THE EFFECT OF CHINA'S FOREIGN DIRECT INVESTMENT (FDI) ON THE MALAYSIAN ECONOMIC PERFORMANCE

BY

CHEN FANYU
LEOW KEN WEI
NG CHOON PRENG
TUNESH LINGAM
VIVIEN WONG ZI WEN

A research project submitted in partial fulfillment of the requirement for the degree of

BACHELOR OF ECONOMICS (HONS)
FINANCIAL ECONOMICS

UNIVERSITI TUNKU ABDUL RAHMAN

FACULTY OF BUSINESS AND FINANCE
DEPARTMENT OF ECONOMICS

MARCH 2011

DECLARATION

We hereby declare that:

(1) This undergraduate research project is the end result of our own work and that due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.

(2) No portion of this research project has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

(3) Equal contribution has been made by each group member in completing the research project.

(4) The word count of this research report is 16,338.

Name of Student:	Student ID:	Signature:
1. CHEN FANYU	08AKB06807	_____
2. LEOW KEN WEI	08AKB05063	_____
3. NG CHOON PRENG	08AKB07082	_____
4. TUNESH LINGAM	08AKB06903	_____
5. VIVIEN WONG ZI WEN	08AKB06806	_____

Date : 4th March 2011

ACKNOWLEDGEMENTS

First and foremost we offer our sincerest gratitude to our supervisor, DR Choong Chee Keong, who has supported us throughout our undergraduate project with his patience and knowledge in the field of financial economics. We attribute the level of our Bachelor degree to his encouragement and effort and without him this project, too, would not have been completed or written. One simply could not wish for a better or friendlier supervisor.

Besides that, this project would have not been done without the team spirits, hard work and the enormous work pressures that we faced together. We are very appreciative on such a team spirit.

Furthermore, we would also like to thank to the Malaysian Industrial Development Authority (MIDA) for helping us to obtain the secondary data sources and provide some useful information regarding China's FDI flows into Malaysia.

Lastly, we offer our regards and blessing to all of those who supported in any respect during the completion of the project, including Ms Koong Seow Shin, the project coordinator as well as Ms Tan Ai Lian, our second examiner.

TABLE OF CONTENTS

Page

Copyright Page ……..... ii

Declaration …….. iii

Acknowledgement …….. iv

Table of Contents …… v

List of Tables ……. viii

List of Figures ……..... ix

List of Abbreviations…… x

Abstract … …….. xi

CHAPTER 1 INTRODUCTION ……. 1

1.1 Overview ……..…. 1

1.2 Historical Background of Malaysia ….…….. 4

1.3 Problem Statement…….. 8

1.4 General Objective of the Study……. 11

1.5 Specific Objectives of the Study……12

1.6 Significance of Study…….12

1.7 Organization of the Paper……...13

CHAPTER 2 LITERATURE REVIEW…….….14

2.1 Reviews on the Impact of Foreign Direct Investment (FDI) on Economic Growth …….14

2.2 Determinants of China's FDI…….15

2.2.1 Reviews on Market Size……..……...15

2.2.2 Reviews on Human Capital..……..……16

2.2.3 Reviews on Exchange Rate……17

2.3 Reviews on the Causal Relationship between FDI and Economic Growth……...18

2.3.1 Growth-driven FDI……..19

2.3.2 FDI-led Growth……...19

2.3.3 The Two Way (Bidirectional) Causal Link…….....21

2.3.4 The Absence of Any Causal Link……....22

CHAPTER 3 METHODOLOGY…….23

3.1 Introduction of Methodology……..23

3.2 Econometric Model…….24

3.2.1 Source of Data and Definitions……...24

3.3 Econometric Method……...25

3.3.1 Autoregressive Distributed Lag (ARDL) Approach……...25

3.3.2 Granger Causality Test……29

3.4 Theoretical Model……31

3.4.1 The Relationship between Trade Openness and Economic Growth…….31

3.4.2 The Relationship between Financial Development and Economic Growth……34

3.4.3 Location Specific Model……..36

CHAPTER 4 RESULT AND INTERPRETATION…….38

4.1 Introduction…….....38

4.2 Unit Root Test…….....38

4.3 Bound Test (ARDL Approach)……..…40

4.3.1 The Impact of China's FDI on Malaysia's Economic Growth (Model 1)……...42

4.3.2 Determinants of China's FDI in Malaysia (Model 2).....45

4.4 Granger Causality Test…….…….…49

4.4.1 Granger Causality for the Impact of China's FDI on Malaysia's Economic Growth……...49

4.4.2 Granger Causality for Determinants of China's FDI…….51

CHAPTER 5 CONCLUSION…….….53

5.1 Summary and Policy Implications……..53

5.2 Limitation and Recommendations for Future Studies……55

References ……...57

LIST OF TABLES

	Page
Table 4.1: Results of the Unit Roots Tests	40
Table 4.2: The Estimated ARDL Model Based on Equation (1)	44
Table 4.3: Bound Test Based on Equation (1)	45
Table 4.4: The Estimated ARDL Model Based on Equation (2)	48
Table 4.5: Bound Test Based on Equation (2)	49
Table 4.6: Granger causality test for equation 1	51
Table 4.7: Granger causality test for equation 2	52

LIST OF FIGURES

Page

Figure 1.1: Malaysia's foreign direct investment (FDI), net inflows from 1970 to 2008 7

Figure 1.2: China's FDI outflows to Malaysia from 1987 to 2009 9

LIST OF ABBREVIATIONS

MGDP	Gross Domestic Product (GDP) in Malaysia
CFDIM	China's foreign direct investment inflows of Malaysia (RM Billion)
MOPEN	Export plus import divided by nominal GDP (Malaysia's trade openness)
FD	M3 divided by Gross Domestic Product (GDP) (Malaysia's financial development)
MMS	Nominal GDP in Malaysia (Malaysia's market size)
EXR	Yuan Renminbi per Ringgit Malaysia (RMB/RM) (Exchange rate)
HCD	Employment rate in Malaysia (Malaysia's Human capital development)
IFS	International Financial statistic
MIDA	Malaysian Industrial Development Authority
BNM	Bank Negara Malaysia
WB	World Bank

Abstract

This study aims to examine the effect of China's FDI on Malaysia's economic growth in the short-run as well as in the long-run from 1987-2009, in which Malaysia's trade openness and financial development are incorporated in the estimations. Besides, the determinants of China's FDI outflows into Malaysia such as market size, human capital development and exchange rate are being examined. The causality between China's FDI outflow and Malaysia's economic growth is also being studied. By employing the technique of co-integration (ARDL approach), our result shows that China's FDI outflow into Malaysia plays a vital role in local economic growth, though Malaysia's trade openness and financial development also influence domestic economic growth. It is also important to emphasize that China's FDI exerts a significant effect on the growth performance of Malaysia via its interaction with financial development other than the direct contribution. Hence, domestic absorptive capacity in transferring the benefits embodied in China's FDI outflows into higher Malaysia's economic growth is vital. Our results also provide further empirical evidence that the relationship between China's FDI and Malaysia's economic growth is without uncertainty through domestic financial development. Perhaps, the strongest result to emerge from our study is the crucial role played by China's FDI in our country's growth process. On the other hand, it was also concluded that Malaysia's market size, human capital development, and exchange rate serve as important factors in attracting China's FDI. Current policies aimed in attracting FDI will have to be revisited in terms of selecting the specific type of investment that is required. Governments have to emphasize on the economic reform policies and the shift towards a free market which able to continue to help the economy to reallocate its resources efficiently.

CHAPTER 1: INTRODUCTION

1.1 Overview

Foreign direct investment (FDI) is an activity in which an investor resident in one country has a lasting interest in, and a large influence on the management of an entity resident in another country (OECD, 2003). It involves either 'greenfield investment' or merger and acquisitions (M&As). The former represents generating a wholely new enterprise and it exerts more positive effects, while the latter represents amending the ownership of existing enterprises and it has a lower positive effect or even a negative externalities. FDI can also be defined as other kinds of financial transactions among enterprises, such as reinvestment of the earnings of the FDI enterprise or other transfer of capital.

There are various forms of FDI, in which one of them is the ownership of the full penalty of the shares of the national firm or possession of the project before the acquisition of the foreign investor. Joint venture is another form of FDI, in which a company is being set up in the host country with the collaboration of local partners. Due to the partnership and the experience of the local market, this form is generally preferred. Another reason that makes it less risky is that foreign partner is not given the right to fully intervene over the operation of the project. In addition, FDI could be in the form of setting up new subsidiaries or branches of foreign parent companies, as well as marketing goods in the host country (Madura, 2006).

FDI consists of the establishment of mobile and huge equipments like aircraft and oil; construction activity, exploration or extraction of natural minerals; acquisition of real property by foreign investors; retained profits, which accelerate capital accumulation; investment property rights, which are the funded projects and the setting up of companies and factories in which investor is a direct partner with shares atleast 10% of the total property rights (Abdel Ghaffar, 2002).

There are determinants of FDI in the recipient country, despite its benefits. First of all, the economic determinants are separated into three components: (i) the economic determinant related to investments that seek to market along with

abundance and growth of per capita income and size of the market as well as the free areas. (ii) the economic determinants related to those investment that are making production efficient, and (iii) involving those investments that seek the resources and assets, having plenty of primary natural resources, infrastructure, and most of the investment involve horizontal integration in seeking investment in the market. In addition, there is also a factor called policy framework that determines FDI in the host countries. It consists of institutional framework and economic policies that have an impact on investment in the host country's political stability, law and legislation, exchange rate and others. Another determinant is related to business facilitation, i.e. the particular facilities to assist management of investors, the promotion of investment, building reputation, investment incentives, administrative and bureaucratic practices, as well as the provision of social services (Chung et al., 1999).

According to Choong and Lim (2009), the choice of models for economic development determines the channels through which FDI influence economic growth. For example, a great impact of FDI on economic growth which can be observed via the production function is theorized by the endogenous growth models. In particular, foreign capital inflows (FCIs) have a significant impact on domestic capital formation or accumulation, in which it either has a crowding-out or a crowding-in effect on local investment. If foreign capital complements domestic capital, FDI will have greater influence on output growth. On the other hand, if FDI expand the variety of intermediate and capital goods, then the productivity level of the recipient country can be enhanced. Moreover, FDI reduces unemployment by creating job opportunities (Borensztein et al., 1998).

FDI is important in the sense that it provides investible funds and foreign exchange earnings, in which foreign exchange can be used to import raw materials (Wong & Jomo, 2005). Both elements enlarge the resource availability of a country, thus enhance savings and investment, and in turn promote economic growth. Therefore, it will help developing countries to eventually achieve self-sustained growth. This is because higher investment and growth rate with foreign capital supplement are in turn also increase the domestic saving rate. Most developing countries do not have enough capital goods to meet the desired investment level and required inputs have to be imported by using foreign exchange. FDI makes up for any

foreign exchange shortage by bringing in foreign exchange to pay for the necessary imports of capital and intermediate goods. Besides, it brings in new technology, technical assistance and expertise, scarce managerial skill, international marketing connection, marketing know-how etc.

Foreign direct investment played a crucial role in Malaysian economy since last few decades. Through both micro and macro levels, FDI can affect a recipient country (Choong & Lim, 2009). In micro level, via labor training, technological transfer, and positive spillover effects, multinational corporations (MNCs) can bring in technical and management efficiency to local firms. While for the latter case, FDI may affect both the 'financial' variables (like balance of payment (BOP), inflation, interest rate, and foreign exchange rate) and 'real' variables such as import, export, employment, economic growth and domestic investment (Levine, 1997).

According to Choong and Lim (2009), it cannot be denied that the significancy of FDI is greater in diffusing or transferring technology know-how embodied in human capital such as organizational arrangements, new management practices, skill acquisition, and training. All of these will promote greater economic growth through higher level of efficiency and productivity in labor. On the other hand, by raising the technological level in the recipient country, FDI can bring technological change equally to both labor and capital. In this case, via a learning-by-doing process, economic performance can be influenced by FDI. In particular, expertise in fully occupied factor endowments of the recipient country, new managerial and organizational techniques, international marketing connections, product design and production methods can be diffused by FDI (Dunning, 1995). Imitation is therefore important. FDI is also favorable to the productivity of local research and development (R&D) activities.

In contrast, FDI may harm domestic economy. First of all, FDI may have a substitutive effect on domestic savings. Any negative effect of FDI on the domestic saving rate will have negative side effects on the investment rate. In addition, liberal regulations on income repatriation, which is often considered necessary as an investment incentive, may also adversely affect the balance of payment (BOP). If the private capital inflows are not large enough to fully offset net dividend outflows, meaning that the net financial contribution of FDI will be negative. The huge outflows

of interest payments also will contribute significantly to the service account deficits, which will in turn have negative implications for macroeconomic stability. The danger of high import content may also deteriorate the domestic economy. Specifically, large influx of FDI into a country may lead to huge imports of investment and intermediate goods, which will in turn contribute significantly to growing import bill, declining merchandise account surplus and large current account deficit. High import content also implies low domestic value-added and limited domestic linkages. In short, FDI may cause import propensities to increase. Furthermore, FDI may also result in an increased industry concentration, which is equivalent to high degree of market power for a few large firms, resulting in high barriers to entry for other small firms. To the extent that large firm is MNCs, a crowding out of local firms can be assumed to have taken place (Wong & Jomo, 2005).

FDI is also conventionally seen as a critical source of capital accumulation of a country from the perspectives of standard neoclassical growth models (Solow-type) (Choong & Lim, 2009). Specifically, there is no disparity between oversea and local capital in stimulating output growth. It is also suggested that FDI significantly affect growth only in the short term, but not in the medium or long term, given the assumption of diminishing return to capital (Barro & Sala-I-Martin, 1992).

In short, there are various forms of FDI and it (FDI) consists of the establishment of mobile and huge equipments. FDI is benefical to a country's economic performance as well as welfare. However, there are also disadvantages that bring harm to a nation's economy.

1.2 Historical background of Malaysia

According to World Bank (1993), Malaysia was designated as one of the 'East Asian Miracles' due to the rapid growth of its economy during the period of 1960-1990. The steady growth rate (long lasting) attained drew a lot of attention around the world.

In the 1960s, the economy grew annually in an average of 6%, followed by 7.3% per annum in the first half of the 1970s, which indicated an improvement in the growth rate. After that, it performed better by achieving higher growth rate (GDP) at 8.6% per annum until 1980. However, in 1981-1985, the growth rate slowed down to 5.1% annually, followed by a pick up again to 6.7% annually in 1986-1990. From 1996 to 2000, the economy grew at a slower rate of 4.6% per annum, following a relatively faster growth of 8.7% annually in 1991-1995 (Jajri, 2009).

Based on the report, it was shown that FDI generally plays a critical role in the economy of Malaysia (Wong, 2006). FDI has been carrying a heavy weightage in Malaysia's GDP. For example, it carried 23.7% in 1985, 24.1% in 1990, and even 65.3% in 1999. Over time, there was also a rise in the stock of FDI. For instance, it was 7.4 billion U.S dollar($) in 1985, raised to $10.3 billion in 1990, and even increased by $44 billion from 1990 to 2000. Furthermore, in terms of gross fixed capital formation, FDI has been carrying a high portion, that is, it carried 15.1% in 1997, 13.9% in 1998, and even 20.1% in 1999.

