IMPACT OF CRISIS TOWARDS FOREIGN DIRECT INVESTMENT (FDI) IN EIGHT SELECTED ASIA COUNTRIES

BY

HOO LEE LIANG
LAU ENG KEAT
LAW CHEE YOU
TAN XUE ER
TEOH WIL KEAN

A research project submitted in partial fulfilment 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

AUGUST 2016

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 **20,198** words.

Name of Student:	Student ID:	Signature:
1. Hoo Lee Liang	13ABB08319	
2. Lau Eng Keat	13ABB08289	
3. Law Chee You	13ABB08418	
4. Tan Xue Er	13ABB08310	
5. Teoh Wil Kean	10ABB03876	

Date: 24th August 2016

ACKNOWLEDGEMENT

In accomplishment of this study, we would like to express deepest appreciation to our supervisor, Ms. Lim Shiau Mooi for her supervision and guidance and encouragement. Without her advice and guidance, we would not be able to complete this study so smoothly.

Moreover, we would also like to show our gratitude towards Universiti Tunku Abdul Rahman in providing us an opportunity to conduct this study which allowed us to gain valuable knowledge and experience.

Furthermore, we would like to thank our second examiner, Mr. Chen Fanyu and also our reviewer, Ms. Tan Yan Teng who is providing us a lot of valuable advices and comments. Their advices have help us to make a significant improvement in our final report.

Lastly, we would like to thank to those who has given us advices and moral support throughout the execution of this study. The undergraduate research project could not be completed without the guidance and encouragement from all of you. Thank you.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

BLUE	Best Linear Unbiased Estimators
BP-LM	Breusch Pagan Lagrange Multiplier test
CEE	Central and Eastern European countries
CPI	Consumer Price Index
EU	European Union
FDI	Foreign Direct Investment
FEM	Fixed Effects Model
GDP	Gross Domestic Product
GNI	Gross National Income Per Capita
LSDV	Least Squares Dummy Variable
MNCs	Multinational Corporations
NEER	Nominal Effective Exchange Rate
OIC	Organization of Islamic Cooperation
OLS	Ordinary Least Square
POLS	Pooled Ordinary Least Square
REER	Real Effective Exchange Rate
REM	Random Effects Model
UNCTAD	United Nations Conference on Trade and Development
USD	United States Dollar

LIST OF APPENDICES

PREFACE

This paper is being titled as "Impact of Crisis Towards Foreign Direct Investment (FDI) in Eight Selected Asia Developing Countries.". Foreign Direct Investments (FDI) is an essential external financial source for every nation for which FDI will be used to promote or boost up a nation's economic growth. Therefore, the main objective of this paper is to determine the relationships between FDI inflows, GDP growth rate, exchange rate, level of infrastructure and also the presence of financial crisis in the context of developing countries. This study is crucial and vital to be conducted since the fluctuation of FDI inflows will directly affect the economic performance of a developing nation. Thus, a more in-depth analysis will be carried out to analyze the relationships. In a nutshell, this study will provide readers a better understanding on the behavior of economic changes towards the level of FDI inflows of developing nations.

ABSTRACT

This study aims to study the relationships between FDI inflows and GDP growth rate, exchange rate, level of infrastructure and presence of financial crisis in eight selected Asia developing countries which are China, India, Indonesia, Malaysia, Pakistan, Philippines, Thailand and Turkey. Therefore, this study employed panel data approach to estimate and analyze the relationships. Moreover, in order to increase the reliability and accuracy of the estimation and analysis, fixed effects model has been chosen to be the best model of this paper. Aftermost, the results of this study indicate that GDP growth rate, level of infrastructure and also the presence of financial crisis are positively correlated with the FDI inflows into these Asia developing countries. However, there is merely one variable which is the exchange rate, is found to be having negative relationship with the FDI inflows. Overall, the occurrence of crisis is concluded to be favorable for those Asia developing countries for which FDI inflows will be boosted during the financial crisis period due to several economic characteristics held up by developing countries.

CHAPTER 1 : RESEARCH OVERVIEW

1.0 Introduction

This study will emphasize on the macroeconomic variables that may probably affect the level of foreign direct investment (FDI) of a nation. Meanwhile, in the initial part of this chapter, it will reveal the research background, problem statement, research objective and research questions. Then continues with hypotheses of study, significance of study and chapter layout of the study. A more detailed understanding of FDI and various issues about FDI will be rose up in the segment of research background which formed as the initiative for this paper to form the problem statement or the core concern of this study. In the problem statement section, it will identify the main economic issue that will be arisen to develop into the research questions of this paper. Moreover, research objectives and research questions will be formed up in the latter part which comprise of the goals which are to be achieved with this study and also the economic doubts which are to be answered by this paper. In the following sections, it will be forming few hypotheses for this study's findings and follow by the significance of study for which the study's contributions to the policymakers and also the investors will be stated. Lastly, the chapter layout will clearly reveal the outline of the research report.

1.1 Research Background

Basically, all of the countries in the world can be categorized into two groups, namely developing countries and developed countries respectively. Moreover, there is one common goal shared among the developing countries which is to achieve their targets to be one of the developed countries in the future. Therefore, in accordance to the

objective, advanced technologies diffusion from developed countries to the developing country is an inevitable element for its economic development policies which will help to boost up the overall level of productivity of the recipient nation (Borensztein, Gregorio & Lee, 1998). Meanwhile, advanced technologies diffusion can take place through various channels for which FDI is one of the channels which will grant a country the access to the advanced technologies and ideas from the multinational corporations (MNCs) of developed countries. MNCs of developed countries are those firms that are always equipped with the most outstanding technologies, in addition, MNCs are also contributing a big share in the world's research and development investment (Borensztein et al., 1998). Therefore, FDI is said to be one of the essential elements for either a nation's economy or the global economy.

According to Adjej (2007), FDI is a long term investment made by foreign individual investor or institutional investor in domestic country in order to achieve certain financial goals. According to Mallampally and Sauvant (1999), FDI can help to boost up a nation's economic growth in a few ways. First and foremost, FDI can help to improve the overall economic performance of the host nation by investing investible resources and massive capital into the particular industry of the nation. Secondly, FDI can also help to increase the recipient nation's overall production level by transferring production technologies, skills and innovative capacities into the recipient nation. Moreover, FDI will also help to transmit professional organizational and managerial skills from foreign MNCs to domestic corporation. Thus, as compared with domestic investment, FDI is said to be more productive in the sense that it will bring value-added to the host country (Lim, 2001). In addition to economic performance, FDI is also helping the host nation to improve its economic condition by promoting new job opportunities for local unemployed (Stamatiou & Dritsakis, 2013). It is because during the FDI inflows, foreign investors will tend to set up new factories and plants in the host country and thus lead to the creation of new job vacancies. Therefore, FDI plays an important role in boosting up economic growth and help to develop the host country (Pegkas, 2015).

Figure 1.1 Global FDI (US Dollars): 1970 - 2014
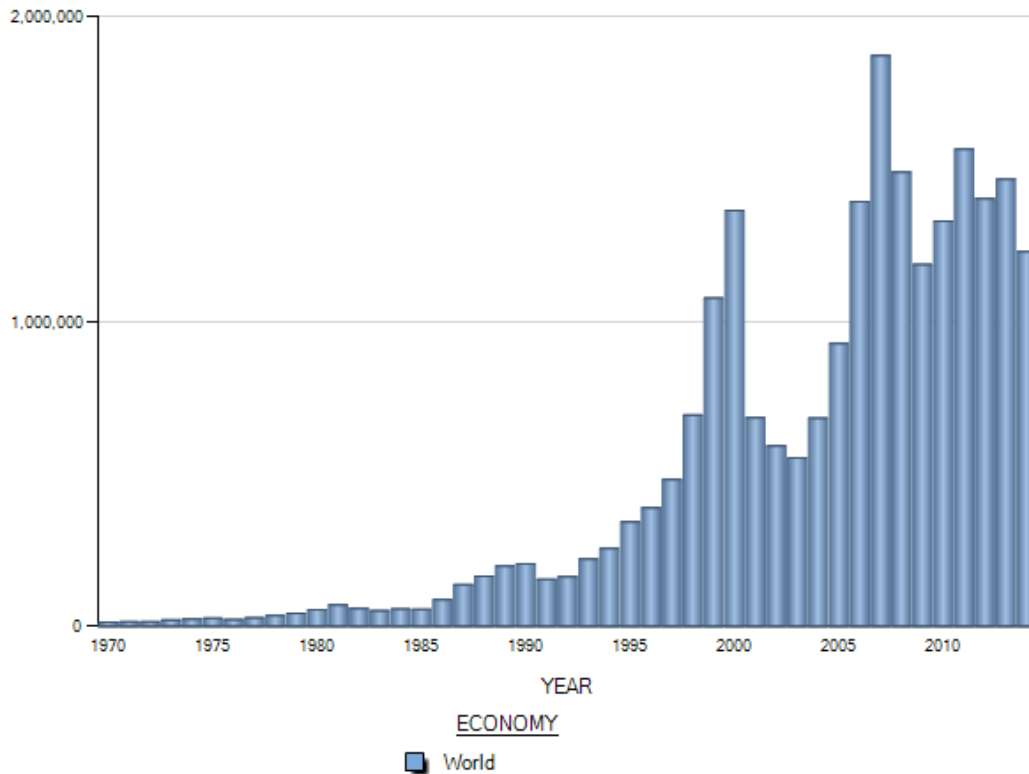
Source: UNCTAD (2016)

Based on the figure 1.1, it can be clearly seen that the level of global FDI inflows are stabilizing at relatively lower level prior to 1980s, the global FDI inflows in the whole globe was merely recorded up to around 50 billion United State Dollar (USD) in worldwide. In this case, the FDI did not seem to be vital in the context of global economy. However, there was amelioration, since 1980s, the chart begins to fluctuate at a significant higher level until 2014. In other words, FDI did seem to be more significant in promoting the global economic growth, recording highest of global FDI inflows in 2007 which was amounted to approximately 1,872 billion USD in global. Therefore, this chart shows that the activities of FDI have grown up in the world economy and it becomes one of the striking economy features that is being concerned by economists all the way till now (Mallampally & Sauvant, 1999).

Figure 1.2 Distribution of FDI by Continents

1980   **2014**

☐ America ☐ Asia ☐ Europe ☐ Oceania ☐ Africa
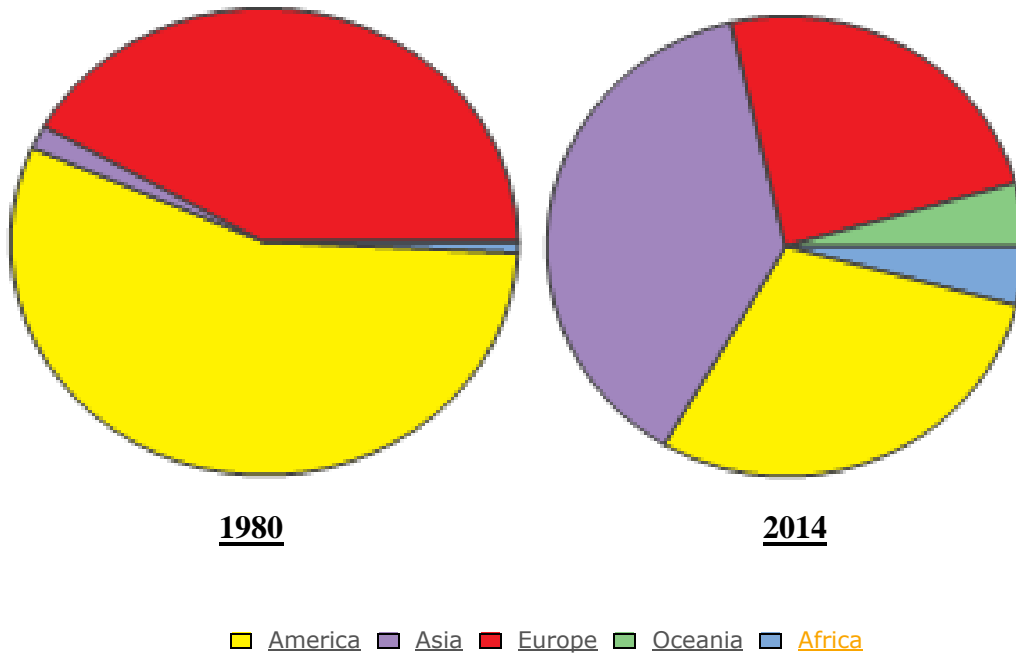
Source: UNCTAD (2016)

Based on the statistic obtained from UNCTAD (2016), the pie charts show that all the way from 1980 to 2014, Asia was springing up to be the largest continent of the recipient of FDI inflows, amounted to more than one-third of global FDI inflows. During 1980, Asia was merely casting as the third largest continent in receiving FDI inflows from other nations, contributing to just an approximately 1.6% of the global FDI inflows. The rapid evolution of Asia in receiving FDI inflows shows that Asia is the main representative of global FDI inflows in the historical perspective and it should be studied in order to examine the behaviours and characteristics of FDI inflows by foreign investors. Moreover, UNCTAD (2015) shown five out of ten of the Asia countries selected has been ranked as the top 10 FDI recipients in the East and South – East Asia. Those included China, Indonesia, Thailand, Malaysia and Philippines which recorded the net FDI level within the range of USD 6.2 billion to USD 129 billion where China was ranked as the largest FDI recipients in Asia (Rappler, 2015).

The massive increment in the level of FDI inflows of a region will not happen by nature, there must be few factors that contributed to the rapid evolution. For instance, there are a few criteria that the foreign investors are always paying attention to during their selection of host countries for which those criteria are closely related to the economic performance of the host country (Al-Nasser, 2010), such as the host country's currency exchange rate stability (Bilawal et al., 2014), the infrastructure development of the host country (Demirhan & Masca, 2008) and so on. These entire national criteria act as the determinants or the attractiveness for a company or an entity to decide whether to make the capital investments into the host economy or not. Thus, problem statements are being formed up in the latter part, questioning whether these criteria are the significant determinants of FDI inflows.

Figure 1.3 Level of FDI inflows of FDI, 1980-2014
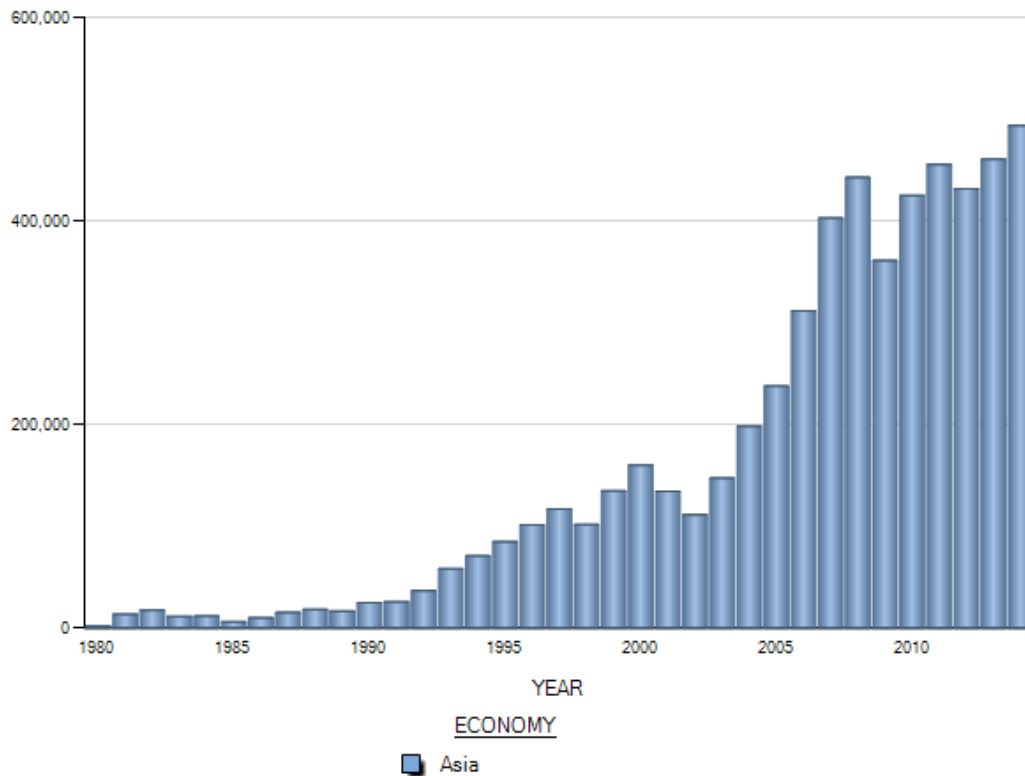
Source: UNCTAD (2016)

Based on figure 1.3, generally, Asia was experiencing steadily increasing trend all the way from 1980 to 2014 for its FDI inflows, inducing it to be the largest recipient continent of FDI, however, there was an exception that Asia was experiencing a sharp decline in FDI inflows during 2009. By reviewing the past history, Asia faced twice financial crises which are Asian Financial Crisis in 1997 and Global Financial Crisis in 2008 respectively. The occurrence of these market catastrophes match to the downturn recorded in the historical data of Asia's FDI inflows in 1998 as well as 2009 as shown in the figure 1.3 above. The financial crisis faced in 2008 is Global Financial Crisis, it is intimidating the whole global economy. Therefore, it is make sense to have a sharp decline in the level of FDI inflows of Asia during 2009, it is because the global FDI inflows level was receiving huge negative impact due to unfavourable economic condition hinder off the incentives of foreign investors to make investment overseas (Dornean, Isan & Oanea, 2012). Whereas the Asian financial crisis in 1997 was triggered at July 1997 at the Thailand and soon spread to other specific Southeast Asian countries such as Malaysia, Indonesia, Philippines and etc. (Public Broadcasting Service, n.d.). The crisis was said to plunge those affected countries and regional economy into deep recessions, affecting their economy condition badly (Lane, 1999). However, as compared to the impact of Global Financial Crisis which affected all of the countries worldwide, there is no significant decline recorded during the Asian Financial Crisis 1997, it is due to the crisis did not affect the whole Asia but only certain Asia countries were suffering from the negative impacts during that particular period (Mijares, 1999; The Economist Newspaper, 2007). Thus, in addition to the above internal criteria of each recipient country stated, the global economic condition is being concern in this paper as well.

1.1.1 Research Background of Eight Selected Asia Countries

This paper attempt to study the behaviour and characteristics of FDI inflows of a nation in the context of the Asia continent covering the period from 1980 to 2014, 35 years of observation in total. There are eight countries within the Asia

continents are being selected as the representatives to perform in-depth analysis for the FDI inflows of Asia for which these countries are China, India, Indonesia, Malaysia, Pakistan, Philippines, Thailand and Turkey. According to World Bank's classification, these eight countries are being classified as middle-income developing countries, it is because their gross national income per capita (CPI) was falling between USD 1,026 and USD 12,475 (The World Bank, 2016) for which Malaysia (USD 10,570), Turkey (USD 9,950), China (USD 7,820), Thailand (USD 5,620), Philippines (USD 3,540) Indonesia (USD 3,440), India (USD 1,590) and Pakistan (USD 1,440). Therefore, it is appropriate to study the FDI inflows of Asia by employing these eight countries since developing countries are the main recipient of FDI inflows in the world in 2014, developing countries contributed the largest share in the global FDI inflows as shown in the figure 1.4 below.

Figure 1.4 Global FDI Inflows in 2014
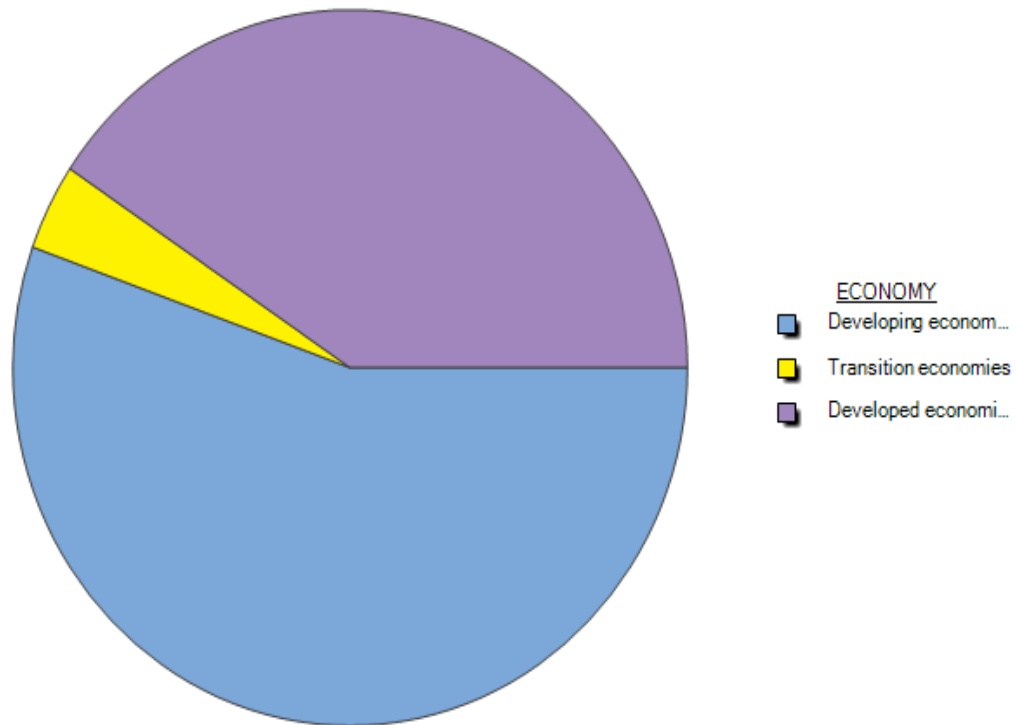
Source: UNCTAD

Background of China

Based the database of The World Bank, China is achieving the world second largest amount of gross domestic product (GDP) in the past 40 years. According to Hu and Khan (1997), one of the main contributions to the productivity boom of China is the inflow of foreign direct investment into the home country. As an evidence, based on figure 1.5, China is receiving more and more FDI all the way from 1970 to 2014, especially notable bulge was identified since early of 1980s. The bulge was due to the economic reforms by China in implementing open-door policy to welcome FDI inflows into its nation (Hu & Khan, 1997). It is because before 1980, China used to be a closed economy, it tends to unwelcome the inflows of FDI from oversea, resulting the relatively low level of FDI inflows prior to 1980 (Wei, 1996). Moreover, the increasing trend of FDI inflows may due to several attractiveness that readily available in China region, such as tremendous market size and low labor cost due to its 1.369 billion of population and its 9.388 million kilometer square of land (Faheem et al., 2011).

