

Analysing the Impact of Fiscal Policy and Monetary Policy on Foreign Direct Investment in Malaysia

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ABSTRACT

This paper analyzes the relationship between foreign direct investment (FDI) and fiscal and monetary policies for the 1977-2016 periods. The co-integration test utilizes to detect the existence of long run relationship between foreign direct investment and fiscal and monetary variables and develops a vector error correction model (VECM) to test the existence of causal relationship among the variables. Multiple regressions model also is applied in this study to examine the significance influence between foreign direct investment and fiscal and monetary variables. The findings show that there exists long run relationship among foreign direct investment, fiscal and monetary policies and there is causal relationship among variables at least in one direction. This result would give evidence to the future economists or policymakers in assisting their decision making on fiscal and monetary policies towards developing the foreign direct investment.

Keywords: fiscal policy, monetary policy, foreign direct investment, co-integration, causality, Malaysia

INTRODUCTION

Nowadays, people have become aware of fiscal policy and its impact on other macroeconomics indicators and performance. Fiscal policy in 2018 is aimed towards strengthening the fiscal position, while ensuring continued support for domestic growth and the protection of the well-being of the society. Given the challenging domestic and external environment, fiscal reforms are being pursued gradually without undermining economic growth. At the same time, fiscal resources will be directed towards key economic sectors to accelerate the shift towards a high value added, high-income economy. With systematic and organised plans and strategies, the Federal Government fiscal deficit is expected to be reduced to 3% of GDP in 2017 from 6.7% in 2009, underpinned by sustained revenue expansion and more efficient spending. Given the path of fiscal consolidation, the Government is confident that it will be further improved to 2.8% in 2018 and a balanced budget by 2020. The implementation of expenditure reforms would be the key to reduce the fiscal deficit moving forward. Of importance is the restructuring of subsidies towards

achieving fiscal sustainability. Such transition would lead to a more efficient allocation of resources in the economy.

The main source of the federal government revenue is the tax collection and non-tax revenue to finance its expenditures and to improve growth prospect of the country as well. There are several types of tax and non-tax revenues such as service tax, sales tax, excise tax, export duties, import duties, income tax and non-tax revenue (license, permit and investment income). The income tax is the major tax revenue in Malaysia (Economic Report, Ministry of Finance 2010-2011). Whereas federal government expenditure in Malaysia was allocated for two major purposes namely, operation purposes and development purposes. The rationale for allocating the budget for operation purposes is to upgrade and improve productivity as well as to impede long term economic growth potential. The largest component of operating expenditure is emoluments, followed by subsidies and supplies and services. (Bekhet H.A. and Othman N.S., 2012).

On the other side, monetary policy also has become as an important tools as fiscal policy. Basically, monetary policy measures aim to improve the efficiency of the intermediation process in providing financing to productive economic activities. At the same time, these measures aim to enhance the efficiency of the operations of the money market to allow interest rates to reflect underlying liquidity conditions of the nation. Furthermore, the symbolic of monetary tools is to reinforce the fundamental thrust of policy to achieve the objectives of monetary and financial stability. According to Bank Negara Malaysia, they found that it is necessary to introduce additional monetary measures to meet the following objectives which are maintaining a tight monetary policy, rationalising the term structure of interest rate to reflect the liquidity condition, improving the efficiency of the intermediation process in terms of greater reliance on the market mechanism to facilitate access to funding and extension of credit and also creating conditions to enable banking institutions to prioritise credit facilities to support more productive activities.

As for this study, reserves money and broad money was found to be a quite crucial tool to look forward. The broad money and loan growth has decelerated faster than desirable. However, the reserve money measure targets to further reduce the cost of funds to banking institutions where it will eventually improve the efficiency of the intermediation process in providing financing to productive economic activities. The lower funding cost would enable institutions to lower their lending rates. For the purpose of the economic development in Malaysia, the reduction in statutory reserves requirement (SRR) of banking institutions represents part of a series of measures that will be taken. These will ensure that the Malaysian economy does not spiral into a major economic slowdown while maintaining the macroeconomic objectives.

Meanwhile, foreign direct investment can be defined as a company from one country making a physical investment into building a factory in another country. (RobertM, 2000) explain the FDI through a model of international trade which involves two countries, two goods, two production factors and two identical production functions in both countries, where production functions in both countries, where production of a good requires higher proportion of a factor than the other. FDI also have often seen as an important medium for economic growth which affected by stimulating domestic investment, increasing human capital formation, facilitating the technology transfer and also employment creation in host countries (Khan, 2007). Therefore, the increasing significance of FDI due to its crucial role in economic development and the fact that any country in modern world needs other for survival, it has become a norm for all countries throughout the world to treat FDI strategies with the seriousness they deserve by making FDI plan an inevitable part of governance and economic management (Galalh A.A.M., 2013). Fiscal policy is often seen as the important factor for foreign investment in Malaysia.