Since manufacturing industry has been attracting the largest amount of FDI in Malaysia compared to other industries, we will specifically concentrate on it. According to Yusop and Ghaffar (1994), in the development of manufacturing industry in Malaysia, FDI plays an important role. By enhancing product quality, the competitiveness of the manufacturing export (Malaysian) has been improving globally. In addition, business experiences and technology know-how has been spilled over to Malaysia when various multinational corporations (MNCs) invest directly in the manufacturing sector in Malaysia.

One of the major strategies of the policy makers is to open foreign investment projects which can enlarge the country's resource availability and potentiality, diversify investments or activities and promote economic development through contribution of capital, skilled jobs creation, and technological transfer (Jajri, 2009). Attracting FDI was one of the Malaysian government's key approaches to stimulate growth. The country always favored a 'welcome' policy on investment and trade since the 1980s. Obviously, FDI has a crucial role in the formation of capital and thus, the economic development. In the 1980s and 1990s, Malaysia was very participative in deregulating its investment regime in the manufacturing sector compared to other

countries under the Association of South East Asian Nations (ASEAN). We can observe a significant progress when Mahathir Mohamad, our former prime minister, launched the new joint venture projects (especially with Korea and Japan) with the state-owned enterprise (SOEs). For instance, Malaysia received large inflows of FDI accompanied by better expertise and technology due to the promotion of the Investment Act in 1986. In particular, various incentives like the establishment of Free Trade Zones (FTZs), export promotion by having tax deduction, tax allowances for projects expansion, investment expansion, tax holidays, pioneer status and other kinds of incentives to attract FDI were being provided.

In the late 1980s, Malaysia continued to pursue trade liberalization by deregulating the barriers over capital ownership of MNCs, which in turn raised its FDI inflows. Over the years, the rates of tariff in Malaysia have gradually decline because FDI is needed to take entrepreneurial risks in order to make profits, at the same time to enhance the host country's productivity. Despite the importance of other determinants, the strategic location of Malaysia is the main factor that attracted foreign investors to invest in the domestic markets (Jajri, 2009).

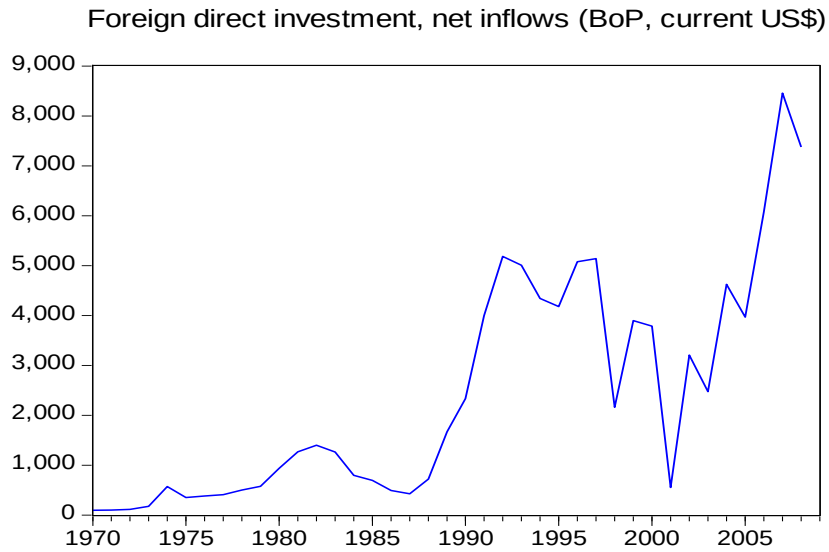
As a result, Malaysia has been receiving vast amount of FDI during 1980s and 1990s. However, since the early 1990s, total foreign investments had been slowed down in several periods, though it has generally been increasing over the years. Specifically, a decrease in investments from Taiwan and Japan, the major source of investments led to a substantial decrease in FDI in 1993. The drop in investment can be attributed to the lacking of competitiveness in terms of labor cost as compared to other South East Asian countries like Indonesia and Vietnam. On the other hand, investments that are not much affected by the rising labor cost (relatively) in the manufacturing sector such as investments in petroleum and petroleum related products sector by US were relatively stable.

Asian Financial Crisis in 1997-1998 which affected most of the South East Asian countries is another key reason to the decrease in investment to Malaysia. Nonetheless, the substantial depreciation in ringgit Malaysia (RM) against US dollar led to an increase in the value of investments by General Electric, Boeing and other US-based huge MNCs. Therefore, local consumers were benefited from a positive

effect of the influx of the US investors in terms of after-sales service and follow-up services, which are highly valued by Malaysians (Jajri, 2009).

In short, due to the successfulness in the adoption of economic policies, programs and strategies, Malaysia's economic performance has been spectacular from the late 1980s (Karim & Ahmad, 2009). Nevertheless, its distribution gap of economic growth among states has to be filled. As a consequence, the government continues to prioritize the distributional affairs in its national development plans. In order to decrease the imbalances of social welfare between states (less and more developed), a poverty alleviation program was adopted in its regional development plan. During the Third Outline Perspective Plan (OPP3) period (2001-2010) which was under the National Vision Policy, agricultural, services, and manufacturing sectors are being determined to facilitate a more rapid economic growth under the program. Specifically, in the manufacturing sector, foreign and domestic firms were given incentives to diversify their activities across all states. In this case, liberal equity policies, tax incentives, and different types of investment options were provided in order to attract FDI inflows into Malaysia.

Figure 1.1: Malaysia's foreign direct investment (FDI), net inflows from 1970 to 2008.



Source: World Bank.

Figure 1.1 illustrates the trend of Malaysia FDI inflows from 1970 to 2008, where the X-axis represents time period in year while the Y-axis measures FDI net inflows in thousand of US dollar. From the period of 1970 to 1982, although Malaysia's FDI inflows shown an increasing trend (gradual), it was quite inactive due to the lack of knowledge, unpopularity in this area, as well as restrictive government policies which in turn will result in less mobility of capital between countries. In 1982 to 1987, there was a slight decrease in Malaysia's FDI inflows before it raised dramatically in 1987 from approximately US$0.5 million to about US$5 million in 1992. This was due to the Japan's currency appreciation, Japan's and Asian newly industrialized economies' (NIEs) trade friction with the US and European Union (EU) countries, as well as Japan's and NIEs' rising wage rates in the mid-1980s (Wong, 2006).

In addition, the equipped necessary infrastructures for investment need and incentives (monetary and fiscal) provided by the government led to the increment of Malaysia's FDI inflows. Another reason that causes the increase of Malaysia's FDI inflows is the pool of disciplined and well-trained workers with relatively low wage.

To further encourage investment activities in manufacturing industries, the Investment Act 1986 was introduced. The introduction of this act reflected Malaysian government's active efforts in stimulating private sector investment since the mid-eighties, that was when the country facing its worst recession. As a result, there were more foreign investors, especially from China switching their capital (investing) into the country. After that, the trend of FDI inflows was decreasing from 1992 to 2001, followed by an increasing trend from 2001 to 2007, before it decreased in 2008. In conclusion, Malaysia's FDI inflows were fluctuated from 1970 to 2008.

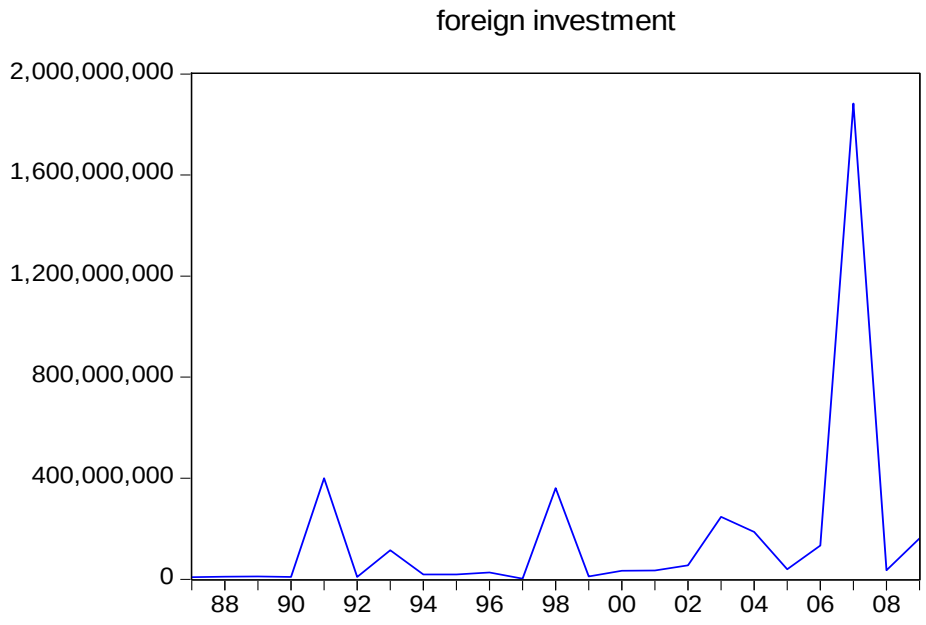
1.3 Problem statement

Although Malaysia received FDI from China, it has to contend with China (one of the emerging economies) for oversea funds and facing domestic constraints and structural weaknesses simultaneously. Specifically, these limitations include high cost of doing business, inappropriate public delivery system and lack of skilled labors.

In addition, Malaysia was relatively low in terms of production cost competitiveness compared to other countries, and Malaysia's capital outflows trend has generated a few issues. One of them is the chances that deteriorating FDI will lower the country's potential output, given falling private investment. Another concern is about a loss in domestic investors' confidence in the country which is resulted from capital outflows. In short, Malaysia is still lag behind in "ease of doing business".

For a developing country like Malaysia, the issue of job creation is very important. According to Abor and Harvey (2008), although FDI is related to technological unemployment, it does play a critical role in job creation. FDI inflows from China are associated with large-scale and mass production and thus there is a need for large amount of domestic labor force to maintain the high production. In short, China's FDI serves as an alternative engine of growth to Malaysia. Besides increasing domestic investments, it improves the ability of foreign technology absorption, contributing to technology transfers and helping in innovation, promotes international trade integration, and thus brings our country to a competitive situation (Ghosh & Wang, 2009).

Figure 1.2: China's FDI outflows to Malaysia from 1987 to 2009



Source: Malaysian Industrial Development Authority (MIDA)

Figure 1.2 depicts the trend of FDI outflows from China into Malaysia over 1987-2009 through annual flows and its share in total China's FDI outflows to Malaysia in ringgit Malaysia (RM). Since the late 1980s, it shows a small fluctuation in trend of Malaysia's inward FDI from China with a relatively stable and low amount (amount not deviate too much). During the 1990s and early 2000s, the stable trend showed that China has opened up its economy to international trade and this in turn lead the amount of Malaysia's FDI receipts from China increased. In 2006, we can see that there is a dramatical increase in trend due to China's heavy investment in Malaysia's big steel project in Terengganu in producing flat irons, slabs, billets, hot rolled coils, and the former also involved in the mega project of Penang's second bridge. However, after the peak in 2007, there was a sharp decline in amount of Chinese investment which was mainly attributed to 2007/08 global financial crisis.

China played a major role in the expansion of intra-regional trade and vertical specialization which are becoming increasingly important. According to Zebregs (2004), China carried 32 % proportion of Asian's total export growth. The rising intra-regional trade among the Asian high-performing countries was significantly affected by spectacular outward-oriented growth performance of the Chinese economy. The vertical specialization in the case means China imports raw materials or intermediate goods from Malaysia and to produce final products which will be exported back to Malaysia. In recent years, China's trade has became more vertically specialized and China's exports contain a large proportion of imported goods from other Asian countries including Malaysia (Rumbaug and Blancher, 2004).

Besides that, China is guaranteed to be continuously affect the growth trends of Malaysian economy due to the former's rapid economic growth, openness and size of economy. China became an example of autonomous liberalization as it became the biggest liberalizer of the local economy. China and other Asian high performing countries pursued free trade among themselves to the World trade organization.

Furthermore, an increasing number of Malaysia's capital goods and investment, components and sub-assemblies, parts, as well as primary products have been absorbed by China. In this short time period, a wholely new investment and trade pattern has occurred. Malaysian economy has been influenced both directly and indirectly by China's investment and trade, in which the indirect influences came

from the method in which China's investment and trade manipulate Malaysia's economic condition; while the direct effects came from China's bilateral trade and investment relationships with Malaysia. In short, it is clear that a major economic change in Malaysia has been caused by China.

In addition, China also becomes increasingly crucial to Malaysia because of upgrading technology base reasons. According to Das (2008), China managed to absorb a wide range of industrial technologies, and was proven to be superior to other emerging market economies in doing so over the previous two decades, which were also the period when China was gradually becoming the world's number 1 manufacturer of high-volumed industrial products. The trend was due to its extra focus on science and technology education, the admittance of the private sector into the provision of tertiary education, wide-based education adjustments, and the low-wage, but acceptable skilled and flexible workers. Because of huge and increasing investment, the life span of equipment and plant was reduced to seven years (Das, 2008).

In a nutshell, since China's outwards FDI is extremely important to our nation's economy (and even important to the rest of the world), it is worthwhile and beneficial for us to study its impact on our country's economic growth. Furthermore, the factors that determine China's FDI are crucial in the field of economics, and thus this motivates us to shed some light on them.

1.4 General objective of the study

The research question and problem statement give us an insight and motivation to analyze the relationship between China's FDI and Malaysia's economic growth, in which China's outwards FDI and Malaysia's GDP serve as the respective proxies. Our research will be able to serve as a significant contributor to the efforts in stimulating Malaysia's economic growth as well as the field of development economics.

1.5 Specific objectives of the study

(1) To examine the effect of China's FDI on Malaysia's economic growth from 1987-2009.

(2) To examine the determinants of China's FDI outflows in Malaysia.

(3) To investigate the short-run dynamic linkage between FDI outflows (China) and economic growth (Malaysia).

1.6 Significance of the study

Most of the empirical literatures in examining the relationship between FDI and economic growth were too general. The rapidly emerging economies in China who is able to provide huge investment funds, provided the recipient country is fundamentally strong in terms of macroeconomics and financial system have not been studied specifically. Thus, through our research, we may able to solve the problem by filling the gap resulted from past researchers. It is a very important study as it may suggest the rationality and suitability of further employing FDI (especially from China) as an engine of growth for Malaysia. As such, it might prevent waste of resources as the government can certainly allocate funds to appropriate areas for economic development and economic growth.

In addition, the study on the determinants of China's FDI (outward) might suggests some appropriate factors in attracting China's outward FDI, which will in turn enhance the efficiency and effectiveness in the efforts or process of attracting China's FDI into Malaysia. Therefore, the study may assists policy makers in their decisions to enlarge or enhance certain promising areas, for example market size and human capital development in order to attract China's FDI into Malaysia, and thus stimulate economic growth.