Figure 1.5 FDI Inflows of China
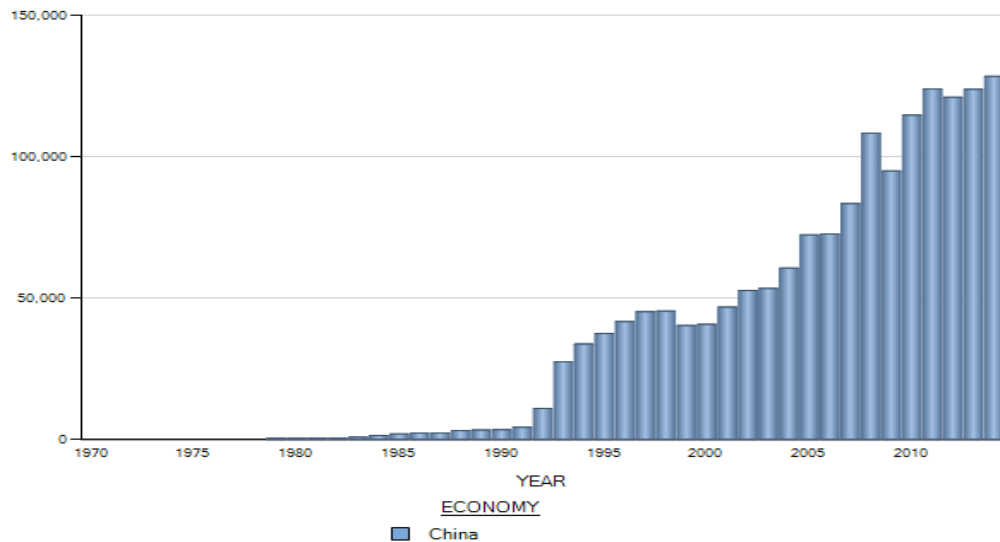
Source: UNCTAD

Moreover, according to the database of UNCTAD, China is also the largest FDI recipient country in whole Asia continents, ranked number one among the 52 Asia countries as well as ranked number one in the globe. Therefore, China is one of the main representatives of FDI recipient countries and it is applicable to be studied for the determinants of FDI inflows.

Table 1.1 FDI Inflows of China during 1996-1998 and 2007-2009

Year	FDI Inflows (in millions USD)	Changes (in millions USD)
1996	41,726	
1997 [AFC]	45,257	+3,531
1998	45,463	+206
2007	83,521	
2008 [GFC]	108,321	+24,800
2009	95,000	-13,321

*AFC = Asian Financial Crisis, GFC = Global Financial Crisis

Source: UNCTAD

Based on table 1.1, China was apparently insignificantly affected by Asian Financial Crisis in 1997, the FDI inflows into China was merely facing slow growth in its level. This situation matches to the finding of Liew (1999) for which China was merely receiving minimal impacts from Asian Financial Crisis in term of FDI. However, there was significant decrement in 2009 which was most probably due to the presence of Global Financial Crisis, amounted up to 13,321 million USD of decrement of FDI inflows in 2009, right after the year of Global Financial Crisis. According to Li, Willet and Zhang (2012), Global Financial Crisis did affect China economic condition by causing a reduction in the FDI inflows into China. Therefore, by summarizing from the context of China, it shows that there is uncertainty for the impact of crisis towards the level of FDI inflows.

Background of India

Based on the database of The World Bank, India which is located in Southern Asia is the ninth largest economy in term of GDP in the world. Moreover, India is holding the largest number of FDI inflows in Southern Asia, amounting up to 34,417 million USD of FDI inflows into the nation. Among the eight selected observation target of countries, India is merely positioned right after China, holding number two of ranking in receiving FDI inflows from other nations.

Figure 1.6 FDI Inflows of India
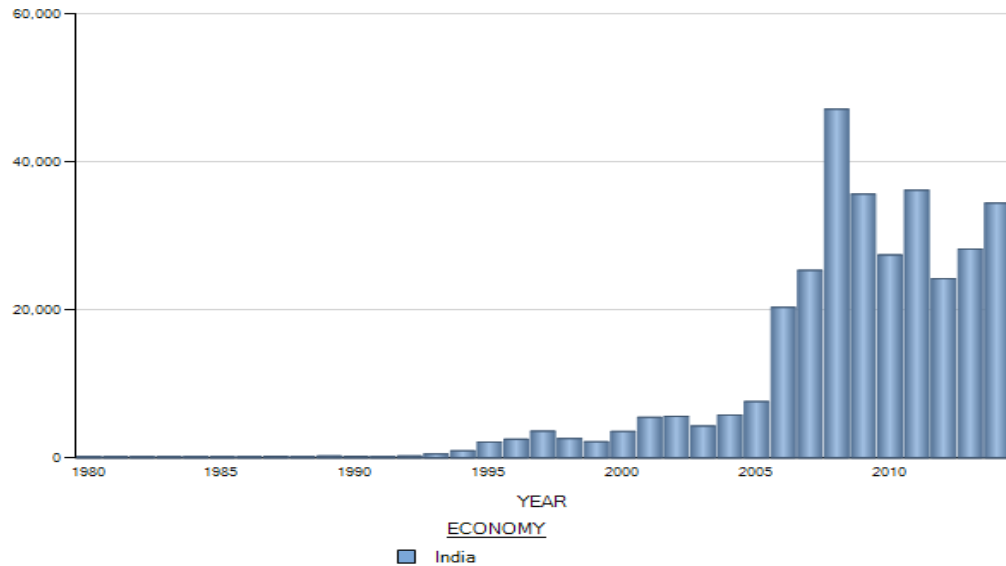
Source: UNCTAD

Similarly, one of the main factors that attract the enormous amount of FDI inflows into India is the large market size in India, it is because India is having up to 1.295 billion of population. However, India's most important factor in attracting additional FDI inflows will be the policy reformation of India happened during 1991 (Parashar, n.d.; World Trade Organization, 1998). Based on figure 1.6 above, since 1980 to 1991, there were merely a low level of FDI inflows into India were recorded. Nonetheless, after the economic reformation by India which

promote the privatization, globalization and liberalization of India's economy, India's FDI inflows was growing rapidly and hiked to a higher level.

Table 1.2 FDI Inflows of India during 1996-1998 and 2007-2009

Year	FDI Inflows (in millions USD)	Changes (in millions USD)
1996	2,525	
1997 [AFC]	3,619	+1,094
1998	2,633	-986
2007	25,350	
2008 [GFC]	47,102	+21,752
2009	35,634	-11,468

*AFC = Asian Financial Crisis, GFC = Global Financial Crisis

Source: UNCTAD

Based on table 1.2, India's FDI inflows was slightly declined after the year of crisis. It is being assumed that the decrement of FDI inflows implied that the unfavourable surrounding economies of other affected nations in the same region were most probably hindering the growth of India's FDI inflows. Meanwhile, in 2009, the year after the Global Financial Crisis, there was a tremendous decline recorded in India's FDI inflows for which amounted up to 11,468 million USD of decrement. This shows that India economy was badly affected by the presence of crisis. Thus, in the context of India, both period of crisis show that crisis will negatively affect a nation's economy.

Background of Indonesia

Indonesia which is one of the four selected South-Eastern Asia countries in this study, is holding the second position right after Singapore in term of FDI inflows into its nation among the South-Eastern Asia countries, amounting up to 22,580 million USD of FDI inflows in 2014. One of the main attractiveness that

Indonesia owned in order to attract FDI inflows from other nation is the availability of rich natural resources in the land of Indonesia (KPMG, 2016). Therefore, this may become the incentive for the resource-seeking investors. However, according to Public Broadcasting Service (n.d.), Indonesia is one of the countries was being affected badly during the attack of Asian Financial Crisis, thus, resulting a sharp decline in year 1998 as shown in the figure 1.7 below.

Figure 1.7 FDI Inflows of Indonesia
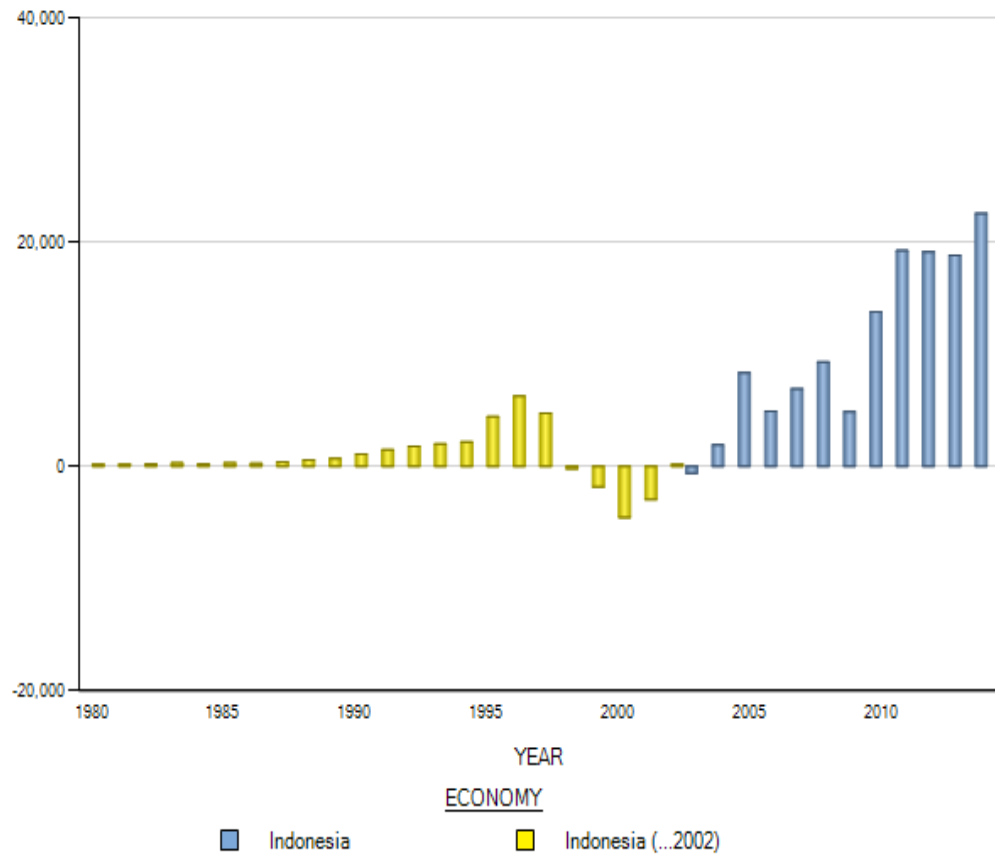
Source: UNCTAD

Table 1.3 FDI Inflows of Indonesia during 1996-1998 and 2007-2009

Year	FDI Inflows (in millions USD)	Changes (in millions USD)
1996	6,245	
1997 [AFC]	4,729	-1,516
1998	(207)	-4,936
2007	6,928	
2008 [GFC]	9,318	+2390
2009	4,877	-4,441

*AFC = Asian Financial Crisis, GFC = Global Financial Crisis

Source: UNCTAD

Therefore, similar to the finding of Public Broadcasting Service, the historical data shows that the level of FDI inflows into Indonesia was badly affected during the Asian Financial Crisis, for which there is total negative net FDI inflows in 1998 after a reduction of 4,936 million USD of FDI inflows. Moreover, same case goes to Global Financial Crisis, the economy of Indonesia is also being affected, there was merely 4,877 million USD of FDI inflows into the nation in 2009 compared to nearly a double of inflows in 2008. So, the presence of crisis is said to be negatively correlated with the level of FDI inflows.

Background of Malaysia

The second selected South-Eastern Asia country in this study is Malaysia. Malaysia was ranked 26th in the world in term of largest FDI recipient country, for which Malaysia's FDI inflows was recorded up to 10,799 million USD worth of FDI inflows in 2014. There were some factors contributed to the positioning of Malaysia in the world, first of all, Malaysia is having abundant of natural resources, similar to Indonesia. Second, the favorable economic growth and market growth of Malaysia reflects the positive market potential. Third, Malaysia is having well developed infrastructure in the nationwide which will help foreign

investors to minimize their production and transportation costs (Santander Trade Portal, n.d.-a). All of these factors induce the incentive for foreign investors to choose Malaysia to be the FDI target country.

Table 1.4 FDI Inflows of Malaysia during 1996-1998 and 2007-2009

Year	FDI Inflows (in millions USD)	Changes (in millions USD)
1996	7,297	
1997 [AFC]	6,323	-974
1998	2,714	-3,609
2007	8,595	
2008 [GFC]	7,172	-1,423
2009	1,453	-5,719

*AFC = Asian Financial Crisis, GFC = Global Financial Crisis

Source: UNCTAD

Based on table 1.4, Malaysia was experiencing downturn in its FDI inflows from other nation in both financial crisis periods for which Asian Financial Crisis in 1997 and Global Financial Crisis in 2008. The decrement of Malaysia's FDI inflows was recorded a larger reduction gap in 2009, there was up to 5,719 million USD. It is because most of the countries in worldwide are being affected. By concluding from this table, the effects of crisis towards FDI inflows are most probably negative effect.

Background of Pakistan

Figure 1.8 FDI Inflows of Pakistan
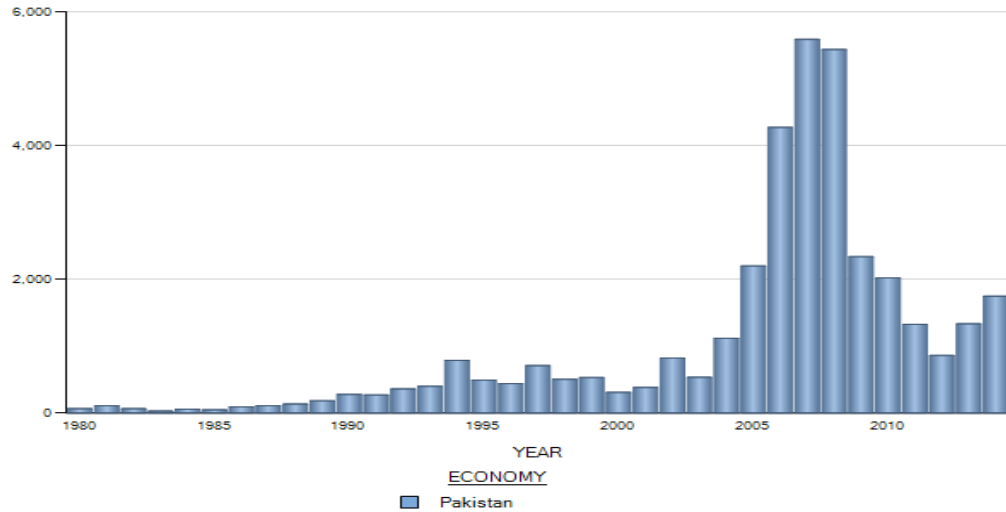
Source: UNCTAD

Pakistan, another representative for the region of Southern Asia other than India. Based on the database of UNCTAD, Pakistan is well known with its 185.044 million of population which in turn implying the availability of massive labor force and tremendous size of market. Moreover, Pakistani labor force are also being recognized as one of the most hardworking labor force in the world, therefore, this acts as the main incentive for foreign investors to make investment into in order to capture the cost-effective labor force in their production line (Azam & Khattack, n.d.). Thus, based on figure 1.9, the increasing trend in the FDI inflows of Pakistan is most probably due to the increment of the number of labor force since 1980 to 2014.

Table 1.5 FDI Inflows of Pakistan during 1996-1998 and 2007-2009

Year	FDI Inflows (in millions USD)	Changes (in millions USD)
1996	439	
1997 [AFC]	711	+272
1998	506	-205
2007	5,590	
2008 [GFC]	5,438	-152
2009	2,338	-3,100

*AFC = Asian Financial Crisis, GFC = Global Financial Crisis

Source: UNCTAD

Based on table 1.5, the FDI inflows of Pakistan was facing negative impact during both of the Asian Financial Crisis and Global Financial Crisis in 1997 and 2008 respectively, for which there is 205 million USD of decrement in FDI inflows of 1998 and up to 3.1 billion USD of decrement in 2009. These phenomenon shows that the crisis were badly affecting the level of FDI inflows of a nation.

Background of Philippines

According to Santander Trade Portal (n.d.-b), Philippines is a country that is equipped with large domestic market, thus, strong domestic consumption would increase the willingness for foreign investors to invest into (Jiao, 2016). In 2014, Philippines was holding nearly 6,201 million USD of FDI inflows into Philippines. According to Public Broadcasting Service (n.d.), Philippines was another country that was being affected by the presence of Asian Financial Crisis. However, the historical data shows another kind of findings towards the FDI inflows of Philippines during the presence of crisis.

Table 1.6 FDI Inflows of Philippines during 1996-1998 and 2007-2009

Year	FDI Inflows (in millions USD)	Changes (in millions USD)
1996	1,520	
1997 [AFC]	1,249	-271
1998	1,752	+503
2007	2,916	
2008 [GFC]	1,544	-1,372
2009	1,963	+419

*AFC = Asian Financial Crisis, GFC = Global Financial Crisis

Source: UNCTAD

Though it was reported that Philippines was being affected by the presence of Asian Financial Crisis, the amount of FDI inflows into Philippines was unexpectedly facing increment instead of decrement in 1998, a year right after the crisis. Same case goes to Global Financial Crisis in 2008, in 2009, the FDI inflows into Philippines was recorded as positive changes, amounted to 419 million USD worth of FDI inflows. Therefore, the effect of crisis towards the FDI inflows in the context of Philippines is still debatable.

Background of Thailand

Figure 1.9 FDI Inflows of Thailand
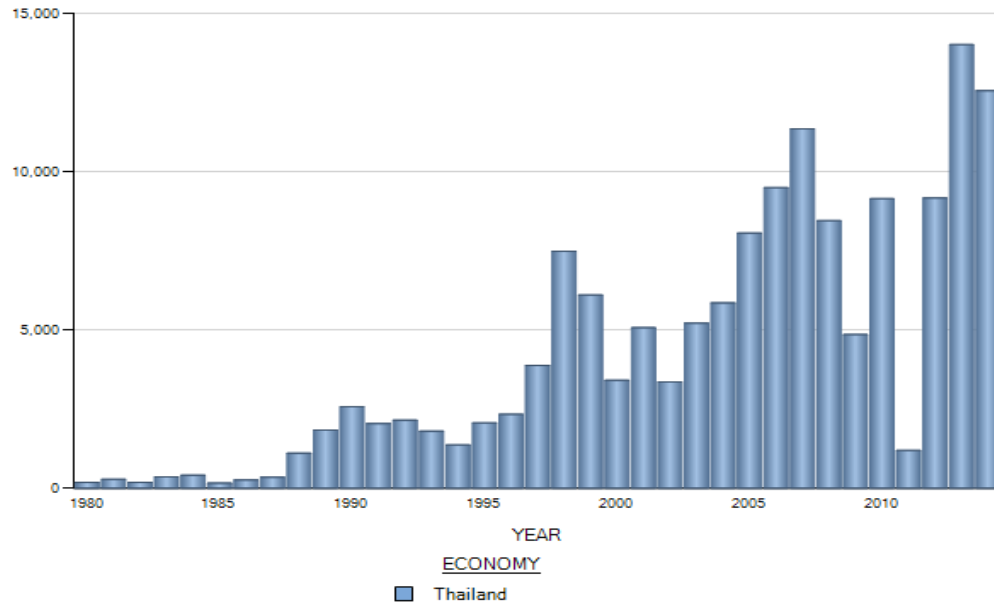
Source: UNCTAD

Based on the figure 1.11, it is obviously that the level of FDI inflows of Thailand was fluctuating throughout the 35-year period. However, among the eight selected countries, Thailand is positioned at number four in term of FDI inflows into its nation. In 2014, Thailand had recorded up to 12,566 million USD of FDI inflows, though it was merely around 10% of China's level of FDI Inflows, Thailand is still crucial to be selected to study the behaviour and characteristics of FDI inflows. It is because Thailand is one of the main representatives from the region of South-Eastern Asia and there were several factors held by Thailand which seem to be attractive for foreign investors to make investments into the nation. First of all, the strategic geographical location of Thailand induces the incentive for those market-seeking FDI investors. Other than that, Thailand is holding another unique advantage that could help it to boost its level of FDI inflows for which Thailand is the 4th easiest Asia country to commence their businesses with the availability of assistance from government agencies and least

restrictions imposed (Santander Trade Portal, n.d.-c). All of these factors will lead to the increment in the incentive for foreign investors.

Table 1.7 FDI Inflows of Thailand during 1996-1998 and 2007-2009

Year	FDI Inflows (in millions USD)	Changes (in millions USD)
1996	2,338	
1997 [AFC]	3,882	+1,544
1998	7,492	+3,610
2007	11,359	
2008 [GFC]	8,455	-2,904
2009	4,854	-3,601

*AFC = Asian Financial Crisis, GFC = Global Financial Crisis

Source: UNCTAD

By referring to the table 1.7 above, it shows that during the Asian Financial Crisis, Thailand was facing increment in FDI inflows into its nation in the year 1998, this shows that there may exist positive relationship between presence of crisis and level of FDI inflows. However, the case went another way round for the presence of Global Financial Crisis, during the period, Thailand was facing a decrement up to 3,601 million USD of FDI inflows into its nation in 2009. This shows that the impact of crisis towards FDI inflows are uncertainty in the context of Thailand.

Background of Turkey

Among the selection of observation target countries, Turkey is the only representative for West Asia for which it is having merely 77. Turkey is the largest FDI recipient in the region, ranked number five among the eight selected countries. In 2014, Turkey is receiving up to 12.146 billion USD of FDI inflows from other nations. Turkey is having few dominances in attracting FDI inflows

compared to other West Asia countries, first of all, Turkey is also having relatively lower cost of labour and its geographical location in the heart of West Asia, thus, providing the huge market size for foreign investors (Santander Trade Portal, n.d.-d).

