens are fairly similar to those for overall FDI. This is not surprising as the majority of FDI is from non-tax havens. The only difference is that FDI from non-tax havens is more market oriented, which can be seen from the positive and significant effect of the variable Ln SUM GDP as the proxy of market potential. The negative and significant effect of GDP is counterintuitive. However, it can be interpreted as meaning that the regional market is more important for MNEs compared with the domestic market. This finding supports the semi-globalisation perspective, which argues that a country is selected as an FDI location not only because of its factor endowments, but also because it can serve as a platform into the region (Arregle et al. 2013).

Unlike the other variables, which show similar effects to those for overall FDI, STR shows the opposite sign, although not statistically significant, in both models. For FDI from non-tax havens, the coefficients of STR are negative in both models, which is in line with neoclassical investment theory. Nevertheless, the effect is not statistically different from zero, indicating that CIT plays a negligible role in location decisions of FDI from non-tax haven countries. Put differently, for foreign investors, other policy variables such as macroeconomic and political stability seem to be more important than CIT. This result is in accordance with Tavares-Lehmann, Coelho and Lehmann (2012) who also concluded that taxes only play a minor role in FDI attraction. This finding implies that

tax consideration may be of secondary importance in corporate strategic decision such as FDI location (Glaister & Hughes 2008).

While direct FDI shows fairly similar determinants to overall FDI, the results for indirect FDI show substantial differences. The fact that the diagnostic tests identify pooled OLS as the most appropriate method indicates that regression does not find country heterogeneity to be significant. One of the possible reasons for this is because net FDI inflows from tax havens are highly volatile, with sharp increases and decreases in several countries. From the regression results as presented in Table 5.4 column 5 and 6, only a few variables are found to have significant effects on FDI from tax havens. They are labour cost (WAGE), political stability (POL) and CPI. Moreover, WAGE and CPI show negative effects on indirect FDI, which is the opposite of the results for the overall FDI and direct FDI. These findings are in contrast to previous study by Haberly and Wójcik (2015), who found the determinants of FDI for direct and indirect FDI are fairly similar. In addition, the small R^2 value of the regressions indicates that the models only capture a small variability for the indirect FDI into Southeast Asia. These results indicate that indirect FDI via tax havens is much more complex than direct FDI.

Turning to CIT as the key variable of interest, STR does not show a significant effect on FDI in both models. However, the signs of the coefficients are in line with expectations. The coefficients for STR in both models are positive, which implies that higher CIT rate is associated with more FDI from tax havens. Nevertheless, similar to the results for the direct FDI, the effect of CIT on indirect FDI is not statistically significant. Therefore, tax considerations may not be the primary objective of channelling FDI through tax havens. This result is in line with Gumpert, Hines and Schnitzer (2016) who concluded that firms which invest in tax havens are not necessarily motivated by tax savings but for genuine business reasons.

In conclusion, the results of the FEM and pooled OLS do not find CIT to have significant effects on direct and indirect FDI into Southeast Asia. In contrast to predictions that higher CIT rate discourages FDI, this study finds CIT to have a positive effect on the overall FDI into Southeast Asia. However, when differentiating the FDI according to the source country, this study finds that the effects of CIT on FDI from tax havens and non-tax havens are not statistically significant, albeit showing the expected sign. Therefore, it can be concluded that even though there is asymmetric effect of CIT on direct and indirect FDI, the effect is not statistically significant.

5.3.2.3 Effect of Tax Incentives on Foreign Direct Investment

In addition to reducing CIT rate, offering tax incentives is one of the most popular tools used by governments to attract FDI. However, assessing the impact of tax incentives on FDI often faces methodological challenges because tax incentive regulations are rarely changed. Both tax holiday and investment allowance have very little within-country variation as most of the countries did not change their tax incentive regulations for the period under study. Nevertheless, these variables cannot be considered time-invariant as little variation exists in some of the sample. As a result, panel data regressions such as the FEM, which is the standard in most empirical studies, may be biased as this method relies on within-unit variation (Firebaugh, Warner & Massoglia 2013). Unlike the FEM, pooled OLS does not rely on within-unit variation because it treats all observations as independent and runs the regression as one large sample. Because of this feature, pooled OLS is able to estimate time-invariant variables. Nevertheless, the estimators generated by pooled OLS are likely to be biased because it ignores the heterogeneity in the sample (Wooldridge 2013b).

As a result of the limitations of the FEM and pooled OLS, studies that include time-invariant variables generally employ the REM. Unlike the FEM, which relies on variation within cross-section units, the REM takes into account both between- and within-unit variation (Firebaugh, Warner & Massoglia 2013). Therefore, the REM is more suitable in measuring the effect of rarely changing variables such as tax incentives. Nevertheless, to produce unbiased estimators, the REM requires that the unobserved individual heterogeneity, which is captured by the error terms, is not correlated with the regressors. This assumption is often violated in empirical studies, which is one of the reasons why the FEM is considered the standard in panel data regression. Further, previous regressions using FDI, DFDI and IFDI as the dependent variables all reject the REM in favour of the FEM or pooled OLS. Therefore, similar to the FEM, the REM is also not suitable for assessing the effect of tax incentives on FDI.

As an alternative to the FEM and REM, Hausman and Taylor (1981) proposed the use of instrumental variables to eliminate the correlation between the regressors and the error terms in the REM. The primary assumption of this approach is that not all of the regressors are correlated with the error terms (Cameron & Trivedi 2010) and that the deviations from the means of the endogenous variables can be used as instruments to eliminate the correlation between the regressors and the error terms (Hsiao 2014). Consequently, the

Hausman–Taylor estimator is able to circumvent the limitation of the REM as well as provide the estimates of time-invariant variables. Considering these advantages, the Hausman–Taylor estimator is used to assess the effect of tax incentives on FDI.

In the Hausman–Taylor estimator, the explanatory variables can be classified as exogenous or endogenous as well as time-varying or time-invariant. Therefore, in accordance with this requirement, tax incentive variables are transformed into time-invariant variables by using the mean value of each cross-section unit.[70] For simplicity, only variables that are found to have significant effect on the overall FDI are included in the model. These variables include natural resources endowment (RES), labour cost (WAGE), inflation (INFL), political stability (POL), CIT rate (STR) and infrastructure (MOB). In addition to these variables, GDP is included in the control variables because previous studies tend to find GDP as one of the robust determinants of FDI (Chakrabarti 2001; Chanegriha, Stewart & Tsoukis 2017). Conversely, despite showing a significant effect on FDI, corruption index (CPI) is excluded from the model because of high correlation with Ln WAGE. Thus, the following model specification is used to assess the effect of tax incentives on the overall FDI into Southeast Asia:

$$Ln\ FDI_{it} = \alpha + \beta_1 Ln\ GDP_{it-1} + \beta_2 Ln\ RES_{it-1} + \beta_3 Ln\ WAGE_{it-1} + \beta_4 INFL_{it-1} + \beta_5 POL_{it-1} + B_6 Ln\ STR_{it-1} + \beta_7 Ln\ MOB_{it-1} + \beta_8 HOL_{it-1} + \beta_9 ALLOW_{it-1} + u_{it} \quad (5.7)$$

where *HOL* refers to tax holiday and *ALLOW* refers to investment allowance.

