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Should Malaysia depreciate her exchange rate ?

Ummu Ghazali¹ and Mansur Masih²

Abstract

There is a wide discussion as to whether Malaysia should depreciate its exchange rate or not and the economists have different points of view because it might have either a good or bad impact on the Malaysian economy. Hence, the purpose of this study is to investigate the relationship between exchange rate, capital flows and inflation in order to test the effect of Malaysian exchange rate depreciation on the economy. This study employs standard time series techniques such as cointegration test, LRSM, VECM, VDC . The analysis tends to indicate that exchange rate, capital flows and inflation rate do move together as evidenced by their cointegration and that the exchange rate is determined exogenously as evidenced in the Generalized Variance Decomposition (VDC) tests. In other words, the Malaysian exchange rate leads (rather than follows) inflation and capital flows. The results are plausible and intuitive and have strong policy implications for the policy makers of an emerging economy like Malaysia.

Keywords: currency depreciation, macro economic variables, VECM, VDC, Malaysia

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1.0 INTRODUCTION

In most countries, the capital inflows have been accompanied by an appreciation in the real exchange rate, booming stock and real estate markets, faster economic growth, an accumulation of internal reserves and a strong recovery of secondary-market prices for foreign loans. It could not be denied that an important part of this phenomenon is explained by the fundamental economic and political reforms that have taken place recently and it would have been difficult to attract the amount of foreign capital mentioned above without these reforms. However, domestic reforms alone cannot explain why capital sometimes flowed to countries that did not undertake reforms and conversely why it sometimes did not flow.

Calvo et al (1993) mentioned that international capital flows affect the economy in at least four ways. First, they increase the availability of capital in the individual economies and allow domestic agents to smooth out their consumption over time and investors to react to expected changes in profitability. Second, capital inflows have been associated with a marked appreciation of the real exchange rate in most of the countries. The larger transfer from abroad has to be accompanied by an increase in domestic absorption. If part of the increase in spending falls on nontraded goods, their relative price will increase, the real exchange rate appreciates. Third, capital inflows have an impact on domestic policymaking. The desire, by some central banks to attenuate the real exchange rate appreciation in the short run frequently leads them to intervene, purchasing from the private sector part of the inward flow of foreign exchange. Fourth, capital inflows can provide important signals to participants in world financial markets. An increase in capital inflows can be interpreted as reflecting more favourable medium and long-term investment opportunities in the receiving country.

Recent news showed that Malaysia is depreciating and until today the exchange rate has fallen 9.8% against the dollar. Moreover, its foreign reserves look set to drop below \$100 billion. Different experts give different point of views. Dr Shane Oliver, Head of Investment Strategy and Chief Economist at AMP Capital said in an interview, “When your currency goes down, the price for your exports goes down too so that it acts as a shock absorber, so, provided the fall does not turn into a destabilising rout and Malaysia does not have too much of US dollar-denominated debt. Hence, it is not a major problem”. He also mentioned that ringgit would continue to trend down based on two drivers. One is the rising US dollar which looks like it would go further over time as the US Federal Reserve looks to be the first major central

bank to raise interest rates and secondly, the downtrend in commodity prices which is bad for Malaysia's export earnings, notably for energy and oil.

The purpose of this paper is to study the relationship between exchange rate, capital flows and inflation since there are different perceptions as to whether it is a good thing or not for Malaysia to depreciate. The capital flows give an idea of the response of foreigners when Malaysia depreciates as it affects international transactions and inflation will explain the impact on the society when Malaysia depreciates.

2.0 LITERATURE REVIEW

Calvo et al (1993) explain the accounting of capital flows in his research. International capital flows are recorded in the non-reserve capital account of the balance of payments (BOP). This account includes all international transactions involving assets other than official reserves such as transactions in money, stocks, government bonds, land and factories. When a national agent sells an asset to someone abroad, the transaction enters the agent's country's balance of payments as a credit on the capital account and is regarded as a capital inflow. Accordingly, net borrowing abroad by domestic agents or a purchase of domestic stocks by foreigners is considered capital inflows, representing debt and equity finance respectively. The simplest rules of double-entry accounting ensure that, excluding statistical discrepancies, the capital account surplus, or net capital inflow is related to the current account surplus and to the official reserves account of the BOP through the identity.