The Eleventh Malaysia Plan outlines the Government's development plan for the nation between 2016 and 2020 (to move Malaysia to high-income status by 2020). It focuses on enhancing inclusiveness towards an equitable society, improving wellbeing for all, accelerating human capital development for an advanced nation, pursuing green growth for sustainability and resilience, strengthening infrastructure to support economic expansion and re-engineering economic growth for greater prosperity. It identified the 12 NKEAs that will be the subject of prioritised policy and investment focus and that are the main focus of the Economic Transformation Programme (ETP). As we all know, one of the target of the Eleventh Malaysia Plan is to achieve GDP growth at 6 percent per year. This reflects that higher investment will eventually results on higher GDP growth. The current economic development and financial position of Malaysia also states that our country has a strong foreign direct investment compared to the past year. The reforms of ETP undertaken has make the country more competitive and also assign Malaysia to the rank of 24th globally in the world bank's ease of doing business index for June 2017.

Even though there are a lot of empirical studies comprise on the impact of fiscal and monetary policy on FDI in developing countries, however there is still not sufficient studies regarding the relationship between fiscal and monetary policy and foreign direct investment in Malaysia. Therefore, little research needs to be done about Malaysia's FDI particularly concerning the factors that influence FDI in the country. Hence, this study aims for investigating the impact of fiscal and monetary policy on FDI in Malaysia. Specifically, this case study investigates the influence of fiscal and monetary policy on FDI over the last decade for duration of forty years, that is, the period between 1977 and 2016. In addition, this study will also find out is there any long run and causality relationship between fiscal and monetary policy on FDI.

This study is expected to contribute to the body of knowledge by examining the impact of fiscal and monetary policy towards foreign direct investment in Malaysia. By empirically determining the relationship between fiscal and monetary policy and foreign direct investment, the findings of this study will help answer some of the stated problems surrounding the topic of research. The understanding of the relationship between fiscal and monetary policy and foreign direct investment is crucial for policymakers in formulating policies. Therefore, this study aims to aid policymakers in their decision making by providing a clear reference on how fiscal and monetary policy affects the foreign direct investment as well as to determine the causal relationship between the fiscal and monetary policy and foreign direct investment of Malaysia. Besides that, this study aims to provide an answer to how fiscal and monetary policy affects foreign direct investment in the long-run, whether or not it actually translates into economic well-being.

In this study, the research will be conducted in term of studying the relationship and impact of fiscal and monetary policy on foreign direct investment of Malaysia. All the sources of secondary data will be collected from the United Nations Conference on Trade and Development (UNCTAD) website, Bank Negara Malaysia website, Global Economy website and World Bank website. It will be based on 40 years between 1977 until 2016 respectively on yearly basis. The yearly data is necessary for this study to determine the significant impact, long term relationship and causal relationship between fiscal and monetary policy and foreign direct investment.

The plan of the paper is as follows. Section 2, briefly discusses the literature review, whereas Section 3 discusses the theoretical framework relating to fiscal and monetary proxies and also FDI. Section 4 explains a model specifications and the econometric model. The result of the empirical estimation is illustrated in section 5. Finally, section 6 concludes the paper.

LITERATURE REVIEW

According to the research conducted by Bekhet & Al-Smadi (2015), he found that the relationships among FDI and its determinants are co-integrated, which means that the variables included in the model are shared long-run relationships among themselves. Short and long run results indicated that there are significant relationships among FDI inflows, economic growth and financial development in Jordan. The long-run results indicate that the growth of FDI inflows were due to the higher GDP, M2, EO and SMI indicators. The sample period runs from 1978 until 2012. The bound testing approach and Granger causality test were used to estimate the relationship in this research.

While in the circumstances of Malaysia, there is also a study by Tang et al (2014) whom study on the determinants of foreign direct investment in Malaysia: a case for electrical and electronic industry for the period of 1980 to 2008. This study found that GDP, real exchange rate, financial development and macroeconomic uncertainty are positively related to inward FDI in E&E sector in the long run. However, corporate income tax and social uncertainty have a negative impact on inward FDI in E&E sector. They employed bounds testing approach in order to measure co-integration and Granger causality using the error-correction model (ECM) to capture both the short run and long run causal relationship. They specifically determine the E&E sector as it gives the most contribution to the FDI inflows in Malaysia.

Through the study of Galalh A.A.M (2013) entitled, Fiscal Policy Impacts on Particular Economic Sectors in Libya: Case Study of Foreign Direct Investments, the objective is to investigate whether foreign direct investment in Libya as the dependent variable is significantly related to the country's fiscal policy. Thus, he found that the five variables out of seven variables of fiscal policy country risk, human capital, market size, government expenses and government consumption & government investment have significant impact on FDI while corporate income tax rates and government budget surplus have no significant impact on FDI. The study period of the paper is duration of 11 years between 2000 and 2010.

