

Pegging The Ringgit Against The US Dollar: *An Evaluation*

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Abstract

This paper examines the value of the Malaysia Ringgit (RM) against the US dollar (USD) under pegged exchange rate regime. Twelve currencies which include the Japanese Yen, Pound Sterling, Thai Baht, Philippine Peso, Korean Won, Indonesian Rupiah, Singapore Dollar, Canadian Dollar, Australian Dollar, Hong Kong Dollar, Taiwan Dollar and Switzerland Francs were used and combined using the method of constructing composite index proposed by Green and Beckman (1992). The data used are the daily middle rates average of buying and selling rates from 2 January 1998 to 31 December 2003. The rates are RM equivalent to one unit of foreign currency. Later, the index is transformed to an exchange rate for RM and USD. t-test is used to evaluate the difference between the existing exchange rate and the rate estimated from the model. It was found that the true value of RM is not statistically different from the pegged rate of RM3.80 for the whole period of study.

1. Introduction

The choice of fixed or flexible exchange rates regime for macroeconomic policy is very essential since it has a significant impact to the economy¹. Although the theoretical relationships on the link between the choice of exchange rate regime and macro economic stability are ambiguous, however, there is strong evidence that adopting a pegged exchange rate can lead to lower inflation rate, slower productivity and greater price stability.

Malaysia, since its independence in 1957, has experienced two different exchange rate regimes. Before selective capital controls in 1998, the intermediate floating exchange rates were implemented and the value of ringgit fluctuates around RM2.50. During the financial crisis, the ringgit was very volatile and this finally forced the government to peg the ringgit against the US dollar on 2 September 1998^{2,3}.

¹ Fixed exchange rate operates in two ways. The first is fixed and unconvertible exchange rate (FU) where the government is the only legal source of money. Domestic money cannot be freely converted into foreign money. Those who want to buy products from abroad must obtain those funds from the government. The second is fixed and convertible exchange rate (FC) where the government allows private market for foreign exchange but at a fixed rate. The government is however on standby to absorb any surpluses or to fill any shortages from the market clearing price. The flexible exchange (FR) rates allow the market place to determine the price of foreign currency. However the government often fixed prices in the market.

² Currency controls meant different things to different people. Malaysian currency control had to be so crafted that it would prevent the currency from being manipulated by foreign currency traders while allowing normal business transactions to be carried out without hindrance (Mahathir, 1999).

³ After the announcement of exchange rate control, Krugman (1998) published an open letter to the Malaysian Prime Minister. He warned that imposing an exchange control is risky with n guarantees and gave four guidelines of these measures: that controls should minimize the disruption of business; that they should be on temporary basis; that the currency should not be pegged at too high a level (real exchange rate should be at competitive level); and that they serve to aid reforms and not be as an alternative.

According to Mahani (2002), the mechanism used in determining the pegged value of the Ringgit was not very complicated. No specific model was used in fixing the ringgit at RM3.80 per US dollar. On 1 September 1998, ringgit was trading at RM4.22 to the US dollar. Upon announcement of the selective capital control regulations, ringgit strengthened against USD to RM3.82 largely due to the purchases by the currency traders. The ringgit then appreciated further to RM3.80 and that was the rate fixed by Bank Negara. To fix the ringgit at the old rate was very unrealistic because it requires the ringgit to appreciate to almost 70 percent within a day. On the other hand, it is not in line with the other regional currencies.

It has been almost six years since the ringgit was pegged to RM3.80 per USD. While Malaysia had gained economic stability and improved its economic fundamentals with the fixed exchange rate, some argue that the rate should be revised to its actual value due to the depreciation of the US dollar against major currencies. Others argue that the fixed exchange rate should be adopted on a temporary basis and not as an alternative policy. The question is, should the RM3.80 be revised? What will be the actual value of the exchange rate: far below or above to RM3.80? These are the central issues that will be focused on in this paper. The objective of this paper is to evaluate the financial costs to the government to absorb any surpluses or to fill any shortages from the market clearing price in order to maintain the pegged rate.

This paper is organized as follows: Section 2 will briefly discuss the history of the exchange rate policy in Malaysia, followed by Section 3 which describes the methodology, the data used to construct the composite exchange rate and the hypotheses of the study. The results are given in section 4, and section 5 provides the conclusion of the study.