A property of the current account is that it measures the change in an economy's net foreign wealth. A country that runs a current account deficit must finance this deficit either by private capital inflow or by a reduction in its official reserves. In both cases, the country runs down its net foreign wealth. Another characteristic of the current account is that national income accounting implies that its surplus equals the difference between national savings and national investment. Accordingly, an increase in the current account deficit can be traced to either an increase in national investment, a decline in national savings, or any combination of these variables that result in an increased investment-savings gap. Finally, the official reserves record purchases and sales of official reserve assets by central banks. Thus, the account measures the extent of official foreign exchange intervention by the authorities and is often referred to as the official settlements balance or the overall balance of payments.

As mentioned before, there are two ways how a central bank might respond to increased capital inflows. If a central bank chooses not to intervene in response to a capital inflow, the increased net exports of assets in the capital account finances an increase in net imports of goods and services in the current account, capital inflows would not be associated with changes in the central bank's holdings of official reserves. On the other hand, if the domestic authorities actively intervene and purchase the foreign exchange brought in by the capital inflow, the increase in net capital inflow is perfectly matched by an increase in official reserves. In reality, foreign exchange market intervention does not occur on a scale that would produce a one-to-one relationship between official reserves account and net capital inflow. The observed increase in capital inflows of a country has been partly matched by an increase in the country's account deficit and partly by an increase in the central bank's official reserves. Hence, this paper will use official reserves as one of the variable to explain capital inflows.

Based on his research of capital inflows and exchange rate in Latin American countries, Calvo et al (1003) proven that the increase in reserves precedes the real appreciation in the exchange rate, which gives the idea that capital inflows are associated with real exchange rate appreciation and with increased exchange rate volatility, they may adversely affect the export sector. Athukorala et al (2003) also did a study on capital inflows and the real exchange rate in Asia and Latin America found that the degree of real exchange rate appreciation associated with capital inflows was uniformly much lower in the Asian countries, despite the fact that some of these countries experienced far greater foreign capital inflows relative to the size of their economy. They also mentioned that the composition of capital flows matters in determining their impact on the real exchange rate. A study on capital flows and real exchange rate appreciation in Mexico done by Ibarra (2011) shows that all types of capital inflows tended to appreciate the peso. Combes et al (2012) also prove that both public and private inflows are associated with an appreciation of the real effective exchange rate for a sample of 42 emerging and developing countries over the period 1980-2006. Foong (2008) in his paper, managing capital flows the case of Malaysia explained that strong macroeconomic fundamentals and a global search for yields will continue to shift more capital into Asia. Having sound policies, financial sector resilience, large reserves, a flexible exchange rate and a strong domestic sector may be useful in facing increasingly volatile capital flows.

This paper will also include inflation as one of the variables as some studies had proven there is a relationship between exchange rate and inflation. Jiang et al (2013) examined the pass-through of exchange rate changes to domestic producer prices and retail prices in the

presence of domestic monetary policy influence in China. The analysis provides several important insights. First, exchange rate stability plays a unique and significant role for price stability in China. Second, prevailing domestic inflation rates probably affect the pass-through of exchange rate changes to domestic prices. Third, policymakers should not use depreciation as the means to promote economic growth not only because the resulting higher inflation will probably increase the exchange rate pass-through. Fourth, the pricing decision of domestic producers is subject to fluctuations in world commodity prices.