In short, by conducting this study, we will be able to provide more robust results on the impact of Malaysia's trade openness, financial development, and most significantly China's FDI on Malaysia's economic growth. The relationship was

seldom being analyzed by previous researchers. Note that FDI is important to stimulate private investment as well as to create job opportunities. In addition, after the study, we can clarify the determinants of China's FDI outflows, specifically the relationship between Malaysia's market size, exchange rate, human capital development (all are independent variables), and China's FDI outflows (the dependent variable). Lastly, the causal relationship between China's FDI and Malaysia's economic growth can also be justified after the study. All three aspects being mentioned above are crucial in assisting policy makers to implement sound and wise policies, strategies as well as programs. Therefore, we hope that our research could contribute to the society as well as the nation as a whole in the expansion and development of our country in order to achieve 2020 Vision and become a developed nation.

1.7 Organization of the paper

The remaining sections are organized as the followings: section 2 represents literature review, followed by section 3 which illustrates the data description and methodology being employed. Our empirical results and interpretation are in section 4 before we conclude in section 5.

CHAPTER 2: LITERATURE REVIEW

2.1 Reviews on the impact of FDI on the economic growth

Foreign Direct Investment (FDI) has been an additional source of capital for most of the countries. In general, economists agreed that FDI leads to an increase in economic growth and helps in capital formation, though there are some arguments from others.

Majority of the researchers found that FDI affects economic growth positively but in different extent, depending on various factors and countries. (See: Lensink & Morrissey, 2006; Tvaronavičienė & Grybaitė, 2007; Batten & Xuan, 2009; Brock, 2009; Wang, 2009; Chee & Nair, 2010; Ghosh & Wang, 2009; Wijeweera et al., 2010). FDI has contributed substantially to the productivity and economic growth, and it is a mover of production efficiency and a shifter of the production frontier in the host country which will lead to a growth in GDP (See: Marwah & Tavakoli, 2003 on ASEAN countries; Yao et al., 2008 on China). Besides, some researchers found that FDI's positive spillovers can stimulate national welfare and growth. It is generally accepted that the positive impact of FDI is driven by FDI transferring assets related to productivity improvement or spillover effect and efficiency of FDI, as well as the interaction with that country's absorptive capability (See: Mencinger, 2003; Choong et al., 2005 on Malaysia; Wang, 2009 on Asian countries). The positive impact of FDI is smaller than the domestic investment because FDI still concentrates in some industries with low value added. The effect seems to be very different across economic sectors with most of the beneficial impact concentrated in the secondary industries. (See: Vu et al., 2008 on China and Vietnam; Oladipo & Vásquez Galán, 2009 on Mexico). On the other hand, Tang et al. (2008) indicated that FDI has complementary effects on domestic investment, and long-term economic growth is positively associated with FDI. His finding was being reinforced by Baharumshah and Almasaied (2009) who found that FDI has a positive and significant effect on economic growth, but its effect is of lesser magnitude than that of domestic investment.

In contrast, some empirical studies obtained a negative relationship between FDI and economic growth (See: Nwala, 2008 on ASEAN 4 countries; Bezuidenhout, 2009 on Southern Africa). In other words, when the amount of FDI inflows increases, economic growth will decrease. For example, according to Nwala (2008), if FDI complements domestic investment, it can enhance growth; otherwise, the former will crowd the latter out, and decreases domestic savings, which will in turn lead to a slowdown or decrease in economic growth. This can be attributed to the type of FDI that flows into the region.

Interestingly, there were also some researchers produced mixed results on the impacts of FDI inflows on economic growth. (See: Wang & Wong, 2009; Farshid et al., 2009). For instance, according to Vita and Kyaw (2009), FDI has a positive effect on economic growth only in developing countries with lower middle and upper middle-income, but this is not the case for developing countries grouped within the low-income classification. Furthermore, Ang (2009), who had done a research in Thailand, stated that although FDI's indirect effect through financial sector development seems to have a positive impact in stimulating economic development, it has a negative influence on output in the long run.

2.2 Determinants of China's foreign direct investment (FDI)

2.2.1 Reviews on market size

Larger market size should receive more FDI inflows compared to smaller countries that have smaller market size. Market size is generally measured by Gross Domestic Product (GDP), GDP per capita income and size of the middle class populations. Besides, we know that the larger the market size, the better the opportunity for foreign investors to reduce entry costs and to attain economies of scale (Li et al, 2008). Many empirical studies documented a positive and significant relationship between market size and FDI (See: Vijayakumar, 2010 on BRICS (Brazil, Russia, India, China and South Africa) countries; Asiedu, 2006 on Sub-

Saharan Africa (SSA) countries; Faeth, 2009; Gast & Herrmann, 2008 on OECD countries; Ladyeawa, 2009 on Russia; Leitão, 2009 on Greece; Leitão & Faustino, 2010 on Portugal; Mateev, 2009 on Central and South eastern European countries; Oladipo, 2008; Sinha, 2008 on India) .

In contrast, Kang (2009) captured market size as an insignificant determinant of China's FDI ourflows. In addition, we can see that different countries may have different market size which play a significant role on the economic growth where it attracts more FDI. Hence, market size of host country and market size of home country are particularly important positive location factors of FDI (Vogiatzoglou, 2007).

Based on the previous studies, we can see that the caveat is that the small size of a country may require many countries to be included in a coalition in order to achieve a market size that will be large enough to attract foreign investors (Asiedu, 2006). When a country expands the size of its market in terms of middle class population increment and GDP per capita income, it will lead the region to become more attractive for FDI.

2.2.2 Reviews on human capital

Countries that require FDI can attract it also by developing resources like human capital. Corporations seek out societies with a skilled, educated, and productive workforce. In other words, investors increasingly target countries where the quality of human capital is high, for example: education (Bhaumik & Dimova, 2009; Fork et all, 2008; Suliman & Mollick, 2009; Wong 2006; Amal et al, 2009) is the most prominent component in human capital development, in which it positively and significantly improves FDI. Human capital is also a fundamental element of increasing per-worker labor productivity (Rodriguez & Pallas, 2008) . Moreover, widespread respect for human rights facilitates the ability and enhances the opportunity for the host country's citizen to attain higher level of education and training (Blanton & Blanton, 2007). Therefore, the interaction between human capital and FDI is important for both short and long-term growth process (See: Baharumshah & Almasaied, 2009; Sinha, 2008).

However, in eastern China, education has a statistically non-significant positive direct effect on FDI (Li et all, 2008; Nasser, 2007). In America, the state endowment of human capital suggested state specific programs to human capital within a state because near perfect factor mobility is not helping in attracting more FDI to that state (Brock, 2009), and thus human capital is not significant in affecting FDI.

In short, we believe that education and labor skills are not a major constraint to attracting investment and we have provided evidence that education does matter for output growth or productivity, where the study found that higher level of education is an important determinant of employment in the labor market. So far, our analysis has proven this argument to be true by reviewing on the previous studies.

2.2.3 Reviews on exchange rate

Exchange rate is also an important determinant of FDI in our study. As we know, in finance, exchange rate is known as foreign-exchange rate between two currencies, specifying how much one's currency is worth in terms of other. It is the value of a foreign nation's currency in terms of the home nation's currency.

Recent empirical research on FDI and exchange rate uncertainty has highlighted the ambiguous effect of exchange rate volatility on FDI. A changes in the exchange rate will not only affect foreign trade, instead, it also will influece the MNCs or FDI (Bunch and Kleinert, 2008).

There are evidences that exchange rate volatility has a positive and significant effect on FDI (Chowdhury & Wheeler, 2008 on Canada, Japan and United Stated; Bunch & Kleinert, 2008; Vita & Abbott, 2007 on UK), which means a real appreciation of the local currency with respect to the foreign currency implies an increase of FDI flows into the country. In contrast, there were also studies shown that exchange rate volatility has a negative impact on FDI (Wong, 2006; Song & Zhen, 2007; Zheng, 2009; Wei & Zhu, 2007, Vita & Abbott, 2007 on UK; Gottschalk & Hall, 2008 on South-East Asia), which means a real appreciation of the local currency with respect to the foreign currency implies a reduction of FDI inflows to the country.

In most of the papers cited above, the location choice of multinational firms is between home and foreign country. A firm either chooses producing in the home country and exporting to the foreign market or producing in a foreign country and sell in the home market (Gottschalk & Hall, 2008). We can see that government can play a significant role in managing exchange rates in the global world as well. The policymaker will take certain actions to ensure their stability of currency. By decreasing the value of their own currencies, the demand of the countries may increase. Now we can see the importance (to world trade) on how the changes in currency exchange rates will affect global business.

2.3 Reviews on the causal relationship between FDI and economic growth

During the last decades, numbers of research had been done on the role of foreign direct investment in stimulating economic growth. The causal relationship should also be paid attention to because it can help to produce policies that generate more promising economic growth to the country. Previous researchers, Hansen and Rand (2006) appealled a question on the causality: does FDI causes (long-run) growth and development or do fast-growing economies attract FDI flows as transnational companies search for new market and profit opportunities? This is what we are interested as well. They conducted the research on developing countries and found that FDI has a significant long-run impact on GDP irrespective of the level of development. However, Chowdhury and Mavrotas (2006) indicated that individual country studies should be done to examine the causal relationship since FDI and economic growth is also country specific. Therefore, Magmus and Fosu (2008) suggested that new studies have considered possibility of several relationships between FDI and economic growth which has been categorized at below.

2.3.1 Growth-driven FDI

This relationship is showing that the good performance of economic growth will drive FDI inflows into a country. With this relationship, improving the economic growth enables the countries to generate more FDI inflows, and consequently bring essential economic resources to facilitate the development of the host countries (Lee, 2009). In our review, several countries had been examined and we found a unidirectional causality between FDI and growth (Elboiashi et al., 2009 on Morocco; Chowdhury & Mavrotas, 2006 on Chile; Srinivasan et al., 2010 on Indonesia, Philippines and Singapore; Lee, 2009 on Malaysia). For example, according to Elboiashi et al. (2009), there were some researchers provided some recommendation on improving economic condition in host country such as market size, the technology gap, technology-absorbing capability, the degree of openness and the level of the human capital development in order to attract more FDI inflows. While in Lee (2009)'s research, it was found that FDI is important in the adjustment of GDP per capita in Malaysia, which is consistent with the previous literature that emphasizes FDI inflows as a source of basic economic resources to facilitate the development of the host country. However, his empirical results indicated that FDI inflows only explain the short-run adjustment of GDP per capita, but not the long run. So, FDI inflows may act as positive incentives for the country, but not as an engine for sustained economic growth because FDI may not always serve the long-run interest of the host countries.

2.3.2 FDI-led growth

The growth effect of FDI is expected to be in two ways. First of all, by encouraging the inclusion of new factors and foreign technologies in the production function, FDI is hypothesized to spurs economic growth via capital accumulation in the host (recipient) country. Secondly, through knowledge diffusion, FDI is hypothesized to enhance the existing human capital via skill acquisition and worker training, as well as via the promotion of alternative management practices and organizational arrangements (Ericsson & Irandoust, 2001). In addition, in terms of start-up, marketing, and licensing agreements, FDI may be hypothesized to stimulate

technological upgrading. The statement is supported by Markusen and Venables (1999) who worked out an analytical framework on the process of how FDI establishes local industrial sectors, whereby these sectors may grow to an extent where domestic production surpasses and crowds out FDI plants. Obviously, FDI plays an important role in accelerating technological upgrading and industrial development. Therefore, foreign investors may raise productivity and technological progress in the host (recipient) nation and thus have great impact on economic growth as well as economic development.

In contrast, there was an argument that the amount and kind of FDI inflows in the host country are influenced by the level of economic development. According to Caves (1996), the technological capacity of the host country has a significant relationship with the level of FDI. If MNCs are exactly the same with local firms, it is not profitable for the former to enter the domestic market (Markusen, 1995). Similarly speaking, advantages in terms of technology, inputs cost, factor endowments, as well as higher productivity of the host country should enhance the attractiveness of FDI (Caves, 1996). All these reinforced Dunning (1993b)'s international investment theory, in which it was suggested that for a firm to be strongly induced to invest directly, three prerequisites must be existed, namely internationalization, ownership, and location.

The level of macroeconomic stability and the trade policy of the recipient country are among other factors that may have a strong linkage with FDI. As long as a country has provided, adopted and fulfilled the following: (i) fiscal and monetary discipline to control inflation, liberalization reforms, (ii) incentives on trade and an appropriate property right market, (iii) necessary institutional framework for cross-border legal and financial settlements, it will become more attractive and competitive. All these factors can be seen as engine of growth, and the subsequent higher growth rate may in turn attract greater FDI inflows (Ericsson & Irandoust, 2001).

In short, under the assumption that the host nation is in sound condition, causality between FDI growth and income growth is expected to be bidirectional. This indicates that the appropriateness of macroeconomic policies is crucial in creating an attractive economic environment in order to induce more FDI. Moreover, FDI affects growth via the "catch up" process in technology and via knowledge diffusion. By

spurring growth in the host country, FDI inflows will increase and this will in turn have extra impact on growth and economic development (Ericsson & Irandoust, 2001).

2.3.3 The two way (bidirectional) causal link

On the other hand, there were also several research indicated a bidirectional causality between FDI and economic growth in quite similar countries. (See Chowdhury & Mavrotas, 2006 on Malaysia and Thailand; Srinivasan et al., 2010 on Malaysia and Vietnam; Sridharan et al., 2009 on Brazil, Russia and South Africa; Balamurali & Bogahawatte, 2004 on Sri Lanka; Anwar & Nguyen, 2010 on Vietnam). These will show a causal relationship between economic growth and FDI inflows of the countries, which mean a better economic performance will attract more FDI inflows, which will in turn increase the economic growth again. For example, Anwar & Nguyen (2010) supported the view that in overall, there is a bidirectional causality between FDI and economic growth in Vietnam. While the direct effect of the former on the latter was found to be positive, the indirect effect via the economy absorptive capacity is negative.

In the case of Malaysia, Chowdhury and Mavrotas (2006)'s as well as Srinivasan et al. (2010)'s results showed differences with Lee (2009)'s results who found that output only has long-run causal relationship on FDI inflows. This is because the methods that were being employed to examine the relationship are different among the researchers and hence produce different results. Besides, Anwar and Nguyen (2010) found that there is a linkage between FDI and economic growth in Vietnam, but not the case of every region in Vietnam. This implies a more specific study in examining the relationship in such a way that region by region instead of country by country. Nonetheless, due to the lacking of data, difficulties in considering other variables and other limitations, our study only focus on country basis.

2.3.4 The absence of any causal link

In the review that we had done on previous research, the absence of any causal relationship normally is less likely to be happened in the countries because many researchers recommend appropriate policies in generating more FDI to benefit the growth of the country or vice versa. For instance, Chowdhury and Mavrotas (2006) suggested to increase attention to the overall growth and the quality of growth as there are crucial determinants of FDI. However, there are some countries under reviewed like Brunei and Lao showed no causality between FDI and GDP (See: Srinivasan et al., 2010).

