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Impact of GDP and Exchange Rate on Foreign Direct Investment in Malaysia

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ABSTRACT

FDI (Foreign direct investment) has performed an important part in the economic growth and development of several nations in recent decades. FDI is still crucial, especially for developing economies. This is critical to developing countries with limited ability to raise private capital. FDI has performed a very significant role in Malaysia's economy in creating economic growth by expanding domestic capital formation. A key component in the global economy is exchange rate movements, which determines the distribution of international resources and also affects the profitability of daily international transactions. In this study the main objective is to evaluate: (I) Identifying economic growth's impact on FDI in Malaysia as a whole. (II) Identifying exchange rate's impact on FDI in Malaysia as a whole. (III) Identifying economic financial sector's impact on FDI. (IV) Identifying economic Manufacturing sector's impact on FDI. In order to fulfill this purpose the data between 1991 up to 2012 was collected from UNCTAD and MULTIMEDIA online data bases they were analyzed through mediation regression analysis from study's result it is identified that there is not positively related between FDI and GDP and FDI is positively related to exchange rate and there is not a positive relationship between FDI and GDP of financial sector and also there is positive relationship between FDI and GDP of manufacturing sector. The researcher is aware that GDP of manufacturing sector and exchange rate have contributed significantly to the Malaysian Foreign Direct Investment, however, it should not be overstated that the importance of GDP and GDP of the financial sector did not have a statistically positive relation to FDI.

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INTRODUCTION

A big factor in an economic development is considered to be the International capital. In order to boost their economic developments, a large number of countries have started soliciting international funds. To enlarge the production frontier of other countries, an international capital is used which is a fund that comes from an outside territory. There are several forms of international capital movements between countries such as multilateral aids, bilateral and trade, portfolio investments, grants, loans and foreign direct investments. The number of FDI flows has increased during the past two decades, particularly in developing nations. The World Investment Report (UNCTAD 2002) signified that the policies toward attracting FDI have been revised in 180 nations.

Foreign Direct Investment (FDI) in developing economies has been extraordinary and has proffered to the general economic growth of the nations. In accordance with the World Investment Report (2011), in the year 2010, more than fifty percent of global FDI inflows have been attracted by the developing economies. The positive relationship between Economic Growth and FDI has been shown in various empirical studies (Azam 2010; Adhikary 2011; Bhavan 2011).

FDI creates many positive economic opportunities and conditions such as, raising the level of capital stock or investment, creating new job and new production capacity which leads to an increase in the employment, transferring assets such as managerial skills and technology to the host countries providing sources of processes, new technologies, products, management skills and forward and backward linkages with the rest of the economy and also organizational technologies (Ho 2011).

FDI has performed an important part in the economic growth and development of several nations in recent decades. The data in Table 1.1 show trends of increased value since 1982 in total FDI inflow and FDI inflow as a share of GDP. Although these measures declined in 2008 due to global recession, FDI is still crucial,

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especially for developing economies. Host countries acquire capital through the FDI of multinational enterprises (MNEs).

Table 1.1: World FDI Data *Value at current prices (in billion US Dollar)*

World FDI data	1982	1990	2005-2007 pre-crisis average	2009	2010	2011
FDI inflows	58	207	1 473	1 198	1 309	1 524
FDI inward stock	789	1941	14 588	18 041	19 907	20 438
GDP (current prices)	12083	22 206	50 411	57 920	63 075	69 660
FDI inflow per GDP	0.48%	0.93%	2.92%	2.06%	2.07%	2.18%

ADAPTED FROM: World Investment Report 2005: Overview, UNCTAD/ World Investment Report 2008: Overview, UNCTAD/ World Investment Report 2009, UNCTAD.

Ever since Malaysia gained independence in 1957, their economic structure has become more diverse. The main source of the growth has become the manufacturing sector which has grown rapidly in these recent years.

A key component in the global economy is exchange rate movements, which determines the distribution of international resources and also affects the profitability of daily international transactions. Furthermore, the allocation of the profitability of such investments and FDI are influenced by exchange rates; therefore, there have been extensive studies on the impact of the exchange rate on the allocation of FDI. Foreign direct investors could bring forward their Foreign Direct Investment, if host nations currency is anticipated to depreciate less than the threshold of depreciation (or appreciation). In this research, the exchange rate impacts on FDI might be strengthened by the prospect of the exchange rate.

Alwani (2006) showed that the exchange rate channel was the most important channel in Malaysia between 1982 and 2003. The exchange rate was considered as an important factor during the period when it was under a managed float prior to the 1997/98 financial crisis, and it still remained important during the period it was fixed to the US dollar. Standard Chartered Global Research (SCGR) reported that since 2010, Bank Negara Malaysia had allowed to depreciate the Malaysia ringgit (RM) NEER around 2.85% as the Bank Negara Malaysia became confident in Malaysia's economic fundamental (SCGR, 2010). This research attempts to study the effect of exchange rate and GDP on Foreign Direct Investment.