Cheikh et al (2014) examined the role of inflation regimes in explaining the extent of exchange rate pass-through into import prices. By including 63 countries over the 1992-2012 periods, they found that there are two threshold points identified by the data, allowing them to split their sample into three inflation regimes. The countries with higher inflation rates experience higher degree of ERPT. On the other hand, Yanamandra (2015) examined the exchange rate changes and inflation in India by studying the impact of exchange rate changes on import prices anticipating inflation developments and ensure appropriate monetary policy response by authorities. His study suggests that there is more than complete exchange rate pass-through into Indian import prices in the short run and even higher pass-through in the long run, indicating the inertial effect of rising prices. There is also an evidence of non-linearity in exchange rate pass-through, in terms of whether the rupee is appreciating or depreciating, as well as in terms of whether there are small or large changes in the rupee value.

3.0 DATA & METHODOLOGY

This study used quarterly data of official reserves, consumer price index (CPI) and Malaysia's exchange rate with US Dollar as the denominator. Total observation is 40 and all data are collected from Datastream. For time series analysis, it is necessary to examine the property of time series. A first stage, the data has to be stationary to avoid spurious regression. In this study we employ augmented Dickey-Fuller (ADF) and Philips-Perron unit root test. These require us to test the significance of δ whether the time series is stationary or otherwise. In each form, the hypotheses are as follow; Null hypothesis, $H_0: \delta = 0$ (i.e. the time series is non-stationary), Alternative hypothesis, $H_a: \delta < 0$ (i.e. the time series is stationary). If the variables were found to be non-stationary, then the variables will be tested for the possibility of one or more co-integrating relationships using the Johansen methodology using two test statistic tests, the maximal eigen value and the trace test during the above-mentioned periods. As cointegration

test does not test the coefficient, long run structural modelling (LRSM) will be used to test the coefficient.

The interrelationship among the variables is captured by both vector autoregressive (VAR) model and co-integrating vector error correction model (VECM). However, VECM cannot tell us the relative exogeneity and endogeneity. The Variance Decomposition (VDC) will tell which variable is the most exogenous and which one is the most endogenous by decomposing the variance of the forecast error of a variable into proportions attributable to shocks in each variable in the system including own (Masih et al, 2009). Then, impulse response will generate the same result as VDC but presented in graphical form. It maps out the dynamic response both of a variable owing to a one-period standard deviation shock to another variable. Last but not least, the persistence profile will be applied where it gives the information about how long it will take for the system to get back to equilibrium if we shock the whole system.

4.0 EMPIRICAL RESULT & INTERPRETATION

Step 1: Unit Root Test

First, the stationarity of the variables should be checked. A stationary variable has a constant mean, variance and covariance through time. Unit Root Test is used to check whether the variables are stationary or not. Supposedly, the variables should be non-stationary at level form and stationary at first differenced form. Two unit root tests that will be conducted in this paper are Augment Dickey-Fuller (ADF) test and Philips-Perron (PP) test.

i) ADF Test

Table 4.1 and table 4.2 shows the summary of the results for ADF test. Table 4.1 summarized the results for the test at level form and table 4.2 summarizes the results for the test at first differenced form.

	VARIABLE	ADF	VALUE	T-STAT.	C.V.	RESULT
LOG FORM	LMYR	ADF(1)=AIC	68.6172	- 1.337	- 3.481	Non-Stationary
		ADF(1)=SBC	65.5644	- 1.337	- 3.481	Non-Stationary
	LCPI	ADF(1)=AIC	113.1491	- 3.295	- 3.481	Non-Stationary
		ADF(1)=SBC	110.0964	- 3.295	- 3.481	Non-Stationary
	LRSV	ADF(3)=AIC	38.5810	- 2.924	- 3.510	Non-Stationary
		ADF(3)=SBC	34.0020	- 2.924	- 3.510	Non-Stationary