Figure 1.10 FDI Inflows of Turkey
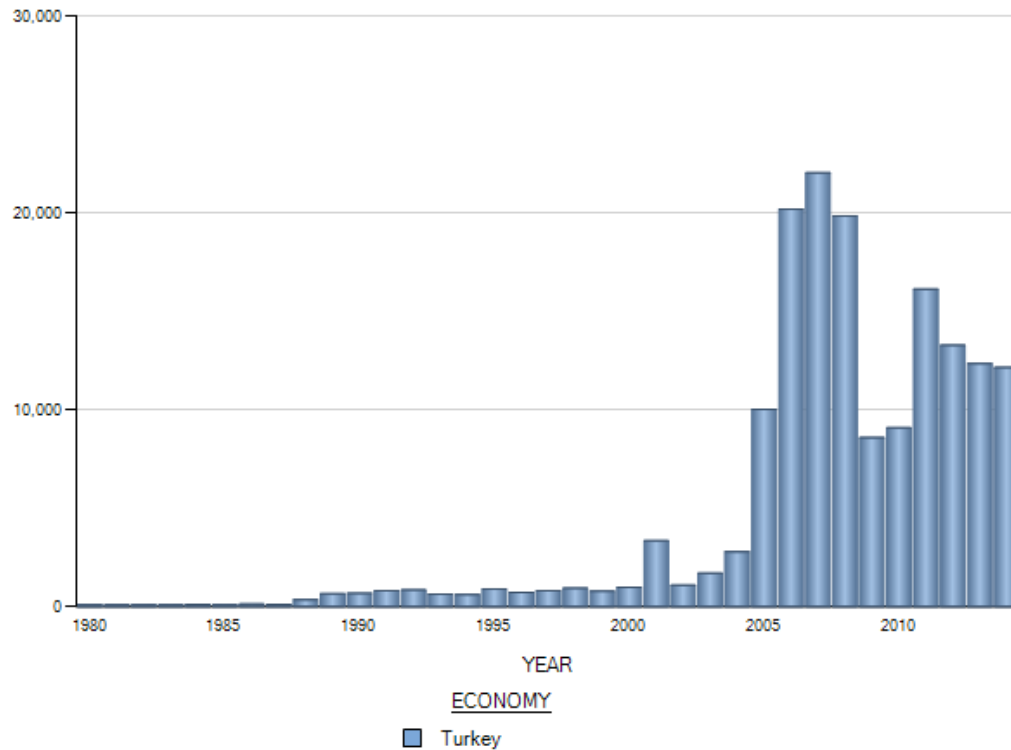
Source: UNCTAD

This chart shows that prior to 1988, Turkey was not one of the main recipient countries in the world, its level of FDI inflows didn't turn to be significant. However, after 1988, Turkey had spring up gradually to be the largest FDI recipient country in West Asia region during recent years. However, critical decline was detected during year 2009. It will be discuss in latter part.

Table 1.8 FDI Inflows of Turkey during 1996-1998 and 2007-2009

Year	FDI Inflows (in millions USD)	Changes (in millions USD)
1996	722	
1997 [AFC]	805	+83
1998	940	+135
2007	22,047	
2008 [GFC]	19,851	-2,196
2009	8,585	-11,266

*AFC = Asian Financial Crisis, GFC = Global Financial Crisis

Source: UNCTAD

Based on table 1.8, Turkey's level of FDI inflows did not seem to be affected by the presence of Asian Financial Crisis in 1997 since the amount of FDI inflows in 1998 did not face any decrement but increment on the other hand. However, Turkey was facing critical decrement in its FDI inflows in 2009, a year after the Global Financial Crisis. There was up to 56.8% of decrement recorded, amounted to 11,266 million USD which cause severe impacts towards the economic condition of Turkey. Therefore, impact of crisis towards FDI seem to be ambiguous in the context of Turkey.

1.2 Problem Statement

Recently, Asia economy is achieving its peak and declining in these few years, Asia economy is said to be sloping downwards in the recent years. Therefore, there is some economists are questioning whether there will be a repeat of the 1997 Asian Financial Crisis in 2015 (CNN, 2015). If yes, how large will be the impacts again towards the economy and what policy could be implemented in order to minimize the impacts? Therefore, it is the motive for this paper to study the historical impacts of the crises happened in past decades.

In the past decades, financial crisis had brought a huge impact to Asia countries and became a hot issue to every parties in Asia countries, especially for the policymakers of every country who are responsible to react to any economic changes in order to keep the nation's economic condition stable. Today, Asia is standing out to be the largest FDI recipient continent, even though it's overall FDI level is experiencing steadily increasing trend from the past till now, its level of FDI inflows are also fluctuating all the time. It is because FDI are always being affected by economic changes such as gross domestic product (GDP) growth rate of a nation. Although there were lots of researchers were conducting researches for the relationship between GDP growth rate and FDI inflows in the past, these literatures did not provide a clear conclusion and framework whether there was positive or negative or even insignificant effect on FDI inflows in the context of Asia developing countries.

Besides, exchange rate is also one of the determinants that will affect the level of FDI inflows. Exchange rate is an argumentative variable that has ambiguous effect on FDI inflows based on the research of past researchers, some findings are stating that the exchange rate is having negative impacts towards FDI inflows while some are saying the other way round. Therefore, it is questionable variable in the context of Asia developing countries and yet to be identified. Moreover, level of infrastructure is also one of the most attentive factors that will have effect on the FDI inflows. Foreign investors are concerning the level of infrastructure of the particular host country which will facilitate their production or operation in the future, therefore, this paper would like to identify whether the relationship between the level of infrastructure and FDI inflows are significant or not. Last but not least, the main concern of this paper is the impact of crisis towards the FDI inflows. Theoretically, crisis is always being expected to be having negative impact towards the level of FDI inflows of a nation, however, there are some findings and statements are claiming that crisis is having positive relationship towards the FDI inflows in the context of developing countries (UNCTAD Investment Brief, 2009; Lin, 2008). Therefore, it matches with our targeted countries which are all developing countries, this paper is keen to find out the actual relationship

between the presence of crisis and FDI inflows in the context of Asia developing countries.

1.3 Research Objectives

The research objectives are one of the important elements for conducting any research. The objectives are the steps or the specific list of tasks needed to accomplish the goals of the project. Basically, the aim of the researchers is to confirm the reliability and deviation of existing knowledge.

Since FDI is one of the main concerns for a developing country, decline in FDI inflows will cause some problems such as economic recession, unemployment and etc. to the countries and those problems will be worse off during financial crisis. Thus, this study has narrowed down the scope to focus in eight selected Asia countries which are Malaysia, Indonesia, Thailand, Philippines, China, Pakistan, Turkey and India, ranging from 1980 to 2014 to examine the relationship between FDI inflows and financial crisis. Furthermore, this study also aims to determine the relationship between FDI inflows and GDP growth rate, exchange rate and level of infrastructure. Hence, the specific objectives are shown as below:

  i.   To identify the relationship between GDP growth rate and FDI inflows.
  ii.   To identify the relationship between exchange rate and FDI inflows.
  iii. To identify the relationship between level of infrastructure and FDI inflows.
  iv.   To identify the relationship between financial crisis and FDI inflows.

1.4 Research Questions

In order to fulfil the objectives of this study, a few research questions are formed according to the problem statements above:

   i.   Does the GDP growth rate significantly affect FDI?
  ii.   Does the exchange rate significantly affect FDI?
 iii.   Does the level of infrastructure significantly affect FDI?
  iv.   Does the financial crisis significantly affect FDI?

1.5 Hypotheses of Study

A hypothesis is a statement that illustrate about the relationship between two or more variables. In this study, the null and alternative hypotheses the independent variables are determined as below:

1.5.1 GDP Growth Rate

H_0:   There is no relationship between GDP growth rate and FDI.

H_1:   There is a relationship between GDP growth and FDI.

1.5.2 Exchange Rate

H_0:   There is no relationship between exchange rate and FDI.

H_1:   There is a relationship between exchange rate and FDI.

1.5.3 Level of Infrastructure

H_0:   There is no relationship between level of infrastructure and FDI.

H_1:   There is a relationship between level of infrastructure and FDI.

1.5.4 Financial Crisis

H_0:   There is no relationship between financial crisis and FDI.

H_1:   There is a relationship between financial crisis and FDI.

1.6 Significance of Study

Firstly, the main significance of this study is to provide a statistic to the readers about the impact of financial crisis towards FDI inflows in eight selected Asia developing countries which are China, Malaysia, India, Indonesia, Thailand, Turkey, Philippines and Pakistan which is never being studied before. In additional, the eight selected countries are developing countries thereby this study can provide a contribution to show the relationship between crisis and FDI inflows in the developing countries.

Previously, past researchers were merely studying the effect of the financial crisis on FDI inflows, they were omitting other significant explanatory variables that will affect the FDI inflows. Hence, this paper will strengthen the past findings by adding GDP growth rate, exchange rate and level of infrastructure as the independent variables while incorporating the study of the impact of the crisis on FDI inflows.

Last but not least, by studying the relationship between the FDI inflows and GDP growth rate, exchange rate, level of infrastructure and crisis in this paper, the policymakers will then have a better understanding which will provide a nice

*

framework and recommendations for the policymakers in the future. Policymakers can then base on the findings obtained to make their policy implementation decision which is mainly to deal with any negative economic changes and help to maintain the economy in a stable condition.

1.7 Chapter Layout

In summary, this paper consists of five major sections. Chapter 1 is the research overview which is generally briefing the reader about general concept of the research topic and the information or ideas should the reader understand before enter to the next section. Then, the next segment is discussing the previous researcher's studies and also reviewing the findings of previous studies. Next, chapter 3 is describing the data used for the research and the type of methodologies applied in order to achieve the aims of this paper. After that, a series of empirical testing are implementing in the following chapter and the results are showing at this part as well. Lastly, the final chapter is summarizing and explains overall findings as the conclusion. Besides that, this chapter also provides some recommendations and the limitations for this research paper.

1.8 Conclusion

This paper will study the impact of crisis on FDI inflows level in eight selected Asia developing countries by incorporating GDP growth rate, exchange rate and level of infrastructure. In order to deal with crisis in the future, it is critical for policymakers to identify the intensity of the impact of crisis towards the FDI inflows. Therefore, it is crucial for this study to be performed in order to contribute to future research and policy implementation.

CHAPTER 2 : LITERATURE REVIEWS

2.0 Introduction

This chapter is organized nicely as following: section 2.1 will present the relationship between FDI, GDP growth rate, exchange rate, level of infrastructure and also presence of financial crisis. Then, in section 2.2 is presenting the reviews of theoretical models which are used by past researchers to examine the relationship between the FDI and GDP growth rate, exchange rate, level of infrastructure and financial crisis. Next, in section 2.3, this section proposes a theoretical framework that requires to proceed with this research paper. Then, in section 2.4, this paper will develop hypotheses for the variables used in regression model for which expected sign of the variables will be obtained. Lastly, in section 2.5 will summarize all the information available in this chapter as a guideline to proceed on with next chapter.

2.1 Reviews of Literature

In brief, this segment is discussing the relationship between FDI and GDP growth rate, exchange rate, level of infrastructure and financial crisis by reviewing the studies of the past researchers.

2.1.1 Foreign Direct Investment

FDI is defined as a long term investment made by foreign investor in domestic country that has the ability to get return in term of retained earnings (Adjei, 2007).

According to Dabour (2000), FDI played a significant role in either the global economy or even the economy of a country by creating new business opportunities that lead to decrement in unemployment, enabling transformation of technology in production, gained management knowledge that is more advance, easy access to foreign market, improve standard of living and competition increment. Thus, FDI not only lead to an improvement in the quality of product but it also increases the productivity in producing goods and services.

In addition, developing countries that were exposed to FDI have a higher growing rate than those countries that were restricted in its own countries (Bukari, 2010). According to Adjei (2007), FDI is known as the fastest growing and strategic activities that majority business organizations pursue all over the world in 1991. Besides, the importance of FDI is also well described by Mallampally and Sauvant (1999) for which FDI was having highly positive influence on economic growth thus promoting a country's financial performance.

Moreover, according to Dar and Aligarh (2015), FDI was a type of international investment that was a type of relatively more stable financing source for a nation by inducing the long term of capital inflows into the host country (Krkoska, 2001). Thus, it was well concerned by the government of every country for a more relatively stable finance status. Apart from that, the FDI investor would obtain not less than 10% of ownerships stake which was sufficient for he or she to have powerful influence over the asset owned (Adjei, 2007). Furthermore, according to Mirela, Diana and Sorin (2015), FDI was a category of international investment that reflects the purpose of an entity resident in a country to obtain a long time interest in an enterprise resident in another country.

Lastly, according to the press of World Trade Organization, FDI is the main key for an economy to go into the process of globalization. Therefore, it is crucial to capture all the factors that may directly or indirectly affect the level of FDI.

2.1.2 Gross Domestic Product (GDP) Growth Rate

By comparing to developed countries, developing countries are always having higher access to abundant of natural resources and human capital; however, developing countries are having relatively lower level of technologies and innovative capacity. Therefore, in order to improve from these drawbacks and step towards the developed countries, developing countries will tend to improve its economic performances in order to attract more FDI inflows into their countries for the sake of transmission of outstanding level of technologies and innovation from MNCs (Dritsakis, Varelas & Adamopoulos, n.d). However, the net effect of economic growth rate on FDI is theoretically ambiguous: economic growth rate has positive effect on FDI, negative effect on FDI or even insignificant effect on FDI.

There are many researchers found out that economic growth rate was a key determinant to attract more FDI (Al-Iriani & Al-Shamsi, 2007; Al-Nasser, 2010; Hansen & Rand 2006; Jimenez, 2011; Kandil, 2011). The international investors preferred rapid economic growth rate due to larger size of market would enable higher efficient scale of production. In other words, rapid growth rate of an economy indicated that the economy of that particular country experienced high market demands. According to supply-demand theory (Blanchard & Johnson, 2013), when the demand of the market is exceeding the supply of the market, the price of a product will definitely increase which will then lead to greater opportunities for the investors to make sustainable profits and hence increase the incentives for them to invest (Lim, 1983).

Furthermore, according to Hansen and Rand (2006), rapid growth rate of an economy might attract more FDI due to high profitability. This occurrence could be explained by the behaviour of the investors where they were more likely to invest in the markets which would enable them to generate more profit. The rationale behind the scene was that host country with better economic

performances would always equipped with better infrastructural facilities and thus, inducing a lower transportation cost incurred in the enterprises (Zhang, 2001). Thus, it formed as an advantage to attract foreign investors to invest into the particular country. As the result, growing markets might be the important part of the strategies of foreign investors while looking forward to expand in global markets.

On the other hand, some researchers criticize that there was significant negative impact of economic growth in attracting FDI (Buchanan, Le & Rishi, 2012; Jensen, 2003; Wint & Williams, 2002). This was due to the lower labour and capital costs during recession and thereby improved the cost structure of the firm and formed as the incentive for foreign investors to invest into the country as higher profitability foreseen. Similarly, based on the research by Jensen (2003), the paper found out that there were some industrialized countries were suffering recession during early 1980s but they experienced increment in level of FDI during the period. As such, low economic growth was said to be associated with high level of FDI inflows.

Moreover, Iamsiraroj and Doucouliagos (2015) had stated that a low economic growth implied that greater opportunities for future earning and hence there would be a negative association between economic growth and FDI. For instance, most of the low economic growth country would most likely to have abundant of natural resources and human capital. Therefore, this caused the cost of input for production in such countries would definitely lower than developed countries due to higher cost of obtaining natural resources and human capital, thus, increasing the incentives of the foreign investors to make investments in the low economic performance country.

However, there will be possibility that the economic growth rate may not be important to drive FDI due to the variation of motives for the foreign investors to perform FDI. For resource-seeking foreign investors, they were more likely to

invest in the particular host countries for the sake of efficient utilization of resources and exploitation economic of scale (Zhang, 2001). For instance, in Africa continent, extractive FDI were located in several mineral-rich countries, where market size and growth rate were not the key motivation for the FDI inflows into their continent, their main concern was to seek for the readily natural resources in those countries (Akinlo, 2004). In addition, Zhang (2001) argued that export-oriented FDI was motivated by factor-price differentials such as difference in labour cost and transportation cost between host countries and home country. In such case, economic growth would be no correlated to FDI; it was because market size would not be one of the factors that alter the FDI inflows decision from MNCs.

In a nutshell, majority of the researchers have the similarly finding that economic growth rate is positive significant in attracting FDI inflows into host countries. Furthermore, economic growth rates also a key determinant that increases the incentive of foreign investors to invest into host countries. However, the motivation of the investors make up their mind which factors that affected them the most during the investment decision.

2.1.3 Exchange Rate

Exchange rate is one of the main factors that can directly affect the FDI inflows. The appreciation of host country currency will attract more FDI inflows (Bilawal et al., 2014; Campa, 1993; Benassy-Quere, Fontagne & Lahreche-Revil, 2001). According to Bilawal et al. (2014), exchange rate has positive effects on FDI, when the Pakistan currency exchange rate is high, which meant that the company would gain more currency from investment and it would help the company to earn high foreseen profits. Thus, this profitability would attract more FDI inflows to Pakistan. Therefore, when Pakistan currency exchange rates appreciated, the FDI inflows to Pakistan would also increase.

Furthermore, Campa (1993) stated that the currency of host countries appreciated would increase FDI inflows. The foreign investors would increase their investment in the market if they were confident about the future profitability. When the currency of the host country was strong, the multinationals would have more confidence to invest in the host country due to the future earning expectation. Thus, there were positive relationships between exchange rate and FDI inflows.

Moreover, Benassy-Quere et al. (2001) showed that the effect of exchange rate on FDI was depending on the motivation of FDI. The host country currency appreciate would promote the FDI inflows when foreign company is market-seeking multinationals. When the currency of host country appreciates, purchasing power parity of the local consumers would increase. Then, local consumers would demand more goods and services which also indicated that there are greater earning opportunities in the market. Thus, higher profit foreseen would attract more FDI inflows.

Nevertheless, Athukorala (2003), Lee (2015), Khan and Nawaz (2010), Takagi and Shi (2011), Renani and Mirfatah (2012), Lee (2012), and Xing (2005) found out that there is negative relationship between exchange rate and the level of FDI. According to Athukorala (2003), exchange rate brought negative impacts towards the level of FDI. This was because when the host country currency depreciated, the currency of foreign country would relatively higher than host country currency. Therefore, foreign investors would increase their investment into host country due to lower production costs.

Besides, Lee (2015) stated that in both short run and long run, a change in the nominal exchange rate in Korean won would bring a negative impact to the FDI inflows. This was because when Korean won was appreciated, it would lead to reduction in FDI inflows from foreign countries to Korea due to the less earning opportunities. This meant when Korean won appreciated, the cost of production

of the foreign company would increase in term of foreign currency and thus the profit of the foreign investors would decrease as well. Similarly, Takagi and Shi (2011) stated that FDI flows from Japan would reduce when an expected appreciation on host country's currency because the expected profit earning in term of Yen decreased since the cost of production was higher than before. This statement was supported by Khan and Nawaz (2010) where the foreign investors were more interested in higher return on their investment.

Moreover, in order to determine Japanese direct investment in China, one of the significant factors is the real exchange rate between the Yuan and Yen (Xing, 2005). The finding showed that Yuan's depreciation would lead to wealth and production effects. The depreciation of host country induces a reduction in local production cost in term of foreign currency and hence increases their profits. For instance, when China Yuan depreciated, the production inputs such as labour, land, machine in China would become comparatively cheaper and it was encouraging the Japanese investors to acquire more local assets and thus induced the Japanese Yen inflows to rises. Additionally, due to the devaluation in Yuan, the Japanese investors would likely to invest in China by bring in more capital in order to produce at the lowest production cost.

Furthermore, the volatility of exchange rate would also have negative effect on FDI due to the uncertainty and risk of volatility exchange rate that would lead to reduction in foreign investment motivation (Renani & Mirfatah, 2012). This indicated that the return of FDI could not guarantee when the exchange rate of host country was fluctuating.

After all, most of the findings showed that the exchange rate is negatively correlated to the FDI inflows but there are also some researchers stated that exchange rate is positively correlated to the FDI inflows. Therefore, this study is to investigate the relationship between exchange rate and FDI inflows.

2.1.4 Level of Infrastructure

The impact of the level of infrastructure on FDI inflows is one of the main concerns focused by researchers. Most of the studies suggested that better level of infrastructure in a country is one of the key elements to attract FDI inflows (Demirhan & Masca, 2008; Rehman, Ilyas, Alam & Akram, 2011; Thilakaweera, 2012; Mengistu, 2009; Donaubauer, Meyer & Nunnenkamp, 2016; Alecsandru & Raluca, 2015; Tsen, 2005). According to Rehman et al. (2011), level of infrastructure was strong positively influencing the FDI inflows into Pakistan. Similar to the study of Alecsandru and Raluca (2015), this study found out that the foreign investors were more likely to decide their investment based on the infrastructure related factors. Besides, Jordaan (2005) also stated that good quality and well-developed infrastructure could improve the potential of foreign investments in a country and thus led to higher FDI inflow towards the country.

According to Khadaroo and Seetanah (2008), infrastructure was promoting both types of FDI however it was better in promoting the vertical FDI since stronger infrastructure helped to reduce the operation cost of foreign enterprises. Theoretically, the growth of infrastructure is associating with larger accessibility in the relevant market and hence, reduces the transportation cost for enterprises in the market. Thus, the growth in public infrastructure would reduce the cost of operation for foreign enterprises and lead to profit maximization. The substantial profit would attract foreign investors' willingness to invest into the particular country.

Furthermore, public infrastructure brought a significant positive impact on cost structure and productivity of private enterprises (Quere, Golbaraja & Trannoy, 2007; Morrison & Schwartz, 1996; Erenburg, 1993). In other words, local public infrastructure was used to reduce the operation and transportation cost of the private enterprise. The absence of the public infrastructure would cause the operation of private enterprises become inefficient as the enterprises were

required to build their own infrastructure. This action would result in duplication and wastage of resources and led to higher operation and transportation cost. In this case, foreign investors were less willing to invest into the country as there was lower profitability.

Similarly, the studies of Wheeler and Mody (1992), Loree and Guisinger (1995), Asiedu (2002), Morisset (2001), Sekkat and Veganzones-Varoudakis (2005), Richaud, Sekkat and Varoudakis (1999) also supported that better transportation infrastructure would lead to decline in transportation cost. Hence, it would create a motive for multinational enterprises entry into the relative market thereby increased in FDI inflows to the country. Another reason for the multinational enterprises refused to invest into poor infrastructure country was the risk of inadequate transportation or used of defective equipment occurred in that country might result in loss of loyalties of the public towards the enterprises. Therefore, there can be concluded that strong infrastructure could provide the investment climate for foreign investors.

Moreover, the cost of domestic production of a sector would decline as better infrastructure was implemented into the relevant sector (Behname, 2012). Indeed, the lower cost of domestic production could help to control the inflation rate in the country. According to Demirhan and Masca (2008), the lower inflation rate would lead to greater FDI inflows into the country since the production cost for foreign enterprises became lower. Therefore, better level of infrastructure in a country would indirectly attract FDI inflows because of lower domestic cost of production and inflation rate.