The main sectors that received the most FDI inflow in the time frame of 2003-2007 were manufacturing, and financial according to Yahaya, Masud, Hamid and Yusef (2008). Amongst all these sectors, the manufacturing sector continued to be the sector that received the most FDI investments by taking up half of the total FDI and financial intermediation was rated to be second. In this research, the financial and manufacturing sectors are focused as shown in Table 1.2.

Table 1.2: Malaysia FDI Position by Sectors.

Sectors	2003		2004		2005		2006		2007	
	RM		RM		RM		RM		RM	
	(Bil.)	%	(Bil.)	%	(Bil.)	%	(Bil.)	%	(Bil.)	%
Services	1.6	1.0	2.5	1.5	3.8	2.3	13.7	7.2	22.5	8.9
Real State	1.8	1.2	2.0	1.2	1.8	1.1	5.9	3.1	7.4	2.9
Agriculture	0.4	0.3	0.5	0.3	0.6	0.4	1.1	0.6	9.3	3.7
Mining	8.3	5.3	6.5	4.0	7.1	4.2	15.7	8.3	20.7	8.2
Manufacturing	90.6	57.9	98.7	60.3	102.4	60.9	108.9	57.3	133.6	52.6
Construction	0.0	0.0	0.0	0.0	0.3	0.2	1.2	0.6	1.9	0.7
Trade/Commerce	7.7	4.9	7.9	4.8	10.0	5.9	15.1	7.9	19.0	7.5
Financial	45.8	29.3	45.3	27.7	41.7	24.8	28.5	15.0	39.6	15.6
Others	0.3	0.2	0.2	0.1	0.4	0.4	0.0	0.0	-0.1	0.0
Total	156.5	100.0	163.6	100.0	168.1	100.0	190.1	100.0	253.8	100.0

SOURCE: Yahaya, Hamid, Yusoff and Masud (2008). "Foreign Direct Investment in Malaysia – Findings of the Quarterly Survey of International Investment and Services"

In the time period of 2004 to 2007, the largest FDI source which amounted to RM62 billions was from manufacturing according to Yahaya, Hamid, Yusoff and Masud's researches (2008).

Thus, the major receiver of FDI in Malaysia from the main FDI sources which are Japan, Singapore and the United States is certainly the manufacturing sector. The Japanese are heavily invested in the companies that manufacture electrical products such as National, Sony and Toshiba. In the meantime, the Taiwanese investors are more interested in the small and medium industries (SMIs) that manufacture component and parts for the main manufacturing companies in Taiwan. The Koreans have also heavy investment in engineering sectors such as Hyundai. Alternatively, US investors are more focused on silicon wafer fabrication, semi-conductors and other advanced technological products such as Intel and Motorola. Singapore's investments are mostly from TNCs' regional investments (Shahrin, 2011).

The purpose of this study is to provide empirical result for the relationship between economic growth and FDI in Malaysia. And also the effect of exchange rate on FDI will be analyzed. The period of 1991 to 2012 is

covered in this research. The first objective is identifying economic growth's impact on FDI in Malaysia as a whole. The second one is identifying exchange rate's impact on FDI in Malaysia as a whole. And then third one is identifying economic financial sector's impact on FDI. The last objective is identifying economic Manufacturing sector's impact on FDI.

Literature Review:

The augmentation of literature on the factors of FDI could be broken into three phases which is the Beginning phase based on the studies in the 1960s, next would be the Development phase which was achieved by the studies in the 1970s and the last one is the Mature stage which is based on the literature since the 1990s. After analyzing and reviewing the data, independent and dependent variables and methodologies in these three generations of examination, using a particular model with regularly used explanatory variables is strongly advised. The First Generation Models is beginning in the 1960s that the study of US FDI in Europe is where the FDI literature starts, with an emphasis on the effects that host GDP and international trade has on FDI. The Second Generation Models is development in the 1970s and 1980s that The United States outward Foreign Direct Investment into Canada and Japan was included by Macaluso and Hawkins (1977). Third Generation Models is mature in the 1990s and Beyond (until 2008) that the literature studying FDI tremendously expanded in the scope as well as sophistication in the period after 1990. According to Dunning (2008), since foreign investors are probably more productive compared to the domestic companies, they tend to contribute to the economic growth of the host.