Table 4.1: ADF Test at Level Form

	VARIABLE	ADF	VALUE	T-STAT.	C.V.	RESULT
1ST DIFF. FORM	DMYR	ADF(1)=AIC	64.7302	- 3.186	- 2.977	Stationary
		ADF(1)=SBC	62.4854	- 3.186	- 2.977	Stationary
	DCPI	ADF(1)=AIC	106.1597	- 4.561	- 2.977	Stationary
		ADF(1)=SBC	103.9149	- 4.561	- 2.977	Stationary
	DRSV	ADF(2)=AIC	33.6247	- 2.259	- 2.803	Non-Stationary
		ADF(1)=SBC	30.7750	- 4.093	- 2.977	Stationary

Table 4.2: ADF Test at First Differenced Form

As mentioned in previous section, null hypothesis for ADF test is the time series is stationary. From the table we can see that all variables are non-stationary at level form. However, at first differenced form one of the variable; official reserves found to be non-stationary by AIC and stationary by SBC. Hence, we conducted the Philips-Perron test to confirm the result.

ii) *Philips-Perron Test*

ADF test care of autocorrelation by removing the effect of autocorrelation whereas Phillips-Perron test correct both autocorrelation and heteroscedasticity via the Newey-West adjustment. Table 4.3 and 4.4 summarizes Phillips-Perron test for both level and first differenced form.

	VARIABLE	T-STAT.	C.V.	RESULT
LOG FORM	LMYR	- 1.837	- 2.918	Non-Stationary
	LCPI	- 1.996	- 3.544	Non-Stationary
	LRSV	- 0.880	- 3.544	Non-Stationary

Table 4.3: Phillips-Perron Test at Level Form

	VARIABLE	T-STAT.	C.V.	RESULT
1ST DIFF. FORM	DMYR	- 5.020	- 2.942	Stationary
	DCPI	- 4.888	- 2.942	Stationary
	DRSV	- 3.459	- 2.942	Stationary

Table 4.4: Phillips-Perron Test at First Differenced Form

At level form, the results are the same as the ADF test and at the first differenced form all variables are stationary. Hence, we can conclude that based on the both test all variables are non-stationary at level form and stationary at first differenced form.

Step 2: Determination of The Order of Lags VAR

In order to do the cointegration test, we need to determine order of the lags which will help us to select how many lags we are going to use for cointegration test. Table 4.5 shows the optimal order of lags for both AIC and SBC.

	AIC	SBC
Optimal Order	5	0

Table 4.5: Optimal Order of Lags

AIC focus on predicting the best order of lags, it also focus on large value of likelihood and less concern on over-parameter. It tends to choose higher order of lags whereas SBC tends to choose lower order of lags and SBC is more concerned on over-parameter. As shown in table 4.5, AIC optimal order is 5 and SBC optimal order is 0. It is not acceptable for the order of lags to be 0, therefore, we are obliged to follow AIC and choose 5 as the optimal order of lags.

Step 3: Cointegration Test

Cointegration implies that the relationship among the variables is not spurious i.e. there is a theoretical relationship among the variables and they are in equilibrium in the long run. If the variables are cointegrated each other it gives the idea that there is a co-movement among the variables in the long term reaching the equilibrium although they might move differently in the short term. In this paper we have performed Engle-Granger method and Johansen method to identify the cointegration between the variables.

i) Engle-Granger Method

In Engle-Granger Method we assume an OLS regression based on theories and empirical studies; $ER = \alpha + \beta_1 CPI + \beta_2 RSV + e_t$ where we assume exchange rate is the dependent variable and inflation and capital flows as the dependent variables.

	T-STAT.	C.V.
AIC	-1.8379	-4.0001
SBC	-1.8379	-4.0001

Table 4.6: Engle-Granger Method

The null hypothesis for Engle-Granger Method is there is cointegration and the alternative hypothesis is there is no cointegration among the variables. Based on t-statistic shown in Table 4.6, the test fails to reject the null hypothesis. Thus, there is no cointegration among the variables. Next, we will conduct the Johansen Method to identify whether it gives the same result or not.

ii) Johansen Method

Johansen Method use maximum likelihood and gives all possible cointegrated vectors in the model. On the other hand, Engle-Granger assumes there in only one cointegration nad eses residual based approach. There are two tests conducted in Johansen Method; Maximal Eigenvalue and Trace.