In short, understanding the direction of causality between the two variables is important in formulating policies that encourage private investment in developing countries (Chowdhury & Mavrotas, 2006). Therefore, it is important for us to comfirm the relationship between FDI and economic growth before implementing policy since it may benefit nothing to us if there is no causal link between these two variables.

CHAPTER 3: METHODOLOGY

3.1 Introduction of methodology

In this chapter, we introduced the theoretical framework as well as econometric technique that help us to estimate the relationship between China's (outward) FDI and Malaysia's economic growth. With respect to theoretical framework, we introduced two models in this research. First of all, the relationship between China's FDI, Malaysia's trade openness, financial development (all of the above are independent variable) and Malaysia's economic growth (the dependent variable). Secondly, we also hypothesize that Malaysia's market size, exchange rate and human capital development will affect China's outward FDI. In this case, the variables that we are going to use contain data from 1987 to 2009.

On the other hand, in terms of econometric techniques, we incorporate the concept of cointegration which was initiated by Granger (1981) as well as Granger and Weiss (1983) before it was extended and modified by Engle and Granger in 1987. The notion of cointegration explains the existence of a stationary or long-run equilibrium relationship among two or more variables (time series), though they are individually non-stationary (Narayan & Narayan, 2004). The major benefit of cointegration method is that it facilitates us in integrating the short-run and long-run relationships between two or among more than two variables in a framework that is unified. In addition, the spurious/nonsense regression problem can be partially or totally eliminated by the existence of cointegration among the variables. Under the notion of cointegration, we employ the Auto Regressive Distributed Lag (ARDL) approach which is also known as the bound testing procedure.

Moreover, in order to test the short term causal relationship between the variables, we also apply Granger causality tests. Before we proceed to cointegration test, we employ unit root tests such as Augmented Dickey Fuller (ADF) test, and Kwiatkowski-Phillips-Schmidt-Shin (KPSS) to examine the stationarity of the data and confirm that the various series suit the requirement of same order of integration with I (d) and linear combination of all variables must be I (d-b).

3.2 Econometric model

Based on previous studies, we reinforced the model of Malaysia GDP and China's foreign direct investment (FDI) respectively as follow:

(1) MGDP =F (CFDIM, MOPEN, FD)

(2) CFDIM = F(MMS, EXR, HCD)

3.2.1 Source of data and definitions

Variable	Definition	Source of data
MGDP	Gross Domestic Product (GDP) in Malaysia	IFS (International Financial statistic)
CFDIM	China's foreign direct investment inflows of Malaysia (RM Billion)	MIDA (Malaysian Industrial Development Authority)
MOPEN	Export plus import divided by nominal GDP (Malaysia's trade openness)	IFS (International Financial statistic)
FD	M3 divided by Gross Domestic Product (GDP)	BNM (Bank Negara Malaysia)
MMS	Nominal GDP in Malaysia (Malaysia's market size)	IFS (International Financial statistic)
EXR	Yuan Renminbi per Ringgit Malaysia (RMB/RM)	IFS (International Financial statistic)
HCD	Employment rate in Malaysia (Human capital development)	World Bank

3.3 Econometric method

In this study, we employ the time series method to estimate our research model, whereby the method is suitable for research that focus only on one country with a series of time periods. Furthermore, the unique of time series techniques is its ability to decompose a trend, a seasonal, a cyclical, and an irregular component. The most important aim of time series method is to have forecast based on economic data. This study aims to test on how China's foreign direct investment (FDI) affects Malaysia's economic performance, and determine whether what are the factors that can attract China's FDI into Malaysia.

There are two time series approaches that we employ in the next section:

(1) Bound Test (unrestricted error correction model)

(2) Granger Causality Tests

3.3.1 ARDL approach

To study the long-run relationship between China's foreign direct investment and Malaysia's economic growth, we employ the ARDL approach advocated by Pesaran and Shin (1995) (see also Pesaran & Pesaran 1997; Pesaran, Shin, & Smith 2001). The ARDL approach is also known as the bound testing method. The concept of cointegration was first established by Granger (1981) as well as Granger and Weiss (1983). Eventually, it was further extended and formalized by Engle and Granger (1987). Cointegration illustrates the existence of an equilibrium or stationary relationship among two or more time series, in which each of them is individually nonstationary. Its pro is that it enables us to integrate the long-run and short-run relationships between variables in a standardized framework. After the seminal effort of Engle and Granger (1987), studies on cointegration techniques have been advanced with attention is paid on determining the number of linearly independent cointegration vectors, or the cointegrating rank, in a typical vector autoregressive process.

The bound testing approach has the underlying computed F-statistic (Wald F-statistic), which is used to examine the significance of lagged levels of the variables under the study in a conditional unrestricted equilibrium correction model (UECM).

This approach has a few pros compared to others like Johansen and Juselius (JJ) tests, Engle-Granger two-step method. One of the benefits is that regardless of the stationarity of the independent variables (whether they are in I(0), or I(1), or mutually cointegrated), the ARDL method is applicable. Therefore, due to its independency on pretesting the variables' order of integration, bound testing approach eliminates the risks related to pre-testing the order of integration. Furthermore, bound testing procedure can avoid the finite sample size problem which is suffered by JJ tests and Engle-Granger two-step method. In other words, it is reliable to be employed in research that involves small sample size as compared to JJ tests and Engle-Granger two-step procedure.

In order to employ bound testing procedure, we demonstrated the Vector Auto-Regression (VAR) of order p(VAR(p)) for China's FDI-led growth function in Malaysia.

$$Z_t = \mu + \sum_{i=1}^{p} \beta_i \, Z_{t-i} + \varepsilon_t \tag{1}$$

where z_t is defined as the vector of both y_t and x_t, where y_t is the endogenous variable (measured by Malaysia's economic growth and China's FDI in Malaysia) and x_t (CDIM, MOPENNESS, FD, MMS, EXR, HCD) is the vector matrix of a set of exogenous variables. 't' is a time or trend variable. According to Pesaran et al. (2001), y_t must be I(1) variable, but the independent variables, x_t can be either I(0) or I(1).

VECM (Vector Error Correction Model) can be further developed as below:

$$\Delta Z_t = \mu + \alpha_t + \lambda Z_t + \sum_{i=1}^{p-1} \gamma_i \, \Delta y_{t-1} + \sum_{i=0}^{p-1} \gamma_i \, \Delta X_{t-i} + \varepsilon_t \tag{2}$$

Where Δ=1-L. The long run multiplier matrix as developed by Choong et al. (2005) are now separated as:

$$\lambda = \begin{bmatrix} \lambda_{yy} & \lambda_{yx} \\ \lambda_{xy} & \lambda_{xx} \end{bmatrix} \tag{3}$$

The crossway components of the matrix are unrestricted. Thus, the chosen series can be either I(0) or I(1). If $\lambda_{yy} < 0$, then y is I (0). Contradictory, if $\lambda_{yy} = 0$, then y is equal to I (1).

The ARDL method involves two stages (Narayan & Narayan, 2004). Establishing the existence of a long run relationship is the first stage. After the long run relationship has been established, a two-step procedure is employed to estimate the long-run relationship. To investigate whether a long-run relationship is present in equation 1 or not, we have to estimate the following unrestricted error correction (UEC) models:

$$\Delta X_t = \alpha_0 + \sum_{i=1}^{p=1} \beta_{ix} \Delta X_{t-1} + \sum_{i=0}^{p=2} \phi_{ix} \Delta Y_{t-1} + \psi_{1x} X_{t-1} + \psi_{2x} Y_{t-1} + \varepsilon_t \quad (4)$$

$$\Delta Y_t = \alpha_0 + \sum_{i=1}^{p=1} \beta_{im} \Delta Y_{t-1} + \sum_{i=0}^{p=2} \phi_{im} \Delta X_{t-1} + \delta_{1x} Y_{t-1} + \delta_{2x} X_{t-1} + \varepsilon_t \quad (5)$$

The existence of long-run relationship is tested by using F-test, whereby the F-test will indicate whether which variable should be normalized when there is a long run relationship in the model (Narayan & Narayan, 2004). Besides, the null and alternative hypotheses for the respective models are constructed as the following:

H_0:$\psi_{1x} = \psi_{2x} = 0$ (no long run levels relationship)
H_1: $\psi_{1x} \neq \psi_{2x} \neq 0$ (long run levels relationship exists)

(From equation 4)

H_0:$\delta_{1Y} = \delta_{2Y} = 0$ (no long run levels relationship)
H_1:$\delta_{1Y} \neq \delta_{2Y} \neq 0$ (long run levels relationship exists)

(From equation 5)

This can also be indicated as F_X (X|Y) for equation 4 and F_Y (Y|X) for equation 5.

The F-test follows a non-standard distribution which depends on (i) whether the UEC model is with drift and/ or a trend or not (ii) the number of exogenous variables, and (iii) whether the variables included in the UEC model are of one order of integration I(1) or zero order of integration I(0) (Narayan & Narayan, 2004). In Pesaran and Pesaran (1997) as well as Pesaran et al. (2001), there were two sets of critical values being reported. Unfortunately, they are not suitable for us due to our finite sample size (23 observations only). Hence, we have to calculate critical values based on our sample size, generated by Narayan (2005). We carried out a further two-step procedure in the second stage, to estimate the model once a cointegration has been established. First of all, we approached adequate lag information criteria such as Schwartz Bayesian Criteria (SBC) to select the (optimal) order of the lags in the model (ARDL). Then, we employed OLS method to estimate the chosen model.

In order to examine the impact of China's foreign direct investment (FDI) on Malaysia's economic growth and the determinants of China's FDI in a more specific manner, the following unrestricted error correction model (UECM) of the ARDL model is estimated:

$$\begin{aligned}\Delta InMGDP = {} & \beta_{10} + \beta_{11} InMGDP_{t-1} + \beta_{12} InCFDIM_{t-1} + \beta_{13} InMOPENNESS_{t-1} \\ & + \beta_{14} InFD_{t-1} + \sum_{i=1}^{p} \beta_{15}\, \Delta InMGDP_{t-i} + \sum_{i=0}^{p} \beta_{16}\, \Delta InCFDIM_{t-i} \\ & + \sum_{i=0}^{p} \beta_{17}\, \Delta InMOPENNESS_{t-i} + \sum_{i=0}^{p} \beta_{18}\, \Delta InFD_{t-i} + \varepsilon_{1t}\end{aligned} \tag{6}$$

$$\begin{aligned}\Delta InCFDIM = {} & \beta_{20} + \beta_{21} InCFDIM_{t-1} + \beta_{22} InMMS_{t-1} + \beta_{23} InEXR_{t-1} \\ & + \beta_{24} HCD_{t-1} + \sum_{i=1}^{p} \beta_{25}\, \Delta InCFDIM_{t-i} + \sum_{i=0}^{p} \beta_{26}\, \Delta InMMS_{t-i} \\ & + \sum_{i=0}^{p} \beta_{27}\, \Delta InEXR_{t-i} + \sum_{i=0}^{p} \beta_{28}\, \Delta HCD_{t-i} + \varepsilon_{2t}\end{aligned} \tag{7}$$

Where the ε_t in equation 6 and 7 is the disturbance for the ARDL model. The null hypothesis that test the long run relationship of the model is $\beta_{11}=\beta_{12}=\beta_{13}=\beta_{14}=0$

and $\beta_{21}=\beta_{22}=\beta_{23}=\beta_{24}=0$ for equation 6 and 7 respectively, it specifies that there is no long run relationship. The alternative hypothesis contradicts with the null hypothesis as it states that at least one β_j (j=11, 12, 13, 14) and β_i (i=21, 22, 23, 24) is not equal to zero, it means at least one variable has long run relationship. If the computed F-statistic (Wald test) of ARDL bound test is greater than the upper bound critical value, we can reject the null hypothesis and conclude that the model has long run relationship. However, if the F-statistic is lower than the lower bound critical value, we cannot reject the null hypothesis and we can conclude that there is no cointegration in the model. Another possible outcome is that, if the value of F-statistic is recline between the lower bound and upper bound value we can just conclude that it is inconclusive (Narayan & Narayan, 2004).

3.3.2 Granger causality test

In order to know the short-run relationship between China's foreign direct investment and economic growth in Malaysia, we apply the Granger causality test. In particular, we want to test whether the independent variable causes the dependent variable or vice versa or whether there is no causality at all or not. By applying the Granger causality test, we can automatically know that how well the previous dependent variable will explain the current dependent variable, and study the improvement of dependent variable's expiration when introduced lagged in the model. They are three types of causal relationship in the Granger causality: (i) either the dependent variable (Y) Granger causes the independent variable (X) or the independent variable Granger causes the dependent variable, (ii) bidirectional causal relationship, (iii) and no causal relationship at all.

Granger causality test was described by Granger (1969) and a minor modification was done by Sims (1972). The Granger causality test means only a correlation between the current value of one variable and the past value of others; however it does not mean the movements of one variable cause the movement of another. Granger causality test helps us to answer the common question that "Does X causes Y"? There are several outputs that will be produced by the Granger causality test (Brooks, 1995):

1. If X causes Y, lags of X should be significant in the equation of Y, no vice versa. This means X Granger causes Y, a unidirectional causality runs from X to Y.
2. If Y causes X, lags of Y should be significant in the equation of X. It would be said that there was a 'bi-directional feedback' or 'bi-directional causality' if both sets of lags were significant.
3. If X is found to be Granger caused Y, but not vice versa, it would be said that variable X is strongly exogenous in equation Y.
4. It would be said that the variable X and Y is independent if there is no set of the lags are statistically significant in the equation for the other variable.

The direct way to test the Granger causality is to use the standard F-test of the restriction if the entire variable in the VAR are stationary:

$$\beta_{21}(1)=\beta_{21}(2)=\beta_{21}(3)=\ldots.=\beta_{21}(p)=0$$

Granger causality test is different from the other econometric tests because it assumes that all the variables are endogenous, therefore the researchers do not need to identify whether which variable is endogenous or exogenous. It is not the same as to test for exogeneity; it required that Y_t not be affected by the contemporaneous term of X_t if Y_t is to be exogenous. Nonetheless, Granger causality test involves only the previous values effects of X_t on the current values of Y_t. It therefore examines whether future values of Y_t can be forecasted by using current and previous value of X_t.

We estimate the hypothesis by forming MGDP as Y_1 and CFDIM as Y_2, and the other independent variables are labeled as CFDI, MOPEN, and FD for Y_1; while MMS, EXR, and HCD for Y_2. The ε_t and z_t are the uncorrelated error term with white noise.

$$\Delta X_t = \alpha_0 + \sum \delta_i X_{t-1} + \sum \beta y_{t-1} + \varepsilon_t$$

$$\Delta Y_t = \gamma_0 + \sum \phi_i X_{t-1} + \sum \psi Y_{t-1} + Z_t$$

First of all, ΔX and ΔY are stationary time series, and ε_t and z_t are uncorrelated white noise error term. Without including the lagged Y variables, we regress X on all lagged X terms and other variables and restricted residual sum of square (RSS_R) is figured out. Next, we include the lagged Y terms and run the regression and the unrestricted residual sum of square (RSS_{UR}) is figured out. Then, the null hypothesis in our research is lagged Y do not belong to the regression, that is H_0: $\sum\beta_i=0$; while the alternative hypothesis represents lagged Y does belong to the regression, that is H_1: $\sum\beta_i\neq0$.