Among the explanatory variables, GDP is most likely to be endogenous as previous studies have found that there may be a bi-directional relationship between FDI and GDP (Basu, Chakraborty & Reagle 2003; Chowdhury & Mavrotas 2006). As pointed out by Studenmund (2010), this simultaneity relationship may lead to the problem of endogeneity. Apart from GDP, the other regressors are considered exogenous.

The results of the Hausman–Taylor (HT) estimator and the relevant diagnostic tests are presented in Table 5.5. For comparability and a robustness check, the FEM and pooled OLS are also employed, and the results are presented in the same table. As expected, unlike pooled OLS and Hausman-Taylor estimator, the FEM is unable to estimate the coefficients of tax holiday and investment allowance because of the absence of within-

[70] Both the FEM and REM can be estimated by centring each cross-section unit around its mean (Firebaugh, Warner & Massoglia 2013). Therefore, transforming tax incentive variables into their means does not affect the estimation results.

country variation. However, the restricted F-test which compares the result of pooled OLS and FEM, as well as the Hausman test which compares the result of FEM and REM, both conclude that FEM is the most appropriate regression approach. The results of the restricted F-test show that the null hypothesis of no individual fixed effect is rejected at 1% level of significance, which implies that pooled OLS may suffer from heterogeneity bias. Similarly, the result of the Hausman test which compares FEM and REM rejects the null hypothesis that the individual fixed effects are uncorrelated with the regressors. Based on these tests, the FEM is more appropriate than pooled OLS or REM, even though it is not able to estimate the coefficients for tax holiday and investment allowance.

To circumvent the problem with FEM, Hausman-Taylor estimator is employed and the Hausman test is performed to check whether this estimator is more efficient than the FEM. The results of the Hausman specification test show that the residuals of the Hausman–Taylor estimator are not correlated with the explanatory variables. Therefore, the Hausman–Taylor estimator mitigates the endogeneity problem, which makes the REM inapplicable. Furthermore, the result of the Sargan–Hansen test of over-identifying restrictions also confirms the validity of the instruments. On the basis of these diagnostic tests, the Hausman–Taylor estimator is preferable to the FEM and pooled OLS because it generates consistent estimates.

For the analysis of the residuals, the results of diagnostic tests are inconclusive for both the stationarity test and the cross-section dependence test. The results of the LLC and IPS tests generally conclude that the residuals are stationary at level. However, the CIPS test fails to reject the null hypothesis of the presence of unit root in the residuals, whereas for the cross-section dependence tests, the Breusch–Pagan LM test and Pesaran CD test yield mixed results in all models. To mitigate the bias due to autocorrelation in residuals, corrected standard errors, which are robust to serial correlation and cross-section dependence, are employed (Cameron & Trivedi 2010).

Table 5.5 Effect of Tax Incentives on FDI Inflows into Southeast Asia, 1996–2017

Variable	POLS	FEM	HT	Diagnostic Tests	
Constant	31.345	112.7	82.53	Restricted *F* -test (POLS-FEM)	
	(14.881)	(59.82)	(51.95)	Stats	4.27
Ln GDP	0.158	-11.652	-5.656	Prob	0.0014
	(0.876)	(6.734)	(3.908)		
Ln RES	0.428	3.605	2.72	Hausman test (FEM-REM)	
	(0.874)	(2.232)	(2.203)	Chi-sq	10.21
Ln WAGE	4.624	8.816	7.25*	Prob>chi-sq	0.0168
	(3.134)	(4.671)	(3.725)		
INFL	-0.403***	-0.363**	-0.373***	Hausman test (FEM-HT)	
	(0.103)	(0.097)	(0.072)	Chi-sq	3.24
POL	4.031***	5.78*	5.358**	Prob>chi-sq	0.8623
	(1.264)	(2.452)	(2.315)		
Ln STR	**23.406*** **	**9.98**	**15.036**	Test of overidentifying restrictions (HT):	
	(6.630)	**(7.689)**	**(11.169)**		
Ln MOB	2.061*	2.362*	2.005**	Sargan-Hansen statistic	3.487
	(1.041)	(1.129)	(0.909)	Sargan-Hansen *p* -value	0.3225
HOL	**-2.360**	**(omitted)**	**-4.564**		
	(1.396)		**(3.971)**		
ALLOW	**-8.519*** **	**(omitted)**	**-12.217*** **		
	(2.162)		**(4.264)**		
R^2	0.543	0.476			
Adjusted R^2	0.507	0.445			
Prob. (F-Stat)	0.000	0.000			
Wald chi-sq			22.3		
Prob > chi-sq			0.0005		
Unit Root Tests (*p* -value):					
LLC	0.0034	0.0139	0.0941		
IPS	0.0125	0.0536	0.0028		
CIPS	0.2336	0.2980	0.1472		
Cross-section Dependence Tests (*p* -value):					
Breusch-Pagan LM	0.0001	0.0000	0.0000		
Pesaran CD	0.4632	0.1965	0.2934		

Notes: ***, ** and * indicate significant at 1%,5% and 10% respectively; standard error is reported in parentheses; standard error refers to clustered robust standard error.

Comparing the results of regressions in Table 5.5 and Table 5.4, the additions of tax holiday (HOL) and investment allowance (ALLOW) do not change the sign of the coefficients of the majority of explanatory variables. Pooled OLS, the FEM and the Hausman–Taylor estimator yield similar results. GDP and RES are found to have no significant effect in all models. On the contrary, inflation rate (INFL), political stability (POL) and infrastructure (MOB) are found to be significant (at 10% level of significance) in all models. STR as the proxy of CIT shows positive effects in all models, but is only statistically significant in pooled OLS. As expected, the FEM is unable to estimate the coefficients of tax holiday and investment allowance because of the absence of within-country variation. Thus, the discussion on the effects of tax incentives on FDI is based on the results of pooled OLS and the Hausman–Taylor estimator.