2. Ringgit Malaysia and economic performance

2.1 *History of the Ringgit*

Before the breakdown of Bretton Woods system in the early 1970s, most of the developing countries pegged their currencies either to a single key currency, such as the U.S dollar or French franc or to a basket of currencies. When major currencies began to float in the late 1970s, they have shifted away from the currency pegs to a more flexible exchange rate agreement. In 1975, about 87 percent of developing countries had some form of pegged exchange rates and the proportion had fallen to below 50 percent in 1996 (Carramaza and Aziz, 1998).

The Ringgit was first produced by the Central Bank of Malaysia in 1967. Prior to this date, the official currency was Dollar Malaya which was also used by Singapore and Brunei. The value of the ringgit was "tied" against the pound sterling at par value of 0.290299 grams of gold. After the Smithsonian Agreement, the pound sterling appreciated due to the increase in gold price from US 35 dollar to US 38 dollar per ounce. This led to the increase in value of the ringgit. When the pounds sterling was floated on 23 June 1972, the Malaysian government was undecided in revaluing the ringgit, but later the government decided to switch to the US dollar instead of the pounds sterling as its "official currency" in the foreign exchange market.

During the oil crisis in 1973, the US dollar became unstable. At the same time, the inflation rate in Malaysia had skyrocketed. As precautionary measures and in avoiding the unstable value of Ringgit, the Malaysian government through the Central Bank began to float the ringgit in June 1973 and adopted the principle of “dirty float”⁴. This mechanism had supported the ringgit to maintain its stability at par value around RM2.50 to RM2.60 against the US dollar for a very long period. It was recorded that the average exchange rate for every USD was RM2.63 during 1986-90, RM2.60 for the period of 1991-95 or RM2.61 for the period of 1986-1995 and RM2.51 for the 1996⁵. The government did not intervene in fixing the ringgit directly, but if there is uncertainty in the foreign exchange market, it will be stabilized with minimal intervention by the Central Bank of Malaysia. With the stabilization in value of the ringgit, the intention of revising the rate had not been seriously considered or discussed by the government. This, however, led to the perception that the Ringgit was officially pegged to the US dollar.

Malaysia's currency started to depreciate in mid-July 1997. From June 1997 to December 1997 value of the ringgit had fallen by 35 per cent and registered at RM3.89 on 30 December 1997. Malaysia's currency continued to depreciate and stood at RM4.725 in January 7, 1998. The day before the implementation of selective capital control, ringgit was transacted at RM4.22.

2.2 The Malaysian economy in two different regimes (1991 - 1997, 1998 - 2003)

In the case of Malaysia, the relationship between exchange rate regime choices and economic growth performance is yet to be established. The GDP growth was higher during the floated regime as compared to the growth in the pegged regime. In Table 1, the average GDP growth from 1991 to 1997 (floated regime) was estimated at 9.2 per cent a year, compared to about 4.9 per cent a year during the pegged regime period.

During the unstable period of the Malaysian currency, in 1997 and 1998, the economic growth had turned negative. When the ringgit was pegged in the third quarter of 1998, investors' confidence was restored and businesses began their expansion activities. As a result, GDP growth rebounded from -7.4 per cent in 1998 to 6.1 per cent in 1999. The growth momentum continued and the economy registered 8.5 per cent growth in 2000. However, in 2001, there was a mild recession and the Malaysian economy recorded a sluggish growth of 0.3 per cent. The economy registered 4.1 and 5.8 per cent growth in 2002 and 2003 respectively.

The inflation rate also moved in the same direction as GDP growth. In the period of floated regime (1991-97), inflation rate stood at 5.3 per cent, whilst during the pegged exchange rate regime (1999-2003), it was only 1.7 per cent. These supports the views that inflation and economic growth are generally lower when the country adopted pegged exchange rate policy.

⁴ “Dirty float” is a situation of flexible currency. However, the government may intervene when there is a need to set its targeted rates.

⁵ Simple average applied to end of period rates of monthly data for RM:\$USD.

