Proceedings of International Conference on Public Policy and Social Science, UiTM Melaka Malaysia, November 2012
ISBN 978-967-11354-5-7

FOREIGN DIRECT INVESTMENT AND MACROECONOMIC DETERMINANTS: SOME EMPIRICAL RESULT

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ABSTRACT

Malaysia has been one of the most successful Southeast Asian countries in attracting Foreign Direct Investment. It has always endeavored to maintain the competitiveness of FDI determinants like legal infrastructure. Many policy instruments have been set up. The Malaysian government has improved the value of the present determinants and is considering new strategies to attract FDI. This paper uses time series data to indentify macroeconomic variable in influencing foreign direct investment in Malaysia. There were four variable influences the inflow foreign direct investment in Malaysia which is, gross domestic product, growth rate of GDP, trade deficit and inflation rate. The main finding from the time series data is there is significant relationship between macroeconomic variable with foreign direct investment in Malaysia. In other word the inflow foreign direct investment is increase when our country is good in economic conditions.

Keyword (s): foreign direct investment, macroeconomic determinant

INTRODUCTION

Since gaining independence in 1957, Malaysia has taken advantage of tangible assets like natural resources, abundant labor as well as intangible assets like trade status under Generalized System of Preference (GSP), macroeconomic stability, liberal trade regime, and resourceful legal infrastructure to bring in FDI. The government of Malaysia main policy is bind FDI as a part of economic development strategy to acquire foreign technology, capital and skills.

Malaysia has been an encouraging economy to foreign investor. The reinvestment and the new capital injection among the present foreign companies specified their assurance in Malaysian investment. The FDI movement is derived from financial institutions and non transaction factor like foreign exchange, price changes and other changes during the reference period. Put in the other way, the movement is derived from the differences between the closing and opening position of the year.

WHY MALAYSIA ATTRACT FOREIGN INVESTMENT

Malaysia is supported by a market oriented economy and pro business government policies. It offer investors a vibrant business environment with perfect condition for growth and profit. Malaysia strength include well developed infrastructure and industrial workforce. It is a politically stable nation with a good legal system and provides attractive incentive for investor.

Advancement in technology is an integral part of Malaysia growth as an industrial country. Malaysia is resolute in offering modern day prerequisites of investor companies based in the country. The country constant drive to employ modern technologies has proved to be an advantage to manufacturers.

ISBN 978-967-11354-5-7

Malaysia infrastructure is aimed to serve the business community. Telecommunication network served by digital and fibre optic technology, five international airports, well maintained highway and seven international seaport make Malaysia an ideal springboard to the Asia Pacific market. Industries are mainly situated in about 200 industrial estates and Free Zones extended throughout the country. These zones are grouped as export processing zones, which provide to the requirement of export oriented industries. Specialized parks have been developed to cater to the needs of specific industries.

One of Malaysia supreme positive is its human resource. The nation has a young, educated and productive workforce, demonstrating to be one of the best in the region.

As a result of keen insight, strategic planning and plentiful resources, Malaysia offers investor a wide range of investment opportunities. The Malaysian economy is proven though the country participation in advanced electronic manufacturing, research and development (R&D), biotechnology, photonics, logistic, design, innovation and highly automated manufacturing sector. The government aim is also to make Malaysia a centre for other value chain activities, like design and development (D&D), procurement, distribution and marketing, business support services and shared services.

The favorable business environment in Malaysia has made it one of the world top investment destinations for offshore manufacturing operations. The Malaysian Industrial Development Authority (MIDA) is the first point of contact for investors who want to begin project in the manufacturing and services sector in Malaysia. MIDA's headquarters is located at Kuala Lumpur and has established an international network of overseas offices covering Asia, Europe, US and Australia to help investor interest in establishing manufacturing projects and services.

LITERATURE

There been a fairly large number of researcher which have been devoted to the analysis of the determinants of foreign investment (Goldberg & Klien, 1998; Nakayama & Oyama, 1998; Furuoka, 2002; Bende-Nabende, 2002; Akinkugbe, 2003). Researchers have identified several factors that may influence foreign investor choice of the investment destination. Although there is no consensus among researchers as to the consistent set of that factor, the following six are usually viewed as determining the FDI inflow which is market size, growth rate of market size, per capita income, trade deficit and inflation rate. Host country's market size, as indicated by its Gross Domestic Product (GDP) and its growth rate could be considered as an important determinant of the FDI inflow.