Following that, we use F-test (which follow the F-distribution) to perform the hypothesis testing, which is denoted as:

$$F= \frac{(RSS_{UR}-RSS_R)/m}{RSS_{UR}/(n-k)}$$

Where RSS_{UR} indicates unrestricted sum of squared residual; RSS_R represents restricted sum of squared residual; m is the number of lags; k represents the number of coefficient involved in the unrestricted regression. As a decision rule, if F-statistic greater than the critical value at a specific level, we can reject the null hypothesis, otherwise do not reject it. For the former case, we can conclude that the lagged Y terms belong to the regression. In other words, Y causes X. Finally, by including lagged X terms, we can repeat the whole process. In the other words, we are interested to know whether the X Granger causes Y in the model or not.

3.4 Theoretical model

3.4.1The Relationship between trade openness and economic growth

Trade can be decomposed into exports and imports. The nexus between exports and economic growth has been attributed to the potential positive externalities

derived from exposure to foreign markets. In particular, there are three channels for which exports can spur growth (Awokuse, 2008). First, the expansion of export may accelerate output growth directly as a component of aggregate output. Second, the growth in exports can also indirectly influence the growth via different ways like stimulation of technological improvement, exploitation of economies of scale, greater utilization of capacity and resource allocation efficiency (Helpman & Krugman, 1985). Exports growth allows firms to take advantage of economies of scale that are external to firms in the non-export sector but internal to the overall economy. Third, export growth contributes in providing foreign exchange reserves that can be used to import raw material and intermediate goods, which will in turn enhance capital formation, and spurs output growth (Esfahani, 1991).

On the other hand, import growth which may serve as a complement in promoting economic performance as a whole, as compared to expanded exports (Awokuse, 2008). It is reasonable to hypothesize that the impact of imports on economic growth may be varying from that of exports. Besides, the technological transfer from industrial nations to less-developed countries through imports may serve as a crucial engine of growth. This is supported by the endogenous growth models which postulate that import can be a channel for long-run economic growth due to the accessibility to foreign knowledge and technology it provides to local firms (Coe & Helpman, 1995). Imports can be considered as sources of technology-intensive intermediate inputs of production (Mazumdar, 2001). As compared to exports, imports may play a more important role on economic growth because it is a medium of technology transfer.

In addition, we know that international trade may influent firm's productivity through many different ways. In particular, via exports to developed nations (Clerides et al., 1998) and via imports of capital equipment and intermediate products (Markusen, 1989), it is a first channel of technology transfer. The geographic destinations of trade flows for both cases are very crucial. Firms importing capital and intermediate inputs from more sophisticated market must meet strict technical requirements to employ the sophisticated western technology. Similarly, firms exporting to advanced markets can learn more due to stiff competition, as well as to higher quality, to technical, safety and other standard requirements. Therefore, a

higher propensity to trade with more developed countries may lead to a higher productivity level and faster total factor productivity (TFP) growth (Damijan et al., 2009).

With respect to economic literature, the impact of trade openness on economic growth is controversial. On one hand, higher proportion of exports and imports in GDP indicates greater trade volume and is expected to be positively related to economic growth (Hong & St. Juliana, 2010). This is supported by various researchers who found that trade openness positively affects GDP growth and they have statistically significant relationship (See: Edwards, 1998; Frankel & Romer, 1999; Winters, 2004; Wattanakul, 2009; Hong & Juliana, 2010; Constant & Yue, 2010). For example, according to Edwards (1998), more open economies have in fact experienced more rapid economic growth.The following variable is MOPENNESS defined as Malaysia's trade openness and we believe that export and import will bring significant effect on the nation's economic growth.

While several of these studies have documented empirical evidence reinforcing the existence of a long-run relationship between trade openness and economic growth, some others have rejected the trade openness-led growth hypothesis. In other words, they found an extremely contradictory result, in which trade openness negatively influents economic growth (See: Butkiewicz & Yanikkaya, 2010; Sarkar, 2008). For instance, according to Butkiewicz and Yanikkaya (2010), in mineral dependent economies, lower growth is resulted from trade openness because the development of domestic production is replaced by manufacturing imports.

The relationship between trade openness and economic growth may also be depending on situation. Honkapohja and Turunen-Red (2002); Madsen (2009); as well as Rao and Rao (2009)'s research support this argument. For example, according to Madsen (2009), openness does not, by and large, affect growth. But once we allow for the connection between openness and foreign knowledge, openness positively affects growth.

3.4.2 The Relationship between financial development and economic growth

Most of the theoretical literature regarding financial development and economic growth assume four different effects of financial transaction and development on economic performance as a whole. One of them is an informational effect, in which prior information about potential investment and capital are available (Levine, 2004). In addition, there is a risk management effect whereby the financial system contributes in diversifying risk (especially liquidity risk), and thus allowing for the financing of riskier but more productive investments and innovations (Bencivenga & Smith, 1991). Another effect is a volume effect and allocation effect, according to which financial transaction raises resources that can be channeled into investment while enhancing the allocation of resources devoted to investment. The last effect related to the provision of a cheap and reliable means of payment (Maswana, 2009).

In particular, the endogenous growth literature gives ample evidence that financial development affects economic growth and their relationship is statistically significant. According to theory, these two variables are linked in such a way that a well-developed financial system play a few major roles to improve the efficiency of intermediation by decreasing monitoring, information, and transaction costs, and thus this will in turn spur economic growth (Maswana, 2009). Obviously, it implies that without a sound financial system, economic growth seldom exist (Levine et al., 2000). Similarly speaking, there is no sustainable economic growth and no efficient financial depth if the financial system distorts the funds allocation under the circumstances of financial repression. Recent endogenous growth literature reinforced the significance of financial intermediaries in stimulating economic growth. Financial development can result in increasing return to capital, and a rise in the long-run growth rate via financial intermediation. As a result, financial development can have both the level effects and growth effects within the endogenous growth framework (Zhicheng, 2005).

With respect to economic literature, the impact of financial development on economic growth is controversial. On one hand, receiving considerable empirical

support in previous studies is the positive relationship between financial development and economic growth. In other words, an improvement in financial development will spur growth. (See: Lensink, 2001; Calderon & Liu, 2003; Zhicheng, 2005; Liu & Hsu, 2006; Jun et al., 2007; Kar et al., 2008; Lee & Chang, 2009; Chee & Nair, 2010; Leitao, 2010). For example, Kar et al. (2008) applied Johansen cointegration econometric method, found that there was a positive contribution from financial development to economic growth.

In contrast, some others have rejected the finance-led growth hypothesis. In other words, they found a contradictory result, in which financial development does not influent economic growth (See: Liang & Teng, 2006; Chimobi, 2010). For instance, Chimobi (2010) employed Johansen multivariate approach, found that there was no cointegration connection between growth and financial development (money supply, direct credit and private credit).

There were some other researchers produced rather mixed evidence on the role of financial development as a determinant of economic growth. In particular, the relationship between financial development and economic growth is depending on situation (See: Kar et al., 2010; Soukhakian. B, 2007; Soukhakian. N, 2007). For example, Kar et al. (2010) found that there is no clear cut on the direction of causality between financial development and economic growth for all measurements, and it is also found that the findings are country specific.

The financial development variable is used to gauge the resilient and sound financial system, which will in turn effective in promoting a country's economic performance. If there is a positive and significant coefficient of this variable, we can conclude that financial development is effective in promoting economic growth. However, the relationship between financial development and economic growth remained controversial despite the fact that it had been studied by various researchers. Specifically, there were mix results being produced by various past authors. This phenomenon gives us a motivation to further analyze and confidently examine the correlation between the variables, with the hope that a more robust result can be produced.

3.4.3 Location specific model

In the China's foreign direct investment (CFDIM) model, the exogenous variables that we study on are Malaysia's exchange rate (EXR), market size (MMS) and human capital development (HCD).

Equation 7 showed an empirical model for the CFDIM (which is the dependent variable in the model); while equation 6 explains the relationship between China's FDI and Malaysia's economic growth, in which the coefficient of the former should be statistically significant.

In addition, for a small open economy like Malaysia, which is sensitively affected by the changes in the world price, the fluctuation of the exchange rate is especially important (Choong et al., 2005). In other words, exchange rate can serve as a tool to adjust the effects of such external shocks. We believe that an appreciation of the real exchange rate will decrease foreign direct investment (FDI). In other words, a devaluation of currency value will cause more FDI because if the Malaysian ringgit depreciates, this will enhance the competitiveness of the domestic commodities, and thus it will attract FDI and promote export (Choong et al., 2005). Henriques and Sadorsky (1996) supported this view by indicating that with a lower Canadian dollar, Canada has had a superior economic performance (and hence attracting more FDI) compared with other advanced country like United State. The exchange rate (EXR) variable is the most concerned element by multinationals firm investing in the host country. Most of the previous studies suggested that exchange rate has negative relationship with FDI, which means that an appreciation in the exchange rate will decrease the FDI flows.

The following is the MMS, or GDP per capita, means an approximation of the value of good produced per person in the country, equal to the country's GDP divided by the total number of people in the country. So, there should be a positive relationship between MMS and FDI. In other words, if Malaysia's MMS is higher, the FDI inflows should be higher as well. The hypothesis of this variable is: the greater the MMS, the greater the business opportunity in Malaysia which will in turn attract more FDI into the host country. We expect that the direction of this variable will be positive and it will significantly attract China's FDI.

Finally is the HCD. The Malaysia's development allocation for education and training has increased in 8th Malaysia plan compared to the 7th Malaysia Plan. Based on the research done by Awang (2004), improvement in human capital development (HCD) has become one of the attractions of FDI inflows to Malaysia. HCD should have a positive relationship with FDI inflow and it has been proven by most of the previous researchers. However, there is a small amount of researcher found that HCD is not significantly affect FDI inflow even though it has positive relationship with FDI inflow. HCD consists of talent, skilled, education level, productive and managerial know-how workforce, and all these have been concerned among the nations. We believe that the variable's expected sign is positive and it will significantly affect China's FDI (consistent with the theory employed by previous studies).

CHAPTER 4: RESULTS AND INTERPRETATION

4.1 Introduction

This chapter presents the estimated results of the nexus between China's foreign direct investment (FDI) in Malaysia and Malaysia's economic growth, as well as the determinants of China's FDI inflows to Malaysia. First of all, unit root tests like Augmented Dickey-Fuller (ADF) and Kwiatkowski-Phillips-Schmidt-Shin (KPSS) were employed in order to evaluate the properties of variables as shown in Table 4.1. For the former case, we may reject the null hypothesis of a unit root [I(1)] when the t-statistic is greater than the critical value, and conclude that the series is stationary. In contrast, for the latter case, we may reject the null hypothesis of no unit root [I(0)] when the t-statistic is greater than the critical value, and conclude that the series is nonstationary at level form. The optimal number of lags length was selected based on information criteria such as Schwarz Information Criteria (for ADF test) and New-West Banwidth (for KPSS test) in order to avoid the problem of autocorrelation. In other words, we want to ensure that the error terms are uncorrelated and enhance the robustness of the results.

After the stationary tests had been conducted, the ARDL method as shown in table 4.2, 4.3, 4.4 and 4.5 was employed to identify the long run relationship for both empirical models. Then, Table 4.6, and 4.7 illustrate the results of Granger causality tests which study the short run dynamic linkages between the variables.

4.2 Unit root test

Table 4.1 reported the results of Augmented Dickey Fuller (ADF) test and Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test at level and first differenced form, by taking into account both the case of constant with trend and constant without trend. The optimal number of lag length is determined by using the SIC (Schwarz Information Criteria) and New-West Banwidth respectively. Based on the result in Table 4.1, the t-statistics for ADF test are statistically insignificant to reject the null

hypothesis of one unit root at 10%, 5% and 1% significance level. This shows that the variables are non-stationary at level form, and it might contain one or more unit roots. Therefore we have to proceed to the first differenced form. In this case, the t-statistics for the ADF test indicated that the null hypothesis of two unit roots should be rejected and we concluded that the series have 1 unit root or integrated of order one I(1).

While KPSS test is a complementary test for ADF test in order to confirm or reinforce the latter's result for the order of integration from the variables. The null hypothesis for the KPSS test contradicts with ADF test as the former stated that (in null hypothesis) the series is stationary, and we tend to do not reject the null hypothesis when we are conducting the KPSS test. However, the t-statistic shown in KPSS test is statistically significant, and the null hypothesis at 10%, 5% or 1% significance level is rejected. Therefore, we expect that the variables might contain one or more unit roots. Moreover, the result is consistent with the ADF test which indicated that the variables contain a unit root. Therefore, higher order of differencing is not required to be executed, and it was concluded that all variables in the model contain one unit root.

Table 4.1: Results of the Unit Roots Tests

Variable	ADF Test		KPSS	
	Level	First difference	Level	First difference
	Constant With Trend	Constant No Trend	Constant With Trend	Constant No Trend
Data Period (1987-2009)				
MGDP	-1.5872 (0)	3.7462 (0)**	0.1602 (3)**	0.3914 (8)
MOPENNESS	0.0631 (3)	-2.8285 (0)*	0.1909 (3)**	0.3872 (12)
CFDIM	2.3622 (2)	-6.1333 (1)***	0.1556 (8)**	0.3325 (13)
FD	-2.1521 (1)	-3.1064 (7)**	0.1648 (3)**	0.3246 (3)
MMS	-1.5872 (0)	-3.7462 (0)**	0.1602 (3)**	0.3914 (8)
EXR	-1.9898 (0)	-4.6489 (0)***	0.1486 (3)**	0.2123 (1)
HCD	-2.2730 (0)	-3.7618 (8)**	0.1549 (3)**	0.3312 (7)

Note : The null hypothesis is that the series is non-stationary, or contains a unit root for ADF test, while the null hypothesis for KPSS test is that the series is stationary. The rejection of null hypothesis for ADF test is based on MacKinnon (1991) critical values, while for KPSS test is based on Kwiatkowski-Phillips-Schmidt-Shin (1992)

Figures in parentheses ( ) refer to the selected lag length. The number of lags was selected based on Schwarz Information Criteria (for ADF test) and New-West Banwidth (for KPSS test) in order to avoid the problem of autocorrelation, that is to ensure that the error terms are uncorrelated and enhance the robustness of the results.

***, ** and * indicates the rejection of the null hypothesis of non-stationary at 1%, 5% and 10% significance level respectively.