With regard to tax incentive variables, pooled OLS and the Hausman–Taylor estimator yield similar results. Both models find counterintuitive results for the effects of tax incentives on FDI. Contrary to predictions, tax holiday and investment allowance appear to have negative effects on FDI, albeit only statistically significant for investment allowance. Even though these results are counterintuitive, previous studies have found similar findings, such as Cleeve (2008), Klemm and Van Parys (2012), and Fowowe (2013) (see Table 2.9 for a summary of these studies). There are several possible explanations for these findings. According to Edmiston, Mudd and Valev (2004), tax incentives may lead to a lower level of FDI if the tax burdens of non-incentivised firms increase because of the presence of tax incentives. As a result, tax incentives may discourage FDI inflows or induce the disinvestment of non-incentivised firms. Another explanation for the negative effects of tax incentives on FDI is that tax incentives may be seen as an indicator of unfavourable investment climate because tax incentives are typically offered by countries with high investment risks (Raff & Srinivasan 1998).

The results of pooled OLS and the Hausman–Taylor estimator show that tax incentives as a whole appear to have insignificant effect on FDI, which is in line with previous studies by Banga (2006), Larsson and Venkatesh (2010), and Tuomi (2011). There are several reasons for the ineffectiveness of tax incentives to attract FDI. First, tax incentives are only effective in reducing the tax burden if there is a tax sparing agreement between the host and home country (Azémar, Desbordes & Mucchielli 2007; Azémar & Dharmapala 2019). Thus, for FDI that originates from non-tax sparing countries, tax incentives do not reduce the overall tax burden. Second, most tax incentives in Southeast

Asia are targeted to promote investment to remote or underdeveloped regions. This type of incentive is likely to be ineffective because firms prefer locations that provide agglomeration benefits such as being in close proximity to markets, labour and suppliers (Anh, Thái & Thang 2007). In other words, economic fundamentals such as market size and quality of infrastructure may be more important for foreign investors.

To sum up, this study finds that tax holiday does not have significant effect on FDI into Southeast Asia. On the contrary, investment allowance is found to have significant effect on FDI. However, the coefficients of both tax holiday and investment allowance are negative, implying that tax incentives may have detrimental effects on FDI. Rather than attracting FDI, tax incentives may discourage FDI into Southeast Asia. These findings raise concern about the pervasive use of tax incentives to attract FDI in Southeast Asia.

5.4 Robustness Analysis

One of the primary concerns in the studies of the determinants of FDI is the robustness of the results. Sensitivity analysis by several studies concluded that many determinants of FDI found in previous studies may not be robust to the inclusion of a large set of covariates (Blonigen & Piger 2014; Chakrabarti 2001). Further, differences in empirical methodologies often yield different results, which is one of the reasons for inconclusive findings of the determinants of FDI (Nielsen, Asmussen & Weatherall 2017). As a result of these issues, performing robustness analysis is crucial in FDI studies to ascertain the robustness of the findings.

In this study, several approaches are utilised to examine the robustness of the findings. The first approach is to exclude Singapore from the sample to assess if the results are affected by the presence of Singapore as an outlier. As mentioned in Section 5.2.1 (Descriptive Statistics), Singapore's level of FDI inflows is much higher than that of the other Southeast Asian countries. Further, Singapore's level of development is also higher than that of the other countries in the region. Thus, this country may pose as an outlier, which may influence the estimation results. In the second approach, an alternative proxy for CIT is employed to assess whether the results are sensitive to the choice of proxy employed in the study. Last, 2SLS is employed to assess the effect of explanatory variables on FDI. This approach aims to examine if the results are sensitive to changes in estimation method. The results of these robustness analysis are presented in Table 5.6.

Table 5.6 Robustness Analysis

Variable	Exclude Singapore		EATR		2SLS (STR)		2SLS (EATR)	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant	35.76	22.64	21.12	1.71	28.23	1.146	27.396	-4.778
	(24.267)	(23.379)	(15.90)	(18.92)	(23.68)	(19.07)	(18.76)	(19.503)
Ln GDP	-10.28**	-7.55*	-2.42	-0.88	6.60	3.891	6.222	10.314
	(4.505)	(4.007)	(2.68)	(2.05)	(4.74)	(3.29)	(4.777)	(6.815)
Ln SUM GDP	8.15**	6.12**	0.88	0.97	-6.77	-2.519	-6.909	-8.028
	(3.536)	(2.640)	(2.77)	(1.94)	(5.372)	(3.63)	(5.169)	(6.247)
Ln RES	-0.68	-0.39	0.65***	0.41	0.73***	0.44*	0.79***	0.61*
	(0.603)	(0.492)	(0.26)	(0.28)	(0.232)	(0.238)	(0.264)	(0.332)
Ln WAGE	2.41**		2.27***		2.08***		2.12***	
	(0.954)		(0.84)		(0.738)		(0.709)	
Ln EDU		0.027		0.05		-0.651		-1.828
		(0.552)		(0.55)		(0.539)		(1.232)
INFL	-0.11**	-0.06	-0.13*	-0.06	-0.17**	-0.057	-0.16**	-0.12*
	(0.051)	(0.042)	(0.067)	(0.05)	(0.069)	(0.039)	(0.076)	(0.069)
POL	1.56***	1.41***	1.36***	1.15***	0.524	0.77**	0.599	0.548
	(0.480)	(0.431)	(0.403)	(0.38)	(0.452)	(0.357)	(0.453)	(0.524)
Ln OPEN	-1.60	-1.75	-0.67	-1.21	-0.683	-1.133	-0.789	-1.184
	(1.073)	(1.131)	(0.772)	(0.91)	(1.119)	(1.032)	(1.0137)	(1.123)
Ln STR	7.41***	4.67**			2.25*	1.354		
	(2.276)	(1.947)			(1.263)	(1.268)		
Ln EATR			1.45**	1.13**			1.33**	1.15**
			(0.65)	(0.52)			(0.557)	(0.519)
Ln MOB	1.04**	1.15***	0.52**	0.58***	0.121	0.40**	0.216	0.39**
	(0.427)	(0.415)	(0.22)	(0.21)	(0.207)	(0.159)	(0.204)	(0.185)
Ln CPI		4.72**		4.28**		4.01**		4.92**
		(2.242)		(2.08)		(2.018)		(2.456)
Goodness of fit								
R-squared	0.408	0.408	0.446	0.434				
Adjusted R-squared	0.323	0.316	0.376	0.357	0.427	0.374	0.360	0.322
Prob. (F-Stat)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Restricted *F*- test								
Stats	5.245	5.213	4.507	4.689	Sargan-Hansen test (*p* -value)			
Prob	0.001	0.001	0.001	0.001	0.813	0.335	0.728	0.620
Hausman test								
Chi-sq	0.000	0.000	0.000	0.000				
Prob	1.000	1.000	1.000	1.000				
Unit Root Tests (*p* -value)								
LLC	0.0176	0.0588	0.0362	0.0176	0.000	0.000	0.000	0.008
IPS	0.0093	0.0361	0.0314	0.0294	0.000	0.000	0.000	0.007
CIPS								
Cross-section Dependence Tests (*p* -value):								
Breusch-Pagan LM	0.6018	0.9414	0.3308	0.6213	0.740	0.909	0.502	0.274
Pesaran scaled LM	0.7001	0.1891	0.7421	0.6817	0.485	0.225	0.901	0.610

Notes: ***, ** and * indicate significant at 1%,5% and 10% respectively; standard error is reported in parentheses; standard error refers to clustered robust standard error.