It is also supported by the study of Castro et al (2013) where from the results, it was noted that in Brazil the main multinationals' strategy is the market seeking-linked to the size of the domestic market which affect FDI's attraction. However, in Mexico, the dominant strategy seems to be efficiency seeking, related to the importance of trade liberalization and the historical flows to attract FDI. The sample was conducted for the period of 1990 to 2010. In short, trade liberalization was a major attraction factor to FDI in both countries, and the size of the domestic market stood out as a determinant in Brazil.

On the other hand, Afia Malik (2013) examines linear as well as non-linear impact of fiscal policy variables on private investment in Pakistan. In this study, the fiscal policy is disaggregated into its expenditure and revenue components, as well as fiscal surplus (or deficit). The expenditure is decomposed into productive expenditure and non-productive expenditure while revenue assume income and property taxes (that is, direct taxes) as distortionary and consumption (expenditure based) taxes (that is indirect taxes) as non-distortionary. In short, the result states that different categories of expenditures and revenues have different impact on private investment.

The purpose of Bhatt P.R. (2013) paper is to examine foreign trade and investment dimensions of Vietnam in comparison with its competitors such as Indonesia, Malaysia, Philippines, Singapore and Thailand as also to study the role of FDI to the growth of exports in Vietnam. This study employed vector autoregression model (VAR) to estimate the long run causal relationship among exports, foreign direct investment and GDP. In order to attain the objective, this study has used cointegration test to test on the long run equilibrium

relationship among exports, FDI and GDP. From the result of Granger Causality Test, it is a crystal clear indicates that there is a unilateral relationship between exports and FDI and the direction is from FDI to exports which mean that FDI causes exports.

This is similar to the paper of Pravin Jadhav (2012). The findings indicate that economics factors are more significant than institutional and political factors in BRICS economies. The results also indicate that market size measured by real GDP is a significant determinant of FDI. Most of the FDI in BRICS economies are motivated by the market-seeking purpose. The study uses panel data for a period of ten years (2000-2009) in the sample of Brazil, Russia, India, China & South Africa. Their research methodology is by using panel unit-root test and multiple regressions. It also take into account market size, trade openness, natural resources as economic determinants and macroeconomic stability (inflation rate), political stability/no violence, government effectiveness, regulatory quality, control of corruption, voice and accountability, rule of law as potential institutional and political determinants of FDI.

For the research of Olasunkanmi O.I & Babatunde O.A (2012), the outcomes from the case of Fiscal Policy Variables-Growth Effect: Hypothesis Testing over the period of 1981 until 2010 to investigate the fiscal policy variables that contributed to growth in Nigeria in view of hypothesizing the fiscal policy variables-growth effect. This paper use the data of productive expenditure, unproductive expenditure, distortionary taxes, non-distortionary taxes, fiscal deficit and real growth rate of GDP as the proxy for fiscal policy (independent variable) which analysed using cointegration and ordinary least square techniques. The results of fiscal-growth effect model invalidate the claim that only productive expenditure, distortionary taxes and fiscal deficit contribute to growth in case of Nigeria.

Bekhet & Othman (2012) conducted a study on the role of fiscal policy in financial market of Malaysia stock market. This research paper aims to analyze the relationship between stock index and macroeconomic policies (fiscal and monetary). Data range from 1999 until 2011 on quarterly basis. The change in stock index was used as a proxy for financial performance. Bekhet H.A. and Othman N.S. used co-integration tests and were able to conclude that there exists long run relationship between stock index and macroeconomic variables.

Mihaela Gondor & Paula Nistor (2012) examines whether fiscal policy is a major factor influencing Foreign Direct Investment or not. This study using a pooled dataset consisting of annual observations over the period 2000-2010 for 6 actual European Union countries considered "Emerging European Economies" such as Bulgaria, Hungary, Latvia, Lithuania, Poland and Romania. The result shows that fiscal competition between governments for FDI is not necessarily a corporate tax rates competition, but a business environment one, which is determined primarily by fiscal policy.

Apart from that, based on Azam et al (2011) conducted a study in South Asian countries using a data from 1996 to 2007. Among the selected countries are Pakistan, Bangladesh, India, Afghanistan, Sri Lanka, Maldives and Bhutan. This study implies that a good institutional quality plays a key role in attractiveness of FDI inflows. A macroeconomic policy exerts a negative effect on FDI inflows, suggesting that weak condition of fiscal policy, monetary policy and lack of credibility trade liberalization policy is not favourable for MNCs. This study measures by using Hadri panel unit root test and panel regression in order to achieve their research objectives.

Meanwhile, based on the study of Ellyne M.J (2009) entitled Madagascar's monetary policy response to an FDI shock, it was found that the persistent excess liquidity of the banking sector had a very weak impact on economic targets, while the real interest rate was still important despite the limited amount of creditworthy borrowers. The analysis also found that the exchange rate was the most powerful mechanism of monetary transmission, but it

also appeared to have an unexpected impact on real output. The VAR approach was used to study the transmission of shocks through the economy by providing the impulse-response functions among variables and the variance decomposition of shocks to each variable. The independent variables of the study are net foreign assets, domestic debt, bank reserves, real interest rate, bank credit, exchange rate, GDP and CPI.