Cointegration LR Test Based on Maximal Eigenvalue of the Stochastic Matrix					
Null	Alternative	Statistic	95% Critical Value	90% Critical Value	Result
$r = 0$	$r = 1$	27.298	25.420	23.100	1 cointegration
$r \leq 1$	$r = 2$	7.425	19.220	17.180	
$r \leq 2$	$r = 3$	4.104	12.390	10.550	

Table 4.7: Maximal Eigenvalue

Cointegration LR Test Based on Trace of the Stochastic Matrix					
Null	Alternative	Statistic	95% Critical Value	90% Critical Value	Result
$r = 0$	$r \geq 1$	38.827	42.340	39.340	No cointegration
$r \leq 1$	$r \geq 2$	11.529	25.770	23.080	
$r \leq 2$	$r = 3$	4.1043	12.39	10.55	

Table 4.8: Trace

Table 4.7 summarizes the results for Maximal Eigenvalue and Table 4.8 summarizes the results for Trace. As we can see from both tables, the results are contradicting. Maximal Eigenvalue shown that there is 1 cointegration but Trace says that there is no cointegration at all. Since the results are conflicting, we may rely on the theory. From the result shown above, we are inclined to believe that there is one cointegrating vector based on the intuition as well as familiarity that there is co-movement among exchange rate, capital flows and inflation.

Step 4: Long Run Structural Model (LRSM)

LRSM will estimate theoretically meaningful long-run relations by imposing on those long-run relations both identifying and over-identifying restrictions based on theories and information of the economies under review. This step also allows testing the computed coefficient against theoretical expectations. In this study, we want to investigate the impact of exchange rate on capital flows and inflation. Therefore, exchange rate has been chosen as the focused variable in this paper. At first stage, the exact identifying will be conducted.

VRBL	PANEL A	PANEL B	PANEL C
LMYR	1.0000 (*NONE*)	1.0000 (*NONE*)	1.0000 (*NONE*)
LCPI	1.9623 (.81532)	.046205 (.23526)	0.00 (*NONE*)
LRSV	.30184 (.066165)	.40435 (.094781)	.42052 (.051755)
Trend	-.0098409 (.0042894)	0.00 (*NONE*)	0.00 (*NONE*)
CHSQ(1)	NONE	4.0596[.044]	4.0960[.129]

**s.e. in parentheses*

Table 4.9: LRSM

From Table 4.9, Panel A shows the exact identifying. It normalized the exchange rate in order to see the cointegrating relationship. By calculating the t-ratios manually, we found that all variables are significant at this stage. However, we still continue with the over identifying by removing the trend. After removing the trend, Panel B shows that inflation is not significant and Panel C shows the result after removing inflation. However, we still include all variables in the model based on the theoretical relation and the exact identifying has proven that all variables are significant.

Step 5: Vector Error Correction Model

Error-correction term (ECT) is the stationary error term, where this error term comes from a linear combination of the non-stationary variables that makes this error term to become stationary if they are cointegrated. It explains that the ECT contains long-term information since it is the differences or deviations of the variables in their original level form. VECM uses the concept of Granger causality where the variable at present will be affected by another variable at past. Thus, if the coefficient of the lagged ECT in any equation is insignificant, it explains that the corresponding dependent variable of that equation is exogenous. This variable does not depend on the deviations of other variables. It also explains that the variable is a leading variable and initially receives the exogenous shocks which results in deviations from equilibrium and transmits the shocks to other variables.