Column 1 and 2 of Table 5.6 present the results of the FEM when Singapore is excluded from the sample. The results are fairly similar to the regressions with the whole sample

in terms of the direction of the effect. However, the exclusion of Singapore appears to strengthen the responsiveness of FDI to the explanatory variables. GDP and SUM GDP, which were found to have no significant effect in the full sample, now show significant effects on FDI. The negative coefficient for GDP and positive coefficient for SUM GDP indicate that FDI into Southeast Asia is attracted by the regional market rather than the domestic market. These findings imply that the conclusion from the primary regression, which does not find evidence for market seeking FDI, may not be robust. Conversely, natural resources endowment (RES), which shows a positive effect in previous regressions, is found to have negative and insignificant effect when Singapore is excluded from the sample. With regard to CIT, the exclusion of Singapore appears to affect the responsiveness of FDI to STR. STR, which previously is only significant in Model 1 at 10% level of significance, is now strongly significant in both models. Meanwhile, the results for the remaining variables are similar to the full sample.

For the next robustness check, effective average tax rate (EATR) is used as the proxy of tax burden to assess if the effect of CIT on FDI is sensitive to the choice of proxy. According to Devereux and Griffith (2003), EATR is the most appropriate proxy of the tax burden for location choice of FDI because it captures tax provisions as well as the expected rate of return from the investment. Therefore, it is not surprising that many studies have employed EATR when assessing the tax responsiveness of FDI. Nevertheless, as discussed in Chapter 4, EATR often differs across studies because of the different assumptions used in its calculation. In the context of Southeast Asia, several authors have computed EATR for several ASEAN members (Abbas & Klemm 2013; Muthitacharoen 2016; Setyowati 2015; Suzuki 2014). Among these studies, only Setyowati (2015) published the exact value of EATR for the period 1990–2012. Therefore, for the robustness analysis, the data for EATR up to 2012 are taken from Setyowati (2015), and the data for the following years are taken from Wiedemann and Finke (2015).

Column 3 and 4 of Table 5.6 present the results of the FEM with EATR as the proxy of CIT. The results are similar to the primary regressions with Ln STR as the proxy of CIT in terms of both the sign of coefficients and statistical significance. The only different is that Ln EATR shows a positive and significant effect in both models at 5% level of significance, whereas Ln STR only shows positive and significant effect at 10% level of significance in Model 1. Thus, the results with EATR not only confirm the positive effect

of CIT on FDI into Southeast Asia, but also show that FDI is more responsive to EATR than STR. One of the reasons for these findings is because compared with STR, EATR has more within-country variation due to differences in tax provisions and macroeconomic conditions across countries. As a result, the FEM is able to better capture the effect of CIT on FDI when using EATR.

Last, the 2SLS regression method is employed to test the sensitivity of the findings to changes in empirical estimation. This method is frequently employed to address the problem of endogeneity in the regression by employing instrumental variables for the endogenous regressors (Baltagi 2008c). Even though the FEM to some extent mitigates the endogeneity problem (Verbeek 2017), 2SLS may result in better estimators if appropriate instrumental variables are employed (Cameron & Trivedi 2010). Nevertheless, finding suitable instruments that satisfy the prerequisites of a strong instrument is not a trivial matter, particularly in the context of macroeconomics (Durlauf 2001). Further, Wooldridge (2013a) has pointed out various conditions that may make 2SLS result in a worse bias than OLS. For example, 2SLS may perform poorly in a small sample or when variables suspected to be endogenous are in fact exogenous. For these reasons, 2SLS is not employed as the primary regression analysis but only as a robustness check.

The performance of 2SLS relies heavily on the choice of instrumental variables. According to Wooldridge (2013a), an instrumental variable has to satisfy two conditions: relevance and exogeneity. To be relevant, an instrumental variable needs to be correlated with the endogenous variable, either positively or negatively. The exogeneity assumption requires the instrumental variable to have no direct impact on the dependent variable so that it is not correlated with the error term, whereas the choice of the variables to be used as instruments should be based on theoretical knowledge (Angrist & Pischke 2008a).

As discussed in Section 5.3.2.3, among the explanatory variables, GDP is suspected to be endogenous because of the bi-directional relationship between GDP and FDI, which may lead to simultaneity. Therefore, following Debaere (2005), capital stock (CAP STOCK) and annual growth of population (POP GRO) are used as instruments for GDP.[71] These variables are in line with the Solow model, which posits that output of a country is a

[71] Unlike Debaere (2005), growth of population instead of total population is employed as an instrument for GDP because the former fits the data better.

function of capital stock and labour force (Mankiw 2013). Data for capital stock are taken from the Penn World Table (Feenstra, Inklaar & Timmer 2015), whereas data for population growth are obtained from the World Development Indicator database.

Following Wooldridge (2013a), prior to implementing the 2SLS estimator, the relevancy of the instruments is checked by regressing Ln GDP on the log of capital stock and population growth. The results show that both capital stock and population growth have positive and significant effect on GDP, with an adjusted R^2 of 0.808 and F-statistic of 276.9 (p-value 0.000), indicating that the instrumental variables explain substantial variation of GDP. Therefore, capital stock and population growth are relevant instruments for GDP.

Column 5 to 8 of Table 5.6 present the results of 2SLS with capital stock and population growth as instruments for GDP.[72] Column 5 and 6 display the results when STR is used as the proxy for CIT, while column 7 and 8 display the results for EATR. The Sargan–Hansen test of over-identifying restrictions (J-statistic) fails to reject the null hypothesis that the instruments are valid, which indicates that the instrumental variables are not correlated with the error term. Further, diagnostics of the residuals shows that the residuals are stationary at level and free of cross-section dependence. Thus, the 2SLS estimator has performed in a satisfactory manner.

Compared with the results of the FEM, the results of 2SLS vary slightly. For example, natural resources endowment (RES), which is only statistically significant in Model 1 of the FEM, now shows significance in both models, albeit only significant at 10% level in Model 2. On the contrary, political stability (POL), which has positive and significant effects in both models in the FEM, shows no significant effect in most model specifications. Similarly, Ln MOB as the proxy of infrastructure is only significant in Model 2. Meanwhile, the results of the remaining variables are fairly similar to the FEM, which confirms the absence of market seeking and efficiency seeking as the primary motivations of FDI into Southeast Asia. Overall, the statistical significance of the explanatory variables is weaker in the 2SLS estimator, which is not surprising considering that 2SLS tends to produce larger standard errors (Wooldridge 2013a).