Lastly, based on the study of Demekas et al (2007), this paper focuses on non-privatization FDI, a novelty in the literature, and finds evidence of nonlinearities, with the impact of policies on FDI changing above a certain level of income. It also develops the concept of potential FDI for each host country, using its deviation from predicted levels given optimal policies to estimate what governments can realistically expect to achieve in terms of attracting additional FDI. In addition, the policy environment in the host country still matters. They found that high unit labour costs, a high corporate tax burden, and, to a lesser extent, a high level of import tariffs discourage non privatization related FDI.

METHODOLOGY

This study will be examined by collecting secondary data where the data are government spending and tax revenues for fiscal policy, reserves money and broad money for monetary policy and also foreign direct investment. It is respectively based on 40 years between 1977 until 2016 on yearly basis. The yearly data is important for this study to examine the long term relationship and causal relationship between the macroeconomics policy (fiscal and monetary) and foreign direct investment in Malaysia. The data will be collected in this study are extracted from different sources which are from United Nations Conference on Trade and Development (UNCTAD) website, Bank Negara Malaysia website, Global Economy website and World Bank website.

Unit Root Test

Unit root test is the first step of the analysis is to conduct a stationary test for each variable (after transforming each into logarithmic form). The stationary test is done by testing for unit root by using The Augmented Dickey-Fuller (ADF) and Phillips-Perron) PP tests. In order to gain stationary, the ADF or PP value should be more than the critical value. For the ADF and PP test, the null hypothesis states that a series contain a unit root test and thus non-stationary exists.

Regression Analysis

This analysis helps to explain the linear relationship and equation between the factors or the variables. In other words, regression analysis helps us to understand how the typical value of the dependent variable changes when any one of the independent variables is varied, while the other independent variables are held fixed. The goal of this analysis is to predict the dependent variables using the independent variables. To test the regression between these variables, the test that will be used is by finding the alpha value while comparing it with 1. If the alpha value indicates that the value is smaller ($\alpha < 1$), we will reject null hypothesis of regression between the variables and accept the alternate hypothesis of regression between the variables. Regression also evaluates the relationship between FDI, fiscal policy and monetary. The details of the formula can be describes as below:

$$FDI = a_0 + a_1 GS + a_2 TR + a_3 RM + a_4 BM + \varepsilon \quad (1)$$

Where,

FDI	= Foreign direct investment
a_0	= Constant coefficient
a_1, a_2, a_3, a_4	= Coefficient of independent variable
ε	= Standard error

If α_1 shows a positive value ($\alpha < 1$), this indicates that there is an elasticity between the independent variable (GS, TR, RM, BM) and the dependent variable (FDI).

Co-Integration Analysis

The co-integration consists of matching the degree of non-stationary of the variables in an equation in a way that makes the error terms (and residual) of the equation stationary and rids the equation of any spurious regression results. Sometimes, the variable also can be non-stationary or co-integrated. If a long-run equilibrium relationship exists between a set of variables, those variables are said to be co-integrated. The details of the formula can be describes as below:

$$\begin{aligned} \Delta FDI_t = & a_0 + \sum_{i=1}^p \alpha_{1i} \Delta FDI_{t-i} + \sum_{i=0}^p \alpha_{2i} \Delta GS_{t-i} + \sum_{i=0}^p \alpha_{3i} \Delta TR_{t-i} + \sum_{i=0}^p \alpha_{4i} \Delta RM_{t-i} \\ & + \sum_{i=0}^p \alpha_{5i} \Delta BM_{t-i} + \lambda_1 FDI_{t-1} \\ & + \lambda_2 GS_{t-1} + \lambda_3 TR_{t-1} + \lambda_4 RM_{t-1} + \lambda_5 BM_{t-1} + \mu_t \end{aligned} \quad (2)$$

Where,

FDI	= Dependent variable
a_0	= Constant coefficient
$\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5$	= Refers to short run parameters
$\lambda_1, \lambda_2, \lambda_3, \lambda_4, \lambda_5$	= Refers to the long run relation
i	= Country
t	= Period of time

Vector Error Correction Model (Vecm)

