

**Penulis Jemputan / Guest Commentary**  
**Macroeconomic Policy Trilemma in Open Economies:  
Which Policy Option is Ideally Suited to the  
Malaysian Context?**

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*ABSTRACT*

*Right now Malaysia has the major economic fundamentals more or less right (excepting the budget deficit). The inflation rate is low (1.2%), unemployment rate is relatively low (3.5%), current account balance is significantly positive (13.7%), foreign reserves are growing and comfortable and the savings rate is high. Given Malaysia's current economic and political strength and the experiences of many other open economies, it appears to me that as long as the macroeconomic discipline as well as the ongoing financial and corporate sector restructuring developments are maintained, Malaysia can enhance its FDI inflows, growth rate of output and employment significantly by continuing with the current independent monetary policy but shifting towards a managed peg linked to a basket of currencies weighted by trade balance along with an accelerated removal of capital controls. The regime change will send a powerful positive signal to the outside world about Malaysia's own confidence in its future prospects.*

*ABSTRAK*

*Kini Malaysia sudah mempunyai asas ekonomi yang selesa (kecuali defisit dalam bajet). Kadar inflasi rendah (1.2%), kadar pengangguran yang secara relatif, juga rendah, imbangan akaun semasa yang amat positif (13.7%), rizab asing meningkat dan selesa serta kadar simpanan juga tinggi. Berdasarkan kekuatan ekonomi dan politik semasa dan pengalaman ekonomi negara-negara lain, pada hemat saya, selagi disiplin makroekonomi dipertahankan dan penstrukturan kewangan sektor korporat diteruskan, Malaysia mampu meningkatkan kemasukan pelaburan langsung asing, kadar pertumbuhan output dan pekerjaan secara signifikan menggunakan polisi kewangan bebas yang sedia ada tetapi secara beransur-ansur beralih kepada menyandarkan secara terurus terhadap sekumpulan matawang asing disamping melonggarkan kawalan modal. Perubahan regim ini akan memberikan petunjuk yang kuat dan positif kepada dunia tentang keyakinan Malaysia sendiri terhadap prospeknya pada masa hadapan.*

## INTRODUCTION

The policy makers in open economies are faced with the choice in terms of classic macroeconomic trilemma (i.e., to achieve simultaneously three 'inconsistent' policy goals: an independent monetary policy, free capital movement, and a fixed exchange rate). Only two out of the three above goals can be mutually consistent at a particular regime and the third goal has to be sacrificed. Which policy option should Malaysia go for?

This paper casts the choices faced by the policy makers in terms of the classic macroeconomic trilemma: the idea that the above three policy objectives are not compatible. The intuition is simple: when a country pegs to some base currency and when capital is fully mobile, simple interest rate parity pins down the domestic interest rate, forcing it to be equal to the interest rate of the base currency.

If monetary activism is taken to mean the ability to drive local interest rates away from the global rate, then arbitrage in open capital markets and simple interest parity under a credible fixed exchange rate clearly defeats the objective. Despite the clarity and simplicity of this prediction, one is surprised by the frequency with which the lessons of the trilemma seem to be disregarded by policy makers, even today. This might reflect the lack of empirical studies showing how tight the constraints really are (Obstfeld, Shambaugh & Taylor 2004a).

The trilemma finds considerable *empirical* support in this era. The trilemma was a constraint on policy for countries that fixed their exchange rate and maintained open capital markets. They lost much of their monetary autonomy compared with countries that adopted alternative regimes. Empirically, there is strong evidence in support of the trilemma that emerges in the data as a long enduring and still very relevant constraint on the political equilibrium (Obstfeld et al. 2004b).

Historically, the classical gold standard was a highly globalized period of mostly fixed rates, free capital mobility, and hence limited monetary independence. The architecture of the post World War II Bretton Woods System provided monetary autonomy with relatively stable, fixed but adjustable exchange rates requiring strict limits on capital mobility.

## EXPERIENCES OF OPEN ECONOMIES IN DIFFERENT CONTINENTS

### EXPERIENCE OF MEXICO AND ARGENTINA

*Mexico's Crawling Peg (up to December 1994)*. Less than 12 months after NAFTA, Mexico faced economic disaster in December 1994 when she devalued the peso. The main fly in the ointment was Mexico's current account deficit that went up from \$6 billion in 1989 to \$20 billion in 1992/93.

Mexico had a crawling peg system with the dollar. However, in real (price adjusted) terms, the peso was appreciating, contributing to the growing current account deficit. Mexico's inflation rate was higher than the sum of the US inflation rate and peso depreciation, so the real exchange rate was rising which led to the growing current account deficit and capital flight, and the loss of reserves. This eventually resulted in devaluation and the crisis was made worse by an on-going political crisis (Whitt 1996).

*Argentina's Fixed Exchange Rate Currency Board (April 1991 to January 2002).* Argentina's currency board was not an orthodox currency board. The character of their currency board allowed it to be partially backed by domestic rather than hard foreign currency assets. The central bank was initially permitted to hold as little as 66.6% of its assets in true foreign reserves (which was raised to 90%). The gap could be held in the form of Argentinean government bonds. Hence the charter of its currency board opened the door of discretionary monetary policy.

*The Lessons.* The exchange rate, regardless of its nature, is not a cure for improper macroeconomic policies. Argentina's public debt at the time of its devaluation in 2002 exceeded \$155 billion. Argentina had an unsustainable budget deficit (since export revenues went down due to an overvaluation of its currency vis-à-vis its major trading partners such as Brazil) (Spiegel 2002).

#### EXPERIENCE OF SOUTH AFRICA

With the beginning of the end of the dual financial (rand) exchange rate system in March 1995, South Africa made its first clear move towards a freer exchange rate arrangement. This was accompanied by lifting various capital account restrictions, but by then, the aftermath of Mexico's peso crisis was already a fresh but painful memory.