On the other hand, if the coefficient is significant, that implies that the corresponding dependent variable is endogenous. It also implies that the dependent variable bears the impact of short-run adjustment to bring about the long term equilibrium among the cointegrating variables. The previous four steps tested theories and confirm that there is cointegration between the variables but it did not show which were leader and the follower variables. Step 5

onwards allows us to answer this shortcoming. The results generated from these steps are very useful for policy makers as they want to know which variable is the leader in order to focus their policies on those variables to make the biggest impact. From this test we found that inflation is the exogenous variable, capital flows and exchange rate is the endogenous variables. It means that, as the exogenous variable, inflation receive market shocks, other factors which are capital flows and exchange rate will be affected by the shocks. It also gives the idea that inflation leads capital flows and exchange rate. As a general rule, a country with a consistently lower inflation rate exhibits a rising currency value as its purchasing power increases relative to other currencies. On the other hand, countries with high inflation rate typically see depreciation in their currency in relation to the currency of their trading partner. Inflation also could affect a country capital flows.

ecm1(-1)	Coefficient	Standard Error	T-Ratio [Prob.]	C.V.	Result
dLMYR	.35584	.15347	2.3186[.031]	5%	Endogenous
dLCPI	.044566	.051158	.87113[.394]	5%	Exogenous
dLRSV	-1.0965	.38495	-2.8484[.010]	5%	Endogenous

Table 4.10: VECM

Step 6: Variance Decomposition (VDC)

Since VECM does not give any information about relative exogeneity and endogeneity, we have to perform VDC in order to know which variable is the most exogenous and which variable is the most endogenous. The relative exogeneity and endogeneity of a variable can be determined by the variance explained by its own past. If a variable is mostly explained by itself, it is the most exogenous variable. On the other hand, endogenous variable is a variable which can explain by other variables. The relative exogeneity and endogeneity of the variables are important for policy makers.

Generally, there are two methods for VDC analysis; Orthogonalized VDCs and Generalized VDCs. However, there are some limitations for Orthogonalized VDCs. It depends on the particular ordering of the variable in the VAR and it assumes that when a particular variable is shocked, all other variables in the system are switched off. Hence, it is better to rely on Generalized VDCs as it does not depend on a particular ordering of the variables in the VAR and it does not make any restrictions.

In this paper we will compare the relative exogeneity/endogeneity of variables for 12 quarters, 24 quarters and 36 quarters. Table 4.11 and Table 4.12 will show the results for both Orthogonalized VDCs and Generalized VDCs.

	Horizon	LMYR	LCPI	LRSV	TOTAL	SELP-DEP	RANKING
LMYR	12	44.652%	7.227%	48.121%	100.0%	44.652%	2
LCPI	12	48.596%	41.968%	9.436%	100.0%	41.968%	3
LRSV	12	34.337%	9.787%	55.877%	100.0%	55.877%	1
	Horizon	LMYR	LCPI	LRSV	TOTAL	SELP-DEP	RANKING
LMYR	24	44.807%	6.460%	48.732%	100.0%	44.807%	2
LCPI	24	54.866%	38.714%	6.420%	100.0%	38.714%	3
LRSV	24	39.004%	7.904%	53.091%	100.0%	53.091%	1
	Horizon	LMYR	LCPI	LRSV	TOTAL	SELP-DEP	RANKING
LMYR	36	44.780%	5.951%	49.269%	100.0%	44.780%	2
LCPI	36	57.414%	37.345%	5.241%	100.0%	37.345%	3
LRSV	36	40.744%	6.930%	52.326%	100.0%	52.326%	1

Table 4.11: Orthogonalized VDCs

	Horizon	LMYR	LCPI	LRSV	TOTAL	SELF-DEP	RANK
LMYR	12	67.306%	7.616%	25.078%	100.0%	67.306%	1
LCPI	12	30.156%	50.276%	19.568%	100.0%	50.276%	2
LRSV	12	48.584%	12.244%	39.172%	100.0%	39.172%	3
	Horizon	LMYR	LCPI	LRSV	TOTAL	SELF-DEP	RANK
LMYR	12	69.957%	5.865%	24.178%	100.0%	69.957%	1
LCPI	12	34.039%	50.740%	15.220%	100.0%	50.740%	2
LRSV	12	58.299%	9.032%	32.668%	100.0%	32.668%	3
	Horizon	LMYR	LCPI	LRSV	TOTAL	SELF-DEP	RANK
LMYR	12	70.926%	5.220%	23.855%	100.0%	70.926%	1
LCPI	12	35.672%	50.977%	13.351%	100.0%	50.977%	2
LRSV	12	62.593%	7.489%	29.917%	100.0%	29.917%	3