Yusop and Ghaffar (1994) carried out an empirical research which was founded on regression method in which numerous quantitative elements that had an influence on FDI in Malaysia's manufacturing sector were examined. Yussof and Ismail's (2003) empirical study implied that the level of GDP plays the biggest role in attracting FDI. Based on Zubair's study (2004), it supports the understanding that foreign direct investment is associated with exchange rate at all times. It was understood that a significant element of FDI flows has been the exchange rate all along. To examine the relationship between Malaysia's economic growth and FDI, a number of studies have been conducted. In Duasa J's (2007) research of the period of 1990 till 2002, no solid evidence on causal relationship between economic growth and FDI was discovered. In contrast, latest researches showed a positive relationship. Alma Saied and Baharumshah's (2009) study over a 30-year period from 1974 to 2004 showed that FDI has a positive and significant effect on economic growth of Malaysia. It was claimed in several economic theories that there is a direct causal relationship between economic growth and FDI which could be in either direction (Dhakal, 2007a). Karimi and Yusop (2009) also looked into causal relationships between economic growth in Malaysia and Foreign Direct Investment. Lee (2009) examined the causal relationship between output of Malaysia and Foreign Direct Investment as well. A short run causal relationship between output and FDI was shown when the Granger causality tests were used. In contrast, there is a long run causal relationship that output has on FDI inflows. Lee (2009) stated that one approach to stimulate short term economic growth is the economy policy which promotes FDI inflows. Lee (2009) emphasized that Malaysia's concentration should not be wasted on attraction of foreign investment such as fiscal and financial incentives through development and money spent on incentive schemes. By Ang (2009) which found that FDI's impact on productivity output increases with the interaction effect of financial development. Based on A.Yol and Ngie's (2009) study, as a contrast to the previous understandings, their research showed that there is a positive relationship between FDI and exchange rate. In Srinivasan, Kalaivani and Ibrahim's (2010) research in which the Johansen Cointegration test was used, a steady relationship between GDP and FDI was proven as well. Shahrudin (2010) also found that GDP growth does have a positive impact in getting more FDI inflows into Malaysia. Studies by Aw and Tang (2010) indicated that interest rate, the event of China joining WTO in year 2001, trade openness, inflation rate, and level of corruption are the main factors impacting the inflows of FDI into Malaysia. On the aspect of sectorial impact, there are very limited studies in Malaysia that has looked into effects of FDI on sectorial growth. There is study conducted in the manufacturing Sector of Malaysia.

Research Hypothesis:

This study attempts to examine the impact of the GDP and exchange rate on FDI to Malaysia as a function of the country's growth. Therefore, the general hypothesis of this study is the significant impact of FDI flow into Malaysia's economy.

The study's model is based on the model which was used by Qaiser Abbas and Salman Akbar (2011). It is a regression statistics model which was used to determine the effect of FDI on GDP in SAARC and examines the trend of Foreign Direct Investment inflow with regards to inflation and GDP growth of SAARC as well.

In this research, hypotheses were used to test the portion of the implications given by the model. The purpose is to examine whether the FDI of Malaysia depends on GDP and Exchange rate, so the following hypotheses was developed:

H1: There is a positive relationship between GDP and FDI.

H2: There is a positive relationship between exchange rate and FDI.

H3: There is a positive relationship between GDP of financial sector and FDI.

H4: There is a positive relationship between GDP of manufacturing sector and FDI.

Research Design:

Current research is an ex post facto research which to quantitative to evaluate the relationship among dependent and independent variables. Several data were collected from secondary data. And to evaluate the parameters of this theory, a correlation matrix with regression analysis has been applied. In this research on FDI inward of GDP, the exchange rates expressed in Malaysia's currency unit per U.S. Dollar (USD), GDP of two sectors of manufacturing and finance and the quarterly average of GDP from Bursa Malaysia, in the time frame of first quarter of 1991 to fourth quarter of 2012, in an overall of 88 observations have been used. This period has been chosen to observe the effects of GDP and exchange rate on FDI Malaysia, from 1991 to 2012 which are in quarterly basis. The data consists of GDP, FDI, manufacturing and financial sectors GDP and exchange rate of Malaysia. By observing the International Financial Statistics database in Data Stream, the information needed has been obtained.

In early 1991, the economic development plans for Malaysia started. This period has been chosen due to the well documentation of economic data sources started in this era, and Malaysia's doors became wide open to the rest of the world. The time series data have been obtained from:

GDP:

General GDP along with GDP for every single sector has been taken from Malaysia Statistic Department's National Account from DataStream. The Data which have been used are all in USD currency.

Exchange rate:

The data regarding weekly exchange rates were collected from DataStream at Multimedia University and University Kebangsaan Malaysia.

FDI:

World Development Indicators database of the World Bank. The Data which have been used are all in USD currency.

In order to reply to the study's questions, the collected data was examined. SPSS (Statistical Package of Social Science) as well as Eviews are the software that have been used. The description of the methods which were used to analyze the correlation, multiple linear regressions and data-descriptive statistics is included in the following section.

In order to evaluate the relationship between the FDI flow into Malaysia and selected location factors, a linear model with the use of OLS (Ordinary Least Square) method has been used. The study's model is based on the model which was used by Qaiser Abbas and Salman Akbar (2011).