[72] To account for the heterogeneity across countries, cross-section fixed effect is added in the 2SLS estimator along with options of cross-section weights and White cross-section to generate robust standard errors in the presence of heteroscedasticity and cross-sectional dependence.

Turning to CIT as the main variable of interest, 2SLS yields similar results to the FEM. Both STR and EATR show positive effects on FDI. The effect of STR on FDI is only significant at 10% level of significance in Model 1, whereas Ln EATR shows positive and significant effects in both models. Thus, the results of 2SLS corroborate the counterintuitive effect of CIT on FDI into Southeast Asia.

To sum up, the results of the robustness analysis provide evidence of the robustness of the findings. Using three different approaches, the robustness tests yield slightly different results from the primary estimations, which may help to indicate the robustness of the effect of each explanatory variable. From the robustness check, the positive effects of labour cost, CIT and control of corruption, as well as the negative effect of inflation, on FDI are found to be robust. Similarly, the non-significant effect of market size, labour quality and trade openness are robust across various model specifications. Meanwhile, the positive effects of market potential (proxied by regional GDP), natural resources endowment, political stability and infrastructure are considered less robust because statistical significance is not consistent during the robustness check. Overall, the results of the primary regressions and robustness analysis point out the importance of policy variables in attracting FDI into Southeast Asia.

5.5 Summary

This chapter presents the detailed empirical estimations employed to answer the research questions. Prior to running the regressions, pairwise correlation is examined to identify highly correlated regressors, which may result in severe multicollinearity problems. From the results of this step, two model specifications are employed. In addition, the stationarity properties of the variables are examined with the conclusion that the dependent variables are stationary at level, whereas the regressors are of mixed order of integration. Subsequently, panel data regression methods are performed and relevant tests are employed to determine the most appropriate method. To assess the goodness of fit of the models, the residuals are examined to detect the presence of unit root and cross-section dependence.

On the basis of the results of the diagnostic tests, the FEM is chosen as the most appropriate method to investigate the key determinants of FDI in Southeast Asia. The results find the positive effect of natural resources, political stability, quality of

infrastructure and control of corruption, and the negative effect of inflation rate as the proxy of macroeconomic stability, on the overall FDI. Unlike predictions, this study finds that higher labour cost and CIT rate do not discourage FDI into Southeast Asia. These findings imply that FDI into Southeast Asia is not motivated by efficiency seeking, and that the overall investment climate may be more important for foreign investors.

To further investigate the effect of CIT on FDI, FDI as the dependent variable is differentiated by country of origin, whether the FDI is from tax havens (indirect FDI) or non-tax havens (direct FDI). The results show that CIT has negative effect on direct FDI and positive effect on indirect FDI, but the effects are not statistically different from zero. These findings imply that while CIT may have asymmetric effect on direct and indirect FDI, tax considerations may not be the primary reason for channelling FDI via tax havens.

In addition to CIT, this study investigated the effect of tax incentives on FDI. Because of the lack of within-country variation in tax incentive variables, the Hausman–Taylor estimator is employed as the regression method. The results are counterintuitive because tax holiday and investment allowance both show negative effects on FDI, albeit only statistically significant for investment allowance. Rather than attracting FDI, tax incentives appear to have detrimental effect on FDI. A possible explanation for this finding is that tax incentives may result in higher tax burden for non-incentivised firms, which may lead to lower levels of FDI.

To check the robustness of the findings, robustness analysis is carried out using three different approaches: excluding Singapore from the sample, using EATR as the proxy for CIT and employing 2SLS as an alternative regression method. Overall, the results corroborate with the primary regressions. Apart from market size, market potential, labour quality and trade policy, the remaining explanatory variables show statistically significant effects on FDI in most model specifications. Further, the results of the robustness analysis confirm the robustness of the counterintuitive results of the effect of tax policy on FDI. While the counterintuitive results should not be interpreted as meaning that FDI is attracted to high tax locations, this study has provided empirical evidence that lowering tax rate and offering tax incentives may not help to attract more FDI into Southeast Asia.

CHAPTER 6
CONCLUSIONS

6.1 Introduction

The upsurge of worldwide FDI flows and the potential benefits generated by FDI for the host countries have prompted the location choice of FDI as one of the widely research area (Assunção, Forte & Teixeira 2011). Nevertheless, despite the vast amount of research in this area, the results are often equivocal due to differences in theoretical framework, research focus and empirical approaches. Chapter 2 has covered this topic by reviewing the various theories on FDI as well as extant studies on the determinants of FDI. Based on the literature review, previous studies have identified a large number of host country's characteristics which may influence the location choice of FDI. Among these factors, tax policy is one of the determinants of FDI which has received considerable attention. However, majority of these studies are in the context of developed countries (Feld & Heckemeyer 2011). Thus, the effect of tax policy on FDI into developing countries remains an area which is under-researched.

Among the developing economies in the world, Southeast Asia is one of the major recipients of FDI (UNCTAD 2018). Similar to the other developing countries, Southeast Asian countries have utilised tax policy as one of the instruments to attract FDI, which can be seen from the downward trend of CIT rate and the prevalent use of tax incentives. These topics are discussed in Chapter 3, along with the rationale of Southeast Asia as the context of the study. It is the primary objective of this study to examine whether tax policy significantly affects FDI into Southeast Asian countries by assessing the effects of CIT and tax incentives on FDI into Southeast Asia.

This study differ from extant studies in the context of Southeast Asia in several ways. Unlike previous studies that focus on the overall determinants of FDI, this study places more emphasis on the role of tax policy as one of the determinants of FDI. Hence, this study explores several aspects of tax policy that have not been studied in the context of Southeast Asia. These include the asymmetric effect of CIT on FDI from tax havens and non-tax havens, as well as the effect of tax incentives on FDI. Chapter 4 presents the rationale for proxies of variables and provides an overview of the research methodology

employed to answer the research questions. The detailed empirical estimations and the discussion of the findings are presented in Chapter 5.

This chapter will conclude this thesis by summarising the major findings which have been presented in Chapter 5 and proposing policy options that can be implemented in order to attract more FDI into Southeast Asia. Further, limitations of the study is discussed and suggestions for future research is provided.

6.2 Summary of the Findings

As the regional cooperation in Southeast Asia, ASEAN has implemented various strategies to promote FDI into Southeast Asia. Combined with policy framework at the country level, Southeast Asia has emerged as one of the major destinations of FDI among developing economies. However, the performance of each country in attracting FDI varies considerably (Sjöholm 2013). Despite its small size, Singapore has successfully become the largest recipient of FDI in Southeast Asia. Meanwhile, larger countries such as Indonesia and the Philippines do not seem to perform better. This variation in FDI performance highlights the differences in location advantages across ASEAN members.