Nevertheless, there are few studies provided different findings about the relationship between the level of infrastructure and FDI inflows. By reviewing the finding of Chakrabarti et al. (2012), they found that small increment in physical infrastructure had insignificant impact towards the FDI inflows in a run-down country. This is because they can hardly grab the attention of foreign

investors to invest in particular country due to the small increment in physical infrastructure. Identically, Barzelaghi, Dizaji and Laleh (2012) suggested that the transportation infrastructure was significantly and positively influenced the FDI in long run whereas there was insignificant impact on FDI in short run. The reason behind is the foreign investors might take time to react for a better transportation infrastructure in the country. As stated by Aron, Kahn and Kingdon (2009), the insignificance of the relationship between level of infrastructure and FDI might happen in the reality. This could be explained by the possibility of causal relationship between infrastructure and productivity. This was because an inefficient and inappropriate infrastructure was insignificant to improve a firm's productivity.

Obviously, majority of the studies showed that infrastructure was significant to attract FDI inflows and they are positively correlated. Nevertheless, different countries have different level of infrastructure. Thus, further research and observation are needed based on the different target countries.

2.1.5 Financial Crisis

Reinhart and Rogoff (2008) stated that there are several financial crises that happened all over the world such as "The Big Five Crises" which include Spain (1977), Norway (1987), Sweden (1991), Finland (1991), and Japan (1992). Those crises show lasting effect on asset prices, output and unemployment. Moreover, there are also some minor banking and financial crises that happened in New Zealand (1987), Italy (1990), United Kingdom (1973, 1991, 1995) and etc. These financial crises caused downturn in FDI inflows, increment in unemployment, decline in housing price and etc. In addition, Asian Financial Crisis that happened in 1997 also shows negative relationship between the level of FDI in ASEAN countries (Diaconu, 2014; Athukorala, 2003). Besides, Guris, Sacildi and Genc (2015) found that in year 2008, the financial crisis in the West led to a significant

decrement in FDI. Apart from that, the availability of external finance has also worsened due to financial crisis that happened globally during 2007 to 2010 (Desbordes & Wei, n.d.).

According to Dornean, Isan and Oanea (2012), economic growth has a significant impact towards the level of FDI. The study found out that financial crisis happened in 2008 has microeconomics and macroeconomics effect on FDI. There was an increment in FDI years before the crisis happened but FDI drops after the financial crisis happened in 2008. In addition, Mirela et al. (2015), stated that global financial crisis would lead to decrement in FDI. Financial crisis would influence the price of corporate assets, the credit and macroeconomics condition and also the number of cross border transactions. Price of corporate assets would be lowered in countries that faced crisis because of low liquidity and macroeconomics instability problem. Besides, there was an increment in the number of cross broader transactions in the Europe Union countries that hit by crisis. Foreign investor would invest in countries that did not influence by crisis, instead of countries that hit by crisis. Therefore, inflows of FDI in the crisis countries would decrease (Weitzel, Kling & Gerritsen, 2014).

In addition, research of Ucal et al. (2010) stated that there was an upturn in FDI years before the crisis happened whereas there was a downturn in FDI after the crisis happened. Asian Financial Crisis in 1997 and 1998 had stopped licensed projects progression. Therefore, the amount of licences granted was reduced in year 1997 and 1998 compared to 1996. This situation caused decrement in foreign investment. Moreover, Athukorala (2003) stated that financial crisis was generating negative impacts towards FDI inflows too. During crisis, market-oriented FDI inflows would be decreased due to lowered economic growth and market potential caused by crisis.

Despite that, there are some researchers are stating that negative relationship does not exist between financial crisis and FDI inflows, they claimed that financial

crisis was positively related with FDI inflows in developing countries (Carp, 2012; Lin, 2008; UNCTAD, 1998). According to Lin (2008), FDI inflows were positively related with financial crisis in developing countries. The rationale behind was that developing countries with lower inflation rate were more well-equipped than developed countries in dealing with financial crisis. When the financial crisis is happened in the developing countries, the buyers will tend to save their money instead of making further investment, it's because they want to hold spare money for emergency towards the vulnerable market (Lin, 2008). In this case, domestic producers force to decrease the price as the strategy to attract the demand (Blanchard & Johnson, 2013) and hence lower inflation rate will achieve in the developing country during the crisis. In fact, lower inflation rate in the host country provides lower cost of production for the foreign enterprises and lead to increment in the FDI inflows since there is higher expected return of investment during the crisis. Moreover, the findings of Lin are further strengthening by Carp (2012) for which its data and findings explained that the presence of financial crisis in developing countries was also favourable for the level of FDI inflows. The author justified that the developing countries' economic performances were more favourable for foreign investors to perform their FDI into compared to badly affected developed countries. In addition to these two findings, the international trade authority, UNCTAD (1998) was also stating that FDI inflows would be increased in the crisis-affected countries, it is due to the decrement in the cost of production and lowered capital formation requirement caused by depreciated host country's currency. Last but not least, another researcher, Athukorala (2003) was also claiming that FDI inflows might experience increment during crisis, it is because of the depreciated exchange rate, reduced cost of investment and increased mergers and acquisitions in the crisis-affected countries.

Based on the findings from all the researchers above, most of the results showed that financial crisis and FDI are negatively correlated, however, the accuracy is

still debatable that some researchers were standing in their point of view that FDI inflows is positively correlated with financial crisis.

2.2 Review of Relevant Theoretical Framework and Models

Figure 2.1: Review of Theoretical Framework
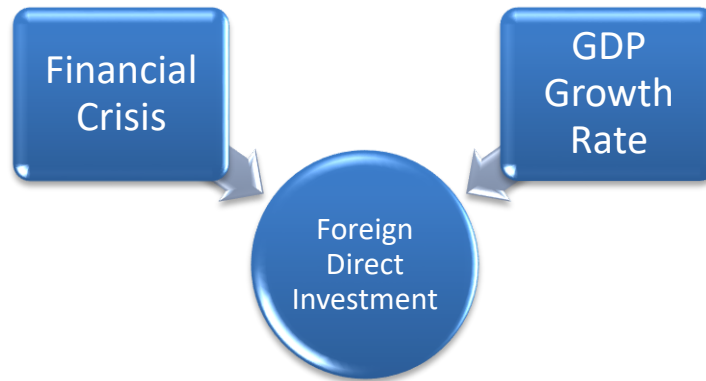
$$FDI_{i,t} = \alpha_0 + \alpha_1 GROWTH_{i,t} + \alpha_2 CRISIS + \varepsilon_{i,t} \qquad \text{(Theoretical Model 2.1)}$$

Source: Dornean et al. (2012)

The figure above (figure 2.1) shows the theoretical model studied by Dornean et al. (2012). The authors studied the impact of the recent global crisis on FDI in Central and Eastern European (CEE) Countries for period 1994 to 2011. This study employed financial crisis and GDP growth rate as their independent variables in order to determine the effect of crisis on FDI.

Reviewing to the model above, $FDI_{i,t}$ indicates level of the FDI for country i and year t as percentages of GDP. Next, $GROWTH_{i,t}$ is the percentage change of GDP for country i and year t while $CRISIS$ is a dummy variable which used 1 to indicate the presence of crisis in 2009, 2010, 2011 and 0 represent otherwise.

The study of Dornean et al. (2012) suggested that the economy growth was positively correlated to the FDI inflows. This finding met the authors' expectation where higher

economy growth would attract more FDI inflows into the host countries. On the other hand, the financial crisis was found to have strong negative relationship with FDI inflows. This meant the presence of financial crisis would hinder or slow down the FDI inflows in to the host countries.

2.3 Proposed Theoretical Framework and Model

By reviewing the research of Dornean et al. (2012), this paper proposes the theoretical framework by employing FDI as the dependent variable while financial crisis and GDP growth as the independent variables. Moreover, by reviewing from previous literature reviews (Athukorala, 2003; Lee, 2015; Renani and Mirfatah, 2012; Thilakaweera, 2012; Mengistu, 2009; Donaubauer et al., 2016), this theoretical framework is adding two more independent variables which are exchange rate and level of infrastructure in order to strengthen the regression model. The proposed theoretical framework and proposed theoretical model are shown in the figure 2.2 and theoretical model 2.2 respectively.

Figure 2.2: Proposed Theoretical Framework
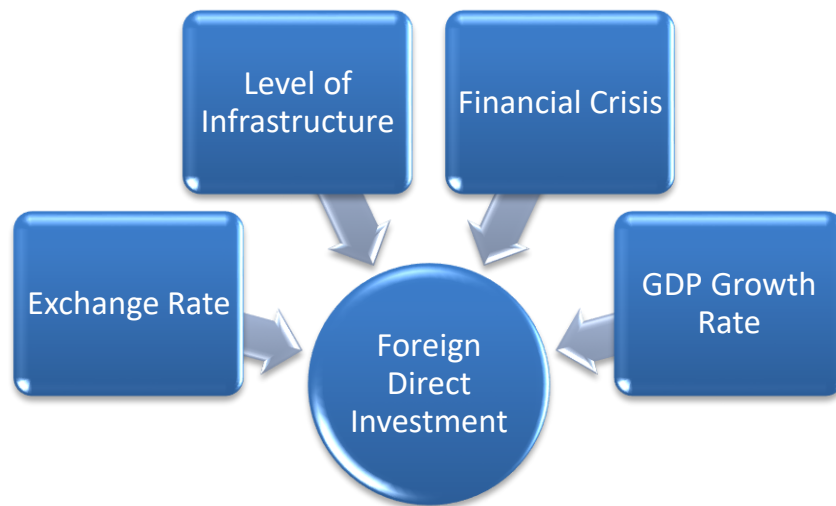
$$FDI_{it} = \beta_0 + \beta_1 GDP_{it} + \beta_2 EXRATE_{it} + \beta_3 INFRA_{it} + \beta_4 CRISIS_{it} + \varepsilon_{it}$$

$$(+) \qquad (-) \qquad (+) \qquad (-)$$

(Theoretical Model 2.2)

Then, a new regression model is reformed as shown above. FDI_{it} indicates the level of FDI with country i and period t in term of United States Dollar (USD); GDP_{it} is the percentage change of GDP; $EXRATE_{it}$ represents the real effective exchange rate (REER); $INFRA_{it}$ refers to the level of infrastructure (percentage of government expenditure per real GDP); $CRISIS_{it}$ means financial crisis, taking value of 1 if there is financial crisis while 0 for otherwise.

2.4 Hypotheses Development

Hypothesis 1: There is positive relationship between GDP growth rate and FDI.

According to the empirical findings of Al-Iriani and Al-Shamsi (2007), Al-Nasser (2010), Hansen and Rand (2006), Jimenez (2011) and Kandil (2011), these findings showed that the relationship between GDP growth rate and level of FDI inflows was positively correlated. However, there was minority of findings from literature reviews were showing the contrast findings, according to Buchanan, Le and Rishi (2012), Jensen (2003) and Wint and Williams (2002), the GDP growth rate had negative impact to FDI inflows. On the other hand, Iamsiraroj and Doucouliagos (2015) stated that the GDP growth rate had insignificant relationship towards the level of FDI. Since majority of the researchers concluded that there was a positive relationship between GDP growth rate and level of FDI, the hypothesis for the relationship between GDP growth rate and level of FDI will be positively correlated.

Hypothesis 2: There is negative relationship between exchange rate and FDI.

The empirical findings of Athukorala (2003), Lee (2015), Khan and Nawaz (2010), Takagi and Shi (2011), Renani and Mirfatah (2012), Lee (2012), and Xing (2005) stated that the relationship between exchange rate and level of FDI inflows would be negatively correlated. However, there were some studies stated that exchange rate was positively influencing the FDI (Bilawal et al., 2014; Campa, 1993). Since majority of

the researchers concluded that exchange rate and FDI were negatively correlated, then both the variables are hypothesized to have a negative relationship in this study.

Hypothesis 3: There is positive relationship between level of infrastructure and FDI.

Most of the findings of the researchers showed positive relationship between the level of infrastructure and level of FDI (Demirhan & Masca, 2008; Rehman et al., 2011; Thilakaweera, 2012; Mengistu, 2009; Donaubauer et al., 2016; Alecsandru & Raluca, 2015; Tsen, 2005). However, according to Barzelaghi et al. (2012), there was a contrast finding which suggested the level of infrastructure was insignificant towards level of FDI in the short run. Since majority of the findings concluded that the relationship between level of infrastructure and FDI inflows would be positively correlated, thus, the relationship of these two variables is hypothesize to be positively correlated too.

Hypothesis 4: There is negative relationship between financial crisis and FDI.

The empirical findings of Dornean et al. (2012), Mirela et al. (2015), Weitzel, et al. (2014), Stoddard and Noy (2015), and Ucal et al. (2010) showed similar findings where financial crisis would influence the level of FDI inflows of a country negatively. Nevertheless, according to literature reviews from UNCTAD (2008) and Lin (2008), there were positive relationships between financial crisis and FDI in developing countries. Since majority of the findings reviewed indicate that the presence of financial crisis would cause a downturn in the level of FDI inflows. Therefore, the relationship between presence of financial crisis and the level of FDI inflows in this paper is hypothesize to be negatively correlated.

2.5 Conclusion

The literature reviews show that financial crisis, exchange rate, GDP growth rate and level of infrastructure have found to be the factors that may greatly influence the FDI inflows. However, the actual methodology and the actual findings of this research are yet to be identified and it will be discussed in the following chapters.

CHAPTER 3 : DATA AND METHODOLOGY

3.0 Introduction

Chapter 3 shows the data collection methods and the methodologies of this study. In data collection methods segment, the variables employed and the sources of the data obtained from will be revealed. Then, in next section of empirical methodology, it will list out all the models and methodologies used for analysing the data of the study.

3.1 Data Collection Methods

Panel data is being selected to perform this study where it is also named as longitudinal data or cross sectional time series data is the marriage of cross sectional data and time series data (Baltagi, 2013). Furthermore, a panel data is a group of individuals surveyed repeatedly over time.

Moreover, this study employed eight Asia countries which include China, India, Indonesia, Malaysia, Philippines, Pakistan, Thailand and Turkey, covering the period from 1980 until 2014 which means there are total of 280 observations in this study. In addition, Breugel, The World Bank and United Nations Conference on Trade and Development (UNCTAD) had becomes the sources of data. Nevertheless, Eviews, a computer program is being utilized to conduct the study.

The table below shows clearly the unit measurement and the sources of data of each variable that have been employed in this study.

Table 3.1: Sources of Data

Variables	Proxy	Data Sources	Definition
FDI	Foreign Direct Investment inflows (millions, US$)	UNCTAD	FDI is defined as the total net inflows of long term investment made by foreign investor into the host country (Adjei, 2007). Moreover, after the data have been obtained from UNCTAD, values of 5 billion were added into each of the FDI data in order to eliminate the negative value from the set of data. Then, logarithm will be applied due to huge amount of FDI.
GDP	Gross Domestic Production Growth Rate (%)	UNCTAD	GDP growth rate (GDP) is indicating the changes of the current year GDP compared to previous year GDP of a nation.
EXRATE	Real Effective Exchange Rate (%)	Bruegel	Real effective exchange rate (REER) is a measure of the value of a nation currency against the weighted average of various foreign currencies. Instead of using nominal effective exchange rate (NEER), REER is chosen as one of the variable in this study. This is because NEER does not reveal the relatively changes in price of the observed country the trading partners which means the change in NEER does not reveal the actual changes in the purchasing power of the home currency

			and the export potential of goods produced in host country. Therefore, as stated by Bishkek (2003), REER can be computed to find out how much the purchasing power of the currency changed by using the formula below: $$REER = NEER \times \frac{CPI_{US}}{CPI_{home}}$$ [Equation 3.1]
INFRA	Level of Infrastructure (%)	The World Bank	Government expenditure of each country from can be obtained from The World Bank and according to Bakar, Mat and Harun (2012), the level of the infrastructure can be calculated by using the formula below: $$INFRA = \frac{Government\ Expenditure}{GDP} \times 100\%$$ [Equation 3.2]
CRISIS	Financial Crisis	UNCTAD	Crisis is the only dummy variable which is being employed in this study. The data would be 1 or 0 to indicate the presence of crisis where 1 is representing the presence of crisis, 0, otherwise. In this paper, the crisis is covering three years period, for

			instance, 1997, 1998, 1999, 2008, 2009 and 2010 is being studied in the context of crisis for Asian financial crisis and global financial crisis respectively (Poulsen & Hufbauer, 2011).

3.2 Empirical Methodology

The following sections will reveal all the data and models employed in this study. In the first section, the type of data and three types of models will be revealed. While the methods and tests used to identify the best model will be revealed in the next section.

3.2.1 Data and Models

3.2.1.1 Panel Data Approach

Panel data approach includes both cross sectional and time series dimensions. It plays an important role in assisting the researchers to identify and estimate the effects that are not simply detectable in pure cross-sectional data or pure time-series data (Baltagi, n.d.). For instance, pure cross-sectional data can show the economic growth rate at a particular period but panel data approach able to capture the proportional changes of economic growth over the time.

There are some reasons panel data approach is being employed in this study. First and foremost, panel data approach provides a solution to the heterogeneity bias that caused by omitted variable bias in the model

(Dougherty, 2007). According to Gujarati (2004), panel data approach has an ability to take that heterogeneity into account by allowing the existence of unobserved variables, thus, preventing the model computed from experiencing omitted variable bias.

Furthermore, panel data will provide the researchers with more informative, more variability, less collinearity among variables, higher degrees of freedom and more efficiency (Gujarati, 2004). This is because panel data is able to identify the problems that are not detectable in pure cross-sectional or pure time-series data. In short, panel data are more efficient in studying complex issues of dynamic behaviour (Baltagi, 2013).

Last but not least, panel data sets often have large numbers of observation (Dougherty, 2007). Let says in a study, n units of observation are involved within T time periods. In other words, the total number of observations will be $(n \cdot T)$. A clearer picture can be obtained by referring to this study where involves eight Asia countries and 35 years which covering from 1980 to 2014, which mean there are total of 280 observations which considered as large number of observations.

3.2.1.2 Pooled Ordinary Least Square (POLS)

POLS is a simple regression approach that follows the assumptions of OLS estimator which are linear, unbiased, efficiency and consistent, also known as BLUE (best linear unbiased estimator). Under panel data regression, POLS ignore the panel structure of data and form it as a simple and general regression model (Schmidheiny, 2015). The structure of POLS estimator model is specified as shown as below:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \cdots + \beta_k X_{kit} + \mu_i + v_{it}$$

[Equation 3.3]

Where

Y_{it}	= Dependent variable observed for country i in time t
$X_{(k)it}$	= Independent variable(s), k=1,2,3…
β_0	= Constant slope intercept
β_k	= Coefficient for the independent variable(s), k=1,2,3…
μ_i	= Unobserved cross-sectional effects
v_{it}	= "Well behaved" error term / Idiosyncratic error term

According to Grab (2006), the POLS model is consistent since there is no perfect collinearity and exogenous among predictor variables and residual across the time which is $E(X_t|v_{it}) = 0$. In additional, POLS also estimate the regression experienced homoscedasticity and with constant variances across the time, $E(v_{it}^2|X_t) = \sigma^2$. Apart from that, there is an assumption under POLS which states that the panel data regression should not have serial correlation across the period where $E(v_{it}v_s/X_tX_s) = 0$ (Grab, 2006).

In fact, under POLS estimator, the unobserved cross-sectional effects are assumed to be zero. In other words, this indicates that POLS estimator assume the panel data regression does not consist of unobserved effects, however, in practise, this assumption can hardly be achieved. Most of the panel data analysis is suffering from omitted variables bias where the regression omitted some significant variables and consists of unobserved effects that will lead to heterogeneity bias. When the panel data regression is handling with unobserved effect of parameter, OLS estimator applied in the regression will become inconsistent (Kupolusi, Adeleke, Akinyemi & Oguntuase, 2015). In addition, as mentioned above, it is hard to fulfil the assumption of POLS which state that there are no unobserved effects. Thus,

it will lead to large standard error but small t-statistic in the regression (Joseph, 2010). In other words, not all of the estimated groups are homogenous. Therefore, as a remedy to overcome this situation, fixed effects model (FEM) or random effects model (REM) is being introduced to improve from the POLS regression model and used to be the best estimator.

3.2.1.3 Fixed Effects Model (FEM)

FEM is one of the panel models that have constant slopes with different intercepts according to the cross-sectional or time periods (Yaffee, 2003). According to Williams (2015), there is an assumption under FEM where the omitted variables are correlated with the independent variables in the model, $\mathbf{E}\ (X_{it}|\mu_i \neq 0)$ which will cause estimators bias. This is because when the omitted variables and independent variables are correlated with each and other will lead the model to suffer heterogeneity bias and lastly lead the estimators to bias (Dougherty, 2007). Yet, FEM can solve heterogeneity bias that occurred because the omitted variables do not change over the time and it can be eliminated or absorbed through three different ways which included within-groups fixed effects, first differences fixed effects and least squares dummy variable fixed effects (Dougherty, 2007). The FEM model could be specified as follows:

i)   Within-Groups Fixed Effects Approach

As stated in section 3.2.1.2, there are omitted variables in the regression which is time invariant omitted variables, μ_i. Since the time invariant omitted variables will not change over the time, it can actually be eliminated through within-group fixed effects by subtracting it from the

mean value of the variables (Dougherty, 2007; Studenmund, 2011). In view of equation 3.3, it may write:

$$Y_{it} - \bar{Y}_i = \sum_{k=1}^{a} \beta_k (X_{kit} - \bar{X}_{ki}) + v_{it} - \bar{v}_i$$

[Equation 3.4]

Based on equation 3.4, the constant intercept and time invariant unobserved individual effects are being eliminated out from the model. The model turns to explain the variations about the mean of the dependent variable based on the variations about the means of the independent variables.