The previous procedure is vital process in determining which model suit to assess direction of short run and long run causality among variable. The variable stationary and co-integrated, the best proxy is VEC Model. The detail of the formula is described below:

$$\begin{bmatrix} \Delta FDI_{it} \\ \Delta GS_{it} \\ \Delta TR_{it} \\ \Delta RM_{it} \\ \Delta FM_{it} \end{bmatrix} = \begin{bmatrix} C1 \\ C2 \\ C3 \\ C4 \\ C5 \end{bmatrix} + \sum_{k=1}^p \begin{bmatrix} \beta_{11k} & \beta_{12k} & \beta_{13k} & \beta_{14k} & \beta_{15k} \\ \beta_{21k} & \beta_{22k} & \beta_{23k} & \beta_{24k} & \beta_{25k} \\ \beta_{31k} & \beta_{32k} & \beta_{33k} & \beta_{34k} & \beta_{35k} \\ \beta_{41k} & \beta_{42k} & \beta_{43k} & \beta_{44k} & \beta_{45k} \\ \beta_{51k} & \beta_{52k} & \beta_{53k} & \beta_{54k} & \beta_{55k} \end{bmatrix} \begin{bmatrix} \Delta FDI_{it-k} \\ \Delta GS_{it-k} \\ \Delta TR_{it-k} \\ \Delta RM_{it-k} \\ \Delta BM_{it-k} \end{bmatrix} + \begin{bmatrix} \lambda_1 \\ \lambda_2 \\ \lambda_3 \\ \lambda_4 \\ \lambda_5 \end{bmatrix} ECM_{it-1} + \begin{bmatrix} \varepsilon_{1it} \\ \varepsilon_{2it} \\ \varepsilon_{3it} \\ \varepsilon_{4it} \\ \varepsilon_{5it} \end{bmatrix} \quad (3)$$

Where $i=1,2,\dots,n$; $t = p+1, p+2, p+3,\dots,T$; The C's, β 's and λ 's are the parameters to be estimated. Δ stands for first difference, ECM_{it-1} represents the one period lagged error-term derived from the co-integration vector and ε 's are serially independent with mean zero and finite covariance matrix.

RESULTS AND DISCUSSION

Unit Root Test

Before conducting the other method; OLS regression, co-integration and granger causality test, it is important to determine the stability of the time series data using Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) unit root test. In order to gain stationary, the ADF or PP value should be more than the critical value. For the ADF and PP test, the null hypothesis states that a series contain a unit root test and thus non-stationary exists. Hence, the null hypothesis is rejected in order to gain stationary data. If the data is not stationary at level, the data need to proceed with stationary test at first difference. If it is still not stationary, the stationary test at second difference needs to be conducted.

Table 1: Unit Root Test by using ADF and PP

Foreign Direct Investment (FDI)				
	ADF test		PP test	
	Level	1st Difference	Level	1st Difference
Test statistic	-4.037007**	-8.34967*	-4.06085**	-21.59754*
Critical value				
1%	-4.211868	-4.226815	-4.211868	-4.219126
5%	-3.529758	-3.536601	-3.529758	-3.533083
10%	-3.196411	-3.20032	-3.196411	-3.198312
Government Spending (GS)				
	ADF test		PP test	
	Level	1st Difference	Level	1st Difference
Test statistic	1.465798	-4.601207*	1.824453	-4.494823*
Critical value				
1%	-4.211868	-4.219126	-4.211868	-4.219126
5%	-3.529758	-3.533083	-3.529758	-3.533083
10%	-3.196411	-3.198312	-3.196411	-3.198312
Tax Revenue (TR)				
	ADF test		PP test	
	Level	1st Difference	Level	1st Difference
Test statistic	1.809793	-6.803191*	3.557361	-6.473648*
Critical value				
1%	-4.226815	-4.226815	-4.211868	-4.219126
5%	-3.536601	-3.536601	-3.529758	-3.533083
10%	-3.20032	-3.20032	-3.196411	-3.198312
Reserved Money (RM)				
	ADF test		PP test	
	Level	1st Difference	Level	1st Difference
Test statistic	-2.076318	-6.714776*	-2.076318	-6.789667*
Critical value				
1%	-4.211868	-4.219126	-4.211868	-4.219126
5%	-3.529758	-3.533083	-3.529758	-3.533083
10%	-3.196411	-3.198312	-3.196411	-3.198312
Broad Money (BM)				
	ADF test		PP test	
	Level	1st Difference	Level	1st Difference
Test statistic	3.990841	-3.910961**	3.523707	-3.965539**
Critical value				
1%	-4.211868	-4.219126	-4.211868	-4.219126
5%	-3.529758	-3.533083	-3.529758	-3.533083
10%	-3.196411	-3.198312	-3.196411	-3.198312

Note: The asterisks ***, ** and * denotes the significance level at 10%, 5% and 1% respectively.

The results of ADF and PP unit root test on the series of variable are reported in table1. The ADF and PP test are tested for all variables in this study which are foreign direct investment (FDI), government spending (GS), tax revenue (TR), reserves money (RM) and broad money (BM). According to the results of ADF and PP test, both test indicate that all variables contain a unit root and were found to be non-stationary at level, except for FDI as its ADF test calculated value (-4.037007) is greater than the critical value (-3.529758) which stationary at 5%. The PP test for FDI also has no differ than ADF test. However, after the first difference, it can be concluded that majority of the variable are stationary at the first difference where the value are at 1% of critical value except for the broad money that stationary at first difference level with 5% critical value. Therefore, we can reject the null hypothesis as all the variables are stationary data. The findings are consistence with the previous studies which stated that the macroeconomics data usually achieved stationary at first difference or second difference (Tang, 2008; Castro et al, 2013; Bekhet & Al-Smadi, 2015).