The authorities have since employed a gradual approach to promote capital mobility through severing controls and restrictions on flows, all this taking place when the global pace of liberalization has slowed following the succession of currency and financial crises throughout global emerging markets, as well as South Africa's own escalated periods of volatility notably in 1998 and 2001.

Despite debate on the appropriate pace of liberalization, South Africa has achieved many of the preconditions for complete removal of controls (Teixeira, Masih & O'Neill 2004), not in the least a clear and transparent monetary policy framework with a staunch and so far credible inflation targeting regime. Accompanied with a strong financial regulatory environment, and efficient fiscal management, inflation targeting in South Africa has already helped her reserve bank to moderate inflationary expectations, lower interest rates, and dampen currency as well as fundamental volatility. The continued

stability and easing of financial restrictions has also helped the reserve bank to build up its gross international reserves position, leading to further currency strength and stability.

#### EXPERIENCE OF SAUDI ARABIA

Saudi Arabia kept its currency (Saudi Riyal) fixed with US\$ since 1985. The main reason behind the fixed exchange rate was to keep the price of its major exports crude petroleum and petrochemicals fixed in US\$. Saudi Arabia allows free movement of currency and capital but in line with resolving the trilemma has sacrificed monetary independence. The major role of Saudi monetary policy is to keep riyal pegged with the US\$ by stabilizing the interest rate and inflation rate differentials between Saudi Arabia and USA.

#### EXPERIENCE OF HONG KONG AND CHINA

Hong Kong maintains a fixed exchange rate regime in the form of a currency board system foregoing monetary policy autonomy. The regime has enabled it to maintain a fixed exchange rate system and a fully integrated financial system. The experience of Hong Kong during the Asian crisis tends to suggest that only strong economies which have sufficiently large reserves and healthy financial system and which are following strict monetary and fiscal discipline are likely to withstand an interest rate pain resulting from speculative attack on their currencies. It appears that in Asia excluding Japan, only Taiwan and Singapore can qualify for that system. China maintains a fixed exchange rate with US\$ by keeping capital controls on. It does, however, have a relatively weak financial system

#### EXPERIENCE OF AUSTRALIA

The flexible band (2 to 3%) and the medium term of inflation targeting had helped Australia stabilize both inflation and output variation. Australia's inflation targeting does take output stabilization into account. The targeting has sufficient flexibility to allow for a short run trade off between output and inflation. A medium term price stability was maintained while still allowing for some degree of short run inflation variability – this providing scope for lower output variability.

Through the choice of its policy instrument (the real interest rate), the Reserve Bank of Australia minimizes the loss function that is defined as the weighted sum of inflation and output deviations from their target levels. Australia's monetary policy is adjusted in response to deviations of inflation from its target and also deviations of output from its potential level. Such a reaction function for a monetary policy is often referred to as a 'Taylor rule'.

Too flexible inflation rate regimes may undermine public confidence. And too

rigid an inflation rate regime may result in an unnecessarily large amount of output variability. However, in deciding the appropriate degree of flexibility, consideration must be given first to establishing *credibility* in order to allow *flexibility* in the longer run (Debelle 1999).

#### EXPERIENCE OF EUROPEAN MONETARY SYSTEM

An alternative regime for solving the trilemma is to go for a single currency and give up exchange rate flexibility entirely. This is what the European monetary system has done. The emergence of 'Euro' is a major development in international finance during the recent decade. There are suggestions for a major currency in the Asian region. However, a number of studies tend to indicate that the Asian countries are still far from satisfying the criteria for establishing an optimum currency area. At the moment the levels of economic development and political systems are much more diverse in Asian countries than those among the European monetary system. Economic integration even among ASEAN countries is still very shallow. Hence it is not clear whether the Asian countries will get net benefits from joining the single currency area sacrificing monetary policy independence. Also there is as yet no political consensus to move in that direction. Despite all these limitations, the Asian countries should not completely dismiss the feasibility of establishing such a regime in the long term. We should bear in mind that it took European countries about 40 years of economic cooperation and integration before arriving at the single currency system. If the Asian countries can succeed in forming a currency union in about 20 years or so, then the world will move towards three major currencies: the US\$, the Euro, and the Asian currency (Lamberte 2002).

#### MALAYSIAN CONTEXT AND POLICY ISSUES

##### SHOULD MALAYSIA CONTINUE ITS INDEPENDENT (RATHER THAN DEPENDENT) MONETARY POLICY?

This issue is related to the proposition as to whether 'neutrality of money' holds or not in the context of Malaysia. The issue finally boils down to whether money leads or lags economic activity in Malaysia.

The causal relationship between money and other macroeconomic variables such as output, interest rate, prices, and exchange rate has been in dispute for a long time in mainstream macroeconomics. Different schools of thought have postulated the relationship in different ways, giving rise to different macroeconomic paradigms, such as the Classical, the Keynesian, the Monetarist, the New Classical, the New Keynesian, and finally, the recent Real Business Cycle. Up until the recent Real Business Cycle theory, the dominant common theme running across these doctrines (with the exception

of the Classical, who believed that an increase in money supply would in the long run result only in a proportionate increase in the price level without any increase in economic activity,  $P \leftarrow M$ ) was that an aggregate demand shock such as monetary shocks would have a positive effect on real economic activity. In other words, money would lead (rather than lag) economic activity.