Using Dunning's eclectic paradigm as the theoretical framework Dunning (1977, 1988), this study investigates the primary location advantages that affect FDI into Southeast Asia. Following the UNCTAD framework, these location advantages are classified into economic determinants, policy frameworks and business facilitation (UNCTAD 1998). This study finds that each factor contributes to the key determinants of FDI into Southeast Asia, highlighting the need of governments to utilise comprehensive policy framework to boost FDI inflows.

To investigate the key determinants of FDI into Southeast Asia, this study employs panel data analysis with six major economies in Southeast Asia as the sample namely Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam. The data are taken from secondary sources such as the World Bank WDI and ASEAN Statistics for the period 1996–2017. To achieve unbiased and efficient estimators, various diagnostic tests such as the unit root test and cross-section dependence test are employed. In addition, robustness analysis is carried out to ensure the robustness of the findings.

From the results of the empirical estimations, resource seeking FDI is found to be the primary motivation of FDI into Southeast Asia because natural resources endowment is shown to have positive and significant effects in the majority of model specifications. This finding supports previous study by Kang and Jiang (2012) who also found resource seeking as the primary motivation of Chinese MNEs' FDI into Southeast Asia. On the contrary, GDP and regional GDP as the proxy of market conditions are found to be statistically insignificant in most of the empirical estimations, indicating that market seeking is not the primary motivation of FDI into Southeast Asia. Similarly, labour quality, which represents efficiency seeking FDI, is found to have no significant effect on FDI in all model specifications. Meanwhile, WAGE as the proxy of labour cost shows a positive and significant effect on FDI, which implies that FDI into Southeast Asia may not be motivated by cheap labour. These results are in line with Athukorala and Wagle (2011) who also found the absence of market seeking and efficiency seeking as the FDI motivation into Southeast Asia.

Unlike the economic determinants, more variables in policy framework show statistically significant effects on FDI. This study shows that both economic and political stability are important for foreign investors. The negative effect of inflation rate on FDI indicates that high inflation deters FDI into Southeast Asia as it may be seen as an indication of economic instability (Boateng et al. 2015). In a similar vein, political stability is found to have a positive effect on FDI into Southeast Asia because unstable political conditions represent risks and uncertainty, which discourage FDI. This finding confirms previous studies by Mengistu and Adhikary (2011) and (Rashid, Looi & Wong 2017) who also found political stability as one of the key determinants of FDI into Southeast Asia.

In addition to economic and political stability, quality of infrastructure and control of corruption show positive effects on FDI into Southeast Asia, indicating the importance of infrastructure to facilitate business processes and control of corruption to create fair and efficient markets. These results are in line with Hoang and Bui (2015) who also concluded that high quality of infrastructure and low level of corruption will encourage FDI into Southeast Asia. On the contrary, trade openness, which reflects a country's trade intensities, does not have significant effect on FDI into the region. This finding may be triggered by the fact that most Southeast Asian countries have reduced tariff and trade restrictions in an effort to attract more FDI.

Turning to tax policy as the main variable of interest in this study, counterintuitive results are found for the effect of CIT and tax incentives on FDI. In contrast to neoclassical investment theory, this study finds CIT to have positive effect on FDI. Further, the results of the robustness tests confirm the robustness of this finding. Empirical estimations using both STR and EATR as proxies for CIT, indicate that CIT has positive and significant effect on FDI. However, this finding should not be interpreted as FDI is attracted to high tax locations, since what make countries with high CIT rate are attractive may not be the high tax rate per se, but the overall investment climate. In other words, for foreign investors, the overall investment climate is more important than CIT rate. Nevertheless, the insight from this finding is that lowering CIT rate will not help to attract more FDI into Southeast Asia.

To investigate whether the positive effect of CIT on FDI is due to tax planning by MNEs, FDI as the dependent variable is disaggregated into two groups: FDI from non-tax havens countries (direct FDI) or from tax havens (indirect FDI). The intuition is that indirect FDI is less responsive to CIT as MNEs are able to reduce the tax burden by engaging in tax planning. The results show that while CIT has negative effect on direct FDI, it shows a positive effect on indirect FDI. However, the effects are not statistically different from zero, which implies that tax consideration may not be the primary motivation for channelling FDI via tax havens. These results indicate that CIT may have asymmetric effect on direct and indirect FDI into Southeast Asia, albeit not statistically significant.

In addition to CIT, this study investigates the effect of tax incentives on FDI into Southeast Asia. To account for the lack of within-country variation of tax incentive variables, the Hausman–Taylor estimator is employed to assess the effect of tax incentives on FDI. Similar to CIT, the results are counterintuitive. Contrary to the widely held view that tax incentives are positively related to FDI, the coefficients of regression for tax holiday and investment allowance are found to be negative, albeit only statistically significant for investment allowance. Rather than attracting FDI, tax incentives may have detrimental effect on FDI. Two possible explanations for this finding is that tax incentives may result in higher tax burdens for non-incentivised firms and thereby discourage FDI (Edmiston, Mudd & Valev 2004), and that tax incentives may be seen as an indicator of an unfavourable investment climate (Raff & Srinivasan 1998). These results raise concern about the widespread use of tax incentives in Southeast Asia.

In conclusion, this study provides empirical evidence on the key determinants of FDI into Southeast Asia. Various factors are shown to have significant effects on FDI, even though the effect may not be in line with theoretical expectation. Further, several approaches in empirical estimations are employed as part of robustness analysis to ensure the robustness of the findings. The results are robust to alternative specifications; therefore, they can provide insights for policy implications.

6.3 Policy Implications

The results of empirical estimations highlight host country characteristics that significantly affect FDI into Southeast Asian countries. At the same time, the results point out variables that do not contribute to FDI attraction. Hence, the results of the study may help governments to avoid implementing policies that may not be effective in encouraging FDI inflows. According to the findings that are summarised in the previous section, the following policy recommendations may help to improve FDI into Southeast Asian countries.

The results of panel data analysis stress the importance of policy variables as the key determinants of FDI into Southeast Asia. In particular, maintaining economic and political stability should be the government's priority as these factors are crucial for FDI. More specifically, this study shows that high inflation rate may discourage FDI. Therefore, it is important for Southeast Asian countries to maintain a low or stable inflation rate. In addition to economic stability, political stability is shown to have a positive effect on FDI. Compared with economic stability, Southeast Asian countries vary considerably with regard to political stability. Based on the World Bank's Worldwide Governance Indicators, political stability index in Southeast Asia ranging from 1.51 in Singapore to -1.31 in Myanmar, with Indonesia, Thailand, and Philippines among the countries with the lowest political stability index (World Bank 2019b). Thus, improving political stability and managing conflicts should be on the highest agenda for these countries.