OLS Regressions

Ordinary Least Square (OLS) regression were carried out in this study since there are several independent variables (GS, TR, RM, BM) were involved to determine the outcome respectively. The technique may be applied to single or multiple explanatory variable and also categorical explanatory variables that have been appropriately coded (Hutcheson G.D, 2011). This step is used generally to explore the connection or significant effect between GS, TR, RM and BM towards the FDI. Specifically, this method is used to answer the first objective of this study which is to investigate the significant impact of fiscal and monetary policy towards foreign direct investment.

Table 2: Regression Analysis

FDI as the dependant variable		
Variables	Coefficient	Probability
GS	0.407394	0.0063*
TR	-0.069707	0.3909
RM	0.081094	0.0071*
BM	-0.001613	0.8222
Constant	-0.164905	0.8054
R-squared = 0.781284		

Note: The asterisks ***, ** and * denotes the significance level at 10%, 5% and 1% respectively.

Regression Model:

$$FDI_{2t} = - 0.164905 + 0.407394 \text{ GS} - 0.069707 \text{ TR} + 0.081094 \text{ RM} - 0.001613 \text{ BM} + \varepsilon$$

(0.0063)
(0.3909)
(0.0071)
(0.8222)

Based on the results of OLS regression test in table 2 above, the regression model fits the data well. The R-squared value is 0.781284 which is near to 1. This means that about 78% of the variance in foreign direct investment is explained by variance in government spending, tax revenue, reserves money and broad money. The GS and RM can influence FDI as their probability value (0.0063) and (0.0071) respectively are lower than 0.01 which shows a significant at 1% level of significance. While TR and BM do not influence FDI as their probability value (0.3909) and (0.8222) respectively are greater than 0.10 which is not even significant at 10% level. These findings also found that the coefficient result of tax revenue and broad money shows a negative value while coefficient result of government spending and reserved money shows a positive value which all coefficient value were not above than one.

Therefore, we can conclude that the foreign direct investment is influenced by government spending and reserves money but not tax revenue and broad money as the P-value is greater than 0.10. So, we can reject the null hypothesis and accept the alternative hypothesis which there is a significant relationship between government spending and reserves money towards foreign direct investment. These results of reserves money influence FDI is consistent with Ellyne M.J (2009) which conducted the study in Madagascar. Moreover, the study of Galalh A.M (2013), Jadhav P (2012) and Demekas et al (2007) also has conduct regression method in order to test the significant of the variables.

Co-Integration Test

Granger co-integration test by using autoregressive distributed lag (ARDL) method was applied in order to test any long-run relationship between the variables. In an economic view, the variables will be co-integrated if they have a long-run or equilibrium relationship among each other (Bekhet & Mugableh, 2012). In addition, Pesaran et al (2001) developed a bounds testing approach and argued that the long-run equilibrium relationships could be estimated based on F-statistics test and the short-run relationship could be directly estimated. The co-integration test is carrying out to answer the second objective which is to measure the long run relationship between government spending, tax revenue, reserves money, broad money and foreign direct investment.

Table 3: Co-integration Analysis

Model	F-statistics	Significance Level	Critical value		Decision
			I(0)	I(1)	
FDI = f (GS, TR, RM, BM)	4.092**	1%	3.967	5.455	Co-integrated
		5%	2.893	4.000	
		10%	2.427	3.395	

*Note: The critical values are taken from Narayan (2005). ** denote statistically significant at 5% level.*

Based on the above table3, the results show that the F-statistic value (4.092) is greater than the upper bound of critical value which is 4.000 at 5% significance level. The null hypothesis which is no co-integration among the variables in the FDI, GS, TR, RM and BM is rejected at 5% significance level. Therefore, this test confirms that relationship among FDI

and its determinants are co-integrated, which means that the variables shared long-run relationship among them. The result in the above table is consistent with the findings of Bekhet & Al-Smadi (2015) and Tang et al (2014).

Vector Error Correction Model (Vecm)

In order to strengthen the findings of this study, the direction of causality among the variables were discovered via the Granger causality technique. As recommended by Engle and Granger (1987), as the variables are found to be co-integrated, test of causality need to be take into interpretation of co-integrated variables which can be expressed as an error correction model. This final test is applied in order to evaluate the direction of causality between variables, as it is essential for the third objective of this study. This test is conducted to determine whether there is any short run or long run causal relationship among the variables.