Table 1: GDP growth, inflation and exchange rates in Malaysia, 1991-2003

Year	Exchange Rate RM:USD ^a	GDP Growth rates (%) ^b	Inflation Rates (%) ^b
1991	2.72	9.5	4.4
1992	2.61	8.9	4.8
1993	2.70	9.9	3.5
1994	2.56	9.2	3.7
1995	2.50	9.8	3.5
1996	2.53	10.0	3.5
1997	3.89	7.3	2.7
1998	3.80	-7.4	5.3
1999	3.80	6.1	2.7
2000	3.80	8.9	1.5
2001	3.80	0.3	1.4
2002	3.80	4.1	1.8
2003	3.80	5.3	1.1
Average 91-97	2.79	9.2	3.7
Average 99-03	3.80	4.9	1.7

Note: (a) yearly end-period exchange rate from Bank Negara Malaysia web-site
(b) calculated from various sources of Department of Statistics Malaysia's publications

3. Methodology and sources of data

3.1 The methodology

The most important part of the study is the estimation of the value of exchange rates under the assumption of ringgit Malaysia being totally floated. To arrive at this estimation, a proxy of the exchange rates should be constructed based on the movement of several currencies. In business cycle analysis, researchers normally combine several important economic indicators to form an index that is used in tracking economic movement. For example, the composite coincident index has proven to be very useful in tracking the current movement in general economic activities. For this reason, the study will try to adopt this method in order to test its ability in tracking currency movements under the pegged exchange rate regime.

Some methods of constructing the composite index applied trend adjustment to adjust for the slope of the index. However, in this study, this type of adjustment will not be applied to avoid misleading interpretation of currency analysis. Thus, the method proposed by Green and Beckman (1992) will be adopted.

The method begins with the calculation of the symmetrical percentage change for each component. Let y_{jt} denotes the value of the j th component of the exchange rate in the period t , and let Y_{jt} denotes its daily percentage change (sometimes called a symmetrical percentage change), which is calculated as follows,

$$Y_{jt} = [200] \frac{y_{jt} - y_{j,t-1}}{y_{jt} + y_{j,t-1}} \text{ for } t = 1, 2, 3, \dots, T. \quad (1)$$

Define S_j , the average absolute value of the daily percentage changes (also called standardization factor) for each of the j components, as

$$S_j = \frac{\sum_t Y_{jt}}{T} \quad (2)$$

Now let w_j , be the weight for each component, defined as,

$$w_j = \frac{B_j}{\sum_j B_j} \quad (3a)$$

where B_j is,

$$B_j = \frac{1}{J.S_j} \quad (3b)$$

and J is the number of components (exchange rate of ringgit with other currencies). Note that $\sum w_j = 1$. Assuming that the percentage changes of all currency are represented by one indicator denoted as c_t , and calculated as follows;

$$c_t = \sum_j w_j \cdot y_{jt} \quad (4)$$

The value of equation (4) is then used to estimate the level of exchange rate between ringgit and the US dollar as,

$$ERI_t = [ERI_{t-1}] \frac{200 + c_t}{200 - c_t} \quad (5)$$

where the initial value of the exchange rate ERI_{t-1} is set as the value of exchange rate between Malaysia and the US as on 2 January 1998, which is RM3.93.

3.2 Source of data

For the purpose of this study, the data item of interest is the daily middle rate (average of buying and selling rates) at 12 noon in Inter-bank Foreign Exchange Market in Kuala Lumpur from 2 January 1998 to 31 December 2003. The rates are in relation to Ringgit Equivalent of one or a hundred unit of foreign currency. The main source of data is the BNM websites.

Twelve currencies excluding the US dollar were selected: Japanese Yen, Pound Sterling, Thai Baht, Philippine Peso, Korean Won, Indonesian Rupiah, Singapore Dollar, Canadian Dollar, Australian Dollar, Hong Kong Dollar, Taiwan Dollar and Switzerland Francs. The U.S Dollar was excluded in the model to avoid misleading interpretation of the resulting estimates. Selection of currencies were based on the availability of the data prior to the crisis as well as the respected countries' contributions

as trading partners. In 1997 and 1998, trading with those countries constituted 59.9 percent and 55.9 percent respectively of Malaysia's total external trade.

3.3 Hypotheses:

- a. On the average, the estimated value of exchange rate between the Malaysian Ringgit and the US dollar **before the period** of selective capital control are equal with market value of exchange rate.
- b. On the average, the estimated value of exchange rate between the Malaysian Ringgit and the US dollar **in the period** of selective capital control are equal with market value of exchange rate.

Hypothesis (a) implies that in general, the model can be accepted as an alternative measure for the market value of exchange rate given that there is no restriction in the foreign exchange policy. In other words, the model can represent the actual (market) value of exchange rate in the floated exchange rate regime. Hypothesis (b) evaluates the performance of the model in the period of selective capital control which refers to the pegged or a fixed exchange rate regime.