In addition to economic and political stability, another important factor for FDI is the quality of infrastructure. To promote FDI, governments should focus on improving the quality of infrastructure, particularly that facilitates production and distribution of goods and services, such as transportation, supply of energy, and information and

communication technology. Among the countries under study, Philippines has the lowest score for the quality of infrastructure according to the Global Competitiveness Index (World Economic Forum 2019). Thus, improving the quality of infrastructure is crucial for Philippines in order to attract more FDI. Further, improving the quality of infrastructure is even more important for provinces with suboptimal levels of investment because good infrastructure is needed to generate agglomeration economy, which can attract more FDI (Kim, Ahn & Ulfarsson 2018).

This study also finds the importance of control of corruption as a factor that can improve FDI into Southeast Asia. In terms of control of corruption, Singapore has maintained high performance, which far surpasses the other ASEAN members. Meanwhile, for the other Southeast Asian countries, there is little progress in this area, which can be seen from the small improvement in the corruption perception index (CPI) from 1996 to 2017. This trend indicates that fighting corruption is a major challenge for Southeast Asian countries, particularly for Vietnam, Philippines, and Thailand (Transparency International 2019). Therefore, more efforts should be made to curb corruption because according to the empirical findings of this study, the magnitude of the impact of this variable is the largest, with 1% increase in CPI is associated with 4% increase in average FDI inflows. This can be done for example by strengthening anticorruption regulations, strict handling of corruption offenders and empowering anticorruption commission.

Unlike the other variables, which are generally in line with theoretical expectations, this study finds the opposite effects of tax policy on FDI. The empirical evidence points out a positive relationship of CIT and FDI into Southeast Asia. While this should not be interpreted that FDI is attracted to countries with high CIT rate, this finding clearly indicates that lowering CIT rate may not help to attract FDI. On the contrary, Southeast Asian countries should put more effort into collecting tax revenue to be able to improve the quality of infrastructure as well as other provision of public goods and services.

Similar to CIT, tax incentives show the opposite effect on FDI. Both tax holiday and investment allowance affect FDI negatively, albeit only significant for investment allowance. These findings imply that tax incentives are not effective in attracting FDI. Therefore, abolishing tax incentives may be a better option for Southeast Asian countries as tax incentives may result in substantial revenue loss. Nevertheless, as pointed out by Zee, Stotsky and Ley (2002) and Zolt (2015), governments may have other objectives in offering tax incentives, such as to address market failure and create positive externalities.

If this is the case, governments need to ensure that tax incentives are implemented with transparency and accountability to ensure that they achieve the desired goals (UN & CIAT 2018).

In summary, various factors are shown to affect FDI into Southeast Asia, which may provide insights for governments in designing policies to promote FDI. Overall, the results emphasise the importance of policy variables as the key determinants of FDI. Therefore, governments may play an important role in boosting the level of FDI in Southeast Asian countries.

6.4 Limitations and Recommendations for Future Research

As most empirical research, this thesis has a number of limitations that to some extent may affect the empirical results. These limitations are related to data constraint and methodological challenges. The foremost limitation is related to the availability of data, which has posed a significant constraint on the choice of variables employed in this study. As discussed in Chapter 4, only data of FDI flows are available for the sample and duration under study. As a result, a robustness check cannot be performed to check the sensitivity of the results with regard to the choice of the proxy of FDI.

Still relating to data limitation, this study employs aggregate-level data to answer the research questions and this may not be appropriate for two reasons. Firstly, previous studies have shown that tax responsiveness of FDI may differ across firms and industries (Lawless et al. 2018; Overesch & Wamser 2009). Thus, using aggregate-level FDI may not be appropriate as it ignores the heterogeneity in tax responsiveness. Secondly, tax incentives are generally offered for targeted industries and regions. Thus, detailed FDI by industries may better capture the effect of tax incentives on FDI.

The various limitations of this study point to a number of factors that may benefit future FDI studies in the context of Southeast Asia, particularly those focusing on tax policy. While this study examines the effects of tax policy on aggregate-level FDI, employing firm-level FDI data may enable researchers to better capture the asymmetric effect of tax policy on FDI because tax responsiveness of FDI may differ across sectors. Further, tax planning by MNEs is more reflected in firm-level data, such as transfer pricing and debt financing as indicators of aggressive tax planning. Thus, firm-level data may enable researchers to better measure the effect of tax planning on location choice of FDI.

In terms of estimation approaches, this study investigates the effects of tax policy on FDI by using panel data regression methods, which implicitly implies the causal relationship between tax policy and FDI (Allison 1999; Angrist & Pischke 2008b). However, disentangling the correlation and causation of tax policy and FDI is not fully examined in this study. Therefore, future research can improve this study by focusing on the causal relationship between tax policy and FDI.

Last, even though this study investigates the effect of tax incentives on FDI, there remains a lot of room for improvements. For example, because the majority of tax incentives are targeted to specific sectors and/or regions, employing data at industry or sub-national level may better measure the effect of tax incentives on FDI. Further, even though this study employs the Hausman–Taylor estimator to account for the lack of variation in tax incentive variables, alternative and rigorous analysis techniques can be employed to generate robust estimations.

To summarise, this study investigates the effect of tax policy on FDI by focusing on CIT, tax planning and tax incentives in the context of Southeast Asian countries. Nevertheless, there are still many areas that can be explored, particularly with regard to the data and empirical estimations. Considering the prevalent use of tax policy to attract FDI in developing countries, more studies are needed to investigate the effectiveness of tax policy in promoting FDI.

6.5 Conclusion

This thesis aims to investigate the key determinants of FDI into Southeast Asia, with emphasis on the role of tax policy as one of the determinants of FDI. In particular, the objectives of the thesis are to assess the effect of CIT on FDI, to assess the asymmetric effect of CIT on FDI from non-tax havens (direct FDI) compared with FDI from tax havens (indirect FDI), as well as to assess the effect of tax holiday and investment allowance on FDI into Southeast Asian countries.

A broad set of explanatory variables are included in the model which reflects the host country's location advantages such as the economic determinants, policy framework, and business facilitation. The results of empirical estimations show the importance of policy variables such as low inflation rate and low level of corruption, as well as high political stability and infrastructure, as the key determinants of FDI into Southeast Asia. These

results highlight the various options that governments can adopt to promote FDI into Southeast Asia. On the contrary, tax policy as the focus of the study does not seem to be an important factor in location choice of FDI.