4.3 Bound test (ARDL approach):

After using the ADF and KPSS test to examine the stationary status for all variables, we proceeded to the ARDL (Auto Regressive Distributed Lag) models for the estimation of long run relationship between China's foreign direct investment and Malaysia's economic growth. We found that bound testing procedure is the most appropriate econometric method to the long run relationship between China's foreign

direct investment and Malaysia's economic growth with a small sample size as the data period in our study was started from 1987 to 2009 (23 observations only). The model advocates that the estimation and identification can be estimated by Ordinary Least Square (OLS) if the order of ARDL has been identified. Given that the order of ARDL model was appropriately augmented to allow for contemporaneous correlations between stochastic components of the data generating process included in estimation, then the robust asymptotes on short run and long run parameters in the model can be made under least squares estimates of an ARDL (Pesaran, et al, 2001). Finally, the asymptotic distribution of F-statistic is non-standard under the null hypothesis of no cointegration relationship between the examined variables, irrespective of whether the explanatory variables are purely I (0) or I (1), or mutually cointegrated. The order of integration of interested variables are not necessarily the same because bound test allows the I(1) and I(0) variables as regressors. By using ARDL technique, we do not need a precise identification on the order of the underlying data.

In order to study both short run and long run relationship between China's foreign direct investment and Malaysia's economic growth, we applied bound test to the model. Table 4.2 indicated the results of the relationship between China's foreign direct investment and Malaysia's economic growth by using Auto-Regression Distributed Lag (ARDL).

We used several diagnostic tests like Breusch-Godfrey Serial Correlation LM test, ARCH test, Jarque-Bera normality test and Ramsey RESET specification test to confirm the validity of the model against the problem of autocorrelation, heteroscedasticity, normality and model misspecification respectively.

The results of bound cointegration test is shown in Table 4.3 and Table 4.5, the test clearly demonstrated that the null hypothesis of the model is $\beta_1=\beta_2=\beta_3=\beta_4=0$, while the alternative hypothesis stated that $\beta_1\neq\beta_2\neq\beta_3\neq\beta_4\neq0$.

4.3.1 The impact of China's FDI on Malaysia's economic growth (Model 1)

The computed F-statistic (Wald test) is 10.5708 for equation 1 (in Table 4.3); it is greater than the 1 % significance level's upper bound value (7.063). Therefore we can reject the null hypothesis and conclude that China's foreign direct investment, Malaysia's trade openness and financial development have a long run relationship with Malaysia's economic growth.

Based on panel 1 (Table 4.2), the high adjusted R-squared (0.7641) mirrors the estimated model's goodness of fit. Moreover, via a series of diagnostic checking which includes Jarque-Bera normality test, Breusch-Godfrey Serial Correlation LM Test, ARCH Test, and Ramsey's misspecification test, it is shown that the variables in estimated equation 1 are valid and robust [Panel 1(a), (Table 4.2)]. In particular, under the Breusch-Godfrey Serial Correlation LM Test, the probability (p-value) of F-statistic for both lagged one (0.6265) and lagged two (0.4253) are greater than 5% significance level. Therefore, the null hypothesis of no autocorrelation has not been rejected, and thus it is concluded that there is no autocorrelation in the model; while under the ARCH test, the p-value for both lagged one (0.3935) and lagged two (0.5875) are greater than 5% significance level. Therefore, the null hypothesis of no heteroscedasticity has not been rejected, and thus it is concluded that there is no heteroscedasticity in the model; under the Jarque-Bera normality test, the p-value (0.5961) is greater than 5% significance level. Therefore, the null hypothesis of error term is normally distributed has not been rejected, and thus it is concluded that the error term in the model is normally distributed; lastly, under the Ramsey's misspecification test, the p-value (0.2398) is greater than 5% significance level. Therefore, the null hypothesis of the model is correctly specified has not been rejected, and thus it is concluded that the model is correctly specified.

The result on the relationship between Malaysia's trade openness (MOPENNESS) and its economic growth is quite consistent with previous research (Winter, 2004; Pandel & Parera, 2009; Wattanakul, 2009; Constant & Yue, 2010). The estimated results showed that MOPENNESS positively affect our nation's economic growth and it is statistically significant at 1% significance level.

Another significant variable that positively affects Malaysia's GDP (MGDP) is financial development (FD), in which a sound and resilient financial development in a nation plays a crucial role in allocating resources (namely funds from surplus units to deficit units) efficiently, intensifying investment, and promoting international trade ever is a pre-condition to attract foreign direct investment. The result is being supported by most of the preceding researchers who employed different econometric techniques (Calderon & Liu, 2003; Liu & Hsu, 2006; Jun et al., 2007; Kar et al., 2008; Lee & Chang, 2009; Chee & Nair, 2010; Leitao, 2010).

Before we are going further, once again we provide the reasons why had China's FDI been incorporated in our model. The purpose that we constructed this model is that we want to examine and obtain a more robust result on the relationship between China's FDI and Malaysia's economic growth, and we want to know on how the former affects the latter. This is the major issue that we are concerning and our empirical results showed that China's FDI positively influents Malaysia's economic growth and the relationship is statistically significant.

Meanwhile, most of the empirical evidence obtained similar and consistent results. Although there were differences in the countries under studied between theirs and ours, generally, it brings out the wide consensus or natural effect of FDI to a country. Majority previous researchers supported that FDI positively affects a nation's economic growth through its complementary relationship with domestic investment, local manufacturing sectors, resilient financial development and other domestic factors in stimulating economic growth. Although different researchers support the FDI-led growth hypothesis via different channels, in the end the natural effect of FDI on growth is the same. (See: Mencing, 2003; Wang, 2009; Tang et al., 2008; Baharumshah & Almasaied, 2009; Lensik & Morrrissey, 2006; Vu et al., 2008; Batten & Xuan, 2009; Chee & Nair, 2010; Ghosh & Wang, 2009; Brock, 2009; Wijeweera et al., 2010).

Table 4.2: The Estimated ARDL Model Based on Equation (1)

Panel 1

Variable	Coefficient	t-statistic	Probability
MGDP (-1)	-1.0302	-4.2172 ***	0.0056
MOPENNESS (-1)	0.4821	3.0575 ***	0.0223
FD (-1)	0.7313	3.2492 ***	0.0175
CFDIM (-1)	0.0804	5.3244 ***	0.0018
C	1.9049	4.7820 ***	0.0031
Adjusted R-squared	0.7641		
Standard Error of Regression	0.0315		
F-statistic	6.1821		
Probability (F-statistic)	0.0185		

Panel 1(a)

II. Diagnostic Checking

i) Autocorrelation (Breusch-Godfrey Serial Correlation LM test)

F(1)= 0.2684 [0.6265] F(2)=1.0667 [0.4253]

ii) ARCH Test:

F(1)=0.7750 [0.3935] F(2)=0.5562 [0.5875]

iii) Jarque-Bera Normality Test : χ^2 (2)= 1.0345 [0.5961]

iv) Ramsey RESET specification Test :

F-statistic = 2.0844 [0.2398] Number of fitted terms=2

Note: ***, **and * denote significancy at 1%, 5% and 10% significance level.

Figures in squared parentheses [ ] refer to marginal significance level.
For both Breusch-Godfrey LM test and ARCH test, we are testing for serial correlation and heteroscedasticity at the significance level ranging from the first to the fourth order.

Table 4.3: Bound Test Based on Equation (1)		
Computed F-statistic : 10.5708*** Null hypothesis: No Cointegration		
	Critical value	
	Lower	Upper
1% significance level	5.333	7.063
5% significance level	3.710	5.018
10% significance level	3.008	4.150
Decision: Reject null hypothesis at 1% significant level		
Note: The critical value were taken from Pesaran *et al.* (2001), Table CI (iii): Unrestricted intercept and no trend. ***, ** and * denote significancy at 1%, 5% and 10% significance level.		

4.3.2 Determinants of China's FDI in Malaysia (Model 2)

Another model in our study is the determinants of China's FDI inflow to Malaysia. Table 4.4 indicated the estimated ARDL model for the determinants of China's foreign direct investment inflows to Malaysia. Since China's FDI is important and plays a crucial role in our country in terms of growth, the determinants of it became an important issue for us. The independent variables included in the model are Malaysia's market size, exchange rate and human capital development. The computed F-statistic (Wald test) for this equation (equation 2) (in Table 4.5) is equal to 71.2153; it is also greater than the upper bound critical value (7.063). Therefore, it was concluded that Malaysia's market size, exchange rate and human capital development have long run relationship in terms of the determinants of China's foreign direct investment inflows to Malaysia.

Based on panel 2 (Table 4.4), the high adjusted R-squared (0.9629) mirrors the estimated model's goodness of fit. Moreover, via a series of diagnostic checking which includes Jarque-Bera normality test, Breusch-Godfrey Serial Correlation LM

Test, ARCH Test, and Ramsey's misspecification test, it is shown that the variables in estimated equation 2 are valid and robust [Panel 2(a), (Table 4.4)]. In particular, under the Breusch-Godfrey Serial Correlation LM Test, the probability (p-value) of F-statistic for both lagged one (0.8361) and lagged two (0.5249) are greater than 5% significance level. Therefore, the null hypothesis of no autocorrelation has not been rejected, and thus it is concluded that there is no autocorrelation in the model; while under the ARCH test, the p-value for both lagged one (0.6343) and lagged two (0.5754) are greater than 5% significance level. Therefore, the null hypothesis of no heteroscedasticity has not been rejected, and thus it is concluded that there is no heteroscedasticity in the model; under the Jarque-Bera normality test, the p-value (0.8730) is greater than 5% significance level. Therefore, the null hypothesis of error term is normally distributed has not been rejected, and thus it is concluded that the error term in the model is normally distributed; lastly, under the Ramsey's misspecification test, the p-value (0.7444) is greater than 5% significance level. Therefore, the null hypothesis of the model is correctly specified has not been rejected, and thus it is concluded that the model is correctly specified.

As expected, the results indicated that Malaysia's market size (MMS) positively affects China's FDI and the relationship is statistically significant. In other words, larger domestic market size provides better opportunity for foreign investors to invest in our nation, and thus they would be able to reduce entry cost and achieve economies of scale. (See: Vijayakumar, 2010; Asiedu, 2006; Faeth, 2009; Gast & Herrmann, 2008; Ladyeawa, 2009; Leitão, 2009; Leitão & Faustino, 2010; Mateev, 2009; Oladipo, 2008; Sinha, 2008).

Another variable that positively and significantly influents China's FDI is the human capital development (HCD). Nowadays, human capital becomes increasingly important in attracting foreign investors to invest in domestic market. It is crucial in the sense that it complements domestic savings and hence spurs economic growth. A country that owns skilled, educated and productive workforce will enhance its image and reputation globally in terms of productivity and production cost. This factor will help a nation to consolidate its competitiveness, and hence attract more FDI as compared to other countries. (Bhaumik & Dimova, 2009; Fork et al., 2008; Suliman

& Mollick, 2009; Wong 2006; Amal et al., 2009; Rodriguez & Pallas, 2008; Blanton & Blanton, 2007; Baharumshah & Almasaied, 2009; Sinha, 2008).

Lastly, there is a doubt with respect to exchange rate (EXR) in determining China's FDI. This is because on one hand, based on our estimated results, it is shown that the former positively and significantly affects the latter, and it is consistent with the results of Buch and Kleinert (2008). However, on the other hand, most of the previous researchers disagreed with this conclusion. Some of them pointed out that whenever there is an appreciation in the domestic currency, relatively it will become more expensive to invest in that particular country, and this will discourage its FDI inflows (De Vita & Abbott, 2007; Ang, 2009; Amal et al., 2009). For example, according to Amal et al. (2009), exchange rate volatility has a negative impact on FDI flows into the UK, irrespective of the sector of destination of the investment.

Table 4.4: The Estimated ARDL Model Based on Equation (2)

Panel 2

Variable	Coefficient	t-statistic	Probability
CFDIM (-1)	-1.9541	-15.5357 ***	0.0006
MMS (-1)	2.8940	4.5875 ***	0.0195
EXR (-1)	3.8314	2.5462 ***	0.0842
HCD (-1)	2.5314	3.0972 ***	0.0534
C	-245.0182	-3.0234 ***	0.0566
Adjusted R-squared	0.9629		
Standard Error of Regression	0.4456		
F-statistic	33.4273		
Probability (F-statistic)	0.0073		

Panel 2(a)

II. Diagnostic Checking

i) Autocorrelation (Breusch-Godfrey Serial Correlation LM test)

F(1)= 0.0552 [0.8361] F(2)=1.3148 [0.5249]

ii) ARCH Test:

F(1)=0.2373 [0.6343] F(2)=0.5815 [0.5754]

iii) Jarque-Bera Normality Test : χ^2 (2)=0.2715 [0.8730]

iv) Ramsey RESET specification Test :

F-statistic = 0.4022 [0.7444] Number of fitted terms=2

Note: ***, **and * denote significancy at 1%, 5% and 10% significance level.

Figures in squared parentheses [ ] refer to marginal significance level.
For both Breusch-Godfrey LM test and ARCH test, we are testing for serial correlation and heteroscedasticity at the significance level ranging from the first to the fourth order.

Table 4.5: Bound Test Based on Equation (2)		
Computed F-statistic : 71.2153*** Null hypothesis: No Cointegration		
	Critical value	
	Lower	Upper
1% significance level	5.333	7.063
5% significance level	3.710	5.018
10% significance level	3.008	4.150
Decision: Reject null hypothesis at 1% significant level		
Note: The critical value are taken from Pesaran et al. (2001), Table CI (iii): Unrestricted intercept and no trend. ***, ** and * denote significancy at 1%, 5% and 10% significance level.		

4.4 Granger Causality test

4.4.1 Granger causality for the Impact of China's FDI on Malaysia's Economic Growth

By referring to the first row, which is also the most important equation in the Granger-causality results reported in Table 4.6, it was suggested that there is a unidirectional short run causal effect runs from both China's FDI (CFDIM) and Malaysia's financial development (FD) to Malaysia's economic growth respectively, but there is no reverse causality. In other words, China's FDI Granger causes Malaysia's GDP, and same thing is applied between Malaysia's financial development and its economic growth.

For the former case, when there is an increase in China's FDI into Malaysia, our country's resource availability enlarges, and this will in turn encourage more domestic savings and investments, and finally domestic economic growth can be

enhanced as suggested in Keynesian model of growth. That means China's FDI is a major determinant that spurs growth in Malaysia. This result supports the FDI-driven GDP hypothesis and rejects the GDP-driven FDI hypothesis.

While for the latter case, when there are systematic financial reforms and liberalization, funds or resources can be channeled efficiently from the surplus units to the deficit units due to stiff competition, and there are higher chances or broader ways for firms to obtain funds for business expansion purpose. All these will in turn promote domestic economic growth.

On the other hand, Malaysia's trade openness (MOPENNESS) and its GDP appeared to be independent in terms of short-run causal effect. Supposedly, when a country liberalise its trade account, import and export occur more without high restrictions, and hence increase national income in the form of import duties and export taxes. However, not all firms will involve in international trade. For example, there may be a lot of conservative firms which are not willing to expose themselves to external shock, currency exchange rate risk and other risks associated with cross border transactions. Therefore, they will not engage in import and export transaction even though the government imposes less restrictions on it, and hence domestic economic growth are less likely to be stimulated.