Table 4: VECM Result

DV	Direction of Causality					
	Short-run Granger Causality Test					Long-run Causality Test
	DFDI	DGS	DTR	DRM	DBM	RESID
DFDI	-	0.250169	-0.188277	-0.079632	0.021737	-1.089297*
		0.5781	0.1081	0.1279	0.1558	0.0052
DGS	0.202136**	-	-0.119689***	-0.103549*	0.01544***	-0.015465
	0.0469		0.054	0.0012	0.0687	0.9057
DTR	0.896858**	2.286498**	-	-0.232282**	0.028356	-0.524695**
	0.0107	0.0199		0.0325	0.3763	0.0483
DRM	0.833704	2.975563	-0.659181	-	0.038752	-0.226971
	0.3036	0.2747	0.2133		0.6329	0.4328
DBM	3.788292**	7.513296***	-0.951292	-1.311916*	-	-0.131609
	0.0104	0.0554	0.3503	0.0025		0.1626

*Note: The asterisks ***, ** and * denotes the significance level at 10%, 5% and 1% respectively.*

Table 5: Summary of Granger Causality Test

Direction of Causality	Short-run	Long-run
GS → FDI	NO	YES
TR → FDI	NO	YES
RM → FDI	NO	YES
BM → FDI	NO	YES
FDI → GS	YES	NO
TR → GS	YES	NO
RM → GS	YES	NO
BM → GS	YES	NO
FDI → TR	YES	YES
GS → TR	YES	YES
RM → TR	YES	YES
BM → TR	NO	YES
FDI → RM	NO	NO
GS → RM	NO	NO
TR → RM	NO	NO
BM → RM	NO	NO
FDI → BM	YES	NO
GS → BM	YES	NO
TR → BM	NO	NO
RM → BM	YES	NO

Based on the results of VECM from table 4 and 5 above, we found that there is bi-directional causality between government spending, tax revenue, reserves money, broad money and foreign direct investment in Malaysian economy. In addition, it also found that the long run causality relationships run from GS, TR, RM & BM to FDI at 1% significance level and FDI, GS, RM & BM to TR at 5% significance level. However, both fiscal policies which are government spending and tax revenue can be influence by other variable in short-run. Nevertheless, we also found that there is no causal relationship at all for reserved money. Therefore, we concluded that all independent variables of this study which are government spending, tax revenue, reserved money and broad are absolutely give impact to the foreign direct investment in long-term. Thus, we can strongly reject the null hypothesis and accept the alternative hypothesis that there is a causal relationship among the variables in the long run and short run. The empirical result of Ellyne M.J. (2009), Tang et al (2014) and Bekhet & Al-Smadi (2015) also shows a similar finding.

In a nutshell, this paper would like to conclude that the key objective of this study is to assess the relationship between macroeconomic policies and foreign direct investment. According to the various tests conducted, this study is able to answer all the research questions in the beginning of this research. This study has used OLS regressions method in order to test the significant impact and the results reveals that only government spending and reserves money have significant impact towards FDI. As to attain the second objective of this study, we used co-integration based on ARDL F-bound testing model to determine the long-run relationship of the macroeconomic variables towards foreign direct investment. The findings show that all variables are co-integrated and there is a long run relationship among them. In addition, vector error correcting model is employed to test the direction of causal relationship. The empirical results of the study indicates that in the long run, government spending, tax revenue, reserves money and broad money are the Granger cause for the foreign direct investment.

However, according to the findings and supported by the empirical studies, some recommendations can be made for the most related three parties in order to have improvement for a better Malaysia. As for policymakers of Malaysian economy, they should improve their decision making macroeconomic policies towards developing the foreign direct investment. As it has become a crucial issue nowadays, the enhancement of fiscal and monetary policy especially need to be take into account to rise up the performance of foreign direct investment. Moreover, investor plays an important role in order to attract the foreign investor to invest in Malaysia. Also, the body of knowledge should do more research on balancing the theory of macroeconomic policies with the reality of Malaysia's current economic development and financial position.

Based on the results of the causality tests, we can conclude that all the independent variables of the study are contributing and causing the foreign direct investment in Malaysia. Therefore, there are a several recommendations on the policy implementation by the government in order to boost up FDI in Malaysia. Firstly, for fiscal policy, government should focuses more on sector which gives more attraction for the foreign investor to invest in Malaysia such as manufacturing and construction sector. Government should allocate more budgets on developing the infrastructure which is necessary so that the country will develop in return attracting the foreign investor. Government also should concern on the tax rate matter. In order to gain more foreign direct investment, government should reduce the corporate tax rate so that more investor can invest either for short run or long run investment. In addition, for monetary policy, even though the reserves money and broad do not give a high impact in influencing the foreign direct investment, it is crucial to take into account on these monetary tools. If the reserves money of the country is in stable condition, the investor will never hesitate to invest in Malaysia as it state a stable financial condition of the country. This same goes to broad money where in the broad money it comprises the domestic money and foreign money of Malaysia. If it keeps increasing, that means Malaysia financial position is not in risk.