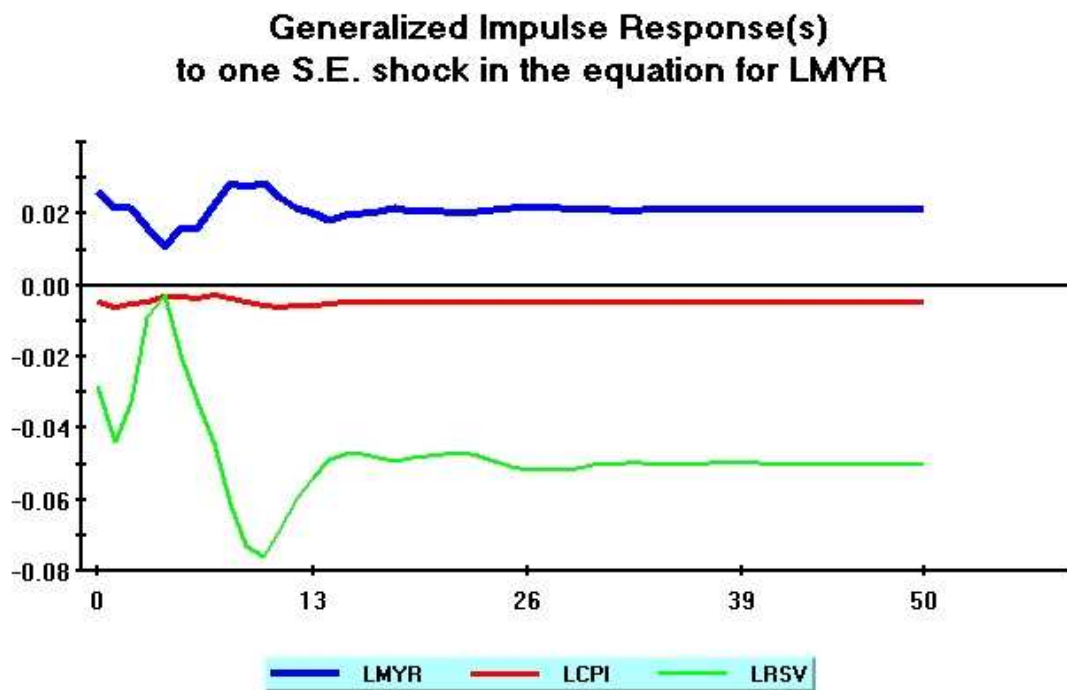
Table 4.12: Generalized VDCs

As mentioned before, we are going to rely on the Generalized VDCs since there is no limitation. From the results in Table 4.12, it shows that exchange rate is the lead variable followed by inflation and capital flows. This result contradicts with VECM where inflation is the exogenous variable, exchange rate and capital flows is endogenous variables. Hence, we will rely on the output of the Generalized VDCs as it gives more information compared to VECM. VDCs give

information on relative exogeneity which is more useful for policy makers. It is possible for exchange rate to affect inflation as it affects the price of domestic goods which are under competitive pressure from imported goods. Obviously from the result, capital flows is the most endogenous where mostly it can be explained by other variables. To see these results graphically, we will see it in the next step.

Step 7: Impulse Response Functions (IRFs)

As our result relies on Generalized VDCs, we will also focus and the Generalized for Impulse Response Functions (IRFs). From previous step, exchange rate is the most exogenous variable. Graph 4.1 will show the Generalized Impulse Response to one S.E.. shock in the equation for exchange rate. Other graphs for other variable will be provided in the Appendix.