The issues among the Keynesian, the Monetarist, the New Classical, and the New Keynesian were not whether or not monetary shocks had a positive effect on output but the nature and the transmission channels of these positive shocks. The Keynesian believed that a positive monetary shock would increase both economic activity and price level through the interest rate and investment variables ( $Y \leftarrow P \leftarrow I \leftarrow R \leftarrow M$ ). Led by Friedman, the Monetarist integrated the Keynesian short-run theory with the Classical long-run theory. In the short run, they agreed with the Keynesian transmission channel ( $Y \leftarrow M$ ), but if the monetary expansion is sustained in the long run, they agreed with the Classical as to the long-run neutrality of money ( $P \leftarrow R \leftarrow Y \leftarrow M$ ), because monetary expansion would then be dissipated in terms of higher interest rates and prices rather than output, which would return to “natural level” as soon as the inflationary expectations have been fully adapted. The expectation-augmented long-run supply curve, according to them, will be fully vertical, although in the short run it could be upward-sloping, as is postulated by the Keynesian.

The New Classical, led by Barro, Lucas, Sargent, and Wallace, decomposed monetary effect into output and price effect, not on the basis of short and long run but on whether the monetary expansion is “anticipated” or “unanticipated”. Based on the concept of “rational expectations” and equilibrium “efficient market” hypothesis, they postulated that only the unanticipated monetary expansion would result in an increase in output, but the anticipated increase in money would be dissipated in inflation; that is, according to them, the expectation-augmented supply curve is vertical both in the short as well as in the long term.

The New Keynesian, however, based on the hypotheses of rational expectations but disequilibrium inefficient market, postulated non-neutrality of money at least in the short run because of rigidities in prices and wages, and market failures and imperfections. In sharp contrast to these competing paradigms, the recent Real Business Cycle (RBC) theory is the latest incarnation of the “classical dichotomy” in that monetary expansion cannot increase real output. The RBC economists view the historical association between money and output as the case of money supply endogenously responding (rather than leading) to an increase in output. To the RBC school, money-output correlations observed in the data should be attributed to “reverse causation”. That is, the banking sector responds to increased demand for transactions by creating more inside money. To them, monetary expansion, whether short or long run (as focused by the Monetarist) and anticipated or unanticipated (as

focused by the early New Classical school), will have no positive effect on output; it will only raise interest rates and the price level. The RBC school, therefore, views money supply as endogenous and a function of output that is determined exogenously by factors such as technology or other real “stochastic” shocks ( $P \leftarrow R \leftarrow M \leftarrow Y$ ).

We tested empirically the above macroeconomic paradigms through the application of recent dynamic time-series econometric techniques in the context of Malaysia (Tables 1 and 2, Figures 1a and 2a), Thailand (Tables 3 and 4, Figures 1B and 2B) and Indonesia (see Tables 5 and 6, Figures 3 and 4) with a view to discerning the lead-lag controversy between money and output (Masih and Masih 1996a; 1996b).

The results based on variance decompositions and impulse response functions in the case of Malaysia and Thailand tend to indicate that money supply (particularly M1) more often predominantly leads (rather than lags) output and the other three nominal variables (interest rate, prices and exchange rates).

These findings are consistent more with the Monetarist (in the case of Malaysia) and the Keynesian (in the case of Thailand). In other words, money supply is found to be most exogenous in the Granger-causal chain and hence an increase in money supply does increase output and employment at least in the short run. However, in the case of Indonesia, the results tend to indicate that output more often predominantly leads (rather than lags) money supply and the other three nominal variables and the findings are consistent more with the recent real business cycle theory than with the other two major macroeconomic paradigms such as the Keynesian and the Monetarist.

These findings have clear policy implications in the sense that as long as there is stability and continuation of economic policies (regardless of change of governments) within the framework of proper macroeconomic discipline (implying thereby an expectation-augmented supply curve being not completely vertical), a monetary expansion in Malaysia (and Thailand) will not necessarily be dissipated merely in terms of higher nominal variables (such as prices, exchange rates, or interest rates) but will contribute positively to an increase in output and employment as happened in both Malaysia and Thailand during the major part of the period under review (unlike Indonesia in which an excessive monetary expansion was dissipated in terms of relatively higher nominal variables such as prices, exchange rates or interest rates rather than real output in view of relative lack of proper macroeconomic discipline).

The above empirical results based on rigorous dynamic time series techniques tend to suggest that Malaysia may continue its long standing independent monetary policy.

#### SHOULD MALAYSIA CONTINUE (OR LIFT FULLY) CAPITAL CONTROLS?

Given the independence of monetary policy in Malaysia, the imposition

TABLE 1. Decomposition of Variance for M1 Model (Malaysia)

Percentage of forecast variance explained by innovations in:					
Years	$\Delta Y$	$\Delta MI$	$\Delta IR$	$\Delta CP$	$\Delta ER$
Relative Variance in: $\Delta Y$					
1	100.00	0.00	0.00	0.00	0.00
2	58.80	24.32	9.61	2.77	4.50
3	53.34	25.66	11.89	4.18	4.93
4	49.18	25.08	12.00	8.50	5.24
5	36.49	39.00	15.01	5.99	3.52
10	36.66	38.65	14.20	6.45	4.03
Relative Variance in: $\Delta MI$					
1	27.38	72.62	0.00	0.00	0.00
2	16.99	75.74	6.44	0.81	0.02
3	25.56	60.09	11.07	1.36	1.93
4	24.77	58.25	11.26	2.98	2.73
5	23.41	60.10	10.91	2.81	2.76
10	23.98	59.18	10.86	2.77	3.20
Relative Variance in: $\Delta IR$					
1	0.66	2.90	96.44	0.00	0.00
2	9.20	45.00	42.79	0.00	3.01
3	12.82	43.04	41.29	0.14	2.70
4	22.46	36.76	37.97	0.11	2.70
5	20.53	40.77	35.70	0.68	2.34
10	20.60	42.62	32.18	0.87	3.72
Relative Variance in: $\Delta CP$					
1	0.47	8.87	14.69	75.95	0.00
2	3.82	30.52	31.89	33.75	0.02
3	10.55	45.86	23.70	19.83	0.05
4	13.12	46.11	21.74	18.99	0.05
5	12.96	45.87	21.51	19.23	0.44
10	13.07	46.45	21.21	18.73	0.55
Relative Variance in: $\Delta ER$					
1	2.45	11.67	45.64	0.05	40.18
2	2.36	31.36	39.46	0.63	26.20
3	7.64	34.72	36.67	0.81	20.16
4	7.83	34.44	36.38	1.41	19.94
5	8.27	34.18	36.03	1.45	20.07
10	8.75	35.13	35.13	1.51	19.49