Unlike theoretical expectation that higher tax rates discourage FDI, this study does not find CIT to have negative effect on FDI into Southeast Asia. Conversely, this study finds positive and significant effect of CIT on FDI, and this result is robust to different empirical estimations. However, when differentiating between direct and indirect FDI, CIT no longer shows a significant effect, which indicates that tax benefits may not be the reason for channelling FDI through tax havens. Similar to CIT, tax incentives also show counterintuitive effects as both tax holiday and investment allowance have negative effects on FDI, even though it is only statistically significant for investment allowance. According to these findings, lowering CIT rate or offering tax incentives may not help to attract FDI into Southeast Asia. Therefore, governments are advised to utilise other policy options to promote FDI, such as strengthening control of corruption and improving political stability.

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Appendix 1

Summary of Tax Incentives in Southeast Asia

Country	Types of Incentive	Notes
Brunei Darussalam	Tax holiday	3 to 11 years for qualified enterprises such as pioneer status, export enterprises and expansion or reinvestment Further extension up to 20 years in total
	Reduction of CIT	Maximum CIT rate of 10% for 6 to 11 years Applicable to post-pioneer enterprises
	Investment allowance	Maximum 100% of fixed capital expenditures incurred within 5 years (or 11 years for tourism industry)
	Reduction/exemption of withholding tax	Exemption of withholding tax for interest paid to non-residents
Source: Investment Incentives Order 2001		
Cambodia	Tax holiday	A trigger period (of up to 3 years), 3 years automatic exemption, plus a priority period Maximum tax holiday is 9 years
	Accelerated depreciation	40% of the value of tangible assets deductible in the first year of purchase Only applicable to qualified investments that choose to use accelerated depreciation instead of tax holiday
Source: Law on Amendment to the Law on Investment, 2004		

Country	Types of Incentive	Notes
Indonesia	Tax holiday	5 to 20 years depending on the amount of investment Granted to qualified pioneer industries
	Reduction of CIT	50% of income tax payable for 2 years after tax holiday period
	Investment allowance	30% of qualified investment expenditures (5% per year for 6 years) Applicable for investment in targeted sectors and/or targeted regions
	Accelerated depreciation	Applicable for tangible and intangible assets, twice the rate of non-incentivised depreciation
	Reduction/exemption of withholding tax	Withholding tax rate of 10% for dividend paid to non-residents (or in accordance to tax treaty)
	Longer carry forward of losses	Up to 5 years of additional period for carry forward of losses
Source: Ministry of Finance Regulation No. 35/PMK.010/2018 Government Regulation No. 18/2015 as amended by Government Regulation No. 9/2016		
Lao PDR	Tax holiday	10 years for Zone 1 (remote areas with unfavourable infrastructure), further extension of 5 years 4 years for Zone 2 (areas with adequate infrastructure), further extension of 3 years Further extension is given to investments in specific business sectors
Source: Law on Investment Promotion 2016		

Country	Types of Incentive	Notes
Malaysia	Tax holiday	5 to 10 years depending on the pioneer status
	Reduction of CIT	Income tax exemption on 70% of net income (qualified investments are taxed only on 30% of their net income) CIT rate of 0% to 10% of up to 10 years, applicable for principal hub (regional/international headquarter)
	Investment allowance	60% to 100% of qualified capital expenditures for 5 years 60% to 100% of qualified capital expenditures for 15 years, applicable for reinvestment/expansion
	Accelerated depreciation	Capital expenditure is written off within 3 years Applicable after reinvestment allowance
	R&D incentives	Double deduction for R&D payments to companies that have R&D Status
Source: The Promotion of Investment Act of 1986 Malaysian Investment Development Authority (MIDA) Guidelines		
Myanmar	Tax holiday	3 to 7 years, depending on the investment zone 5 to 7 years for investment in Special Economic Zone (SEZ)
	Reduction of CIT	CIT rate reduction of 50% for 5-year period 50% of the profits exempted for the next 5-year period, applicable after reinvestment of profits within 1 year Only applicable for investments in SEZ
	Longer carry forward of losses	2 years of additional period for carry forward of losses, for investment in SEZ
Source: Myanmar Investment Law 2016		

Country	Types of Incentive	Notes
Philippines	Tax holiday	4 years for non-pioneer projects 6 years for pioneer projects or projects located in less developed areas 3 years for expansion and modernization projects Further extension of up to 3 years, maximum 8 years in total
	Reduction of CIT	5% special tax on gross income earned for enterprises in SEZ Preferential rate of 10% of its taxable income for regional/international headquarter operations
Source: Omnibus Investments Code of 1987 (EO 226), as amended Bases Conversion and Development Act of 1992 (RA 7227) The Special Economic Zone Act of 1995 (RA 7916), as amended		
Singapore	Tax holiday	5 to 15 years for companies with pioneer status
	Reduction of CIT	Concessionary CIT rate of 5% or 10% for qualified investments
	Investment allowance	100% investment allowance for automation equipment Up to SGD10 million per qualifying project
	Reduction/exemption of withholding tax	Reduced/nil withholding tax rate under Approved Foreign Loan (AFL) incentive and Approved Royalty Incentives (ARI)
	R&D incentives	Further tax deduction for R&D activities
	Incentives for internationalisation	Double deduction on qualifying expenses for overseas business activities
Source: Economic Expansion Incentives (Relief From Income Tax) Act Income Tax Act		

Country	Types of Incentive	Notes
Thailand	Tax holiday	3 to 15 years based on activity-based incentives, technology-based incentives and competitiveness enhancement measures
	Reduction of CIT	50% of CIT rate for 5 years after the end of tax holiday, applicable for investment in targeted provinces or targeted activities 50% CIT rate for up to 10 years in lieu tax holiday CIT rate of 10% for corporate entities in SEZ CIT rate of 10% for regional/international operating headquarters
	Investment allowance	Double deduction for public utilities costs for investment in targeted provinces 25% additional deduction of infrastructure costs for investment in targeted provinces Investment allowance up to 70% of total investment (in lieu tax holiday)
	Reduction/exemption of withholding tax	Exemption of withholding taxes on dividends or interest paid to non-residents (applicable for certain business activities)
	R&D incentives	Double deduction for R&D expenses
Source: The Investment Promotion Act of 1977, as amended Competitive Enhancement Act of 2017		
Timor-Leste	Tax holiday	5, 8, or 10 years, depending on the location of the investment
	Investment allowance	Up to 100% of expenses incurred in the construction and repair of road access infrastructures
Source: Private Investment Law (Law No. 15/2017)		

Country	Types of Incentive	Notes
Vietnam	Tax holiday	2 to 4 years, applicable for qualified investments (e.g., targeted regions, high-tech zones and targeted business sectors)
	Reduction of CIT	CIT rate of 10% to 17% for up to 15 years, applicable for qualified investments 50% reduction of CIT payable for up to 9 years after tax holiday period
Source: Law on Corporate Income Tax No.14/2008/QH12, as amended Law on Investment of 2014		