The method of testing these hypotheses is by comparing the two means, which is generally denoted as,

$$H_0 : \mu_e - \mu_m = 0$$

$$H_1 : \mu_e - \mu_m < 0$$

where μ_e represents the estimated exchange rate and μ_m represents the market value of exchange rate. Later, t-test of paired two samples for means is employed.

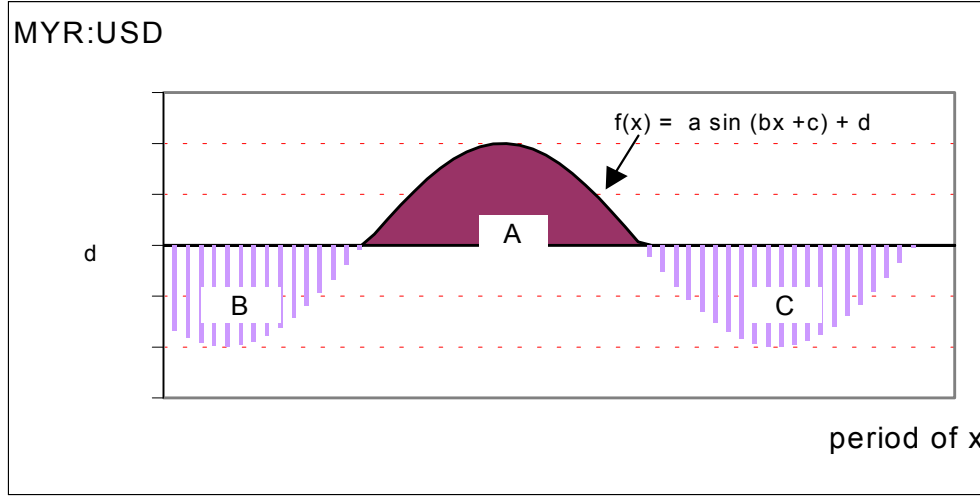
If the test failed to reject the null hypothesis, it indicates that the means of the estimated exchange rate are equal to the means of market value of exchange rates. Conversely, if the test rejects the null hypothesis, it indicates that the value of the estimated exchange rate is lower than the market value of exchange rate.

The test assumes that the market exchange rate is moving cyclically along the pegged rate. If the rates exceed the pegged rate, the currency has depreciated. On the other hand, if the rates are below the pegged rate, it shows that the currency has appreciated. Assuming the exchange rate behave as a sine function of x as,

$$f(x) = \alpha \sin(\beta x + \chi) + \delta \quad (6)$$

where, (α) measure the amplitude of the flexible exchange rate curve, (β) measure the frequencies of the curve, (χ) represent the phase of the curve and δ is the level of the pegged rate in the early period of selective capital control. This is illustrated in Figure 1 where A's area represent the depreciation of flexible exchange rate as compared to a pegged rate. B and C represent the appreciation of floated exchange rate against the pegged rate.

Figure 1: Hypothetical exchange rate function under pegged rate regime



If the total value of area A equals to zero upon subtraction of B and C, it could be concluded that there is no difference between pegged and floated rate. To arrive at this estimation, it is necessary to integrate the exchange rate function in (6) as follows;

Assuming that an open interval of period in the pegged rate regime from point a to n, as $f(x) \rightarrow \infty$, $x \rightarrow p$, where p is a point in the interval the period (a,n); then by the additive property,

$$\int_a^n f(x)dx = \int_a^p f(x)dx + \int_p^n f(x)dx = 0 \quad (7)$$

For the purpose of integration of equation (6) value of δ is set equal to zero⁶.

Another inference that can be made from the value of equation (7) is the cost incurred by the government to maintain the pegged rate. If the value of equation (7) approximates to zero, this means that the pegged rate will have no significant effect on international reserve. On the other hand, if the value of equation (7) is positive, the implication is that the exchange rate policy will have a positive impact on the international reserve, vice-versa.

To illustrate this, assuming that the floated rate is above the pegged rate denoted as A in Figure 1. To maintain the rate at the pegged level, the government through the Central Bank needs to buy back other currencies by selling the ringgit. As a result, the international reserve will be accumulated, and the rate will move back towards the pegged level. In another situation, if the rate is below the pegged rate, denoted as B and C in Figure 1, the Central Bank has to buy back its currency (ringgit) and has to dispose other foreign currencies in order to bring back the rate at a level of the pegged rate. The consequences will be a decline in the international reserved.

⁶ δ in equation (6) is used to increase the level of exchange rates as at pegged rate and will be eliminated in the process of integration for that equation.