*Notes:* Figures in the first column refer to horizons (i.e., number of years). All other figures are estimates rounded to two decimal places - rounding errors may prevent a perfect percentage decomposition in some cases. Several alternative orderings of these variables were also tried with monetary variables appearing prior to the output variable. Such alterations, however, did not alter the results to any substantial degree. This is possibly due to the variance-covariance matrix of residuals being near diagonal, arrived at through Choleski decomposition in order to orthogonalize the innovations across equations.

TABLE 2. Decomposition of Variance for M2 Model (Malaysia)

Percentage of forecast variance explained by innovations in:					
Years	$\Delta Y$	$\Delta MI$	$\Delta IR$	$\Delta CP$	$\Delta ER$
Relative Variance in: $\Delta Y$					
1	100.00	0.00	0.00	0.00	0.00
2	75.99	0.50	11.49	12.01	0.00
3	75.56	0.70	11.71	11.95	0.07
4	75.52	0.73	11.73	11.94	0.07
5	75.47	0.74	11.74	11.96	0.08
10	75.47	0.74	11.74	11.96	0.08
Relative Variance in: $\Delta M2$					
1	8.07	91.93	0.00	0.00	0.00
2	7.01	78.71	0.05	5.67	8.56
3	8.63	76.62	0.84	5.61	8.30
4	8.51	75.68	1.09	6.24	8.48
5	8.56	75.52	1.09	6.34	8.48
10	8.56	75.48	1.10	6.37	8.49
Relative Variance in: $\Delta IR$					
1	0.62	0.69	98.69	0.00	0.00
2	7.52	11.31	77.34	1.80	2.03
3	7.84	10.79	74.24	4.64	2.48
4	7.87	11.34	73.50	4.73	2.55
5	7.88	11.33	73.37	4.82	2.60
10	7.89	10.35	73.33	4.83	2.60
Relative Variance in: $\Delta CP$					
1	1.39	0.05	7.44	91.12	0.00
2	8.97	14.12	5.88	68.97	2.06
3	10.02	13.45	5.96	68.07	2.50
4	9.97	14.00	6.03	67.38	2.61
5	9.99	13.97	6.02	67.36	2.64
10	9.99	14.00	6.03	67.32	2.65
Relative Variance in: $\Delta ER$					
1	1.80	12.92	5.51	14.20	65.56
2	3.79	25.02	4.32	16.29	50.58
3	3.43	26.72	3.90	17.94	48.00
4	4.20	26.81	3.88	17.84	47.28
5	4.18	26.90	3.94	17.98	47.00
10	4.20	26.89	3.94	18.00	46.96

*Notes:* Figures in the first column refer to horizons (i.e., number of years). All other figures are estimates rounded to two decimal places - rounding errors may prevent a perfect percentage decomposition in some cases. Several alternative orderings of these variables were also tried with monetary variables appearing prior to the output variable. Such alterations, however, did not alter the results to any substantial degree. This is possibly due to the variance-covariance matrix of residuals being near diagonal, arrived at through Choleski decomposition in order to orthogonalize the innovations across equations.

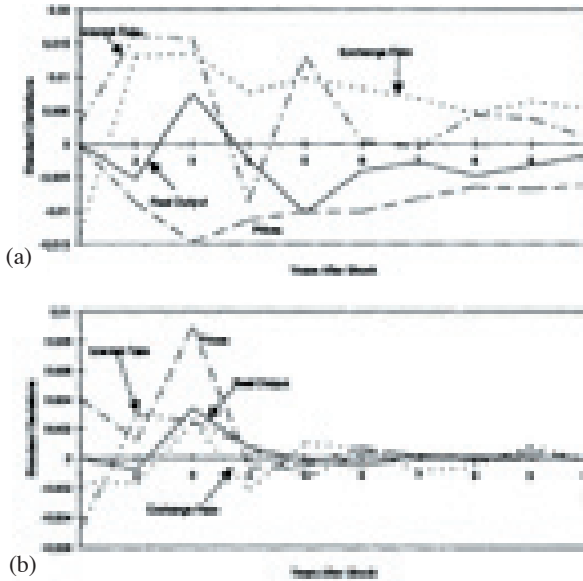


FIGURE 1. Impulse responses of real output, prices, exchange rate and interest rate from a one-standard shock to money (M1) in (a) Malaysia and (b) Thailand