Therefore, within-groups fixed effect can be used to tackle the heterogeneity bias occurred in the regression since unobserved effects are being eliminated from the model. However, there are some drawbacks in within-groups fixed effects where the explanatory variable(s) that remain constant across time period will be subtracted and thus, drawn out from the model (Dougherty, 2007). In this case, the regression model may suffer in frustration for which the model will lose part of the explanatory power from the eliminated constant explanatory variable. Apart from that, by employing this approach, there will be a decrement in the number of degrees of freedom because within-groups fixed effects will manipulate the model in order to eliminate the unobserved effects. If the sample size is not large enough then the impact can be very huge (Dougherty, 2007).

ii)   First Differences Fixed Effects Approach

Then, another approach is the first differences fixed effects approach where unobserved effects will be eliminated too, however, in another way. First differences fixed effects involve elimination method by differencing the previous observation from the current observation. In the view of equation 3.3, it may write:

$$Y_{it} - Y_{it-1} = \sum_{k=1}^{a} \beta_k (X_{kit} - X_{kit-1}) + v_{it} - v_{it-1}$$

$$\Delta Y_{it} = \sum_{k=1}^{a} \beta_k (\Delta X_{kit}) + v_{it} - v_{it-1}$$

[Equation 3.5]

This can be also used to solve the heterogeneity bias. Still, the problems remain. The intercept and independent variables that remains fixed or unchanged will be eliminated from the model and the degree of freedom decreased. Moreover, the model will suffer from autocorrelation problem. The reason behind is both the changes in current error term, $(\varepsilon_{it} - \varepsilon_{it-1})$ and changes in previous error term $(\varepsilon_{it-1} - \varepsilon_{it-2})$ have (ε_{it-1}) in the equations which have the opposite signs. Thus, lead to negative moving average autocorrelation problem (Dougherty, 2007).

iii)   Least Squares Dummy Variable (LSDV) Fixed Effects Approach

$$Y_{it} = \sum_{k=1} \beta_k X_{kit} + \sum_{n=1} \alpha_n D_n + v_{it}$$

[Equation 3.6]

Where

α_n = Coefficient for the individual-specific dummy variable, n=1,2,3…

D_n = Individual-specific dummy variable, where

        1 = Observation related to individual n

        0 = Otherwise

In order not to eliminate the unobserved effects, least squares dummy variable fixed effects approach is introduced. This method no longer involves the elimination of unobserved effect, but it brings the unobserved

effects explicitly into the model where the unobserved effects are treated as the individual–specific dummy variable's coefficient (Dougherty, 2007). Therefore, $(\alpha_n D_n)$ term represent a fixed effect on the dependent variable for individual i. Furthermore, according to Baltagi (2013), LSDV are linear, unbiased, efficiency and consistent, also known as BLUE as long as the error term follows Gauss-Markov theorem, $IDD \sim (0, \sigma^2)$ after the LSDV process. As compared to both of the previous version of approaches, LSDV fixed effects approach is wiser to be implemented because there is no loss of degree freedom, loss of explanatory variable and also autocorrelation problem.

3.2.1.4 Random Effects Model (REM)

Greene (2002) had stated that a REM can be defined as a regression with a random constant term. The main function of REM is to remove the omitted variable bias by measuring changes within a group (unobserved effect) and group the number of potential omitted variables to become an independent variable. Further, REM assumes that the individual effects are uncorrelated with the independent variables and hence it is allow the individual effects to play as independent variable (Reyna, 2007). The model could be specified as follows:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \cdots + \beta_k X_{kit} + [\mu_i + v_{it}]$$

[Equation 3.5]

Where

Y_{it} = Dependent variable observed for country i in time t

X_{kit} = Independent variable(s), k=1,2,3…

β_0 = Constant slope intercept

β_k = Coefficient for the independent variable(s), k=1,2,3…

μ_i = Unobserved cross-sectional effects

v_{it} = "Well behaved" error terms / Idiosyncratic error term

Under REM, the unobserved effects are assumed not equal to zero ($\mu_i \neq 0$) which means that the model contains unobserved effects. Yet, the unobserved effects for the REM is characterized as randomized and act as an inference of the population from which the sample was randomly selected (Baltagi, 2013).

Moreover, there is a single differentiation between FEM and REM for which REM is assuming that the unobserved effects are uncorrelated with the independent variables, $E(\mu_i|X_{it}) = 0$ (Baltagi, 2011). This is important because it will lead the model to become efficient and unbiased and hence more appropriate to use as estimation model.

3.2.2 Best Model Selection Methods

3.2.2.1 Poolability F-Test

When studying in panel regression, there might be individual effects occur in the model (Kunst, 2009). In this case, the assumptions for the POLS will break down and the model will become inefficient, bias and inconsistent. Therefore, poolability F-test is the standard test statistic to investigate whether the regression model suffer from individual effects or not.

$H_0: \mu_i = 0$ (POLS)
$H_1: \mu_i \neq 0$ (FEM)

As shown above, the null hypothesis (H_0) state that the individual effects (cross-sectional effects [μ_i]) is equal to zero. This implies that the model

does not suffer from individual effects and POLS model is recommended to be applied since it fulfils the assumption of OLS estimators. On the other hand, the alternative hypothesis (H_1) shows there is individual effects happened in the regression model. This situation indicates FEM will be more efficient compare to POLS.

3.2.2.2 Breusch-Pagan Lagrange Multiplier (BP-LM) Test

BP-LM test is the standard test procedure that used to analysis the heteroskedasticity (Zaman, 2000). In panel regression, BP-LM test is used to decide between REM and POLS regression (Reyna, 2007).

$H_0: \sigma_\mu^2 = 0$ (POLS)
$H_1: \sigma_\mu^2 \neq 0$ (REM)

The null hypothesis (H_0) for BP-LM test is assumed that the variances across the entities are zero which means it is homoscedasticity. Therefore, the null hypothesis is fulfilling the general assumptions of OLS which is constant variances across the entities. Nevertheless, the alternative hypothesis (H_1) states that the variances across the entities are not equal to zero which is heteroskedasticity. If the heteroskedasticity occur, the panel regression should use REM rather than POLS.

3.2.2.3 Hausman Test

According to O'Brien and Patacchini (2006), Hausman test is a standard procedure used to distinguish the FEM and REM in an empirical panel data analysis. Besides that, Hausman test also can be used to identify the

difference in asymptotic bias of between and within group estimators when there is measurement error happened (O'Brien & Patacchini, 2006).

$$H_0: Cov(\mu_{it}/X_{it}) = 0 \text{ (REM)}$$
$$H_1: Cov(\mu_{it}/X_{it}) \neq 0 \text{ (FEM)}$$

Under the null hypothesis (H_0), it states that there is no correlation between the predictor variables and individual effect which is meet the assumptions of the REM. In the other hand, if there is correlation between the predictor variables and individual effects, both REM and FEM will become inefficient but FEM still remain consistent as the individual effect for FEM is constant. To sum up, if both models are efficient, REM is more efficiency than FEM. In reverse, if both models are inefficient, FEM is selected since FEM is still consistent but REM is inefficient and inconsistent.

3.3 Conclusion

This chapter summarize all the data sources and methodologies of this paper which will be carried out in the next chapter. In next section, it will reveal the empirical findings of this paper by computing all the methodologies listed in this chapter.

CHAPTER 4 : DATA ANALYSIS

4.0 Introduction

As proposed and discussed in previous chapter, panel data approach will be employed in order to examine the relationship between FDI inflows, GDP growth rate, REER, level of infrastructure and the presence of financial crisis. Meanwhile, this chapter will be presenting all the empirical results obtained from Eviews which helps to estimate the panel regression model. First and foremost, in empirical results segment, the selection of best model will be presented and the results obtained will also be interpreted in this segment. In the later part, the hypotheses of this study developed will be discussed by comparing to the results obtained and further justification will be done so.

4.1 Empirical Results

In order to select a best model for this study which will be used to make estimation for the relationship between the variables, several methods are being employed in this study such as Poolability F-Test, Hausman Test and BP-LM Test.

Table 4.1 Selection of Best Model

	Pooled OLS	Fixed Effect	Random Effect
Poolability F-Test [POLS vs FEM]		102.881611 [0.0000]***	
BP-LM Test [POLS vs REM]			247.3330 [0.0000]***
Hausman Test [REM vs FEM]			21.991360 [0.0002]***

Note: *, **, *** indicates level of significance at 10%, 5% and 1% respectively.

Poolability F-test

Poolability F-test has been applied to check whether POLS or FEM is more suitable to be the estimation model in this study.

$H_0: \mu_i = 0$ (POLS)
$H_1: \mu_i \neq 0$ (FEM)

Critical Value = ± 20.278

Decision Rule: Reject H_0 if test statistic is greater than upper critical value or smaller than lower critical value. Otherwise, do no reject.

Test Statistic = 102.881611

Decision Making: Since the test statistic (102.881611) is greater than the upper critical value (20.278) and thus reject H_0.

Conclusion: Poolability F-Test suggests that there is unobserved effect in the model, thus, FEM is more appropriate to be used as estimation model compare to POLS respectively.

BP-LM Test

On the other hand, the BP-LM Test has been adopted to examine whether POLS or REM is more appropriate to be used in this study.

H_0: $\sigma_\mu^2 = 0$ (POLS)

H_1: $\sigma_\mu^2 \neq 0$ (REM)

$\alpha = 0.01$

Decision Rule: Reject H_0 if p-value is smaller than α. Otherwise, do no reject.

p-value = 0.0000

Decision Making: Since the p-value (0.00) is smaller than the $\alpha(0.01)$ and hence reject H_0.

Conclusion: BP-LM test recommends that the model suffers from heteroscedasticity, thus, REM is more appropriate to be used as estimation model compare to POLS respectively.

Hausman Test

Moreover, this study is also employing Hausman Test to investigate between REM and FEM for which either one is the better model to be used.

H_0: $Cov(\mu_{it}/X_{it}) = 0$ (REM)

H_1: $Cov(\mu_{it}/X_{it}) \neq 0$ (FEM)

Critical Value $= \pm 14.860$

Decision Rule: Reject H_0 if test statistic is greater than upper critical value or smaller than lower critical value. Otherwise, do no reject.

Test Statistic = 21.991360

Decision Making: Since the test statistic (21.991360) is greater than the upper critical value (14.860) and thus reject H_0.

Conclusion: Hausman test recommends that the unobserved effect is correlated to the explanatory variable, thus, FEM is more appropriate to be used as estimation model compare to REM respectively.

After combining the result of these three tests, this study concludes that FEM is more suitable to become the estimation regression model to explain the relationship between FDI inflows, GDP growth rate, exchange rate, level of infrastructure and the presence of financial crisis.

Table 4.2: Eviews Output for FEM

Dependent Variable: Foreign Direct Investment			
Independent Variables	Coefficient	T-statistic	Probability (p-value)
GDP Growth Rate	0.008501	1.755698	[0.0803]*
Real Effective Exchange Rate	-0.002894	-5.472277	[0.0000]***
Level of Infrastructure	0.019451	1.994024	[0.0472]**
Financial Crisis	0.134677	3.094597	[0.0022]***
R-squared	0.461354		

Note: *, **, *** indicates level of significance at 10%, 5% and 1% respectively.

The result shows that the coefficient estimate of GDP growth rate (0.008501) is positive and statistically significant. The p-value 0.0803< 0.10 is showing that GDP growth rate significantly affect FDI inflows at the significance level of 10%. Thus, it implies that

the higher the GDP growth rate, the higher the FDI inflows. By holding other variables constant, an increment of 1% in GDP growth rate will cause an increment in FDI by 0.8501% on average. In term of exchange rate, the result shows that the coefficient estimate (-0.002894) is negative and significant at 1% significance level as p-value $0.0000 < 0.01$. Therefore, the lower the exchange rate, the higher the FDI inflows will be. According to the statistical results, on average, FDI inflows will decrease by 0.2894% respectively when exchange rate increase by 1 percentage point, holding other variables constant.

Moreover, the result shows that the coefficient estimate of infrastructure level (0.019451) is positively correlated with FDI inflows. It is significant at 5% significance level as p-value $(0.0472) < 0.05$. Hence, the higher the infrastructure level, the higher the FDI inflows will be. According to the statistical results, on average, FDI inflows will increase by 1.9451% respectively when infrastructure level increase by 1%, holding other variables constant. Furthermore, the financial crisis has the strongest effect on the FDI inflows. The coefficient estimate of financial crisis (0.134677) shows that it is positively correlated with FDI inflows. The p-value $(0.0022) < 0.01$ showing that crisis significantly affect FDI inflows at the significance level of 1%. By holding other variables constant, whenever there is present of financial crisis, the FDI inflows will increase by 13.4677 % respectively.

The coefficient of determination, R-Squared is a statistic used to measure the goodness-of-fit of the model. It is presenting the overall indication on how well the variables employed in explaining the variation of dependent variable. From the table 4.2, the value of R-squared is 0.461354 which means that this model with these independent variables can explain FDI in these eight selected Asia countries by the total of 46.1354%.

4.2 Discussions

Based on the empirical results obtained above, further discussion will be performed in this section in order to justify the results obtained along with the hypotheses developed in Chapter 2.

4.2.1 The Relationship between GDP Growth Rate and FDI Inflows

The result of this study concluded that the economic growth has positively significant effect on FDI inflows of the eight selected Asia developing countries (China, India, Indonesia, Malaysia, Pakistan, Philippines, Thailand and Turkey). This result obtained is tally with the hypothesis developed previously in Chapter 2 where GDP growth rate and FDI inflows are positively correlated.

Moreover, as discussed in Chapter 2, there are many researchers found out that economic growth was positively affecting FDI inflows and these findings had the same conclusion with the result obtained (Al-Iriani & Al-Shamsi, 2007; Al-Nasser, 2010; Hansen & Rand 2006; Jimenez, 2011; Kandil, 2011). The findings of this paper suggested that the rapid growth rate of eight selected Asia developing countries will attract the incentive of foreign investors to invest into the host countries. Based on the research by Lim (1983) stated that the international investors were more likely to invest in less developed countries with experiencing rapid growth rate. This is because rapid growth rate countries would have larger size of market that would induce higher efficient scale of production. In other words, larger size of market implies that the country is containing high market demands with massive of readily buyer. According to supply demand theory, when the demand of a product in a market is exceeding the supply, the price of that product will be increased (Blanchard & Johnson, 2013). Thus, this

will lead to greater earning opportunities for the foreign investors since the high demand in the market will drive the price of the product up to a new high level and causing the investors to earn extra profit without incurring any extra cost. At the same time, due to the increment of demand in the market, the FDI firm will tend to produce its production at larger scale and thus achieving economies of scale. By achieving economies of scale, the total average cost will be reduced due to the massive production, the fixed cost of the firm may be divisible to more unit of products (Celli, 2013). Therefore, in such case, foreign investors are able to foresee larger profitability, thus, inducing them to have higher incentives to invest in those countries with rapid growth and large size of market.

Similar to the research of Dabour (2000), the findings suggested that sustaining high rate of economy growth could attract higher FDI inflows and thus improve the employment rate and standard of living in the OIC (Organisation of Islamic Cooperation) developing countries. These findings confirmed the empirical result of this paper where FDI can be attracted by the high growing economic rate of developing countries such as Malaysia, Indonesia, Pakistan and Turkey which are also the members of OIC.

Other than that, rapid economic growth in eight selected Asia countries will rise the incentive of investors due to rapid economic growth will improve the level of confidence of the foreign investors to invest into. According to the Financial Secretary of Philippines, Cesar Purisima (Philstar Global, 2016), he said that the GDP growth in the country could increase the confidence level of investors. When the country experience high economy growth, there is higher expected market potential growth in the future thereby foreign investors are more confidence to invest into the country. As the result, the FDI inflows in particular country are increasing as well.

4.2.2 The Relationship between Real Effective Exchange Rate and FDI Inflows

The empirical results are consistent with the predictions of theoretical study that reported a significant and negatively correlation between real effective exchange rate and FDI inflows. This means that the appreciation in real effective exchange rate of host country will lead to decline in the level of FDI. Moreover, this result confirmed the findings of some researchers who stated that the appreciation of host country currency will reduce FDI inflows (Athukorala, 2003; Lee, 2015; Khan & Nawaz, 2010; Takagi & Shi, 2011; Renani & Mirfatah, 2012; Lee, 2012; Xing, 2005).

According to Lee (2015), exchange rate brought negative effects towards FDI flows in long run. This is because when the host country currency exchange rate depreciated will lead the cost of production of the company to reduce in term of foreign currency and hence increase the profit of the foreign investors; vice versa. For instance, after the devaluation of the host country currency, the production input such as machines and land in host country will become cheaper and increase the earning opportunities of foreign investors. Moreover, company can obtain more values, goods and services in host country when the currency of host country depreciated. Therefore, the currency exchange rate can affect the foreign investors' decisions.

In addition, Takagi and Shi (2011) had concluded that when there is a reduction in cost of production of a company in host country due to depreciation of host country currency will induce raising the profits earning of the foreign investors. Meanwhile, profits earned by the foreign investors also indicated their rich and wealthiest, thus, wealth of the foreign investors increases when the profits earning increase as well. As such, this allowing them to finance more of the investment into host country due to their wealth had been raised.

Furthermore, real exchange rate is one of the significance factors in determine the FDI flows from home country to host country such as Japanese direct investment in China (Xing, 2005). The finding mentioned that when China Yuan depreciated, the production inputs like labour cost will become comparatively low and it is encouraging Japanese investors to acquire more local assets such as hire more local labour force with lower wage rate in order to amplify the profitability. Besides, when there is depreciation in China Yuan, Japanese investors are more likely to invest in China by brought in more capital and hire local labour to produce at lowest production cost and achieved the economics of scale. Economics of scale can be defined as the average cost of production reduced when the total output increase.

4.2.3 The Relationship between Level of Infrastructure and FDI Inflows

The statistical results that obtained from Eviews based on FEM shows that level of infrastructure and FDI is positively correlated and it is significant. This indicates that increment of level of infrastructure will lead to an increment in FDI and this has been supported by the discussion in Chapter 2.

According Demirhan and Masca (2008), they stated that the relationship between the level of infrastructure and FDI inflows based on the 38 developing countries that includes China, India, Philippines, Thailand and Turkey, the findings showed the infrastructure level in a country is one of the key elements to attract FDI inflows due to better of infrastructure level could increase the FDI inflows. Similarly to the research by Donaubauer et al. (2015) which studies the relationship between level of infrastructure and FDI inflows based on large number of developing and developed countries and confirmed the results of this paper which also includes China, India, Philippines, Thailand and Turkey as the targeted observation. Therefore, according to the findings stated above, a well-

developed infrastructure is significantly and positively attracts FDI inflows in the eight selected Asia developing countries. This is because well-developed with infrastructure as stronger infrastructure helped to cut down the operation cost of foreign enterprises. Theoretically, infrastructure growth is associating with larger accessibility in the relevant market which will then reduce the transportation cost for enterprise in market. Hence, well developed public infrastructure will reduce the operation cost. Thus, lead to profit maximization for the foreign enterprises (Khadaroo & Seetanah, 2008).

Additionally, the findings of this paper are also matched to the researches of Bakar, Mat and Harun (2012), Rehman et al. (2011) and Chakrabarti et al. (2012) for which the findings stated that level of infrastructure is positively influencing the FDI inflows in Malaysia, Pakistan and India respectively. In fact, a good infrastructure will assist the progress of production and also the output's distribution (Tsen, 2005). Local public infrastructure plays an important role in the reduction of operation and transportation cost of private enterprise which will create a reason for multinational enterprises to enter into the relative market thereby increase the FDI inflows to the country. Indeed, when there is absence of the public transportation, cost of operation of the private enterprises will become inefficient due to the local enterprises are required to build by themselves. Thus, under this situation, there will lead to duplication and wastage of resources that induce higher operation and transportation cost. As such, lower profitability will reduce the willingness of foreign investors to invest into the host country.

Furthermore, the positive relationship between infrastructure level and FDI inflows in this paper also can be explained as the implementation of better infrastructure into the right and appropriate sector would reduce the cost of domestic production, thus, it helps in controlling the inflation rate that would lead to greater FDI inflows to the country (Behname, 2012). In addition, Demirhan and Masca (2008) found out that inflation rate and FDI are negatively correlated due to lower inflation rate will lead to greater FDI inflows into the country. Thus,

developed infrastructure would indirectly attract FDI inflows through the lower domestic production cost and inflation rate.

4.2.4 The Relationship between Financial Crisis and FDI Inflows

Statistical results obtained from Eviews based on table 4.2 in this study shows that financial crisis and FDI inflows are positively correlated and it is significant. This result is conflicting with the hypothesis as discussed in chapter 2 earlier which stated that financial crisis is negatively associated with FDI inflows.

According to UNCTAD (1998), FDI inflows will be positively influenced by the financial crisis. It is basically due to two components. First component is the decrement in production cost of foreign investors due to depreciated host country's currency. During crisis, the host country's currency exchange rate will be affected and reduced to a lower rate for which it is reflecting the cost of production in host country will be reduced too in term of home country's currency. In other words, the funds invested by foreign investors will become relatively larger since foreign currency is appreciated and having larger investing power in the host country.

Figure 4.1: Asian Currency Exchange Rate Graph
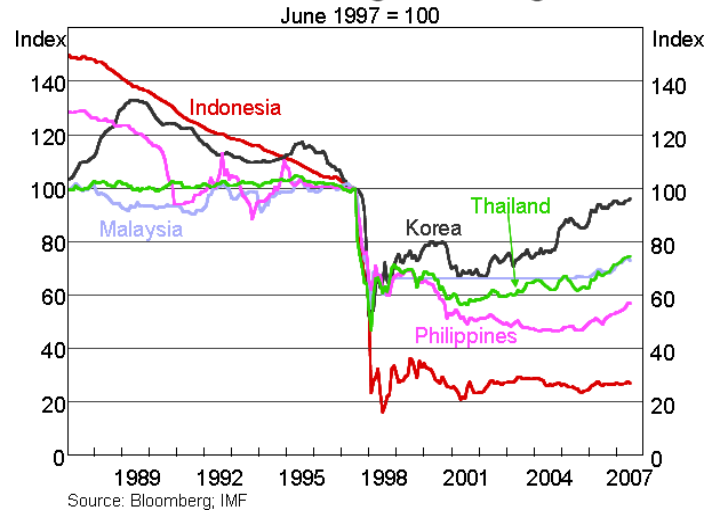
Source: IMF

Based on the graph above, the exchange rate for these selected Asia countries were experiencing devaluation during the Asia Financial Crisis in 1997. For instance, during crisis, exchange rate for Malaysia is depreciating again the exchange rate for United State. Therefore, this also indicates that the production cost in Malaysia will reduce as well in term of USD. As a result, this will increase the intention of international investor to invest in Malaysia.

In addition to that, the asset prices in crisis-affect countries will also be affected by the financial crisis, pulling it to a lower price. Thus, inducing foreign investors are more favourable in investing in crisis-affected countries due to lower cost of investments. In a nutshell, currency devaluation that lead to lowered cost of production and investment will be an attractiveness for the export-oriented FDI which to seek for lower cost in their production to maintain their international competitiveness (UNCTAD Investment Brief, 2009)

For instance, Asian Financial Crisis is affected merely East and South-East Asia countries, therefore, foreign investors with the motive of export-oriented FDI will invest in those crisis-affected Asia countries in order to seek for lower cost of

production. Among the data of this paper's observations, China, Philippines and Thailand were having the results similar to the findings of UNCTAD Investment Brief (2009) for which these countries were receiving higher FDI inflows during the financial crisis.