On the other hand, there are some other factor which might Applevard and Field (2001) point out that multinational corporation invest abroad in response to large and rapidly growing markets for their product. Mbekeani (1997) concludes that the market size of a host country and its growth rate have been among the most important determinants of FDI inflow into the Asia Pacific and Latin American countries.

The per capita Gross Domestic Product (GDP) could also influence the inflow of Japanese investment. As the per capita GDP increase in the recipient country, local consumers would experience a higher standard of living. Thus, some Japanese companies would invest to set up their production base to cater to the needs of middle or upper class consumers. Root and Ahmed (1979) discovered that foreign companies tended to invest more money into recipient countries with higher per capita GDP.

Host country trade deficit has also been viewed as a potential determinant of FDI in flow. Chakrabarti (2001) asserts that the trade deficit has often been referred to as being an

ISBN 978-967-11354-5-7

important determinant of foreign investment. However, no consensus has been reached among researchers regarding the relationship between the two variables. Some researchers claims that there is a significant positive relationship between trade deficit and FDI inflow (Tsai, 1994) while others agues claim a significant but negative relationship between the two variable (Lucas, 1993) negatively affect the inflow of foreign investment. There could be political and economic risks in the recipient countries. If the countries have suffered from high inflation rate, the multinational corporations would be reluctant to allocate their investments in these countries. This is because high inflation rates could be interpreted as a sign of instability of macroeconomic foundation in the recipient countries. If the governments in the countries are authoritarian regimes and restrict citizen political right, the multinational corporations would be not keen to allocate their investment in these countries. This is mainly because the countries with authoritarian regime could be considered as the business unfriendly countries which suffered from high corruption rate and excessive bureaucratic red tapes. Akinkugbe (2003) incorporates inflation rate and politic risk into the foreign investment allocation model. Akinkugbe finds out that negative and not significant relationship between risks in the recipient countries and inflow of foreign investment.

PROBLEM STATEMENT

There are several macroeconomic variable will effect FDI in Malaysia. According Fumitaka Furuoka (2007) there have six element would influence the inflow of Japanese Direct Investment into Asean which is country market size, growth rate of market size, per capita income, trade deficit, inflation rate and political condition. Therefore this study is want to test either there have a relationship between macroeconomic variable 1)gross domestic product, 2) growth rate of gross domestic product, 3) current account deficit and 4) inflation rates with inflow FDI in Malaysia.

RESEARCH OBJECTIVE

This research have a specific objective which is :-

To identify there have a relationship between GDP, growth rate of GDP, current account deficit and inflation rate with FDI in Malaysia.

SCOPE OF STUDY

The main purpose study, as mention earlier is to analyze the relationship macroeconomic variable with FDI in Malaysia. Since it would be almost impossible to incorporate every potential aspect, the researcher limits this study to select macroeconomic variable such as GDP, growth rate of GDP, current account deficit and inflation rate and all of which are standard variable in literature. Data selection takes into consideration the availability of data and their consistency. The time horizon of all the required monthly data ranged from 1980 to 2009 from World Bank Data in US dollar.

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RESEARCH METHODOLOGY

This paper uses time series data is to identify the determinants of FDI into Malaysia for period 2000 until 2010. It is hypothesized that inflow of FDI into Malaysia countries is determined by following these factor, 1) gross domestic product, 2) growth rate of gross domestic product, 3) current account deficit and 4) inflation rates. In this study, the function of FDI into Malaysia is express as :

MFDI : f (GDPt , GRWTHt, CAt, PRt, CPIt)

Where,

MFDI : the amount of Malaysia Direct Investment in the year t.
GDPt : the Gross Domestic Product (GDP) in the year t.
GRWTHt : growth rate of Gross Domestic Product (GDP) in the year t.
CAt : Current account deficit in the year t.
CPIt : Consumer price index (CPI) in the year t.

MULTIPLE LINEAR REGRESSION MODEL

The multiple regression analysis has been adopted for the investigation of this study. It is a statistical method for studying and evaluates the relationship between a dependent variable and two or more independent variable. The SPSS output for the multiple regression linear regression is the result of coefficient value of GDP, growth GDP, current account and CPI toward FDI in Malaysia. The regression model is expressed as a log linear equation as follows:

$MFDI = \alpha + \beta 1\ X1 + \beta 2\ X2 + \beta 3\ X3 + \beta 4 + X4 + \varepsilon$

Where ,

MFDI : the amount of Malaysia Direct Investment
β1 X1 : the Gross Domestic Product (GDP)
β2 X2 : growth rate of Gross Domestic Product (GDP)
β3 X3 : Current account deficit
β4 + X4 : consumer price index (CPI)
ε : error

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EMPIRICAL FINDING

The data was tested using the linear regression analysis to look at the relationship Foreign Direct Investment in Malaysia with macroeconomic variable. The results are shown in tables below.