In addition, it was observed that China's FDI does not Granger cause Malaysia's trade openness and vice versa. The same thing is applied as well between Malaysia's financial development and its trade openness. The results also suggest that there is no causality relationship between Malaysia's financial development and China's FDI.

Table 4.6: Granger causality test for equation 1

	ΔMGDP	ΔMOPENNESS	ΔCFDIM	ΔFD	ECT (t-statistic)
ΔMGDP	-	0.3937	3.5467*	3.7316*	0.5937 (1.4190)
ΔMOPENNESS	0.2853	-	2.9090	0.0331	-0.9198** (-2.1019)
ΔCFDIM	1.4562	0.3598	-	0.7088	17.5121 (1.0445)
ΔFD	0.1277	0.4268	1.7171	-	0.3091 (0.7349)
NOTE: *, ** and *** indicate significancy at 10, 5 and 1 per cent significance level, respectively. Figures in parentheses are calculated t-statistic.					

4.4.2 Granger causality for determinants of China's FDI

By referring to table 4.7, the most important finding is that there is a unidirectional relationship runs from Malaysia's market size (MMS) to China's FDI, but there is no reverse causality. Rapid economic growth creates huge domestic markets and business opportunities for Chinese firms to invest in Malaysia. The larger the market size of province, the more China's FDI is likely to be received. Malaysia's moderate population, fast growing economy, coupled with its membership on World Trade Organization, are an unbeatable combination for Chinese firms it seems. On the other hand, Malaysia's exchange rate does not Granger cause China's FDI, though the latter is found to be Granger caused the former.

In addition, it was found that there is a bidirectional causality relationship between Malaysia's human capital development (HCD) and China's FDI. In other words, Malaysia's human capital development Granger causes China's FDI; and China's FDI also Granger causes Malaysia's human capital development. The rationale behind for the former case to be happened is that an increase in education is associated positively with FDI inflows and an improvement in freedom is associated with larger FDI inflows (Suliman & Mollick, 2009). However, an economy with high fraction of unskilled workers is likely to be much less productive and less attractive to foreign investors (Oladipo, 2008). While for the latter case, as multinational firms (especially from China) are often more skilled-labor-intensive than the rest of the

economy, FDI (from China) may raise the relative demand for skilled labor and leads to an increase in the domestic skilled labor share of total wages. (Feenstra & Hanson, 1997).

Furthermore, there is a unidirectional causal relationship runs from Malaysia's exchange rate (EXR) to its market size, but there is no reverse causality. It was also observed that Malaysia's human capital development does not Granger cause its market size, though the latter does Granger cause the former. Moreover, there is bidirectional causality between Malaysia's human capital development and its exchange rate. In other words, Malaysia's human capital development does Granger cause its exchange rate, and its exchange rate also Granger cause its human capital development.

Table 4.7: Granger causality test for equation 2

	Δ CFDIM	ΔMMS	ΔEXR	ΔHCD	ECT (t-statistic)
ΔCFDIM	-	5.3948**	0.0481	3.6691*	-0.2540 (-0.8077)
ΔMMS	0.9847	-	4.3172**	1.0149	-0.0020 (-0.1753)
ΔEXR	7.5566**	2.5679	-	4.4227**	0.0775** (3.1314)
ΔHCD	6.8581**	5.8686**	5.2942**	-	0.2544** (5.3883)
NOTE: *, ** and *** indicate significancy at 10, 5 and 1 per cent significance level, respectively. Figures in parentheses are calculated t-statistic.					

CHAPTER 5: CONCLUSION

5.1 Summary and policy implications

The present paper examines the short-run as well as long-run relationship between Malaysia's economic growth and China's outwards FDI. Besides, the determinants of China's FDI flows into Malaysia, namely Malaysia's market size, exchange rate, and human capital development are also being examined.

By employing the technique of co-integration (specifically the ARDL approach), an endogenous growth model is estimated for Malaysia, with the sample period from 1987 to 2009. Our results showed that China's FDI played a crucial role in promoting growth of the Malaysian economy, while Malaysia's trade openness and financial development also have their influence on domestic economic growth in the long-run, though the former appears to be independent of Malaysia's economic growth in the short-run. Nevertheless, it is worth to highlight that other than the direct contribution, China's FDI also stimulate Malaysia's economic growth via its interaction with financial development and our results provide further empirical evidence that this relationship is without uncertainty. Therefore, domestic absorptive capability in transferring the benefits embodied in China's FDI outflows into higher economic growth is important. On the other hand, it was also concluded that China's outwards FDI into Malaysia is positively affected by market size, exchange rate, and human capital development in a statistically significant manner. Meanwhile, our empirical results also indicated that there is a unidirectional short-run causal effect runs from China's FDI to Malaysia's economic growth.

Since China's FDI has became increasingly crucial, policies focusing on enlarging domestic market size, strengthening the exchange rates, and human capital development are primarily proposed. For the first case, larger market size should receive more FDI inflows compared to smaller countries that have smaller market size. This is because the larger the market size, the better the opportunity for foreign investors to reduce entry costs and to attain economies of scale, that is the ability to reduce average cost (as a result of mass production) when output is increased (Li et

al., 2008). In this case, the government is encouraged to promote cooperation on FDI policy among neighbouring regions in order to obtain higher investment. Regionalism expands the size of the market, and thus makes the region more attractive for FDI. The market size advantage of regionalism is important for Malaysia because our country is small in terms of both population and income. While for the second case, when the exchange rate is strengthened, FDI tend to rise because there is a greater rate of return in the region. Countries that require FDI can attract it also by development of resources like human capital. Corporations seek out societies with a skilled, educated, and productive workforce. In other words, investors increasingly target countries where the quality of human capital is high. Human capital is also a fundamental element of increasing per-worker labor productivity (Rodriguez & Pallas, 2008).

Generally, current policies aimed at attracting FDI will have to be revisited in terms of selecting the specific type of investment that is required. Governments have to emphasize on the economic reform policies and the shift towards a free market which able to continue to help the economy to reallocate its resources efficiently. When trade account is being liberalized, less restrictions or cost will be imposed on international trade, namely import and export. Therefore, higher importation level of raw material with lower cost (due to lower import duties and competition) enables firms to produce more output in a more efficient manner, and hence enhance productivity and economic growth. On the other hand, greater export (as a result of lower export tax) increases the level of firms' production and export in our country, and this will raise up firms' revenue or profit, which will in turn increase national income. Besides, greater export will also contribute in the reduction of current account deficits. It is also proposed that improving productivity and innovative capabilities of the economy (especially manufacturing sectors), as well as strengthening the supporting industries and institutions are important. All these will in turn lead Malaysia to become attractive (especially to China) in terms of FDI destination.

Recently, Malaysia's FDI inflows from China has been gradually dropping annually due to the competition from other countries like Vietnam, Indonesia, India and other emerging countries. They have both skilled and unskilled labor, as well as

relatively lower labor costs. As a result, Malaysia needs to enhance its production efficiency or reduce its relatively higher labor cost in order to compete with its rivals. In the longer term, rather than its direct dependency on FDI, Malaysia should focus on developing new industries for their individual growth and not solely for purpose of FDI inflows. If that is the case, the industrial development in the country will be in a rapid path, which in turn will ultimately lead to a growth in FDI inflows from China (Jajri, 2009).

Furthermore, in order to spur growth, Malaysia should not mainly focus on attracting China's FDI, but simultaneously ignore the development of domestic infrastructure and facilities like macroeconomic stability, human capital development, and financial system evolution. Malaysia can also influence the technology change by reforming its absorptive capability via further promotions on financial reforms to gain sustainable economic growth and fully utilize FDI inflows. This suggesting that in order to be benefited from the positive interaction between FDI and economic development, one should liberalize the economy while deregulating the financial sector, that is, a country should focus on strategies that promote financial development in the economy.

5.2 Limitations and recommendations for future Studies

It is common that every research has its own limitations. Our study is not an exception. First of all, small degree of freedom in our models would be a limitation. In particular, the degree of freedom is being seriously exhausted due to the widely use of lagged variables, and it left very few after the ARDL estimations. Although the ARDL technique to cointegration is suitable for small sample size studies, the lack of degrees of freedom might not be a desirable outcome as the estimations might be poor in terms of accuracy. However, there are not much work can be done in order to overcome this limitation except resorting to panel data. In the field of development economics, the lacking of statistical data is not an unusual phenomenon. For our case, limited China's FDI data (from 1987 to 2009 only) might influence our results or produce undesirable results. According to MIDA, the tiny size of data is because China started their projects in Malaysia only from 1987 onwards.

We were also unable to obtain sufficient sample size of China's FDI outflows into Malaysia while characteristics of FDI data are not clarified. Future researchers are recommended to include industry characteristics into the analysis in order to investigate the impact of industry-specific factors. Analysis across industries could be conducted to identify industrial patterns of location distribution of China's FDI.

In addition, investigating the role of different channels via which FDI affects economic growth in the developing economies versus the developed economies is another possible future work in this area (Ghosh & Wang, 2009).

REFERENCE:

Abor, J., & Harvey, S. K. (2008). Foreign direct investment and employment: Host country experience. *Macroeconomics & Finance in Emerging Market Economies*, *1*(2), 213-225.

Amal, M., Raboch, H., & Tomio, B. T. (2009). Strategies and determinants of foreign direct investment (FDI) from developing countries: Case study of Latin America. *Latin American Business Review*, *10*(2/3), 73-94.

Ang, J. B. (2009). Foreign direct investment and its impact on the Thai economy: The role of financial development. *Journal of Economics & Finance*, *33*(3), 316-323.

Anwar, S., & Nguyen, L. P. (2010). Foreign direct investment and economic growth in Vietnam. *Asia Pacific Business Review*, *16*(1-2), 183-202.

Asiedu, E. (2006). Foreign direct investment in Africa: The role of natural resources, market size, government policy, institutions and political instability. *World Economy*. *29*(1), 63-77.

Awang, H. (2004). Human capital and technology development in Malaysia. *International Education Journal*, *5*(2), 239-246.

Awokuse, T. O. (2008). Trade openness and economic growth: Is growth export-led or import-led? *Applied Economics*, *40*, 161-173.

Baharumshah, A. Z., & Almasaied, S. W. (2009). Foreign direct investment and economic growth in Malaysia. Interactions with human capital and financial deepening. *Emerging Markets Finance & Trade*, *45*(1), 90-102.

Balamurali, N., & Bogahawatte, C. (2004). Foreign direct investment and economic growth in Sri Lanka. *Sri Lanka Journal of Agricultural Economics*, *6*(1), 37-50.

Barro, R. J., & Sala-I-Martin, X. (1992). Public finance in models of economic growth. *Review of Economic Studies*, *59*(201), 645.

Batten, J. A., & Xuan, V. V. (2009). An analysis of the relationship between foreign direct investment and economic growth. *Applied Economics*, *41*(13), 1621-1641.

Bencivenga, V. R., & Smith, B. D. (1991). Financial intermediation and endogenous growth. *Review of Economic Studies*, *58*(194), 195.

Bezuidenhout, H. (2009). A regional perspective on aid and FDI in Southern Africa. *International Advances in Economic Research*, *15*(3), 310-321.

Bhaumik, S. K., & Dimova, R. (2009). Economic reforms as a tool to attract foreign direct investment : Is it a chimera? *Applied Economics Letter*, *16* (9), 951-957.

Blanton, S. L., & Blanton, R. G. (2007). What attracts foreign direct investment? An examination of human right and foreign direct investment. *Journal of Politics*, *69*(1), 143-155.

Borensztein, E. E., De Gregorio, J. J., & Lee, J. W. (1998). How does foreign direct investment affect economic growth? *Journal of International Economics*, *45*(1), 115.

Brock, G. *(*2009). Growth and foreign direct investment in American state, 1977-2001. *Review of Urban & Regional Development Studies*, *21*(2/3), 110-123.

Brooks, C. (2008). *Introductory Econometrics for Finance.* London: Cambridge University Press.

Buch, C., & Kleinert, J. (2008). Exchange rates and FDI: Goods versus capital market frictions. *World Economy*, *31*(9), 1185-1207.

Butkiewicz, J., & Yanikkaya, H. (2010). Minerals, institutions, openness, and growth: An empirical analysis. *Land Economics*, *86*(2), 313-328.

Calderon, C., & Liu, L. (2003). The direction of causality between financial development and economic growth. *Journal of Development Economics*, *72*, 321-334.

Caves, R. E. (1996). Multinational enterprise and economics analysis. Cambridge: Cambridge University press.

Chee, Y. L., & Nair, M. (2010). The impact of FDI and financial sector development on economic growth: Empirical evidence from Asia and Oceania. *International Journal of Economics & Finance, 2*(2), 107-119.

Chimobi, O. P. (2010). The causal relationship among financial development, trade openness and economic growth in Nigeria. *International Journal of Economic and Finance, 2*(2), 137-147.

Choong, C. K., Yusop, Z., & Choo, S. S. (2005). Foreign direct investment and economic growth in Malaysia: The role of domestic financial sector. *The Singapore Economic Review, 50*(2), 245-268.

Choong, C, K., Law, S. H., Yusop, Z., & Choo, S. S. (2005). Export-led growth hypothesis in Malaysia: A revisit. *The ICFAI School of Economic, iii*(4), 26-42.

Choong, C. K. & Lim, K. P. (2009). Foreign direct investment, financial development, and economic growth: The case of Malaysia, macroeconomics and finance in emerging market economies. *Taylor and Francis Journals, 2*(1), 13-30.

Chowdhury, A., & Mavrotas, G. (2006). FDI and growth: What cause what? *World Economy, 29*, 9-19.

Chowdhury, A. R., & Wheeler, M. (2008). Does real exchange rate volatility affect foreign direct investment? Evidence from four developed economies. *International Trade Journal, 22*(2), 218-245.

Clerides, S. K., Lach, S., & Tybout, J. R. (1998). Is learning by exporting important? Micro-dynamic evidence from Colombia, Mexico, and Morocco. *Quarterly Journal of Economics, 113*(3), 903-947.

Coe, D. T., & Helpman, E. (1995). International R & D spillovers. *European Economic Review, 39*(5), 859-887.

Constant, N., & Yue, Y. (2010). The relationship between foreign direct investment, trade openness and growth in Cote d'Ivoire. *International Journal of Business & Management, 5*(7), 99-107.

Damijan, J. P., De Sousa, J., & Lamotte, O. (2009). Does international openness affect the productivity of local firms? *Economics of Transition, 17*(3), 559-586.

Das, K. D. (2008). Rapid growth in China and the Asian economic: Some stylised free-market policy inferences. *Economic Affairs, 28*(3) 57-61.

Copeland, B. R., & Taylor, M. S. (2004). Trade, growth, and the environment. *Journal of Economic Literature, 42*(1), 7-71.

De Vita, G., & Abbott, A. (2007). Do exchange rates have any impact upon UK inward foreign direct investment*? Applied Economics, 39*(20), 2553-2564.

Du, J. & Zhao, C. (2007). Causality between FDI and economic growth in China. *The Chinese Economy, 40*(6), 68-82.