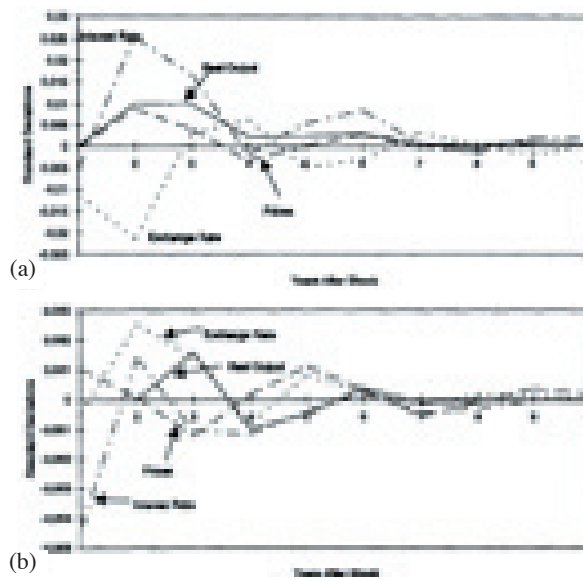


FIGURE 2. Impulse responses of real output, prices, exchange rate and interest rate from a one-standard shock to money (M2) in (a) Malaysia and (b) Thailand

TABLE 3. Decomposition of Variance for M1 Model (Thailand)

Percentage of forecast variance explained by innovations in:					
Years	$\Delta Y$	$\Delta MI$	$\Delta IR$	$\Delta CP$	$\Delta ER$
Relative Variance in: $\Delta Y$					
1	100.00	0.00	0.00	0.00	0.00
2	86.34	1.13	1.45	11.08	0.00
3	60.09	16.42	12.56	10.76	0.16
4	59.46	16.80	12.87	10.56	0.31
5	59.81	16.65	12.72	10.44	0.37
10	59.00	16.75	13.40	10.38	0.46
Relative Variance in: $\Delta MI$					
1	0.15	99.85	0.00	0.00	0.00
2	3.64	93.04	1.58	0.02	1.54
3	3.78	88.47	4.09	0.20	3.45
4	3.70	88.27	4.21	0.38	3.42
5	4.06	83.45	7.05	0.95	4.48
10	4.21	80.15	8.41	2.33	4.90
Relative Variance in: $\Delta IR$					
1	0.07	5.90	33.84	60.18	0.00
2	0.65	33.40	22.35	39.41	1.34
3	0.82	42.26	19.24	34.03	3.06
4	1.12	39.31	20.54	33.36	3.34
5	1.10	38.68	20.19	34.41	3.75
10	1.46	36.64	21.87	33.70	4.25
Relative Variance in: $\Delta CP$					
1	0.07	5.90	33.84	60.18	0.00
2	0.65	33.40	22.35	39.41	4.19
3	0.82	42.26	19.24	34.03	3.65
4	1.12	39.31	20.54	33.36	5.66
5	1.10	38.68	20.19	34.41	5.61
10	1.46	36.64	21.87	33.70	6.33
Relative Variance in: $\Delta ER$					
1	6.01	1.90	3.58	14.86	73.64
2	2.69	1.54	39.68	12.46	43.64
3	3.67	2.79	42.37	11.16	40.01
4	4.60	3.09	42.84	12.89	36.57
5	4.49	3.20	41.29	15.59	35.42
10	4.78	3.24	41.95	16.29	33.74

*Notes:* Figures in the first column refer to horizons (i.e., number of years). All other figures are estimates rounded to two decimal places - rounding errors may prevent a perfect percentage decomposition in some cases. Several alternative orderings of these variables were also tried with monetary variables appearing prior to the output variable. Such alterations, however, did not alter the results to any substantial degree. This is possibly due to the variance-covariance matrix of residuals being near diagonal, arrived at through Choleski decomposition in order to orthogonalize the innovations across equations.

TABLE 4. Decomposition of Variance for M2 Model (Thailand)

Percentage of forecast variance explained by innovations in:					
Years	$\Delta Y$	$\Delta MI$	$\Delta IR$	$\Delta CP$	$\Delta ER$
Relative Variance in: $\Delta Y$					
1	100.00	0.00	0.00	0.00	0.00
2	90.55	0.01	0.85	0.01	8.59
3	80.65	3.10	6.05	1.62	8.58
4	67.46	3.62	7.02	4.10	17.81
5	66.66	3.81	6.97	4.86	17.70
10	64.54	3.83	7.88	4.82	18.93
Relative Variance in: $\Delta M2$					
1	0.62	99.38	0.00	0.00	0.00
2	0.62	80.65	16.15	1.59	0.98
3	4.37	73.10	19.95	1.46	1.12
4	4.66	70.90	20.13	2.61	1.69
5	4.56	69.63	19.81	4.03	1.97
10	4.99	68.06	20.66	4.15	2.15
Relative Variance in: $\Delta IR$					
1	0.06	14.70	85.24	0.00	0.00
2	10.38	12.01	77.46	0.02	0.02
3	11.88	11.49	73.13	2.69	0.80
4	11.00	11.28	68.36	6.88	2.49
5	11.41	11.05	67.96	7.16	2.42
10	11.60	10.85	67.59	7.20	2.75
Relative Variance in: $\Delta CP$					
1	1.18	0.41	31.20	67.21	0.00
2	5.61	0.32	27.90	66.15	0.01
3	8.33	0.60	38.66	49.48	2.95
4	8.02	0.57	38.49	48.02	4.90
5	9.48	0.80	39.30	45.70	4.72
10	10.13	0.86	39.55	42.77	4.68
Relative Variance in: $\Delta ER$					
1	1.06	0.13	0.31	29.70	40.18
2	1.22	3.11	5.88	26.84	26.20
3	3.85	3.45	10.65	25.55	20.16
4	3.89	3.70	10.64	25.45	19.94
5	3.90	3.94	10.57	25.62	20.07
10	4.11	3.95	11.01	25.45	19.49

Notes: Figures in the first column refer to horizons (i.e., number of years). All other figures are estimates rounded to two decimal places - rounding errors may prevent a perfect percentage decomposition in some cases. Several alternative orderings of these variables were also tried with monetary variables appearing prior to the output variable. Such alterations, however, did not alter the results to any substantial degree. This is possibly due to the variance-covariance matrix of residuals being near diagonal, arrived at through Choleski decomposition in order to orthogonalize the innovations across equations.