Table 1: Regression Result for Foreign Direct Investment in Malaysia

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.681	7.648		2.199	0.37
	GDP	.044	.009	1.082	4.773	.000
	GRWTH	1.835	6.889	.333	2.663	0.13
	CPI	1.216	1.214	.133	1.001	.326
	CA	-0.64	0.43	-359	-1.505	.145

From the above table, this study concludes that the result can be explained by the following equation:

MFDI= -1.681+0.044X1 +1.835X2 + 1.216X3 – 0.64x4

Based on the above equation, in general we can see that only the current account show a negative correlation with independent variable. Below is the interpretation about the relationship for each dependent variable with independent variable:

GROSS DOMESTIC PRODUCT (GDP)

The coefficient value of GDP is 0.044. This value of coefficient indicates that every one percent increase in GDP, the dependent variable that is FDI in Malaysia expected to increase by 0.044 percent assuming that other variable remain constant. Due to the positive value, it indicates that there is positive relationship between GDP and FDI in Malaysia.

GROWTH GDP

Meanwhile the coefficient value of interest rate is 1.835.Therefore the coefficient indicates that every one percent increase in growth GDP, the dependent variable that is FDI in Malaysia expected to increase by 1.835 percent assuming that other variable remain constant. Due to the positive value, it indicates that there is positive relationship between growth GDP and FDI in Malaysia.

CURRENT ACCOUNT

The coefficient value of Current Account deficit is -0.64. This value of coefficient indicates that every one percent decrease in Current Account deficit, the dependent variable that is FDI in Malaysia expected to decreased by -0.64 percent assuming that other variable remain constant. Due to the negative value, it indicates that there is positive relationship between current account deficit and FDI in Malaysia. It means when current account surplus, thus FDI in Malaysia will increased.

ISBN 978-967-11354-5-7

CPI

The coefficient value of CPI or Inflation is 1.216. This value of coefficient indicates that every one percent increase in CPI, the dependent variable that is FDI in Malaysia expected to increase by 1.216 percent assuming that other variable remain constant. Due to the positive value, it indicates that there is positive relationship between CPI and FDI in Malaysia.

MODEL SUMMARY

TABLE 2: MODEL SUMMARY

R	R square	Adjust R Square	Standard Error of the estimate	F Change	Significant F Change
0.838	0.805	0.655	1.307E9	14.736	0.000

The **Table 2** name is model summary which is story about Coefficient of Correlation (R) and Coefficient of determination (R2). The function of coefficient relation is to measure the linear relationship between (Y) and independent variable (X). The value of R is always lying between -1 and +1 no matter what the units of X and Y. From the output result, the correlation coefficient (R) is 0.838, indicating a very strong correlation exists between FDI in Malaysia with these macroeconomic variable. Therefore, if any changes happen on macroeconomic variable, it will give strongly effect towards FDI in Malaysia.

Meanwhile, Coefficient of determination (R2) is measure the proportion of total variation in the dependent variables. The higher R2 ,it means the higher explanatory power of the estimated equation and it is more accurate for forecasting purpose. From the table, it show that R2 is 0.805. This value means that about 80.50 percent of the variation in dependent variable is explained by the independent variable namely GDP, growth of GDP, Current account and CPI. Figure 1 is show the linear relationship between
(Y) and independent variable (X).