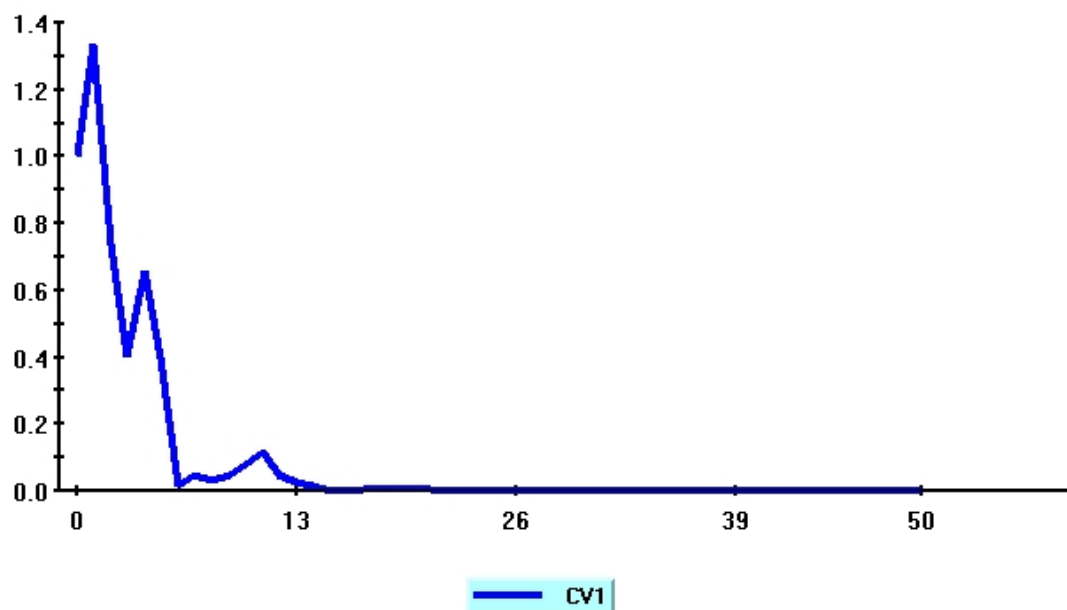
Graph 4.1: Generalized Impulse Response to one S.E. Shock in The Equation for Exchange Rate

IRFs map the dynamic response path of all variables owing to a shock to a particular variable and from the graph we can see that capital flows affect the most when there is a shock on exchange rate.

Step 8: Persistence Profile (PF)

Both the Persistence Profile and the IRFs map out the dynamic response path of the long-run relations. The main difference between them is that the persistence profiles trace out the effect of a system-wide shock on the long-run relations but IRFs trace out the effects of a variable-specific shock on the long-run relations. Graph 4.2 shows the Persistence Profile. From the graph we can conclude that when there is a shock in the system, the variables will get to back to equilibrium after 13 quarters which takes at least 3 years to get back to equilibrium.

Persistence Profile of the effect of a system-wide shock to CV(s)



Graph 4.2: Persistence Profile

6.0 CONCLUSION

The purpose of this study is to see the relationship among exchange rate, capital flows and inflation as there are many different views on Malaysian depreciation. This study employs standard time series techniques including cointegration tests, LRSM, VECM, and VDCs etc. Through these methods, we have tried to answer the question whether it is good for Malaysia to depreciate or not. Our results tend to indicate that there is a cointegration among exchange rate, capital flows and inflation which explain that there is a theoretical relationship among the variables and they are in equilibrium in long run. In addition, the results tend to indicate that

the exchange rate is determined exogenously as evidenced in the Generalized Variance Decomposition (VDC) tests. In other words, the Malaysian exchange rate leads (rather than follows) inflation and capital flows. The results are plausible and intuitive and have strong policy implications for the policy makers of an emerging economy like Malaysia.

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