4. The results

4.1 The results of the model

The full results of estimated daily floated exchange rate under pegged regime using the composite index method as proposed in section (3.1) are not presented in this paper. However, a summarized version of the results in the form of monthly series are presented in Table 2. The movements of the daily exchange rate as estimated from the model are shown in Figure 2. By analysing the daily exchange rate, it is found that the estimated value of ringgit on 2 September 1998 was RM3.7528 per US dollar. This is slightly lower than the fixed rate of RM3.80. Based on this estimation, it seems that the pegged rate of RM3.80 was reasonable. However, the floated exchange rate moves cyclically along the pegged rate for the whole period under study. The ringgit remained below RM3.80 until 5 October 1998 before it started to depreciate (above RM3.80) for about two years until 15 October 2000. From 16 October 2002 to 6 May 2003, the value of floated rate appreciated (below the pegged rate) for about two and half years. The movement of daily floated exchange rate estimates using the composite index methodology is shown in Figure 2.

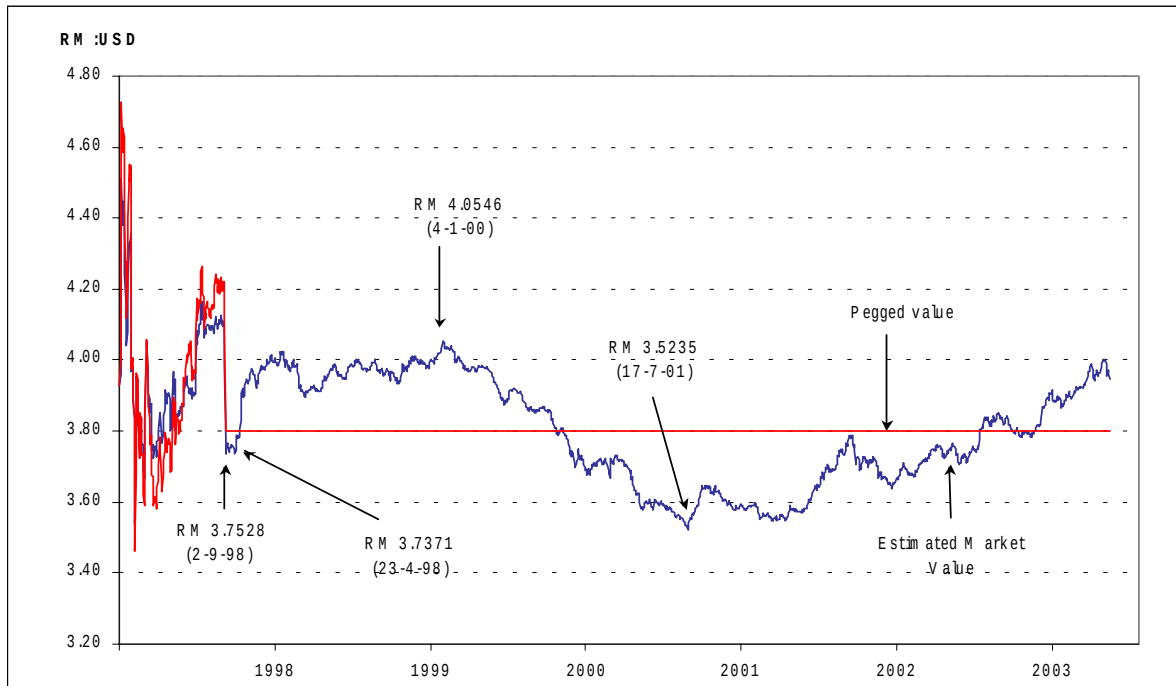
Table 2: Monthly end period of estimates and market value of exchange rates MYR:USD, January 1998 to December 2003