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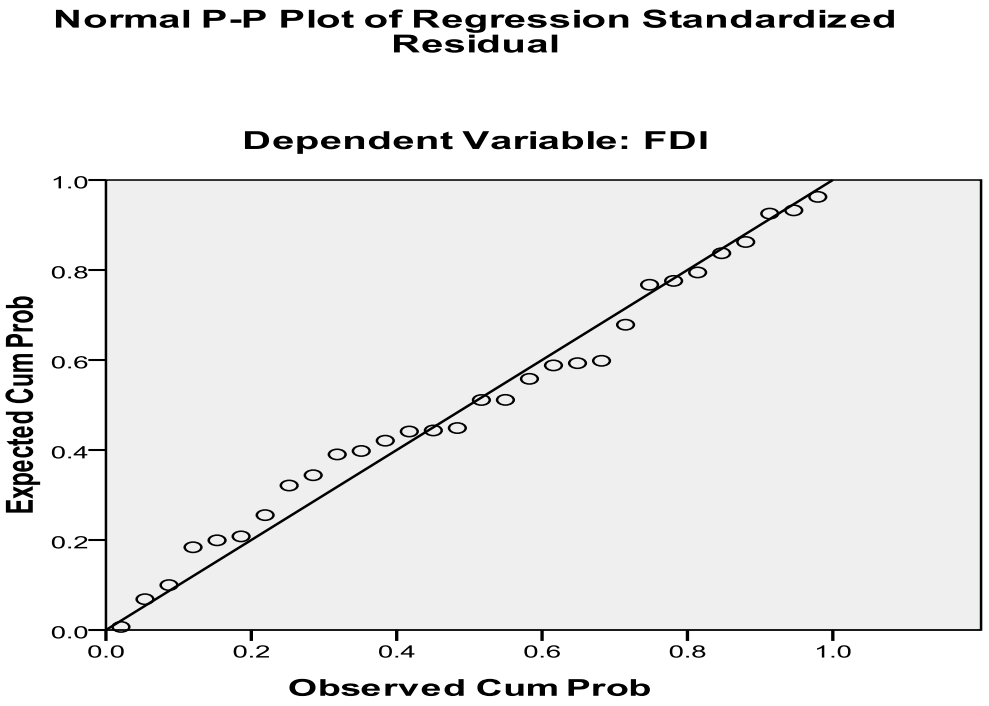
Figure 1: Normal P-P Plot of Regression Standardized Residual



CONCLUSIONS

The finding of this study counter all questions in problem statement and research objective. Based on the result , it shows that all the selected macroeconomic variable that are used as independent variable in this study have a significant effect and significant relationship with dependent variable.

In this study, the finding show that GDP, growth rate of GDP, current account deficit and inflation rate has a significant relationship with inflow in Malaysia. This result is support the studies by Goldberg & Klien, 1998; Nakayama & Oyama, 1998; Furuoka, 2002; Bende-Nabende, 2002; Akinkugbe, 2003; Applevard and Field (2001); Root and Ahmed (1979) ; Chakrabarti (2001) and Tsai, 1994. It show that all the positive relationship have a good impact toward inflow FDI in Malaysia. GDP, growth rate and inflation rate is most important factor investor want to open business in this country. From that we in Malaysia will get more benefit from FDI. Some of the benefit we will get are we can transfer the technology, help economic development, develop the human capital resources by getting their employees to receive training on the operations of a particular business. Other that it creation of new jobs in a particular country. It also helps in increasing the salaries of the workers. This enables them to get access to a better lifestyle and more facilities in life. Beside that, it can Foreign direct investment assists in increasing the income that is generated through revenues realized through taxation.

Moreover, according this result, current account deficit is positive relationship with inflow FDI in Malaysia. Different with study by Lucas, (1993) while others agues claim a significant but negative relationship between the two variable.

ISBN 978-967-11354-5-7

RECOMMENDATION

In order to get substantial result, there are few recommendations that can be consider for the next research. This is some recommendation:-
Extent the time frame. It is recommended to the other potential future study to construct a detailed study by add more than 30 years. This may provide attractiveness of potential future of study.

Add more macroeconomic variable. The potential future studyr may include the other types of macroeconomic variable as the independent variable as foreign exchange, risk premium, interest rate and many other. By investigating more variables, future study may find out other new impact on this study.

Extend the study with Asian country or Europe country. By implementing a comprehensive study in other country the study will be more attractive and valuable because the result will be more accurate and approximately show the real economic environment.

Use various method to analysis. It is suggested to the future study to use other method such as time series data analysis or panel data analysis. By using that analysis, the study may find the trend of the previous, current even future economic circumstances.

REFERENCES

Akinkugbe, Oluyele (2003). Flow of Foreign Direct Investment to Hitherto Neglected Developing
Countries,World Institute for Development Economic Research (WIDER) Discuss Paper, No.2003/02.

Applevard, Dennis R and Alfred Field (2001). International Economics. Singapore: McGraw-Hill
Book Co.

Bende-Nabende, Anthony (2002). Foreign Direct Investment Determinants in Sub-Sahara Africa: A Co-Integration Analysis. Economic Bulletin, 6 (4), pp.1-19.

Chakrabarti, Avik. (2001). The Determinants of Foreign Direct Investment: Sensitivity Analysis
of Cross-Country Regression. Kyklos, (54) 1, pp. 89-114.

Furuoka, Fumitaka. (2002). Economic Relation between Malaysia and Japan: Investment, Trade, Investment and Economic Assistance. Borneo Review, 13(2), pp.130-145.
.
Furuoka, Fumitaka. (2007). Foreign Direct Investment Allocation Model: A Case Study Of Japanese Direct Investment in Asean Countries. . Journal Of Business & Social Science,UMS 13(7), pp.115-123.