TABLE 5. Decomposition of Variance for M1 Model (Indonesia)

Percentage of forecast variance explained by innovations in:					
Years	$\Delta Y$	$\Delta MI$	$\Delta IR$	$\Delta CP$	$\Delta ER$
Relative Variance in: $\Delta Y$					
1	100.00	0.00	0.00	0.00	0.00
2	85.36	0.01	8.37	1.22	5.03
3	83.33	0.43	9.19	1.83	5.22
4	82.51	0.41	8.53	1.71	6.84
5	83.14	0.38	8.04	1.60	6.83
10	82.53	0.40	8.68	1.47	6.92
Relative Variance in: $\Delta MI$					
1	34.26	65.74	0.00	0.00	0.00
2	40.97	38.99	17.70	2.19	0.13
3	47.05	29.94	17.57	2.02	3.41
4	56.19	21.66	14.64	1.58	5.93
5	62.04	17.75	13.17	1.26	6.38
10	69.31	10.15	12.54	0.80	7.19
Relative Variance in: $\Delta IR$					
1	0.67	5.99	93.34	0.00	0.00
2	43.99	3.03	35.91	0.31	16.77
3	65.80	1.48	18.58	0.26	13.88
4	70.53	1.15	16.38	0.28	11.66
5	71.29	1.08	16.49	0.27	10.88
10	74.74	0.82	14.18	0.20	10.05
Relative Variance in: $\Delta CP$					
1	18.39	0.04	3.94	77.64	0.00
2	15.09	0.11	10.10	73.54	1.16
3	15.03	0.47	9.33	73.21	1.96
4	16.72	0.47	9.16	71.35	2.30
5	18.83	0.47	8.94	69.36	2.41
10	22.46	0.47	9.25	65.05	2.76
Relative Variance in: $\Delta ER$					
1	0.29	36.80	2.13	0.41	60.36
2	35.22	17.47	12.50	0.63	34.18
3	34.33	16.92	11.96	2.13	34.65
4	37.75	15.51	11.31	2.06	33.36
5	39.06	15.19	11.09	2.03	32.64
10	39.46	14.93	11.33	2.02	32.27

*Notes:* Figures in the first column refer to horizons (i.e., number of years). All other figures are estimates rounded to two decimal places - rounding errors may prevent a perfect percentage decomposition in some cases. Several alternative orderings of these variables were also tried with monetary variables appearing prior to the output variable. Such alterations, however, did not alter the results to any substantial degree. This is possibly due to the variance-covariance matrix of residuals being near diagonal, arrived at through Choleski decomposition in order to orthogonalize the innovations across equations.

TABLE 6. Decomposition of Variance for M2 Model (Indonesia)

Percentage of forecast variance explained by innovations in:					
Years	$\Delta Y$	$\Delta MI$	$\Delta IR$	$\Delta CP$	$\Delta ER$
Relative Variance in: $\Delta Y$					
1	100.00	0.00	0.00	0.00	0.00
2	84.26	0.59	9.96	0.61	4.59
3	80.26	1.77	11.79	0.84	5.55
4	77.49	1.86	10.74	0.89	9.02
5	77.54	1.81	10.11	0.85	9.70
10	77.55	1.80	10.09	0.87	9.70
Relative Variance in: $\Delta M2$					
1	15.03	84.97	0.00	0.00	0.00
2	18.20	74.20	6.60	0.99	0.01
3	18.76	71.33	7.68	1.14	1.10
4	21.94	65.92	7.39	1.22	3.54
5	24.37	63.08	7.07	1.17	4.31
10	25.20	62.11	7.08	7.08	4.43
Relative Variance in: $\Delta IR$					
1	0.08	11.85	88.07	0.00	0.00
2	25.60	8.72	40.30	0.00	25.38
3	43.18	5.85	24.42	0.30	26.25
4	47.47	5.28	22.04	0.36	24.85
5	47.87	5.21	21.98	0.38	24.56
10	48.12	5.17	21.83	0.38	24.50
Relative Variance in: $\Delta CP$					
1	20.31	8.76	9.40	61.53	0.00
2	16.60	9.49	14.77	58.38	0.75
3	16.44	10.67	13.71	57.79	1.39
4	16.44	10.51	13.66	57.63	1.77
5	17.10	10.48	13.51	57.00	1.90
10	17.11	10.49	13.53	56.96	1.91
Relative Variance in: $\Delta ER$					
1	0.14	38.63	1.45	2.12	57.64
2	16.90	22.57	17.50	1.67	41.36
3	16.02	22.51	17.14	2.16	42.14
4	22.15	19.58	14.77	2.19	41.32
5	24.99	18.71	14.16	2.10	40.04
10	25.15	18.63	14.20	2.12	39.89

*Notes:* Figures in the first column refer to horizons (i.e., number of years). All other figures are estimates rounded to two decimal places - rounding errors may prevent a perfect percentage decomposition in some cases. Several alternative orderings of these variables were also tried with monetary variables appearing prior to the output variable. Such alterations, however, did not alter the results to any substantial degree. This is possibly due to the variance-covariance matrix of residuals being near diagonal, arrived at through Choleski decomposition in order to orthogonalize the innovations across equations.