Dunning, J. H. (1993). *Multinational enterprises and the global economy.* Harlow: Addison-Wesley.

Dunning, J. H. (1995). Reappraising the eclectic paradigm in an age of alliance capitalism. *Journal of International Business Studies, 26*(3), 461-491.

Edwards, S. (1998). Openness, productivity and growth: What do we really know? *The Economic Journal, 108*(447), 383-398.

Ericsson, J., & Irandoust, M. (2001). On the causality between foreign direct investment and output: A comparative study. *International Trade Journal, 15*(1), 1-26.

Elboiashi, H., Noorbakhsh, F., Paloni. A., & Azemar, C. (2009). The causal relationship between foreign direct investments (FDI), domestic investment (DI) and economic growth (GDP) in North African non-oil producing countries: Empirical evidence from cointegration analysis. *Advances In Management, 2*(11), 19-25.

Engel, R. F., & Granger, C. W. J. (1987). Cointegration and error correction: Representation, estimation and testing. *Econometrica, 55*(2), 251-276.

Esfahani, S. H. (1991). Exports, imports, and economic growth in semi-industrial countries. *Journal of Development Economics, 35*, 93-116.

Faeth, I (2009). Determinants of foreign direct investment-a tale of nine theoretical models. *Journal **of** Economic Surveys*, *23*(1), 165-196.

Feenstra, R. C., & Hanson, G. H. (1997). Foreign direct investment and relative wages: Evidence from Mexico's maquiladoras. *Journal of International Economics*, *42*(3/4), 371-393.

Farshid, P., Ali, S., & Gholamhosein, S. (2009). The impact of foreign direct investment and trade on economic growth – Taking China, Korea, Malaysia, Philippines & Thailand for example. *China-USA Business Review*, *8*(12), 47-43.

Fork, T. C., Rork, J. C.,& Elmslie, B. T. (2008). Foreign direct investment, economic growth, and the human capital threshold: Evidence from US states. *Review of International **Economics***, *16*(1), 96-113.

Frankel, J.A., & Romer, D. (1999). Does trade cause growth? *The American Economic Review*, *89*(3), 379-399.

Gast, M., & Herrmann, R. (2008). Determinants of foreign direct investment of OECD countries 1991-2001. *International Economic Journal*, *22*(4), 509-524.

Ghosh, M., & Wang, W. (2009). Does FDI accelerate economic growth? The OECD experience based on panel data estimates for the period 1980-2004. *Global Economy Journal*, *9*(4), 1-21

Gottschalk, S., & Hall, S. (2008). Foreign direct investment and exchange rate uncertainty in South-East Asia. *International Journal of Finance & Economics*, *13*(4), 349-359.

Granger, C. W. J. (1969). Investigating causal relations by econometric model and cross spectral methods. *Econometrica*, *36*, 424-438.

Granger, C. W. J. (1981). "Some properties of time series data and their use in econometric model specification." *Journal of Econometrics*, *16*(1), 121-130.

Granger , C. W. J., & Weiss, A. A. (1983). "Time series analysis of error correction models." In studies in econometric, time series, and multivariate statistic,ed. Samuel Karlin, Takeshi Ameniya, and Leo,A. Goodman. New York: academic press.

Hansen, H. & Rand, J. (2006). On the causal links between FDI and growth in developing countries. *World Economy, 29*, 21-41.

Henriques, I., & Sadorsky, P. (1996). Export-led growth or growth driven export? The Canadian case. *Canadian Journal Economics, 29*(3), 540.

Helpman, E., & Krugman, P. (1985). *Market Structure and Foregin Trade,* MIT Press, Cambridge, MA.

Hong, Z., & St. Juliana, R. (2010). Determinants of economic growth: Evidence from American countries. *International Business & Economics Research Journal*, *9*(5), 65-69.

Honkapohja, S., & Turunen-Red, A. (2002). Complementarity, growth, and trade. *The Canadian Journal of Economics, 35*(3), 495-516.

Jajri, I. (2009). Foreign direct investment and economic growth: Cointegration techniques. *IUP Journal of Managerial Economics*, *7*(3/4), 7-18.

Jun, Z., Wan, G., & Jin, Y. (2007). The financial deepening- productivity nexus in China: 1987-2001. *Journal of Chinese Economics and Business Studies*. *5*(1), 37-49.

Kang, Y. (2009). Location dynamics of Chinese outward FDI in Asia: A cross country and time analysis. *Journal **of** International Finance & Economics*, *9*(3), 91-102.

Kar, M., Peker, O., & Kaplan, M. (2008). Trade liberalization, financial development and economic growth in the long term: The case of Turkey. *South East European Journal of Economics & Business, 3*(2), 25-38.

Karim, N. A. A., & Ahmad, S. (2009). Foreign direct investment, key to poverty reduction in Malaysia. *The IUP Journal of Applied Economics*, *8*(5/6), 55-64.

Ledyaewa, S. (2009). Spatial econometric analysis of foreign direct investment determinants in Russian regions. *World Economy, 32*(4),643-666.

Lee, C. C., & Chong, C. P. (2009). Foreign direct investment, financial development, and economic growth: International evidence. *Journal of Applied Economics*, *12*(2), 249-271.

Lee, C. G. (2009). Foreign direct investment, pollution and economic growth: Evidence from Malaysia. *Applied Economics*, *41*, 1709-1716.

Leitão, N. C. (2010). Localization factors and inward foreign direct investment in Greece. *Theoretical & Applied Economics*, *17*(6), 17-26.

Leitão, N. C., & Faustino, H. C. (2010). Portuguese foreign direct investment inflows. An empirical investigation. *International Research Journal of Finance & Economics, 38,* 190-197.

Lensink, R. (2001). Financial development, uncertainty, and economic growth. *De Economist, 149*(3), 299-312.

Lensink, R., & Morrissey, O. (2006). Foreign direct investment: Flows, volatility, and the impact on growth. *Review of International Economics*, *14*(3), 478-493.

Levine, R. (1997). Financial development and economic growth: Views and agenda. *Journal of Economic Literature*, *35*(2), 688-726.

Levine, R. (2004). Finance and growth: Theory and evidence. *NBER Working Paper, 10766.*

Levine, R., Loayza, N., & Beck, T. (2000). Financial intermediation and growth: Causality and causes. *Journal of Monetary Economics*, *46*(1), 31-77.

Li, X., Hou, K., & Chan, M. W. L. (2008). An empirical study of foreign direct investment location in Eastern China. *The Chinese Economy, 41*(6), 75-98.

Liang, Q., & Teng, J. Z. (2006). Financial development and economic growth: Evidence from China. *China Economic Review*, *17*(4), 395-411.

Lingani, B. (2010). The impact of international trade composition on economic growth. (Master of arts, Howard University). *Dissertation Abstracts International*. (UMI No. 1476653)

Liu, W. C., & Hsu, C. M. (2006). The role of foreign direct in economic growth. The experiences of Taiwan, Korea and Japan. *Journal of Asian Economics*, *17*(4), 667-690.

Madsen, J. B. (2009). Trade barriers, openness, and economic growth. *Southern Economic Journal*, *76*(2), 397-418.

Magnus, F. J., & Fosu, O. E. (2008). Bivariate causality analysis between FDI inflows and economic growth in Ghana. *International Research Journal of Finance and Economics*, *15*, 103-112.

Markusen, J. R. (1989). Trade in producer services and in other specialized intermediate inputs. *American Economic Review*, *79*(1), 85.

Markusen, J. R. (1995). The boundaries of multinational enterprises and the theory of international trade. *The Journal of Economic Perspectives*, *9*(2), 169-189.

Markusen, J. R., & Venables, A. J. (1999). Foreign direct investment as a catalyst for industrial development. *European Economic Review*, *43*(2), 335-356.

Marwah, K., & Tavakoli, A. (2003). The effect of foreign capital and imports on economic growth: Further evidence from four Asian Countries (1970-1998). *Journal of Asian Economics*, *15*(2), 399-413.

Maswana, J. (2009). A Contribution to the empirics of finance-growth nexus in China: A complex system perspective. *Global Economic Review*, *38*(1), 29-47.

Mateev, M. (2009). Determinants of foreign direct investment in Central and Southeastern Europe: New empirical tests. *Oxford Journal*, *8*(1), 133-149.

Mencinger, J. (2003). Does foreign direct investment always enhance economic growth? *KYKLOS, 56*(4), 491-508.

Mazumdar, J. (2001). Imported machinery and growth in LDCs. *Journal of Development Economics*, *65*(1), 209.

Narayan, P. K., & Narayan, S. (2004). Is there a long run relationship between export and imports? Evidence from two Pacific Island countries. *Economic paper*, *23*(2), 152-164.

Nasser, O. (2007). The determinants of US foreign direct investment: Does the region matter? *Global Economic Review, 36*(1), 37-51.

Nwala, K. (2008). The relationship between U.S. direct investments and economic growth in some selected ASIAN countries. *North American Journal of Finance and Banking Research, 2*(2), 13-25.

Oladipo, O. S. (2008). Foreign direct investment flow: Determinants and growth effect in a small open economy. *Proceedings of the Northeast Business & Economics Association*, 87-95.

Oladipo, O. S., & V ásquez Gal án, B. I. (2009). The controversy about foreign direct investment as a source of growth for the Mexican economy. *Revista Latinoamericana de Econom á, 40*(158), 91-112.

Pesaran, M. H., & Shin, Y. (1995). An autoregression distributed lag modelling approach to cointegration analysis. DEA working, 9514, Department of Applied Economics, University of Cambridge.

Pesaran, M. H., & Pesaran, B. (1997). Working with microsofit 4.0: Interactive Econometric Analysis. London: Oxford University Press.

Pesaran, M. H., Shin, Y., & Smith, R. (2001). Bound testing approaches to the analysis of level relationships. *Journal of Applied Econometric, 16,* 289-326.

Rao, B., & Rao, M. (2009). Openness and growth in Fiji: Some time series evidence. *Applied Economics, 41*(13), 1653-1662.

Rodr guez, X. A., & Pallas, J. (2008). Determinants of foreign direct investment in Spain. *Applied Economics, 40*(19), 2443-2450.

Rumbaugh, T., & Blancher, N. (2004). China: International Trade and WTO Accessio. *IMF Working Paper*, 04/36.

Sarkar, P. (2008). Trade openness and growth: Is There Any Link? *Journal of Economic Issues (Association for Evolutionary Economics), 42*(3), 763-785.

Sims, C. A. (1972). Money, income and causality. *American Economic Review*, 62, 540-552.

Sinha, S. S. (2008). Can India adopt strategic flexibility like China did? *Global Journal of Flexible Systems Management*, *9*(2/3),1-14.

Song, Z. C. W., & Zhen, Z. (2007). A revisit to the outward FDI determinants: Further evidence from count panel data models with fixed effected. *Applied Economics Letters*, *14*(11), 809-812.

Soukhakian, B. (2007). Financial development and economic growth in Japan: Evidence from Granger Causality tests. *International Journal of Economic Perspectives, 1*(3), 118-127.

Soukhakian, N. (2007). Financial development and economic growth in Iran: Evidence from co-integration and causality tests. *International Journal of Economic Perspectives, 1*(2), 56-63.

Sridharan, P., Vijayakumar, N., & Rao, K. C. S. (2009). Causal relationship between foreign direct investment and growth: Evidence from BRICS Countries. *International Business Research*, *2*(4), 198-203.

Srinivasan, P., Kalaivani, M., & Ibrahim, P. (2010). FDI and economic growth in the ASEAN countries: Evidence from cointegration approach and causality test. *IUP Journal of Management Research, 9*(1), 38-63.

Suliman, A. H., & Mollick, A.V. (2009). Human capital development, war and foreign direct investment in Sub-Saharan Africa. *Oxford* ***Development*** *Studies*, *37*(1) ,47-61.

Tang, S., Selvanathan, E. A., & Selvanathan, S. (2008). Foreign direct investment, domestic investment and economic growth in China: A Time Series Analysis. *The World Economy*, *31*(10), 1292-1309.

Tvaronavičienė, M., & Grybaitė, V. (2007). Impact of FDI on Lithuanian economy: Insight into development of main economic activities. *Journal of Business Economics and Management*, *8*(4), 285-290.Vijayakumar, N., Sridharan, P., Rao, K., & Chandra, S. (2010). Determinants of FDI in BRICS countries: A panel analysis. *International Journal* ***of*** *Business Science & Applied Management*, *5*(3),1-13.

Vita, G. d., & Kyaw, K. S. (2009). Growth effects of FDI and portfolio investment

flows to developing countries: A disaggregated analysis by income levels. *Applied Economics Letters, 16*, 277-283.

Vogiatzoglou, K. (2007). Vertical specialization and new determinants of FDI: Evidence from South and East Asia. *Global Economic Review, 36* (3), 245-266.

Vu, T. B., Gangnes, B., & Noy, I. (2008). Is foreign direct investment good for growth? Evidence from sectoral analysis of China and Vietnam. *Journal of the Asia Pacific Economy, 13*(4), 542-562.

Wang, M. (2009). Manufacturing FDI and economic growth: Evidence from Asian economies. *Applied Economics, 41*(8), 991-1002.

Wang, M., & Wong, M. C. S. (2009). What drives economic growth? The case of cross-border M&A and Greenfield FDI activities. *KYKLOS, 62*(2), 316-330.

Wattanakul, T. (2009). Impact of openness, economic policy reform and regional shocks on trade and growth of Thailand: An econometric study. *Chinese Business Review, 8*(1), 17-30.

Wei, S. Z. C., & Zhu, Z. (2007). A revisit to the outward FDI determinants: Further evidence from count panel data models with fixed effects. *Applied Economics Letter, 14*, 809-812.

Wijeweera, A., Villano, R., & Dollery, B. (2010). Economic growth and FDI inflows: A stochastic frontier analysis. *The Journal of Developing Areas, 43*(2), 143-158.

Winters, L. A. (2004). Trade liberalisation and economic performance: An overview. *The Economic Journal, 114*(493), F4-F21.

Wong, H. T. (2006). Foreign direct investment in manufacturing industry of Malaysia: An empirical study. *UNITAR E-Journal, 2*(2), 20-29.

World Bank. (1993). The east Asian miracles: Economic growth and public policy. *Policy Research Report.*

Yao, S., Wei, K., Feng, G., & Song, L. (2008). Economic growth in the presence of

FDI: The perspective of newly industrializing economies. *Applied Economics Letter*, *15*(11), 887-891.

Yusop, Z., & Ghaffar, R. A. (1994). Determinants of foreign direct investment in the Malaysian manufacturing Sector. *Pertanika Journal of Social Sciences & Humanities, 2*(1), 53-61.

Zebregs, H. (2004). Intraregional trade in emerging Asia. *IMF Policy Paper*, *1*(1), 1-23.

Zheng, P. (2009). A comparison of FDI determinants in China and India. *Thunderbird International Business Review*, *51*(3), 263-279.

Zhicheng, L. (2005). Financial development, market deregulation and growth: Evidence from China. *Journal of Chinese Economic & Business Studies*, *3*(3), 247-262.