The relationship between GDP, exchange rate and FDI can be represented by:

$$FDI = \alpha + \beta_2 GDP + \beta_3 EXR + \varepsilon_t$$

Where,

α = is a constant

β = is the coefficient

FDI = is foreign direct investment

GDP = is the growth domestic product

EXR = is the foreign exchange rate (USD) related to domestic currency prices (RM)

ε = is error term

In the model, the variables, GDP (growth domestic product) and EX (exchange rate) are set to be independent variable, whereas FDI is set to be the dependent variable. The assumption in this model is that all the exogenous variables are stationary. Thus, to ensure that the variables are following a stationary process, a stationary test has been conducted.

Research Finding:

Testing H1: FDI is positively related to GDP

The first hypothesis of this research is to investigate that there are important relationships between GDP and FDI in Malaysia. The correlation between GDP and FDI is -1.250 with 0.01 significant levels. This means that correlation coefficient is not statistically significant. The analysis of this study shows that there is a negative effect between GDP and FDI, because correlation coefficient of these factors is not statistically significant. GDP correlation coefficient is 0.690. According to the correlation coefficient, it is simply recognized that GDP as explanatory variable by 0.690 correlation coefficient is the most significant element that has an effect on FDI.

Testing H2: FDI is positively related to exchange rate

The second hypothesis of this study involves analyzing the Exchange rate which is significant and related to FDI in Malaysia based on this study. The correlation coefficient of -0.398 was computed which indicates that the exchange rate is statistically significant at the 0.05 level. This is important to Malaysia especially when Exchange rate is an important measure of successful investments. Exchange rate correlation coefficient is 0.095. Exchange rate by minimum correlation coefficient of 0.095 has the lowest impact on FDI.

Testing H3: There is a positive relationship between FDI and GDP of financial sector

The third objective of this research is to study that there is an important relationship between the financial sector and FDI in Malaysia. The correlation between the financial sector and FDI is 0.054 with 0.01 significant levels. This result indicates that the financial sector coefficient is not statistically significant as well so there is not a meaningful relationship between the explanatory variable and FDI. Correlation coefficient for Financial Sector is 0.684. There is strong correlation coefficient between GDP and financial sector.

Testing H4: There is a positive relationship between FDI and GDP of manufacturing sector.

The fourth objective of this study is to analyze that the manufacturing sector is positively related to FDI in Malaysia. The correlation between manufacturing sector and FDI is 2.038 with a significant level of 0.05. Thus, the correlation coefficient of the manufacturing sector is statistically significant. Hence, there is a positive relationship between the manufacturing sector and GDP and Exchange rate because the Correlation coefficient is 0.987 and 0.430, respectively. Correlation coefficient for Manufacturing Sector is 0.685. There is strong correlation coefficient between GDP and manufacturing sector.

Conclusion and Recommendation:

The impact of GDP and Exchange rate on FDI is analyzed, understood and achieved the objectives. The researcher is aware that GDP of manufacturing sector and exchange rate have contributed significantly to the Malaysian Foreign Direct Investment, however, it should not be overstated that the importance of GDP and GDP of the financial sector did not have a statistically positive relation to FDI.

The improvement of the investment climate of Malaysia must be implemented via appropriate measures such as deregulation in economic activity, growth in GDP of manufacturing sector, generate additional transparency in the trade policy and further flexible investment markets. A suitable policy mix is essential in order to achieve the ultimate goal of the government, which is attracting FDI for growth and development.

It is necessary that the shortcoming in the study be carefully considered for prospective research and be acknowledged by the academic person or researcher. In this research we find as a result hypothesis 1 and 3 are not supported but hypothesis 2 and 4 are supported.

The interesting finding is that Exchange Rate has a direct impact on FDI and is inconsistent with several researches that are in favor of FDI's contribution to Exchange Rate. Future study can be conducted by examining the other effects like inflation, interest rate, public debt, current-Account deficit, term of trade and political stability and economic performance in Malaysia, where those would be the factors that lead the outcomes to be changed. Furthermore, policies and enhancements should be suggested to lead FDI to be positively associated to Exchange Rate's Malaysia. Impact of Malaysian GDP and Exchange Rate on Foreign Direct Investment and the growth of Financial and Manufacturing sectors have been examined and revised.

This dissertation has also comprised GDP, Exchange Rate and two sectors into the multiple regression analysis to find their relationship with FDI. Nevertheless, there is no thorough examination of every subsector outcome on what ought to be the appropriate government policy to further enhance the Foreign Direct Investment.

In addition, it is suggested to other researchers interested in pursuing this study and conducting further investigations on this subject, to test these variables (GDP and Exchange rate) on other countries as well (the countries which are not included in this study) in order to attain more information on this particular subject and broaden the knowledge in this field.

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