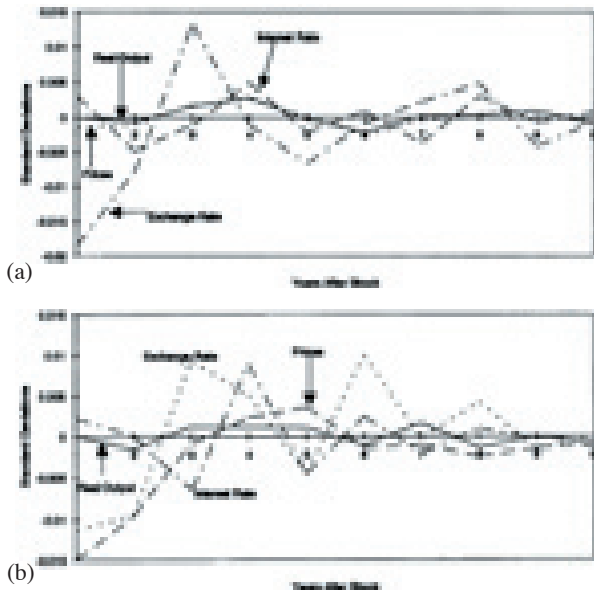


FIGURE 3. (a). Impulse responses of real output, prices, exchange rate from a one-standard deviation shock to M1. (b) Impulse responses of real output, prices, exchange rate from a one-standard deviation shock to M2

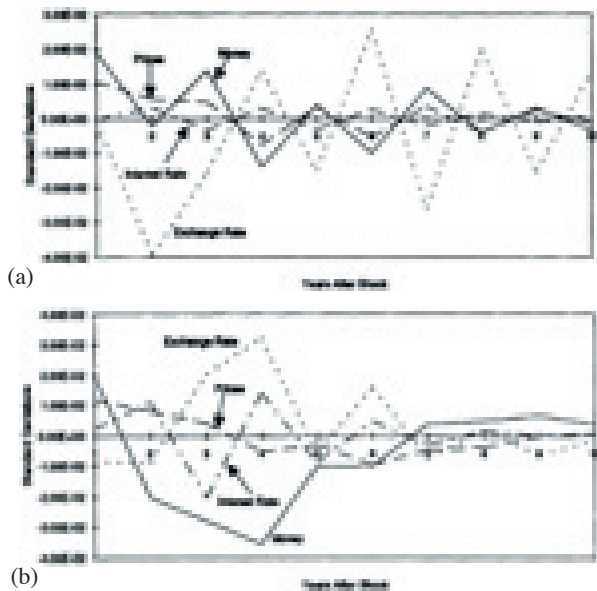


FIGURE 4. (a). Impulse responses to money (M1), prices, exchange rate and interest rate from a one-standard deviation shock to real output. (b). Impulse responses to money (M2), prices, exchange rate from a one-standard deviation shock to real output

of capital controls in September 1998 was consistent with the objective of keeping ringgit pegged to US\$. The question now is whether after six years the controls should still continue or not.

The theoretical literature tends to suggest that there are a number of potential benefits from capital account liberalisation. Prasad, Rogof, Wei and Kose (2003) survey this literature and describe four direct benefits: the increase in domestic savings, a reduction in the cost of capital through better global allocation of risk, the transfer of technological and managerial know-how, and the stimulation of domestic financial development. It also describes three indirect benefits: the promotion of specialisation, the commitment to better economic policies, and sending a signal of friendlier policies for foreign investment in the future. Capital account liberalisation, however, can also have important costs. For instance, by increasing market discipline and integration with global financial markets, removing controls can increase a country's vulnerability to banking and currency crisis. As seen in the late 1990's, these crises can be severe and have substantial economic and social costs. The macroeconomic literature (Eichengreen 2002) has had limited empirical success in consistently showing that capital account liberalisation has any of these effects. The contrasting results of the two most cited studies reflect this inconsistency. Rodrik (1998) finds no significant relationship between capital account openness and growth, while Quinn (1997) applies a different measure of capital account openness and finds a significant positive relationship (Forbes 2004).

On the macroeconomic impact of capital controls in Malaysia, Kaplan and Rodrik (2002) found that the capital controls had positive macroeconomic effects, while Dornbusch (2002) found they had no significant effect. Johnson and Mitton (2002), however, apply a very different microeconomic approach to analyse how the Asian crisis and the announcement of the capital controls affected the stock returns of individual Malaysian companies. Their findings tend to suggest that capital controls reduced market discipline and its cost was substantial. Forbes (2004) suggests that the accumulation of different costs of capital controls tends to indicate that they may act as "mud in the wheels of market discipline" and significantly depress productivity and growth. However, the benefits of capital account liberalisation may be smaller and the risk of severe crisis may be greater for countries with weak institutions and poor corporate governance.

Finally, a very recent empirical work published last month by Goldman Sachs (co-authored by Teixeira, Masih, and O'Neill (2004)) based on the application of dynamic heterogeneous panel cointegration techniques for 20 developed countries and 14 emerging countries tends to suggest that Australia (among the developed countries) and Malaysia (among the emerging countries) performed relatively best in terms of the effect of liberalisation of capital control on different economic and financial indicators (such as, real GDP

growth, real GDP per capita, FDI to GDP ratio, inflation, financial stability, real TWI, FX volatility, equity returns, and short rates) (see Table 7).

Most importantly, the lifting of controls on capital movement is likely to enhance the flow of FDI into Malaysia and increase the share of manufacturing in GNP. According to the annual reports of Bank Negara Malaysia, FDI constitutes about one-third of Malaysia's private investment, and gross FDI as a percentage of GDP has declined since 1997. By sectors, FDI has significantly fallen in manufacturing (from 66% to 38%) and significantly risen in services (from 21% to 38%). In order to accelerate the growth rate of GNP, the greater the share of manufacturing in GNP and the longer Malaysia can stay with a high share of manufacturing (rather than that of service sector), the more is likely to be the growth rate of GNP in Malaysia. This is due to the fact that the benefits stemming from economies of scale and specialisation in capital- and technology- intensive as well as skill-intensive industries can be reaped much better in manufacturing (compared to the service sector). It is mainly for increasing the share of manufacturing in GNP that the UK government imposed a selective employment tax (SET) on the service sector in the 1960's and 1970's in line with the recommendations of Professor Nicholas Kaldor of Cambridge University.