Table 4.3: FDI Inflows During Asian Financial Crisis in Billion USD

Year	1996	1997	1998
China	41.7	45.3	45.5
Philippines	1.5	1.2	1.8
Thailand	2.3	3.9	7.5

Source: UNCTAD

Moreover, according to Athukorala (2003), the findings reported that financial crisis is positively correlated with FDI inflows due to increasing opportunities in cross-border mergers and acquisitions for the foreign investors. Since some of the firms are not performing well, the cost for merging and acquisition will be relatively cheaper prior to crisis. Therefore, there is up to 87% of increment of cross-border mergers and acquisitions recorded in Malaysia, and up to 142%, 172% and 269% of increment respectively during the financial crisis (Athukorala, 2003).

Besides, Carp (2012) stated that developing countries are holding higher and higher weightage in global FDI inflows after the occurrence of Global Financial Crisis in 2008, from 26.9% in 1997 to 46.1% in 2010. This statistic showed that developing countries are having positive relationship between FDI inflows and financial crisis for which self-reinforcing cycle had contributed to the factor of this relationship. Self-reinforcing cycle is the scenario that crisis-affected developed countries would like to continue in investing in developing countries for the motive that it will enhance host country's market growth and thus the local market demand of developed countries' goods. Therefore, by continue in FDI

strategic, harmed developed countries can benefit itself at the end, it is a mutually beneficial scenario between developing and developed countries (Lin, 2008).

Another rationale that contributes to Carp's finding is due to that developing countries are having the characteristic which is favorable to the foreign investors. The favorable characteristic involve of relative lower inflation rate (Lin, 2008). Theoretically, the residents will reduce their consumption on goods and services during financial crisis period and hence lead to decrement in the market demand. As such, when the market demand is lower than the market supply, the overall price level will decrease too. Consequently, since the market price level had been reduce and thus this will causes the cost of production in recipient country to decrease which will then increase the motivation of foreign investors to invest due to guaranteed foreseen earning opportunities in future. In short, lower inflation rate could attract more FDI inflows during the crisis period.

4.3 Conclusion

In a nutshell, the empirical results confirm that all of the independent variables employed (GDP growth rate, real effective exchange rate, level of infrastructure and financial crisis) are significant towards the FDI inflows. Moreover, the results also confirm the hypotheses developed that the relationships between FDI inflows, GDP growth rate and level of infrastructure is positively correlated. Meanwhile, negative relationship exists between the real effective exchange rate and the FDI inflows which also match to the hypothesis developed in Chapter 2. However, there is only an exception that financial crisis does not match to the hypothesis developed, it is positively correlated to the FDI inflows into these eight selected Asia countries, opposing the hypothesis that there will be negative relationship exists between them. The summary of the overall paper will be included in the next chapter, besides, the implications, limitations and also recommendations for future research will be further discussed in the next chapter too.

CHAPTER 5 : CONCLUSION AND IMPLICATIONS

5.0 Introduction

In 5.1 section, it is providing the overall summary and the elaboration of the overall outcomes of this study. Apart from that, the policy implications which could act as a reference for the policymakers and foreign investors to make decision whenever crisis is expected to approach will be discussed too in the latter part. Meanwhile, the limitations of this study and the recommendations for future researchers will also be presented in the ending of this chapter in order to brief the future researchers of this paper's limitations and the solution for them to overcome it, so that, the results obtained will be more accurate and precise.

5.1 Summary of the Study

FDI is one of the main components in the world economy, it plays inevitable roles in promoting and boosting up a nation's economic condition. FDI had been stayed active since the early 1980s, studies stated that the increment in FDI inflows are significant especially in developing countries. Meanwhile, Asia is the largest FDI recipient continents among the five continents in the world, therefore, it induces this paper to select Asia developing countries (China, India, Malaysia, Thailand, Turkey, Philippines, Indonesia and Pakistan) as our observation targets. Several researches were done by various researchers in the past in order to study the determinants of the FDI inflows into a nation. However, there was none of the research could provide the exact and accurate impacts of the GDP growth rate, REER, level of infrastructure towards the level of FDI inflows in the context of financial crisis and non-financial crisis. herefore, this reason drives the motives of this paper in order to study the impacts

of these variables towards FDI inflows during the financial crisis time for which it may contribute to the making of decision in policies implementation of the Asian policymakers.

Since the data being studied are consisting of multiple countries across multiple period of 1980-2014 for which it is known as panel data. Therefore, this paper is using panel data approach in order to analysis and estimate the relationships between FDI inflows, GDP growth rate, REER, level of infrastructure and financial crisis. However, there will be heterogeneity bias problem occur in panel data approach, therefore, REM or FEM is used to overcome the problem. The basic OLS model is tested with a few approach such as Poolability F-test, BP-LM test and Hausman test in order to select the best model with no heterogeneity bias problem to analysis and estimate the relationship of the variables. At last, FEM is chosen to be the best model to conduct this study.

This paper's empirical findings stated that all of the independent variables, GDP growth rate, REER, level of infrastructure and financial crisis are all significant towards the FDI inflows of a nation. Meanwhile, GDP growth rate, level of infrastructure and financial crisis are having positive relationship towards the FDI inflows. However, REER is the only variable that is found to be negatively correlated with the FDI inflows. Besides, all of the relationships are matched to the expectation of the hypotheses of this paper, however, there is only one exception that financial crisis is opposing the expectation of this paper. The expectations of hypotheses versus empirical findings are tabulated as below:

Table 5.1: Hypotheses Versus Empirical Findings

Variables	Hypothesis	Empirical Finding
GDP	Positive (+)	Positive (+)
EXRATE	Negative (-)	Negative (-)
INFRA	Positive (+)	Positive (+)
CRISIS	Negative (-)	Positive (+)

The results show that GDP growth rate is significantly affecting the FDI inflows in a low positive way. In other words, the increment in GDP growth rate will induce FDI inflows to increase as well. The results of this study confirmed the findings of several researchers where GDP growth rate and FDI inflows of a nation are positively correlated (Al-Iriani & Al-Shamsi, 2007; Hansen & Rand, 2006; Zhang, 2001b; Jimenez, 2011; Kandil 2011). The findings provided that increment in GDP growth rate will positively affect FDI inflows both in direct and indirect way, meanwhile direct way is increment in economic growth rate will indicate a healthy economy with high employment rate and standard of living which directly increase the confidence level and incentives of foreign investors towards the FDI recipient country. On the other hand, high GDP growth rate is influencing FDI inflows by indicating the economy with large market size and demand, thus, inducing foreign investors to foresee high profitability in the host country. The indirect way is also explaining the validity of supply-demand theory stated in Chapter 2 for which larger market will have higher demand and FDI firms could increase their supplies in order to meet the demand, thus, gaining more profits from the higher level of sales.

Next, the statistical results obtained in this study show that exchange rate is significantly and negatively influencing the FDI inflows. In practice, whenever exchange rate of host country depreciated, it will induce an increment in the level of FDI inflows into the host country. First of all, these results matched to the statement of Renani and Mirfatah (2012) for which any changes in exchange rate will significantly affect the FDI inflows. Besides, these results matched to the findings of the following researches (Athukorala, 2003; Lee, 2015; Takagi & Shi, 2011; Khan & Nawaz, 2010). All of these findings are claiming that depreciation in the host country's currency will cause the cost of production or cost of investment to reduce and thus reflecting the higher in willingness for the foreign investors to invest into. It is because efficiency-seeking FDI investors are looking for lower cost of production which can help them to obtain a higher level of return compared to their home country (Xing, 2005).

Moreover, the results of level of infrastructure are also under this paper's expectation for which level of infrastructure is positively correlated with the FDI inflows. It means that a nation with better level of infrastructure will more likely to attract high level of FDI inflows into the nation. The results obtained are matched to the findings of the authors (Rehman et al., 2011; Alecsandru & Raluca, 2015; Jordaan, 2005) for which there is positive relationships towards the level of FDI inflows. The results of this paper's observation targets, China, India, Philippines, Thailand and Turkey are further justified by Donaubauer et al. (2015) that well-developed in infrastructure can help to attract FDI inflows into the developing countries by providing higher accessibility in the relevant market and thus reduce the transportation cost and increase the profitability of the FDI firms. Moreover, the case of other observation targets, such as Malaysia and Pakistan can be well justified by the findings of Bakar et al. (2012) and Rehman et al. (2011) that cost of output distribution will decrease inversely according to the level of infrastructure and thus leading to higher profitability for the foreign investors. Besides, rather than merely transportation cost, according to Behname (2012), reduced transportation cost will also control the inflation rate which favourable for the foreign investors to invest into. By summarizing all the literatures reviewed, the results obtained are said to be accurate and reliable.

Lastly, the results obtained for financial crisis is opposing this paper's expectation that financial crisis is actually positively influencing the level of FDI inflows in these eight Asia developing countries. This means that whenever there is occurrence of financial crisis, the level of FDI inflows in these Asia developing countries will be affected in a positive manner. Though expectation does not meet the actual findings, the findings are further justified by these researchers (Carp, 2012; Lin, 2008; UNCTAD, 1998; Athukorala, 2003) that developing countries with lower inflation rate can better in dealing with crisis compared to developed countries. Furthermore, Lin (2008) also claimed that rapid growth developing countries have substantial room to grow compare to the developed countries and the crisis provided the opportunity for foreign investors expand their business into new market. Besides that, the present of financial crisis also lead to the depreciation of exchange rate in a country (Kohler, 2010). Based on previous

study of this paper, the lower exchange rate in the host countries indicates lower cost of production for the foreign enterprises thereby higher profitability can be obtained. Indeed, Athukorala (2003) stated that financial crisis in developing countries will help to attract FDI inflows it is because of the relatively lower cost of production and cost of investment during the crisis period will become the main attractiveness for foreign investors to invest in.

In a nutshell, this paper's objectives are being fulfilled that the findings proved and justified the relationships between GDP growth rate, exchange rate, level of infrastructure, the presence of financial crisis and the level of FDI inflows are significant for each relationship. Though financial crisis is said to be favourable in the context of developing countries based on the results obtained, there are several implications are going to be discussed in the latter part which could help the community to react with financial crisis.

5.2 Implications of the Study

This section is providing few recommendations for policymakers and foreign investors to react with financial crisis based on the findings of this paper.

5.2.1 Recommendations for Policymakers

A policymaker is the member of government department or government organization who is responsible to decide and implement policy for a country (Cambridge Dictionary, n.d). Theoretically, government policymakers have two main macroeconomic tools which are fiscal policy and monetary policy to overcome negative shock of the economy. Based on the study in this paper, there is positive relationship between financial crisis and FDI inflows in China, Malaysia, India, Indonesia, Thailand, Turkey, Philippines and Pakistan. Indeed,

during crisis, foreign enterprises are willing to transfer their investment from developed countries to developing countries since the developing countries are having lower inflation (Lin, 2008). Therefore, policymakers from these eight selected Asia countries are suggested to utilize this opportunity by implementing some policies to increase the incentive of investment of foreign investors during crisis as shown as below.

5.2.1.1 Holding up Advantages as a Developing Country

From the empirical results obtained in Chapter 4, the results are implying that crisis is positively correlated to the FDI inflows of the eight targeted developing Asia countries. This positive relationship means that crisis is something that is favourable and positive incident to be happened in the economy because it will eventually attract more FDI than the period without crisis. However, according to Lin (2008) and Carp (2012), developing countries are less affected by crisis compared to developed countries it is because developing countries are mostly equipped with low inflation during crisis. Therefore, in order to hold the position of this case, the policymakers of developing countries should always try their best to maintain their countries' inflation rate in a low rate in order to deal with crisis anytime and gain advantage from crisis at the same time.

5.2.1.2 Flexible Exchange Rate

Exchange rate is one of the key elements that will influence the FDI inflows in a country as shown as the findings of this paper and hence, policymakers are recommended to employ flexible exchange rate as one of the strategy tools to solve the economic issues when it is necessary. Based on the Lin (2008), the developing countries with flexible exchange rate arrangement

were easier to absorb the negative impact of financial crisis toward economy of the countries. Indeed, the findings of this study shows exchange rate is negative relationship with FDI inflows which means policymakers could narrow down the exchange rate of the country during crisis to attract FDI inflows during crisis. The lower exchange rate provides lower cost of production for foreign investors and lead to greater opportunity for them to earn abnormal profit (Xing, 2005; Lee, 2015; Takagi & Shi, 2011; Khan & Nawaz, 2010). When there is financial crisis, lower exchange rate will be one of the concerns for the foreign investors to decide whether invest into the country or not since the lower cost of production will increase confidence level of foreign investors due to higher earning opportunity. As the results, the developing countries with lower exchange rate will gain the advantage to attract FDI in the time of crisis.

5.2.1.3 Infrastructure Policy

By reviewing the previous study of this paper, the findings shows that better infrastructure is a significant determinate that will attract FDI inflows into a country. Therefore, policymakers of the developing countries are suggested to increase government spending in building of infrastructure in order to gain the advantage to attract FDI inflows during crisis. Based on Lin (2008), the author stated that policymakers should increase government spending into infrastructure to reduce the infrastructure gap between urban and rural areas. The closer the gap of infrastructure can reduce the operation cost and transportation cost of foreign enterprises thereby maximizes the profit for the foreign enterprises (Khadaroo & Seetanah, 2008; Morrison & Schwartz, 2014; Erenburg, 1993). In fact, better infrastructure in the respectively country indicates the return of the investment can be guarantee and more stable during crisis compare to the country with poor

infrastructure. Thus, the foreign investors are more likely to invest to the country with better level of infrastructure.

Furthermore, well-established infrastructure can help to reduce the cost of domestic production by minimizing excessive unnecessary operation and transportation costs (Behname, 2012). When the cost is being minimized, higher profitability is able to be foreseen by the domestic firms. Therefore, despite of the negative impact of crisis, a country with well-developed infrastructure facilities will recover faster than those countries which are having poor level of infrastructure. It is because the domestic firms are still able to grab a sustainable profit even though the country is experiencing crisis and thus the high performance of domestic firms will help to boost up the downturn economy (Jao, Mok & Ho, 1989). As a result, foreign investors are willing to invest into the country rather than others.

5.2.2 Recommendations for Foreign Investors (Enterprises)

Foreign investors (enterprises) from developed countries are the main sources for FDI inflows into a host country. By studying this paper, the findings showed the motive of foreign investment that can act as the references for the foreign investors when making their investment. Thus, this paper provides a few recommendations to the foreign investors (enterprises) to making their investment during crisis.

5.2.2.1 Transfer Investment to Developing Countries

When the global economy experienced financial crisis, most of the countries will face recession and the return of the investment will also not be guaranteed. However, foreign enterprises can exploit the crisis as an

opportunity to expand their business to new market at other country (McCulloch, Schmidt & Summer, 2009). This is because the developing countries are easier to access during crisis. In fact, foreign investors are suggested to transfer their investment to developing countries equipped with both of the characteristics as shown as below.

i. Developing countries with lower inflation rate during crisis.

Lin (2008) stated that developing countries would experience lower inflation during crisis and Carp (2012) said that there was some investment opportunities in developing countries during financial crisis resulted from the falling of price level (deflation), restructure some businesses and also develop new areas of activity. As mention in the discussion part above, whenever financial crisis happen, the domestic producer will decrease the price level to attract demand of the products thereby lead to the lower inflation. Indeed, lower inflation level indicates that the cost of production in the domestic market become lower during crisis thereby they will obtain the higher return of investment. Thus, foreign investors (enterprises) shall take the chance to enter new market during the crisis.

ii. Developing countries with substantial growth rate

According to Markgraf (n.d.), there are three stages of international product life cycle which are growth, maturity and decline stage. The market in the developed countries is generally considered as maturity but the market in the developing countries is holding substantial room to improve compared to the developed countries (Lin, 2008). The substantial growth rate of developing countries indicates that the market provides better profitability foreseen in the future than the developed countries. Thus, foreign investors are recommended to transfer their investment from developed countries to developing countries especially during financial crisis. Although the

growth rate for the developing countries is slowing down as the financial crisis happened, it is also an opportunity for foreign investors to invest since there is substantial room of the growth in the countries (Lin, 2008). Hence, the future profitability can be better guaranteed after the countries recover from the financial crisis.

iii. Developing countries with lower exchange rate during crisis

Based on the study of Kohler (2010), exchange rate is sharply depreciated as the present of the financial crisis. The depreciation of the currency of the host country implies that the currency of foreign country is relatively higher than host country and hence the cost of production for foreign enterprises is become lower (Athukorala, 2003; Takagi & Shi, 2011; Khan & Nawaz, 2010). In this case, there is an opportunity for foreign investors to transfer their investment into the developing countries which their currency are depreciated during crisis in order to obtain higher return of investment in the long run.

iv. Developing countries with well-established infrastructure

When there is financial crisis happening, foreign investors are recommended to transfer their investment to the countries with well-developed infrastructure as one of the ways to protect their return of investment. According to Erenburg (1993), the well-developed infrastructure can reduce the operation and transportation costs of foreign enterprises thereby it will maximize the profit of the foreign enterprises. During crisis, well-developed infrastructure can help to reduce the cost of operation for a business so it will protect the return of the investment for foreign investors. Besides, if foreign investors invest into the country with poor infrastructure, they may face the risk of inadequate transportation or used of defective equipment that will causes losses or uncertainty to the

return of the investment. Hence, foreign investors should invest their investment into the countries with better level of infrastructure especially during crisis period to minimize the losses or uncertainty that will shrink their return on their investment.

5.2.2.2 Self-reinforcing Cycle

Self-reinforcing cycle can be explained as the cycle that any action did by a party towards another party will eventually benefits itself in turn. Foreign investors are advised to make use of this strategy by continuing their investments in host country during crisis instead of pull out their investment (Lin, 2008). The rationale behind the scene is that when the home economy is experiencing crisis, foreign investors are continuing to invest in host country will not merely help recipient developing countries but also their home country as well to recover from the negative impacts caused by financial crisis. It is because the continuous FDI inflows into recipient country will gradually recover the host economy or further boost up its economic growth to a better level, thus, it will also indirectly increase the demand of foreign goods from those foreign investors' countries - developed countries. Therefore, the increment in the demand of home goods and services will in turn stimulate and help to recover the downturn economic growth of the crisis-affected developed countries. Therefore, this strategy of self-reinforcing cycle is mutually beneficial to any party since both of the parties will benefit from this strategy.

5.3 Limitations of the Study

Basically, all studies definitely have their own limitation but it is important to minimize or eliminate these limitations due to limitations will influence the interpretation of the

findings. Furthermore, there are few limitations in this study that need to rise up and overcome in future study.

First of all, lack of the latest updated data limit the study by narrowing down the scope of analysis and size of the sample. This is because when the scope of analysis decreases, the explanatory power of the model will relatively low. Therefore, it is important to eliminate the data limitation.

Next, this paper had chosen eight selected Asia countries as the observation targets to study the effect of financial crisis toward the level of FDI. According to Oppong (2013), the method of selecting samples in a quantitative research may cause sampling problem such as sampling error and sampling bias. In other words, all the researchers are seeking to establish a sample that free from sample bias and able to representative of the entire population. Therefore, the selected eight Asia countries in this study may not strong enough to represent the entire Asia countries. In this case, the result of this research may cause to sampling error and bias that will lead the findings of to be inefficient.

Lastly, this paper employed GDP growth rate, exchange rate, financial crisis and level of infrastructure as the independent variables to study their relationship towards FDI. Nevertheless, there are a lot of other macroeconomic variables may bring impact towards the level of FDI such as inflation rate, political stability, trade openness, tax rate, labour cost and etc. Based on the findings of Demirhan and Masca (2008), inflation rate, tax rate and labour cost are negatively influence the level of FDI while degree of openness is positive relationship with FDI. Besides, Haksoon (2010) also concluded that political factors are significantly influence the FDI inflows. Hence, these findings showed that those omitted variables are significant and may cause the results to bias. Since this paper only employed four explanatory variables, thus, it may cause the model not strong enough to explain the impact of financial crisis towards FDI.

5.4 Recommendations for Future Research

Based on the limitations of this paper, there are some recommendations for future studies to improve this study. Future study is highly recommended to include the latest updated data in their study. This is because latest updated data set can improve the accuracy and explanatory power of the model and lead the model to be more efficient in estimation.

As mention in the limitation of the study, sampling method may consist sampling error and sampling bias that will lead the findings become inefficient (Oppong, 2013). As the solution, future research can improve the efficiency of the study by increase the number of targeted observation such as Cambodia, Laos, Brunei and etc. The more countries that the future researchers select, the sampling error and bias are less likely to happen due to larger sample size might have the ability to explain entire population and hence improve the efficiency of the results.

Last but not least, future study is suggested to include additional macroeconomic variables such as inflation rate, political stability, trade openness, labour cost and etc. into their study. The purpose of adding variables is to decrease the omitted variables bias that will cause the assumptions of BLUE estimator break down and thus avoid spurious results.

REFERENCES

Adjei, A. A. (2007). *Foreign direct investment and its important to the economy of South Africa*. Retrieved from http://uir.unisa.ac.za/bitstream/handle/10500/1332/dissertation.pdf?sequence=1

Akinlo, A. E. (2004). Foreign direct investment and growth in Nigeria: An empirical investigation. *Journal of Policy Modeling, 26*(5), 627-639. doi:10.1016/j.jpolmod.2004.04.011

Alecsandru, S. V., & Raluca, D. A. (2015). A regional level hierarchy of the main foreign direct investments' determinants-empirical study, the case of Romanian manufacturing sector. *Procedia-Social and Behavioral Sciences, 181*, 321-330. doi:10.1016/j.sbspro.2015.04.894

Al-Iriani, M., & Al-Shamsi, F. (2007). *Foreign direct investment and economic growth in the GCC countries: A causality investigation using heterogeneous panel analysis*. Retrieved from http://www.luc.edu/orgs/meea/volume9/meea9.html

Al-Nasser, O. M. (2010). How does foreign direct investment affect economic growth? The role of local conditions. *Latin American Business Review, 11*(2), 111-139. doi:10.1080/10978526.2010.486715

Aron, J., Kahn, B., & Kingdon, G. (2009). *South African economic policy under democracy*. Retrieved from https://books.google.com.my/books?id=GVSNVa27-P4C&pg=PA200&lpg=PA200&dq=insignificant+infrastructure&source=bl&ots=UzRACKzmWi&sig=4OxXzAWPz81O7CNCbrIewS6DH7g&hl=en&sa=X&redir_esc=y#v=onepage&q=insignificant%20infrastructure&f=false

Asiedu, E. (2002). On the determinants of foreign direct investment to developing countries: Is Africa different? *World Development, 30*(1), 107-119.