Goldberg, Linda S. & Michael Klien,(1998). Foreign direct Investment, Trade and Real exchange Rate Linkages in Developing Countries. In Managing Capital Cambridge University Press, pp. 73-100.

Lucas, Robert. (1993). On the Determinants of Direct Foreign Investment : Evidence from east
and South Asia. World development,21(3), pp.391-406.

ISBN 978-967-11354-5-7

Mbekeani, Kennedy K. (1997). Foreign Direct Investment and Economic Growth. South Africa
National Institute for economic Policy Occasional Paper, September.

Nakamura, Sin-Ya & Tsuyoshi Oyama (1998). The Determinants of Foreign Direct Investment
from Japan and US to East Asian Countries and Linkage between FDI and Trade Bank
of Japan, Working Paper Series, 98-11

Root, Franklin R. and Ahmed (1979). Emperical determinants of Manufacturing Direct Foreign
Investment in developing Countries. Economic Development and Cultural Change, Vol 27, No ¾ (July), pp751-767.

Tsai, Pang-Long (1994). Determinants of Foreign direct Investment and Its Impact on
Economic Growth, Journal of Economic Development, 19(1), pp.137-163.

http://www.economywatch.com/foreign-direct-investment/benefits.html
http://www.economywatch.com/foreign-direct-investment/

Appendices

Descriptive Statistics

	Mean	Std. Deviation	N
FDI	3.06E9	2.223E9	30
GDP	8.21E10	5.420E10	30
GROWTH	5.96	4.032	30
CPI	31.67	20.712	30
BOP	5.96E9	1.244E10	30

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	BOP, CPI, GROWTH, GDP[a]	.	Enter

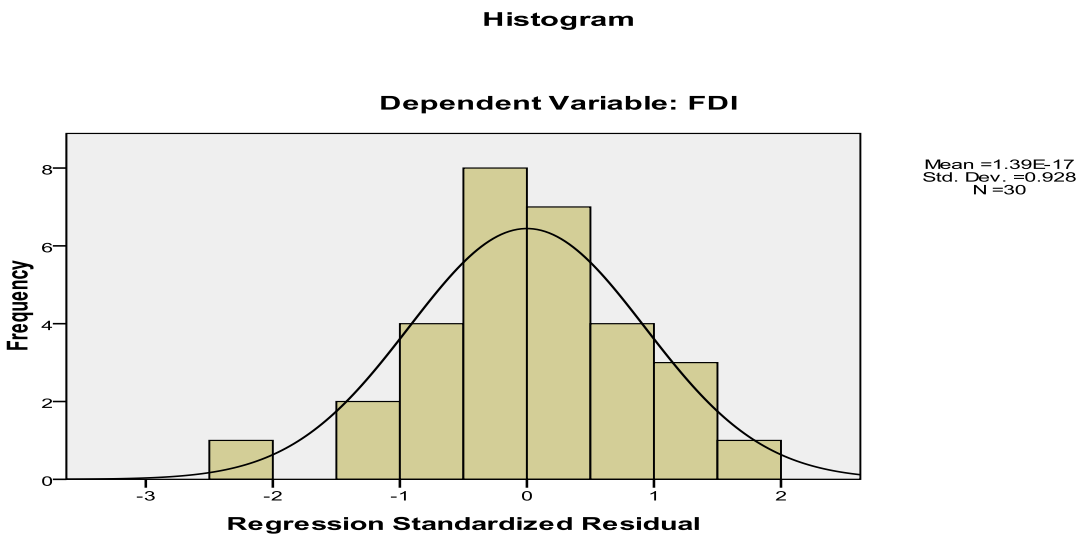
a. All requested variables entered.

ISBN 978-967-11354-5-7

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson			
					R Square Change	F Change	Sig. F Change	
1	.838[a]	.702	.655	1.307E9	.702	14.736	.000	1.199

Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.			
		B	Std. Error	Beta			Partial	Part	VIF
1	(Constant)	-1.681E9	7.648E8		-2.199	.037			
	GDP	.044	.009	1.082	4.773	.000	.690	.521	4.310
	GROWTH	1.835E8	6.889E7	.333	2.663	.013	.470	.291	1.310
	CPI	1.216E7	1.214E7	.113	1.001	.326	.196	.109	1.074
	BOP	-.064	.043	-.359	-1.505	.145	-.288	-.164	4.771



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ISBN 978-967-11354-5-7

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