Reference Date	Estimate Value ^a	Market Value ^b	Reference Date	Estimate Value ^a	Market Value ^b
Jan-98	4.3567	4.5450	Jan-01	3.7186	3.8000
Feb-98	3.7290	3.6750	Feb-01	3.7037	3.8000
Mar-98	3.7691	3.6430	Mar-01	3.6002	3.8000
Apr-98	3.8595	3.7365	Apr-01	3.5795	3.8000
May-98	3.8794	3.8785	May-01	3.5883	3.8000
Jun-98	4.0852	4.1750	Jun-01	3.5526	3.8000
Jul-98	4.0968	4.1425	Jul-01	3.5702	3.8000
Aug-98	4.1066	4.2200	Aug-01	3.6364	3.8000
Sep-98	3.7871	3.8000	Sep-01	3.6127	3.8000
Oct-98	3.9714	3.8000	Oct-01	3.5875	3.8000
Nov-98	3.9727	3.8000	Nov-01	3.5911	3.8000
Dec-98	3.9886	3.8000	Dec-01	3.5570	3.8000
Jan-99	3.9762	3.8000	Jan-02	3.5566	3.8000
Feb-99	3.9151	3.8000	Feb-02	3.5522	3.8000
Mar-99	3.9105	3.8000	Mar-02	3.5717	3.8000
Apr-99	3.9693	3.8000	Apr-02	3.6239	3.8000
May-99	3.9512	3.8000	May-02	3.6976	3.8000
Jun-99	3.9924	3.8000	Jun-02	3.7396	3.8000
Jul-99	3.9918	3.8000	Jul-02	3.7238	3.8000
Aug-99	3.9651	3.8000	Aug-02	3.7187	3.8000
Sep-99	3.9410	3.8000	Sep-02	3.6734	3.8000
Oct-99	3.9978	3.8000	Oct-02	3.6762	3.8000
Nov-99	3.9776	3.8000	Nov-02	3.6794	3.8000
Dec-99	4.0302	3.8000	Dec-02	3.7223	3.8000
Jan-00	4.0044	3.8000	Jan-03	3.7559	3.8000
Feb-00	3.9701	3.8000	Feb-03	3.7471	3.8000
Mar-00	3.9824	3.8000	Mar-03	3.7296	3.8000
Apr-00	3.9523	3.8000	Apr-03	3.7598	3.8000
May-00	3.8903	3.8000	May-03	3.8269	3.8000
Jun-00	3.9093	3.8000	Jun-03	3.8172	3.8000
Jul-00	3.8501	3.8000	Jul-03	3.7896	3.8000
Aug-00	3.8510	3.8000	Aug-03	3.7877	3.8000
Sep-00	3.8035	3.8000	Sep-03	3.8830	3.8000
Oct-00	3.6979	3.8000	Oct-03	3.8872	3.8000
Nov-00	3.6773	3.8000	Nov-03	3.8914	3.8000
Dec-00	3.7115	3.8000	Dec-03	3.9418	3.8000

^aExtracted from daily exchange rate which calculated from the model.

^bExtracted from daily exchange rate from Bank Negara web-sites

Figure 2: Estimated value versus market value of exchange rate (RM:USD), 2 January 1998 to 31 December 2003



One of the interesting finding in this study is that, during the period of selective capital control, the floated exchange rate is moving cyclically along the pegged rate with virtually systematic rhythm. More interestingly, the amplitude of the curve is about symmetric between the depreciation and the appreciation of floated rate from the pegged rate. It is estimated that the amplitude of the curve in the appreciation period is RM0.27 (RM4.0546 minus RM3.80) and RM0.25 (RM3.80 minus RM3.5235) during the depreciation period⁷.

4.2 The statistical test

The result of testing hypothesis (a) is shown in Table 3. The average value of the exchange rates from the model was RM3.97 and RM3.98 for the market exchange rate. The statistical test showed that the hypothesis (a) is not rejected at 10 per cent significance level implying that the average between the two are equal from 2 January 1998 to 2 September 1998. The coefficient of correlation also shows that the two variables were moving closely at the same direction (0.977). This implies that the proposed method was able to track the movement of the exchange rate under the pegged regime.

The statistical test for hypothesis (b) also supports the same conclusion. The test has not rejected the hypothesis at 10 percent significant level (Table 4). Thus, the average value of floated rate and the pegged rate in the selective capital control from 2 September 1998 to 31 December 2003 are not significantly different.

⁷ In Figure 2, the worse value of floated rate of RM4.0546 which was registered on 4 January 2000 and the best value of RM3.5235 was recorded on 17 July 2001 (see Figure 2).

Although it has been proven that the overall value of the floated rate after five years of pegging the Ringgit is not statistically different from RM3.80, it is essential to evaluate the cost incurred by the government to maintain the pegged rate.