Athukorala, P. (2003). Foreign direct investment in crisis and recovery: Lessons from the 1997-1998 Asian crisis. *Australian Economic History Review, 43*(2), 197-213. doi:10.1111/1467-8446.t01-1-00051

Azam, M., & Khattack, N. (n.d.). Trend of foreign direct investment in Pakistan (1971-2005). *Journal of Managerial Sciences, 3*(2), 166-178.

Bakar, N. A. A., Mat, S. H. C., & Harun, M. (2012). The impact of infrastructure on foreign direct investment. The case of Malaysia. *Procedia-Social and Behavioral Sciences, 65*, 205-211. doi:10.1016/j.sbspro.2012.11.112

Baltagi, B. H. (2013). *Econometric analysis of panel data* (5th edition). United Kingdom. Wiley.

Baltagi, B. H. (n.d.) *Panel data methods*. Retrieved from ftp://ftp.zew.de/pub/zew-docs/sws/baltagi.pdf

Barzelaghi, M. T., Dizaji, M., & Laleh, M. M. (2012). The effect of transportation infrastructure of foreign direct investment attraction in Iran. *International Journal of Economics and Finance Studies, 4*(2), 153-161.

Behname, M. (2012). Foreign direct investment and urban infrastructure. An evidence from Southern Asia. *Advances in Management & Applied Econometrics, 2*(4), 253-259.

Benassy-Quere, A., Fontagne, L., & Lahreche- Revil, A. (2001). Exchange rate strategies in the competition for attracting foreign direct investment. *Journal of the Japanese and International Economies, 15*, 178-198.

Bilawal, M., Ibrahim, M., Abbas, A., Shuaib, M., Ahmed, M., Hussain, I., & Fatima, T. (2014). Impact of exchange rate on foreign direct investment in Pakistan. *Advances in Economics and Business, 2*(6), 223-231. doi:10.13189/aeb.2014.020602

Bishkek. (2003). *Balance of payments of the Kyrgyz Republic*. Retrieved from http://www.nbkr.kg/index1.jsp?item=138&lang=ENG

Blanchard, O., & Johnson, D. R. (2013). *Macroeconomics* (6th ed). United Kingdom: Pearson Education Limited.

Borensztein, E., Gregorio, J. D., & Lee, J. (1998). How does foreign direct investment affect economic growth? *Journal of International Economics, 45*, 115-135. doi:10.3386/w5057

Buchanan, B. G., & Le, Q. V., & Rishi, M. (2012). Foreign direct investment and institutional quality: Some empirical evidence. *International Review of Financial Analysis, 21*, 81-89.

Bukari, P. A. (2010). *Foreign direct investment: How beneficial is it?* Retrieved from https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwjUrL3Nn7vNAhWMPo8KHRetDK8QFggeMAA&url=http%3A%2F%2Fwww.dundee.ac.uk%2Fcepmlp%2Fgateway%2Ffiles.php%3Ffile%3Dcepmlp_car17_36_983684938.pdf&usg=AFQjCNGUSkHflki47Pfv2TRtUCOJSl0UzA

Cambridge Dictionary. (n.d.) Retrieved from http://dictionary.cambridge.org/dictionary/english/policymaker

Campa, J. M. (1993). Foreign firms in the United States under exchange rate uncertainty. *The Review of Economics and Statistics, 75*(4), 614-622.

Carp, L. (2012). *The impact of the economic crisis on the dynamic of international FDI.* Retrieved from http://ceswp.uaic.ro/articles/CESWP2012_IV1_CAR.pdf

Ceili, M. (2013). Determinants of economies of scale in large business- A survey on UE listed firms. *American Journal of Industrial and Business Management, 3*, 255-261. doi:10.4236/ajibm.2013.33031

Chakrabarti, R., Subramanian, K., Meka, S., & Sudershan, K. (2012). *Infrastructure and FDI: Evidence from district-level data in India.* Retrieved from http://www.isb.edu/faculty/KrishnamurthySubramanian/Images/FDI_infra _20Mar2012_ReStud.pdf

CNN. (2015). *Ghosts of 1997 financial crisis return to haunt Asia*. Retrieved from http://money.cnn.com/2015/08/18/investing/malaysia-indonesia-economy-currency/

Dabour, N. M. (2000). The role foreign direct investment (FDI) in development and growth in OIC member countries. *Journal of Economic Cooperation, 21*(3), 27-55.

Dar, S. A., & Aligarh, A. M. U. (2015). FDI as a source of external finance to developing countries: A special reference to India and China. *IOSR Journal of Business and Management (IOSR-JBM), 17*(1), 73-81. doi:10.9790/487X-17117381

Demirhan, E., & Masca, M. (2008). Determinants of foreign direct investment flows to developing countries: A cross-sectional analysis. *Prague Economics Paper, 4*, 356-369.

Desbordes, R., & Wei, S. J. (n.d.) *Foreign direct investment financial development and the 2007-2010 global financial crisis*. Retrieved from http://www.etsg.org/ETSG2013/Papers/078.pdf

Diaconu, L. (2014). The foreign direct investment in South-East Asia in the context of 1997 and 2007 crises. *Procedia and Behavioral Sciences, 109*, 160-164. doi:10.1016/j.sbspro.2013.12.437

Donaubauer, J., Meyer, B., & Nunnenkamp, P. (2016). Aid, infrastructure, and FDI: Accessing the transmission channel with a new index of infrastructure. *World Development, 78*, 230-245.

Dornean, A., Isan, V., & Oanea, D. (2012). The impact of the recent global crisis on foreign direct investment. Evidence from central and eastern European countries. *Procedia Economics and Finance, 3*, 1012-1017. doi:10.1016/S2212-5671(12)00266-3

Dritsakis, N., Varelas, E., & Adamopoulas, A. (n.d.) *The main determinants economic growth: An empirical investigation with granger causality analysis for Greece*. Retrieved from http://users.uom.gr/~drits/publications/THE_MAIN_DETERMINANTS_OF_ECONOMIC_GROWTH.pdf

Dougherty, C. (2007). *Introduction to Econometrics* (3rd edition). New York, United States:Oxford

Erenburg, S. J. (1993). The real effects of public investment on private investment. *Applied Economics, 25*(6), 831-837. doi:10.1080/00036849300000137

Faheem, M. A., Dost, M. K. B., Hussnain, A., Izhar, S. U., Raza, A., & Shakeel, A. (2011). Factors attracting FDI inflows in China. *Kuwait Chapter of Arabian Journal of Business and Management Review, 1*(4), 128-137.

Grab, J. (2006). *Linear panel models*. Retrieved from http://www.statoek.wiso.uni-goettingen.de/veranstaltungen/graduateseminar/linpanel.pdf

Greene, W. H. (2002). *Econometric analysis*. Retrieved from
    http://stat.smmu.edu.cn/DOWNLOAD/ebook/econometric.pdf

Gujarati, D. N. (2004). *Basic Econometric* (4th edition) [e-book]. Retrieved from
    https://docs.google.com/file/d/0B61KSjKBWIfscmdkSVF6VF9ONjA/edit
    ?pref=2&pli=1

Guris, S., Sacildi, I. S., & Genc, E. G. (2015). Determining the effects of factor on
    FDI in global crisis period. *International Journal of Economics and
    Financial Issues, 5*(1), 1-10.

Hansen, H., & Rand, J. (2006). On the casual links between FDI and growth in
    developing countries. *The World Economy, 29*(1), 21-24.
    doi:10.1111/j.1467-9701.2006.00756.x

Haksoon, K. (2010). Political stability and foreign direct investment. *International
    Journal of Economics and Finance, 2*(3), 59-71.

Hu, Z., & Khan, M. S. (1997). *Why is China growing so fast?* Retrieved from
    https://www.imf.org/EXTERNAL/PUBS/FT/ISSUES8/INDEX.HTM

Iamsiraroj, S., & Doucouliagos, H. (2015). Does growth attract FDI? *Economics
    The Open-Access, Open-Assessment E-Journal, 9*(19), 1-35.

Jao, Y. C., Mok, V., & Ho, L. (1989). *Economic development in Chinese
    societies: Models and experiences*. [e-book]. Retrieved from
    https://books.google.com.my/books?id=71C_me6P7GMC&pg=PA177&lp
    g=PA177&dq=economic%20recovery%20for%20high%20performance&s
    ource=bl&ots=X0mokbZkng&sig=FA_yTzSvw6XHeaaOqrrvVfcHGTg&
    hl=en&sa=X&sqi=2&redir_esc=y#v=onepage&q=economic%20recovery
    %20for%20high%20performance&f=false

Jensen, N. M. (2003). Democratic governance and multinational corporations: Political regimes and inflows of foreign direct investment. *International Organization, 57*(3), 587-616. doi:10.1017/S0020818303573040

Jiao, C. (2016). *PH is best economy in Southeast Asia- Oxford business group*. Retrieved from http://cnnphilippines.com/business/2016/05/13/oxford-business-group-economy-philippines-southeast-asia.html

Jimenez, A. (2011). Political risks as a determinant of southern European FDI in neighbouring developing countries. *Emerging Markets Finance and Trade, 47*(4), 59-74.

Jimenez, A. (2014). Political risk as a determinant of southern European FDI in neighbouring developing countries. *Emerging Markets Finance and Trade, 47*(4), 59-74. doi:10.2753/REE1540-496X470404

Jordaan, J. C. (2005). *Foreign direct investment and neighbouring influences.* Retrieved from http://repository.up.ac.za/dspace/bitstream/handle/2263/24008/Complete.pdf?sequence=4&isAllowed=y

Joseph, J. (2010). *Pooled regression*. Retrieved from http://metriscient.com/pooledreg.htm

Kandil, M. (2011). Financial flows to developing and advanced countries: Determinants and implications. *International Journal of Development Issues, 10*(1), 60-91. doi:http://dx.doi.org/10.1108/14468951111123337

Khandaroo, J., & Seetanah, B. (2008). Transport and economic performance: The case of Mauritius. *Journal of Transport Economics and Policy, 42*(2), 255-267.

Khan, R. E. A., & Nawaz, M. A. (2010). Economic determinants of foreign direct investment in Pakistan. *J Economics, 1*(2), 99-104.

Kohler, M. (2010). *Exchange rate during financial crisis*. Retrieved from
file:///C:/Users/User/Downloads/r_qt1003f.pdf

KPMG. (2016). *Investing in Indonesia*. Retrieved from
https://www.kpmg.com/ID/en/IssuesAndInsights/ArticlesPublications/Doc
uments/Investing%20in%20Indonesia%202015.pdf

Krkoska, L. (2001). *Foreign direct investment financing of capital formation in
central and eastern Europe*. Retrieved from
http://www.ebrd.com/downloads/research/economics/workingpapers/wp00
67.pdf

Kunst, R. M. (2009*). Econometric method for panel data -Part II*. Retrieved from
https://homepage.univie.ac.at/robert.kunst/panels2e.pdf

Kupolusi, J. A., Adeleke, R. A., Akinvemi, O., & Oguntuase, B. (2015).
Comparative analysis of least square regression and fixed effect panel data
regression using road traffic accident in Nigeria. *International Journal of
Scientific & Technology Research, 4*(1), 42-52.

Lane, T. (1999). *The Asian financial crisis. What have we learned?* Retrieved
from http://www.imf.org/external/pubs/ft/fandd/1999/09/lane.htm

Lee, D. H. (2012). New evidence on the link between exchange rates and asset-
seeking acquisition FDI. *North American Journal of Economics and
Finance, 24*, 153-158. doi:10.1016/j.najef.2012.05.001

Lee, J. W. (2015). Dynamic relationships between exchange rates and foreign
direct investment: Empirical evidence from Korea. *Asian Economic
Journal, 29*(1), 73-90. doi:10.1111/asej.12048

Li, L., Willett, T. D., & Zhang, N. (2012). The effects of the global financial crisis on China's financial market and macroeconomy. *Economics Research International.*

Liew, L. (1999). The impact of the Asian financial crisis on China: The macroeconomy and state-owned enterprise reform. *Management International Review, 39*(4), 85-104.

Lim, D. (1983). Fiscal incentives and direct foreign investment in less developed countries. *The Journal of Development Studies, 19*(2), 207-212.

Lim, E. (2001). *Determinants of, and relation between, foreign direct investment and growth: A summary of the recent literature*. Retrieved from https://www.imf.org/external/pubs/ft/wp/2001/wp01175.pdf

Lim, J. Y. (2008). *The impact of the financial crisis on developing countries*. Retrieved from http://siteresources.worldbank.org/ROMANIAEXTN/Resources/Oct_31_JustinLin_KDI_remarks.pdf

Lin, J. Y. (2008). *The Impact of the Financial Crisis on Developing Countries.* Retrieved from http://siteresources.worldbank.org/ROMANIAEXTN/Resources/Oct_31_JustinLin_KDI_remarks.pdf

Loree, D. W., & Guisinger, S. E. (1995). Policy and non-policy determinants of U.S. equity foreign direct investment. *Journal of International Business Studies, 26*(2), 281-299.

Mallampally, P., & Sauvant, K. P. (1999). Foreign direct investment in developing countries. *Finance & Development, 36*(1).

Mengistu, A. A. (2009). *The roles of human capital and physical infrastructure on FDI inflow: Empirical evidence from east Asia and Sub Saharan Africa.* Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.410.4447&rep=rep1&type=pdf

Markgraf, B. (n.d.). *The three stages of the international product life cycle theory.* Retrieved from http://smallbusiness.chron.com/three-stages-international-product-life-cycle-theory-19364.html

McCulloch, N., Schmidt, A. & Summer, A. (2016). *The global financial crisis, developing countries and policy responses.* Retrieved from http://www.ids.ac.uk/publication/the-global-financial-crisis-developing-countries-and-policy-responses

Mijares, R. (1999). *Philippines resiliency to the Asian financial crisis.* Retrieved from http://www.jri.co.jp/english/periodical/rim/1999/RIMe199902philippines/

Mirela, I., Diana, C., & Sorin, M. (2015). FDI Romania between EU and the global economic crisis. *Procedia Economics and Finance, 23*, 644-651. doi:10.1016/S2212-5671(15)00571-7

Morriset, J. (2001). *New horizons and policy challenges for foreign direct investment in the 21st century.* Retrieved from http://www.oecd.org/daf/inv/investmentstatisticsandanalysis/2408225.pdf

Morrison, C. J., & Schwartz, A. E. (1996). State infrastructure and productive performance. *The American Economic Review, 86*(5), 1095-1111.

O'Brien, R., & Patacchini, E. (2006*). The Haustman test for correlated effects in panel data models under misspecification.* Retrieved from http://econwkshop.pbworks.com/f/obrienpatac1206.pdf

Oppong, S. H. (2013). The problem of sampling in qualitative research. *Asian Journal of Management Sciences and Education, 2*(2), 202-210.

Parashar, S. (n.d.). *Factors affecting FDI inflow in China and India*. Retrieved from http://www.china.ualberta.ca/~/media/China%20Institute/Documents/Publication/student-research/FDI_ChinaandIndia.pdf

Pegkas, P. (2015). The impact of FDI on economic growth n Eurozone countries. *The Journal of Economic Asymmetries, 12*, 124-132. doi:10.1016/j.jeca.2015.05.001

Peracchi, F. (2001). *Econometri*c. Eastbourne, England: Wiley.

Philstar Global. (2016). *Finance chief: GDP growth sign of increasing investor confidence.* Retrieved from http://www.philstar.com/business/2016/05/20/1585191/finance-chief-gdp-growth-sign-increasing-investor-confidence

Public Broadcasting Service. (n.d.). *The crash: Timeline of the panic*. Retrieved from http://www.pbs.org/wgbh/pages/frontline/shows/crash/etc/cron.html

Quere-Benassy, A., Gobalraja, N., & Trannoy, A. (2007). *Tax and public input competition.* Retrieved from http://www.oecd.org/tax/public-finance/36899431.pdf

Rappler. (2015). *PH in top 10 East, Southeast Asian economies with highest FDI.* Retrieved from http://www.rappler.com/business/economy-watch/97328-ph-ranking-unctad-world-investment-report-2015

Rehman, A., Ilyas, M., Alam, H. M,, & Akram, M. (2011). The impact of infrastructure on foreign direct investment: The case of Pakistan. *International Journal of Business and Management, 6*(5), 268-276. doi:http://dx.doi.org/10.5539/ijbm.v6n5p268

Reinhart, C. M., & Rogoff, K. S. (2009). *The aftermath of financial crisis.* Retrieved from http://web.calstatela.edu/faculty/rcastil/Econ462/Crises.pdf

Renani, H. S., & Mirfatah, M. (2012). The impact of exchange rate volatility on foreign direct investment in Iran. *Procedia Economics and Finance, 1*, 365-373. doi: 10.1016/S2212-5671(12)00042-1

Richaud, C., Sekkat, K., & Varoudakis, A. (1999). *Infrastructure and growth spillovers: A case for a regional infrastructure policy in Africa*. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.40.6877&rep=rep1&type=pdf

Santander Trade Portal. (n.d.-a). *Malaysia: Foreign investment*. Retrieved from https://en.portal.santandertrade.com/establish-overseas/malaysia/foreign-investment

Santander Trade Portal. (n.d.-b). *Philippines: Foreign investment*. Retrieved from https://en.portal.santandertrade.com/establish-overseas/philippines/foreign-investment

Santander Trade Portal. (n.d.-c). *Thailand: Foreign investment*. Retrieved from https://en.portal.santandertrade.com/establish-overseas/thailand/foreign-investment

Santander Trade Portal. (n.d.-d). *Turkey: Foreign investment*. Retrieved from https://en.portal.santandertrade.com/establish-overseas/turkey/foreign-investment

Schmidheiny, K. (2015). *Panel data: fixed and random effects*. Retrieved from http://www.schmidheiny.name/teaching/panel2up.pdf

Sekkat, K., & Veganzones-Varoudakis. (2005). *Trade and foreign exchange liberalization, investment climate and FDI in the MENA countries*. Retrieved from https://ideas.repec.org/p/dul/wpaper/05-06rs.html

Stamatiou, P., & Dritsakis, N. (2013). A causal relationship between exports, foreign direct investment and economic growth for five European countries. A panel data approach. *European Economies and Finance Society (EEFS) Conference*. Retrieved from http://www.academia.edu/3999991/A_causal_Relationship_between_Exports_Foreign_Direct_Investments_and_Economic_Growth_for_five_European_countries._A_panel_data_approach

Stoddard, O., & Noy, I. (2015). Fire-sale FDI? The impact of financial crises on foreign direct investment. *Review of Development Economics, 19*(2), 387-399.

Studenmund, A. H. (2011). *Using Econometrics a practical guideline* (6th edition). United States, America: Pearson.

Takagi, S. & Shi S. J. (2011). Exchange rate movements and foreign direct investment (FDI): Japanese investment in Asia, 1987–2008. *Japan and the World Economy, 23*, 265-272.

The Economist Newspaper. (2007). *Ten years on*. Retrieved from http://www.economist.com/node/9432495

The World Bank (2016). *GNI per capita, Atlas method (current US$)*. Retrieved from http://data.worldbank.org/indicator/NY.GNP.PCAP.CD?gclid=CPSJvrj2os4CFdGKaAodcNYOyA&name_desc=false

The World Bank. (2016). *New country classifications by income level*. Retrieved from http://blogs.worldbank.org/opendata/category/tags/news

Thilakaweera, B. P. K. (2012). Economics impact of foreign direct investment in Sri Lanka. *Staff Studies, 4(*1), 89-115.

Torres-Reyna, O. (2007). Panel data analysis fixed and random effects using stata. *Princeton University Library Data and Statistical Services*. Retrieved from https://www.princeton.edu/~otorres/Panel101.pdf

Tsen, W, H. (2005). The Determinants of Foreign Direct Investment in the Manufacturing Industry of Malaysia. *Journal of Economic Cooperation, 2*, 91-110. Retrieved from http://www.sesrtcic.org/jecd/jecd_articles/ART05010101-2.pdf

Ucal, M., Ozcan, M., Bilgin, M. H., & Mungo, J. (2010). Relationship between financial crisis and foreign direct investment in developing countries using semiparametric regression approach. *Journal of Business Economics and Management, 11*(1), 20-33.

UNCTAD Investment Brief. (2009). *The Global FDI in Decline due to the Financial Crisis, and Further Drop Expected*. Retrieved from http://unctad.org/en/Docs/webdiaeia20095_en.pdf

UNCTAD. (1998). *The financial crisis in Asia and foreign direct investment: An assessment*. Retrieved from http://unctad.org/en/Docs/poiteiitd8.en.pdf

UNCTAD. (2015). *World investment report 2015*. Retrieved from http://unctad.org/en/PublicationsLibrary/wir2015_en.pdf

Wei, S. J. (1996). *Foreign direct investment in China: Sources and consequences.* Retrieved from http://www.nber.org/chapters/c8559.pdf

Weitzel, U., Kling, G., & Gerritsen, D. (2014).Testing the fire-sale FDI hypothesis for the European financial. *Journal of International Money and Finance, 49*, 211-234.

Wheeler, D., & Mody, A. (1992). International investment location decisions. The case of U.S. firms. *Journal of International Economics*, *33*, 57-76.

Williams, R. (2015). *Panel data 4: fixed effect vs random effects model*. Retrieved from https://www3.nd.edu/~rwilliam/stats3/Panel04-FixedVsRandom.pdf

Wint, A. G., & Williams, D. A. (2002). Attracting fdi to developing countries. A changing role for government? *The International Journal of Public Sector Management, 15*(5), 361-374. doi:10.1108/09513550210435719

World Trade Organization. (1998). *Trade policy reviews: First press release, secretariat and government summary*. Retrieved https://www.wto.org/english/tratop_e/tpr_e/tp71_e.htm

Xing, Y.Q. (2005). Why is China so attractive for FDI? The role of exchange rates. *China Economic Review, 17*, 198– 209.

Yaffee, R. A. (2003). *A primer for panel data analysis*. Retrieved from http://web.pdx.edu/~crkl/ec510/pda_yaffee.pdf

Zaman, A. (2000). The Inconsistency of the Breusch-Pagan Test. *Journal of Economic and Social Research*, *2*(1), 1-11.

Zhang, K. H. (2001a). "What Explains the Boom of Foreign Direct Investment in China?" *EconomiaInternazionale / International Economics*, *54* (2), 251-274.