As for the recommendation, future researchers are recommended to add more variables which are more suitable with current financial condition of Malaysia such as real exchange rate, real interest rate and many more. Furthermore, future researchers are suggested to make a comparison with other developed and developing countries to gain more ideas in boosting up the performance of foreign direct investment in Malaysia. The example of the countries is Singapore, Brunei, Indonesia and Vietnam. Lastly, to get more accurate result when running the data, future researchers are advised to use quarterly, monthly or even daily basis.

Basically, there are some limitations occur upon completing this research. However, the main limitation is insufficient data needed for some proxies. This causes the proxy need to be change with the other proxy that is suitable for the macroeconomic tools. The lack of data also makes the sample size of the study to be considerably small. In addition, there are insufficient journals or previous studies in justifying the literature review which the second chapter of this paper and supporting the results and findings in the chapter four. This leads us to use our best of knowledge in validating certain results.

REFERENCES

- Ang J.B (2008) Determinants of foreign direct investment in Malaysia. *Journal of Policy Modelling*, 30, pp. 185-189.
- Anwar S. and Sun S. (2011) Financial development, foreign direct investment and economic growth in Malaysia. *Journal of Asian Economics*, 22, pp. 335-342.
- Asiedu E. (2001) On the determinants of foreign direct investment to developing countries: is Africa different? *World Development* Vol. 30, No. 1. pp. 107-119
- Azam et al (2011) Institutions, macroeconomic policy and foreign direct investment: South Asian countries case. MPRA Paper No. 32480.
- Bhatt, P.R. (2013) Causal relationship between exports, FDI and income: the case of Vietnam. *Applied Econometrics and International Development*, 13(1).
- Bekhet H.A. and Al-Smadi R.W. (2015) Determinants of Jordanian foreign direct investment inflows: bounds testing approach. *Economic Modelling*, 46, pp. 27-35.
- Bekhet H.A. and Othman N.S. (2012) Exploring the role of fiscal policy in financial market: a case study in Malaysia stock market. *International Business Research*, 5(12).
- Bevan A.A. and Estrin S. (2004) The determinants of foreign direct investment into European transition economies. *Journal of Comparative Economic*, 32, pp. 775-787.
- Cheng L.K. and Kwan Y.K. (2000) What are the determinants of the location of foreign direct investment? The Chinese experience. *Journal of International Economics*, 51, pp. 379-400.
- Castro et al (2013) The determinants of foreign direct investment in Brazil and Mexico: an empirical analysis. *Procedia Economics and Finance*, 5, pp. 231-240.
- Demekas D.G. et al (2007) Foreign direct investment in European transition economies - The role of policies. *Journal of Comparative Economics*, 35, pp. 369-386.
- Ellyne M.J (2009) Madagascar's monetary policy response to an FDI shock. Memo, December 2009.
- Fedderke J.W. and Romm A.T. (2006) Growth impact and determinants of foreign direct investment into South Africa, 1956-2003. *Economic Modelling*, 23, pp. 738-760.
- Galalh A.A.M. (2013) Fiscal policy impacts on particular economic sectors in Libya - Case study of foreign direct investments. Department of Economics, Czech University of Life Sciences Prague.
- Gondor M. and Nistor P. (2012) Fiscal policy and foreign direct investment: evidence from some emerging EU economies. *Procedia - Social and Behavioral Sciences*, 58, pp. 1256-1266.
- Gondor M. and Nistor P. (2012) How does FDI react to fiscal policy? The case of Romania. *Procedia Economics and Finance*, 3, pp. 629-634.
- Iavorschi M. (2014) The influence of foreign direct investment and the current account of the balance payments on the evolution of the Lei/Euro exchange rate in Romania. *Procedia Economics and Finance*, 16, pp. 448-457.
- Jadhav P (2012) Determinants of foreign direct investment in BRICS economies: analysis of economic, institutional and political factor. *Procedia Social and Behavioral Sciences*, 37, pp. 5-14.

- Kishi M. (2003) Foreign direct investment by Japanese firms and corporate governance: in relation to the monetary policies of China, Korea and Japan. *Journal of Asian Economics*, 13, pp. 731-748.
- Malik A. (2013) Private investment and fiscal policy in Pakistan. *Journal of Economic Development*, 38(1).
- Olasunkanmi O.I and Babatunde O.A. (2012) Fiscal Policy Variables-GrowthEffect: Hypothesis Testing. *American Journal of Business and Management*, 1(3), pp. 100-107.
- Sun Q., Tong W. and Yu Q. (2002) Determinants of foreign direct investment across China. *Journal of International Money and Finance*, 21, pp. 79-113.
- Tang C.F., Yip C.Y. and Ozturk I. (2014) The determinants of foreign direct investment in Malaysia: a case for electrical and electronic industry. *Economic Modelling*, 43, pp. 287-292.
- The World Bank. World Development Indicators. Washington, DC (2012).
[/http://data.worldbank.org/data-catalog/world-development-indicators](http://data.worldbank.org/data-catalog/world-development-indicators).