Table 3: Test of hypothesis (a) : Before the period of selective capital control (2 January 1998 to 1 September 1998)

Variable	Mean	Std. Error Mean	Correlation
Estimated exchange rate	3.9652	0.0132	0.977
Actual exchange rate	3.9794	0.0198	
Paired Samples Test			
Paired differences Mean			-0.0143
Std. Error Mean			0.0074
95% confidence interval of the difference lower			-0.0289
95% confidence interval of the difference upper			0.0004
t- statistics			-1.924
degree of freedom			162
significant 2-tailed			0.06

Table 4: Test of hypothesis (b) : During the period of selective capital control (2 September 1998 to 31 December 2003)

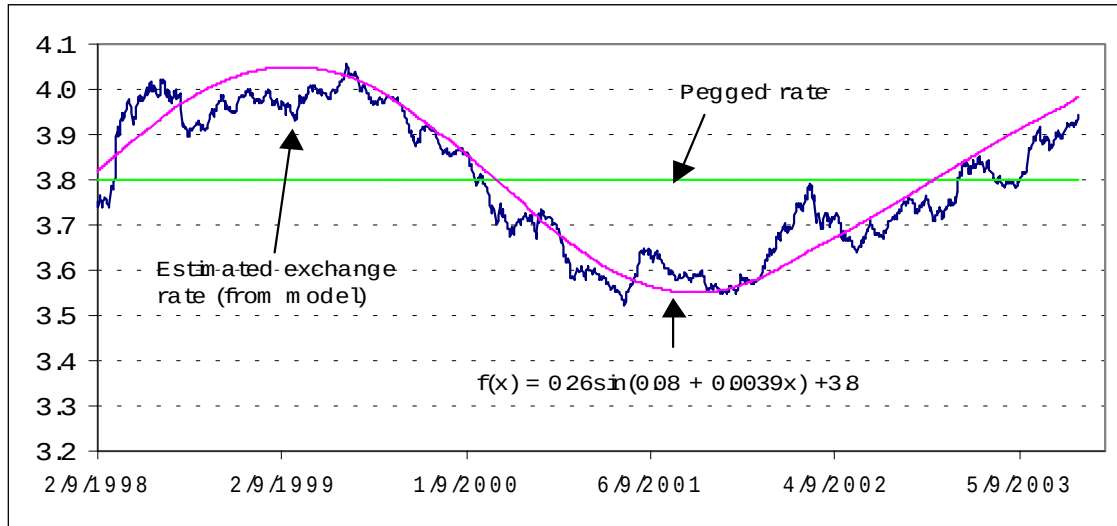
Variable	Mean	Std. Error Mean	Correlation
Estimated exchange rate	3.7937	0.0041	-
Actual exchange rate	3.8000	0.0000	
Paired Samples Test			
Paired differences Mean			-0.0063
Std. Error Mean			0.0041
95% confidence interval of the difference lower			-0.0144
95% confidence interval of the difference upper			0.0017
t- statistics			-1.537
degree of freedom			1329
significant 2-tailed			0.125

By applying several simulations of equation (6), the best function that can be fitted to the movement of the floated rate is shown in Figure 3. The estimated function is as follows:

$$f(x) = 3.8 + 0.26 \sin (0.0039x + 0.08)$$

The correlation coefficient of the above function estimated from the model is also high at 0.945.

Figure 3: Estimated function of exchange rate under selective capital control (2 September 1998 to 31 December 2003)



On the other hand, total area of the above function that calculates the area of depreciation and appreciation against the pegged rate provides a positive value as shown in the following solution.

$$\begin{aligned}
 f(x) &= \int_0^{1757} 0.26 \sin(0.0039x + .08) dx \\
 &= \int_0^{766} 0.26 \sin(0.0039x + .08) dx - \int_{766}^{1553} 0.26 \sin(0.0039x + .08) dx \\
 &\quad + \int_{1553}^{1757} 0.26 \sin(0.0039x + .08) dx \\
 &= 13.34
 \end{aligned}$$

This implies that pegging the ringgit has positive implication on the Malaysia's net international reserve. Table 5 supports this finding and shows that the international reserve registered an improvement as soon the selective capital control measures are adopted. In addition to this, the trade balance had also improved during the pegged regime.

4.3 Choice of regimes

Although the results discussed in section 4.2 had proven that selective capital control of the exchange rate has virtually no financial implication to the government of Malaysia, there is still a need to decide whether to continue or to replace the pegged rates policy. It is essential to take into consideration the other economic variables such as growth, inflation, price stability, productivity and other economic fundamentals in making the decision.