Zhang, K. H. (2001b). Does Foreign Direct Investment Promote Economic Growth? Evidence from East Asia and Latin America.*Contemporary Economic Policy*, *19*(2), 175-185

APPENDICES

Appendix 3.1 Data Set

Country	Code
China	1
India	2
Indonesia	3
Malaysia	4
Pakistan	5
Philippines	6
Thailand	7
Turkey	8

	FDI	GDP	EXRATE	INFRA	CRISIS
1-80	9.7039	7.8067	250.6	14.8673	0
1-81	9.7214	5.1724	217.8	14.9772	0
1-82	9.7348	9.0164	204.6	15.2241	0
1-83	9.7720	10.7519	198.3	14.9826	0
1-84	9.8075	15.2071	173.5	15.2817	0
1-85	9.8424	13.5533	153.1	14.3685	0
1-86	9.8600	8.9258	119.6	14.7418	0
1-87	9.8641	11.7199	108.0	13.8694	0
1-88	9.9135	11.3006	119.7	13.0547	0
1-89	9.9239	4.2146	135.3	13.7599	0
1-90	9.9288	3.9338	102.3	14.0596	0
1-91	9.9716	9.2678	90.3	15.3516	0
1-92	10.2043	14.2765	87.7	15.5281	0
1-93	10.5121	13.9377	95.2	15.4480	0
1-94	10.5885	13.0781	75.4	15.2663	0
1-95	10.6286	10.9938	85.0	13.7061	0
1-96	10.6696	9.9247	94.1	13.9210	0
1-97	10.7012	9.2269	102.0	14.1246	1
1-98	10.7030	7.8535	108.0	14.5598	1
1-99	10.6563	7.6182	101.5	15.2088	1
1-00	10.6601	8.4293	102.2	15.6965	0
1-01	10.7150	8.2984	107.0	15.8683	0
1-02	10.7615	9.0909	104.6	15.5038	0

1-03	10.7672	10.0200	97.0	14.6712	0
1-04	10.8171	10.0756	94.2	13.8968	0
1-05	10.8888	11.3524	93.8	14.2009	0
1-06	10.8905	12.6882	95.7	14.0259	0
1-07	10.9470	14.1950	100.0	13.3947	0
1-08	11.0543	9.6234	108.4	13.1813	1
1-09	11.0000	9.2336	111.4	13.2194	1
1-10	11.0782	10.6317	111.3	13.0486	1
1-11	11.1105	9.4845	114.5	13.0452	0
1-12	11.1006	7.7503	120.7	13.3694	0
1-13	11.1103	7.6838	129.3	13.6013	0
1-14	11.1255	7.4000	133.8	13.6062	0
2-80	9.7143	6.7358	163.5	10.1435	0
2-81	9.7104	6.0062	167.7	10.1163	0
2-82	9.7181	3.4757	169.3	10.6904	0
2-83	9.7236	7.2889	179.6	10.6051	0
2-84	9.7178	3.8207	173.0	10.8830	0
2-85	9.7249	5.2543	168.7	11.4868	0
2-86	9.7208	4.7766	154.3	12.1383	0
2-87	9.7312	3.9654	145.7	12.5363	0
2-88	9.7463	9.6278	135.5	12.1952	0
2-89	9.7545	5.9473	120.3	12.1525	0
2-90	9.7848	5.5335	111.5	11.8600	0
2-91	9.8117	1.0568	93.4	11.6428	0
2-92	9.8324	5.4824	85.1	11.4707	0
2-93	9.8453	4.7508	79.8	11.5628	0
2-94	9.8568	6.6589	82.0	10.9672	0
2-95	9.9740	7.5745	80.6	11.0769	0
2-96	10.0510	7.5495	80.5	10.8569	0
2-97	9.9881	4.0498	88.2	11.5903	1
2-98	9.6806	6.1844	91.8	12.5163	1
2-99	9.5000	8.8458	89.5	12.7954	1
2-00	8.6529	3.8410	92.0	12.5562	0
2-01	9.3059	4.8240	93.5	12.3603	0
2-02	9.7115	3.8040	92.1	11.8902	0
2-03	9.6438	7.8604	89.5	11.4300	0
2-04	9.8386	7.9229	88.4	10.9345	0
2-05	10.1250	9.2848	91.8	10.8741	0
2-06	9.9963	9.2640	92.5	10.3261	0
2-07	10.0766	9.8014	100.0	10.2870	0
2-08	10.1559	3.8910	96.9	10.9294	1
2-09	9.9946	8.4798	99.8	11.9045	1
2-10	10.2735	10.2600	112.2	11.4353	1
2-11	10.3846	6.6384	112.0	11.1777	0
2-12	10.3827	5.0814	109.0	10.9438	0

2-13	10.3769	6.8992	108.7	11.2601	0
2-14	10.4406	5.4040	110.4	10.9340	0
3-80	9.7058	8.7250	223.0	10.5247	0
3-81	9.7069	8.1482	241.4	11.0439	0
3-82	9.7052	1.1041	258.7	11.5389	0
3-83	9.6995	8.4499	208.8	10.4058	0
3-84	9.7006	7.1722	204.9	10.1478	0
3-85	9.7081	3.4775	198.9	11.2303	0
3-86	9.7091	5.9645	156.6	11.0330	0
3-87	9.7170	5.3000	119.1	9.4246	0
3-88	9.7068	6.3557	115.7	8.5227	0
3-89	9.7203	9.0847	115.7	8.7412	0
3-90	9.7191	9.0016	110.9	8.8440	0
3-91	9.7054	8.9278	109.0	8.3149	0
3-92	9.7203	7.2205	106.2	8.7577	0
3-93	9.7429	7.2541	112.9	9.0233	0
3-94	9.7763	7.5401	112.7	8.1142	0
3-95	9.8544	8.3964	110.0	7.8291	0
3-96	9.8765	7.6428	116.0	7.5670	0
3-97	9.9355	4.6999	104.6	6.8428	1
3-98	9.8827	-13.1267	51.1	5.6935	1
3-99	9.8554	0.7911	75.8	6.6045	1
3-00	9.9339	4.9201	74.2	6.5320	0
3-01	10.0203	3.6435	70.6	6.8891	0
3-02	10.0265	4.4995	85.8	7.2575	0
3-03	9.9695	4.7804	90.9	8.1295	0
3-04	10.0325	5.0309	86.1	8.3219	0
3-05	10.1011	5.6926	84.8	8.1095	0
3-06	10.4036	5.5010	99.2	8.6272	0
3-07	10.4822	6.3450	100.0	8.3465	0
3-08	10.7169	6.0137	96.2	8.4238	1
3-09	10.6089	4.6289	96.3	9.5892	1
3-10	10.5108	6.2239	110.5	9.0059	1
3-11	10.6148	6.1698	111.8	9.0587	0
3-12	10.4653	6.0301	108.8	9.2488	0
3-13	10.5211	5.5792	106.0	9.5015	0
3-14	10.5957	5.1000	100.1	9.4285	0
4-80	9.7733	7.4442	161.7	16.2867	0
4-81	9.7969	6.9420	160.3	17.8302	0
4-82	9.8060	5.9409	169.9	18.0534	0
4-83	9.7966	6.2503	176.3	15.4078	0
4-84	9.7632	7.7619	181.1	14.5434	0
4-85	9.7555	-1.1222	175.2	15.0649	0
4-86	9.7395	1.1525	148.9	16.6908	0
4-87	9.7342	5.3886	139.4	14.8733	0

4-88	9.7574	9.9377	124.1	14.2341	0
4-89	9.8240	9.0585	120.6	14.0621	0
4-90	9.8814	9.0096	115.6	13.7940	0
4-91	9.9563	9.5455	112.5	13.6942	0
4-92	10.0060	8.8851	120.3	13.0103	0
4-93	10.0310	9.8949	121.5	12.6312	0
4-94	9.9814	9.2120	117.6	12.2649	0
4-95	10.0340	9.8291	119.5	12.3732	0
4-96	10.0898	10.0027	124.1	11.1055	0
4-97	10.0540	7.3227	119.0	10.7670	1
4-98	9.8873	-7.3594	96.1	9.7690	1
4-99	9.9492	6.1376	97.5	10.9866	1
4-00	9.9439	8.8589	99.5	10.1652	0
4-01	9.7446	0.5177	104.5	12.0393	0
4-02	9.9140	5.3910	104.6	12.9578	0
4-03	9.8735	5.7885	97.6	12.9680	0
4-04	9.9834	6.7834	92.9	12.5799	0
4-05	9.9574	5.3321	93.2	11.4736	0
4-06	10.0438	5.5848	97.0	11.1677	0
4-07	10.1334	6.2988	100.0	11.5669	0
4-08	10.0854	4.8318	101.2	11.5048	1
4-09	9.8098	-1.5137	98.1	13.0485	1
4-10	10.1480	7.4260	104.2	12.5812	1
4-11	10.2355	5.2938	105.0	13.2706	0
4-12	10.1535	5.4735	105.5	13.8421	0
4-13	10.2334	4.7135	107.4	13.7238	0
4-14	10.1986	6.0000	107.2	13.3426	0
5-80	9.7045	10.2157	204.9	10.0350	0
5-81	9.7083	7.9208	228.3	10.1641	0
5-82	9.7045	6.5375	206.1	10.3412	0
5-83	9.7015	6.7784	199.4	11.4181	0
5-84	9.7038	5.0652	200.5	12.0869	0
5-85	9.7031	7.5921	186.7	12.0989	0
5-86	9.7069	5.5017	159.3	12.7615	0
5-87	9.7084	6.4523	142.5	13.5345	0
5-88	9.7104	7.6253	139.2	15.5102	0
5-89	9.7147	4.9598	130.0	16.7849	0
5-90	9.7225	4.4586	121.1	15.1368	0
5-91	9.7220	5.0616	119.4	14.3180	0
5-92	9.7292	7.7059	112.3	12.9079	0
5-93	9.7323	1.7577	112.7	13.1039	0
5-94	9.7626	3.7374	111.0	12.1134	0
5-95	9.7397	4.9626	112.3	11.7435	0
5-96	9.7355	4.8466	108.9	12.6451	0
5-97	9.7567	1.0144	112.0	11.8936	1

5-98	9.7408	2.5502	115.6	11.2641	1
5-99	9.7429	3.6601	108.7	10.3601	1
5-00	9.7250	4.2601	106.9	8.6430	0
5-01	9.7310	1.9825	99.1	7.7808	0
5-02	9.7651	3.2244	102.5	8.7239	0
5-03	9.7430	4.8463	98.2	8.7925	0
5-04	9.7866	7.3686	94.2	8.1988	0
5-05	9.8574	7.6673	97.2	7.8443	0
5-06	9.9672	6.1775	100.3	10.4363	0
5-07	10.0249	4.8328	100.0	9.8740	0
5-08	10.0186	1.7014	90.8	9.7497	1
5-09	9.8656	2.8317	95.8	10.5189	1
5-10	9.8465	1.6067	97.8	10.3162	1
5-11	9.8011	2.7484	102.3	9.7361	0
5-12	9.7678	3.5070	105.9	10.4888	0
5-13	9.8016	4.3672	104.2	11.0064	0
5-14	9.8291	5.4120	113.6	10.8063	0
6-80	9.7088	5.1489	134.5	9.0663	0
6-81	9.7196	3.4233	138.0	8.7576	0
6-82	9.7154	3.6193	141.3	9.1208	0
6-83	9.7199	1.8746	112.8	8.2779	0
6-84	9.7107	-7.3237	109.6	7.0317	0
6-85	9.7080	-7.3066	120.9	7.6099	0
6-86	9.7124	3.4168	95.8	7.9540	0
6-87	9.7336	4.3116	88.3	8.3972	0
6-88	9.7781	6.7525	89.1	9.0321	0
6-89	9.7457	6.2053	94.4	9.5290	0
6-90	9.7443	3.0370	89.6	10.1039	0
6-91	9.7448	-0.5783	89.6	9.9266	0
6-92	9.7616	0.3376	98.9	9.6573	0
6-93	9.7950	2.1163	97.0	10.1093	0
6-94	9.8190	4.3876	104.8	10.7964	0
6-95	9.8102	4.6787	108.0	11.3878	0
6-96	9.8142	5.8459	116.6	11.9480	0
6-97	9.7958	5.1854	114.8	13.1837	1
6-98	9.8294	-0.5767	96.9	13.2789	1
6-99	9.7957	3.0819	102.3	12.2189	1
6-00	9.8597	4.4112	96.1	11.4237	0
6-01	9.7156	2.8940	91.1	11.0803	0
6-02	9.8157	3.6459	91.1	10.5738	0
6-03	9.7397	4.9704	82.3	10.2025	0
6-04	9.7550	6.6976	78.4	9.3824	0
6-05	9.8359	4.7777	82.6	9.0398	0
6-06	9.8988	5.2430	91.5	9.1804	0
6-07	9.8985	6.6167	100.0	9.2849	0

6-08	9.8158	4.1528	105.1	8.8318	1
6-09	9.8428	1.1483	103.4	9.8603	1
6-10	9.7992	7.6323	108.6	9.7217	1
6-11	9.8358	3.6598	110.2	9.7013	0
6-12	9.8471	6.6838	116.5	10.8430	0
6-13	9.9414	7.0553	122.3	10.8368	0
6-14	10.0492	6.1000	122.5	10.3971	0
7-80	9.7151	5.1735	134.5	12.2921	0
7-81	9.7234	5.9069	137.1	12.7581	0
7-82	9.7150	5.3523	140.1	13.0907	0
7-83	9.7288	5.5842	144.5	12.8750	0
7-84	9.7334	5.7524	142.0	13.1671	0
7-85	9.7126	4.6472	125.9	13.5280	0
7-86	9.7212	5.5338	113.8	12.7549	0
7-87	9.7287	9.5189	107.0	11.3257	0
7-88	9.7858	13.2881	104.3	10.0468	0
7-89	9.8349	12.1905	107.0	9.5207	0
7-90	9.8794	11.1672	106.1	9.4046	0
7-91	9.8481	8.5583	106.7	9.2206	0
7-92	9.8544	8.0834	104.9	9.8980	0
7-93	9.8330	8.2510	107.0	11.0013	0
7-94	9.8041	7.9969	107.6	11.0523	0
7-95	9.8494	8.1203	107.0	11.2506	0
7-96	9.8656	5.6524	113.4	11.5843	0
7-97	9.9485	-2.7536	101.7	12.0839	1
7-98	10.0966	-7.6337	89.5	13.0645	1
7-99	10.0456	4.5723	93.5	13.5691	1
7-00	9.9248	4.4557	90.1	13.5760	0
7-01	10.0032	3.4442	86.0	13.4745	0
7-02	9.9220	6.1489	88.3	13.1724	0
7-03	10.0096	7.1893	85.5	12.9256	0
7-04	10.0358	6.2893	84.8	13.1138	0
7-05	10.1162	4.1878	86.3	13.6536	0
7-06	10.1614	4.9679	93.9	13.5023	0
7-07	10.2138	5.4351	100.0	13.9259	0
7-08	10.1289	1.7257	101.1	14.3420	1
7-09	9.9936	-0.7383	98.7	15.9689	1
7-10	10.1507	7.5067	105.4	15.8475	1
7-11	9.7920	0.8337	105.3	16.1429	0
7-12	10.1513	7.3229	106.6	16.3930	0
7-13	10.2791	2.8094	113.5	16.8630	0
7-14	10.2447	0.7000	110.3	17.1338	0
8-80	9.7005	-2.4474	84.8	11.5532	0

8-81	9.7071	4.8566	81.9	9.8405	0
8-82	9.7037	3.5632	71.8	9.9436	0
8-83	9.7029	4.9711	73.9	9.3882	0
8-84	9.7087	6.7120	67.5	8.3356	0
8-85	9.7075	4.2413	70.8	7.5155	0
8-86	9.7097	7.0120	58.7	7.5880	0
8-87	9.7088	9.4855	53.7	7.8229	0
8-88	9.7287	2.3207	52.9	7.6126	0
8-89	9.7530	0.2902	58.3	9.3434	0
8-90	9.7547	9.2661	66.5	10.9610	0
8-91	9.7642	0.7203	67.3	12.4193	0
8-92	9.7667	5.0356	64.9	12.9250	0
8-93	9.7510	7.6513	72.3	12.8939	0
8-94	9.7488	-4.6681	52.8	11.6574	0
8-95	9.7697	7.8783	58.7	10.7858	0
8-96	9.7575	7.3797	59.3	11.5708	0
8-97	9.7638	7.5777	63.4	12.2594	1
8-98	9.7738	2.3082	69.6	10.2527	1
8-99	9.7622	-3.3653	71.8	12.2290	1
8-00	9.7768	6.7745	80.1	11.7264	0
8-01	9.9218	-5.6975	64.0	12.3963	0
8-02	9.7840	6.1638	72.5	12.7299	0
8-03	9.8262	5.2653	78.9	12.2001	0
8-04	9.8913	9.3628	82.1	11.9496	0
8-05	10.1770	8.4016	91.7	11.7884	0
8-06	10.4011	6.8935	91.6	12.3321	0
8-07	10.4321	4.6686	100.0	12.7869	0
8-08	10.3953	0.6588	102.5	12.8013	1
8-09	10.1331	-4.8259	95.7	14.7003	1
8-10	10.1488	9.1570	106.7	14.3351	1
8-11	10.3250	8.7727	94.7	13.9251	0
8-12	10.2620	2.1275	99.0	14.8440	0
8-13	10.2395	4.1925	97.9	15.0954	0
8-14	10.2342	2.8900	92.2	15.3393	0

Appendix 3.2 Eviews Result

Appendix 3.2.1 Pooled OLS

Dependent Variable: FDI
Method: Panel Least Squares
Date: 08/19/16   Time: 16:44
Sample: 1980 2014
Periods included: 35
Cross-sections included: 8
Total panel (balanced) observations: 280

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP	0.028680	0.005135	5.585006	0.0000
EXRATE	-0.002373	0.000548	-4.328457	0.0000
INFRA	0.034781	0.008002	4.346612	0.0000
CRISIS	0.194306	0.050938	3.814537	0.0002
C	9.622371	0.101386	94.90803	0.0000

R-squared	0.222182	Mean dependent var	9.960501
Adjusted R-squared	0.210868	S.D. dependent var	0.345264
S.E. of regression	0.306708	Akaike info criterion	0.491857
Sum squared resid	25.86927	Schwarz criterion	0.556764
Log likelihood	-63.86004	Hannan-Quinn criter.	0.517892
F-statistic	19.63825	Durbin-Watson stat	0.261455
Prob(F-statistic)	0.000000		

Appendix 3.2.2 Fixed Effects Model

Dependent Variable: FDI
Method: Panel Least Squares
Date: 08/19/16   Time: 16:46
Sample: 1980 2014
Periods included: 35
Cross-sections included: 8
Total panel (balanced) observations: 280

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP	0.008501	0.004842	1.755698	0.0803
EXRATE	-0.002894	0.000529	-5.472277	0.0000
INFRA	0.019451	0.009755	1.994024	0.0472
CRISIS	0.134677	0.043520	3.094597	0.0022
C	9.984270	0.116150	85.96026	0.0000

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.461354	Mean dependent var	9.960501
Adjusted R-squared	0.439245	S.D. dependent var	0.345264
S.E. of regression	0.258546	Akaike info criterion	0.174423
Sum squared resid	17.91470	Schwarz criterion	0.330200
Log likelihood	-12.41924	Hannan-Quinn criter.	0.236905
F-statistic	20.86762	Durbin-Watson stat	0.229590
Prob(F-statistic)	0.000000		

Appendix 3.2.3 Poolability F-Test

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	16.999813	(7,268)	0.0000
Cross-section Chi-square	102.881611	7	0.0000

Cross-section fixed effects test equation:
Dependent Variable: FDI
Method: Panel Least Squares
Date: 08/19/16   Time: 16:49
Sample: 1980 2014
Periods included: 35
Cross-sections included: 8
Total panel (balanced) observations: 280

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP	0.028680	0.005135	5.585006	0.0000
EXRATE	-0.002373	0.000548	-4.328457	0.0000
INFRA	0.034781	0.008002	4.346612	0.0000
CRISIS	0.194306	0.050938	3.814537	0.0002
C	9.622371	0.101386	94.90803	0.0000

R-squared	0.222182	Mean dependent var		9.960501
Adjusted R-squared	0.210868	S.D. dependent var		0.345264
S.E. of regression	0.306708	Akaike info criterion		0.491857
Sum squared resid	25.86927	Schwarz criterion		0.556764
Log likelihood	-63.86004	Hannan-Quinn criter.		0.517892
F-statistic	19.63825	Durbin-Watson stat		0.261455
Prob(F-statistic)	0.000000			

Appendix 3.2.4 BP-LM Test

Lagrange multiplier (LM) test for panel data
Date: 08/17/16   Time: 00:08
Sample: 1980 2014
Total panel observations: 280
Probability in ()

Null (no rand. effect) Alternative	Cross-section One-sided	Period One-sided	Both
Breusch-Pagan	247.3330 (0.0000)	52.16138 (0.0000)	299.4944 (0.0000)
Honda	15.72682 (0.0000)	7.222284 (0.0000)	16.22747 (0.0000)

Appendix 3.2.5 Hausman Test

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	21.991360	4	0.0002

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
GDP	0.008501	0.013421	0.000001	0.0000
EXRATE	-0.002894	-0.002815	0.000000	0.5390
INFRA	0.019451	0.025938	0.000016	0.1101
CRISIS	0.134677	0.148383	0.000011	0.0001

Cross-section random effects test equation:
Dependent Variable: FDI
Method: Panel Least Squares
Date: 08/19/16   Time: 17:27
Sample: 1980 2014
Periods included: 35
Cross-sections included: 8
Total panel (balanced) observations: 280

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.984270	0.116150	85.96026	0.0000
GDP	0.008501	0.004842	1.755698	0.0803
EXRATE	-0.002894	0.000529	-5.472277	0.0000
INFRA	0.019451	0.009755	1.994024	0.0472
CRISIS	0.134677	0.043520	3.094597	0.0022

Effects Specification			

Cross-section fixed (dummy variables)

R-squared	0.461354	Mean dependent var	9.960501
Adjusted R-squared	0.439245	S.D. dependent var	0.345264
S.E. of regression	0.258546	Akaike info criterion	0.174423
Sum squared resid	17.91470	Schwarz criterion	0.330200
Log likelihood	-12.41924	Hannan-Quinn criter.	0.236905
F-statistic	20.86762	Durbin-Watson stat	0.229590
Prob(F-statistic)	0.000000		