Table 5: Balance of Trade and Net International Reserve for Malaysia, 1991-2003

Year	Balance of Trade (RM Million) ^a	International Reserve (RM Million) ^b
1991	-6,334	30,452.3
1992	2,216	47,195.7
1993	3,833	76,435.2
1994	-2,000	68,172.8
1995	-9,358	63,769.5
1996	-254	70,014.6
1997	-45	59,122.8
1998	58,439	99,424.4
1999	73,083	117,243.5
2000	61,812	113,541.3
2001	54,055	117,202.9
2002	54,619	131,393.7
2003	81,136	170,452.5

(a) calculated from various sources of Department of Statistics Malaysia's publications

(b) various sources of Bank Negara Malaysia publications

There is a need to consider the effects of pegging the exchange rate on the levels of productivity, inflation and investment. Pegging the exchange rate is associated with significantly better inflation (lower inflation and less variability) and better investment. However, it is strongly correlated with slower productivity (Ghosh, Gulde, Ostry and Wolf, 1999, Caramazza and Aziz, 1998). Study by Grauwe and Grimaldi, 2002 found that the fixed exchange rate regimes are becoming more fragile in a world of intense financial integration. Since the exchange markets and the banking sector are strongly intertwined, crisis in the foreign exchange market can easily spill over into the domestic banking sector leading to a twin crisis.

Flexible exchange rates, on the other hand, produce additional price volatility because of the willingness of the market to absorb unexpected shocks. Flexible exchange rates are also vulnerable to banking crisis especially for developing countries where national authorities fail to follow stable and predictable policies (Grauwe and Grimaldi, 2002).

Some relates the choice with the political environment. Democratic countries are more likely to adopt floating exchange rate regimes because the policy makers are under greater pressure to implement distributive and inflationary policies than the authoritarian government (Leblang, 1998). Considerations for and against alternative exchange rate regimes offer choices to a country to design their own policies that caters to their own needs and suits their financial environments. No regime is likely to serve all countries for all time periods. Countries facing disinflation may find pegged exchange rate an important tool. In pegged exchange rate situation, growth will be sluggish and real exchange rate misalignments are common, therefore, a more flexible regime might be called for.

Moreover shifting from flexible to fixed exchange rate regimes produced structural break in the cointegrating relationship (Killen, Lyons and Moore, 2002). Another view claims

that the stability of an exchange rate can be managed through policy design by targeting the price level. The price level targeting is good for stabilising an output as well as in stabilising real exchange rates and real interest rates (Dehejia and Rowe, 2000). Evidence on the real exchange rates and economic activity showed negative relationship in East Asia (Mareno, 1999).

The Malaysian government has a choice of whether to continue the existing policy, with the fixed exchange rate at RM3.80 or to switch to a more flexible exchange rate, which means that the rate is determined by the foreign exchange rate market. This is important since switching from a fixed regime to a more flexible one will be very costly⁸. There are two sets of choices. With combinations of slow growth, lower productivity, lower inflation rate and stability in the stock prices, the first choice, maintaining the foreign exchange policy as it is, promotes a situation of better investment. [It looks different in meaning from the earlier version- slow growth, lower productivity, lower inflation rate and stability in the stock prices and better investment is the first set of choices]. The second choice is to switch to the floatation regime and let the market clearance price determine the value of foreign exchange rate with the possibility of experiencing high economic growth as well as increase in the productivity level. However, there is a risk for stock prices volatility, uncertainty in inflation rate and possibility of structural break in the cointegrating relationship. The choice is like a trade-off in what the country had owned.

4.4 Limitation and further research

The study has a limitation, notably it focuses on evaluating the suitability of exchange rate level between the ringgit and the US dollar and no attention is given in associating the effect of floated exchange rate estimated from a model with other economic variables. This study, however, points to the daily data as an avenue for further research. The effects of including more variables, particularly growth, inflation rate, productivity level and stock price stability, in the relationship model should be examined, particularly with respect to their implications on regime choices. The insights gained from such analyses would in turn provide a firmer footing for policy prescriptions.

5. Conclusion

This study can be summarized as follows. First, during the pegged regime, one can estimate the level of floated exchange rate for a particular pegged currency by combining several other currencies using the method of constructing the composite coincident method without trend adjustment. By applying this method, it will help the policy maker in choosing the best time frame to switch to the other regime if necessary. Second, during the pegged regime, the floated exchange rate moves cyclically along the pegged rate. However, the average rates between the two were proven not statistically different. From 2 September 1998 to 31 December 2003, the average value of floated exchange rate was estimated at RM3.80. Last but not least, in general the pegged regime provides a strong foundation for accumulating and improving the level of international reserve and balance of trade.

⁸ The cost is a loss of reputation of the monetary authorities.

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