Having considered the arguments for and against liberalisation of capital controls (both theoretical and empirical), it appears to me that, on balance, the benefits of lifting capital controls in Malaysia will far outweigh the risks involved.

#### SHOULD MALAYSIA CONTINUE (OR UNTIE) DOLLAR PEG?

Should Malaysia decide to continue her independent monetary policy to achieve the domestic policy objectives as well as lift the controls on capital movement, then Malaysia cannot continue the rigid ringgit-dollar peg regime (in line with 'inconsistent' trilemma). The arguments for and against fixed exchange rates are well known in the literature. Given Malaysia's economic, institutional, and political strength, my balance of judgement is in favour of a managed effective exchange rate with the ringgit being linked to a basket of currencies (weighted by trade balance) along with a flexible wide band for reasons given below.

#### POLICY PRESCRIPTIONS

One possible alternative for Malaysia is to consider Australia's policy on

TABLE 7. Country rankings of best to worst performers in response to capital control liberalization

Developed country panel		Real GDP growth	Real GDP per capita	FDI to GDP ratio	Inflation	Financial stability	Real TWI	FX Volatility	Equity returns	Short rates
1	Australia	UK	Denmark	Switzerland	UK	UK	UK	Australia	Australia	Australia
2	France	Switzerland	Belgium	Italy	Australia	Australia	Japan	France	Sweden	3
	Norway	Australia	Australia	Australia	Finland	Finland	Sweden	Portugal	Switzerland	4
	Portugal	Sweden	Germany	Switzerland	Austria	Austria	Spain	Italy	Finland	5
	Austria	Austria	Portugal	Spain	Spain	UK	Canada	Greece	UK	
6	US	Portugal	France	Spain	Sweden	Sweden	Denmark	Finland	Japan	Japan
7	Denmark	Spain	Spain	Canada	Germany	Germany	Greece	UK	Belgium	Netherlands
8	Spain	Denmark	Greece	Sweden	Canada	Canada	Luxembourg	Norway	Norway	Netherlands
9	Netherlands	US	Belgium	UK	France	France	Spain	Belgium	Sweden	Austria
10	Switzerland	Netherlands	Canada	US	Denmark	Denmark	Sweden	Netherlands	Finland	Germany
11	Finland	Sweden	UK	Italy	Austria	Austria	Netherlands	Denmark	Canada	Luxembourg
12	Sweden	Greece	Italy	Finland	Belgium	Belgium	Germany	Greece	US	Portugal
13	Greece	Luxembourg	US	Denmark	US	US	France	Luxembourg	Spain	US
14	Luxembourg	Finland	Germany	Austria	Portugal	Portugal	Canada	Austria	Denmark	France
15	Germany	Norway	Norway	Finland	Japan	Japan	Germany	Austria	Belgium	16
	Japan	Portugal	France	Luxembourg	Norway	Norway	Switzerland	Germany	Norway	17
	Germany	Greece	Netherlands	US	Italy	Italy	Luxembourg	Canada	Denmark	18
	Italy	Finland	Finland	Japan	Belgium	Belgium	Portugal	Netherlands	Denmark	19
	Canada	Japan	Norway	Norway	Portugal	Portugal	France	Switzerland	Spain	
	Belgium	Belgium	Belgium		Greece	Greece	Switzerland	US	UK	Greece
20	UK									

(continued)

TABLE 7 (Cont.)

Emerging market panel

	Real GDP growth	Real GDP per capita	FDI to GDP ratio	Inflation	Financial stability	Real TWI	FX Volatility	Equity returns	Short rates
1	Korea	Korea	Korea	Argentina	Singapore	Brazil	Malaysia	Turkey	Mexico
2	Malaysia	Hong Kong	Brazil	Hong Kong	Korea	Korea	Mexico	Brazil	Hong Kong
3	Hong Kong	Turkey	Malaysia	Chile	Korea	South Africa	Brazil	Hong Kong	Hong Kong
4	Turkey	Philippines	Philippines	Columbia	Malaysia	Malaysia	Argentina	Malaysia	India
5	India	Mexico	Turkey	Ecuador	Brazil	Philippines	Turkey	Philippines	Korea
6	Philippines	India	Columbia	South Africa	India	Hong Kong	Columbia	Brazil	Malaysia
7	South Africa	South Africa	Singapore	Malaysia	Ecuador	India	Hong Kong	Singapore	Turkey
8	Columbia	Columbia	Brazil	Korea	Turkey	Singapore	Chile	Korea	South Africa
9	Mexico	Brazil	South Africa	India	South Africa	Mexico	Singapore	Ecuador	Chile
10	Singapore	Hong Kong	Argentina	Mexico	Mexico	Chile	Philippines	South Africa	Singapore
11	Brazil	Singapore	Chile	Hong Kong	Philippines	Turkey	South Africa	India	Philippines
12	Ecuador	Chile	Mexico	Philippines	Argentina	Argentina	Mexico	Argentina	Argentina
13	Chile	Argentina	Ecuador	Singapore	Columbia	Ecuador	India	Columbia	Columbia
14	Argentina	Ecuador	India	Turkey	Chile	Columbia	Ecuador	Chile	Ecuador

*Notes*—The rankings are based on average response paths for each country across each shock derived from generalized impulse response functions of models including our capital control proxy index, along with various control variables – for details of each separate specification, see text. We assess the first 8 quarters following the shock. To derive the generalized impulse response functions we used either cointegrated VARS or VEC models, or unrestricted VARS in differenced form. Lag length was determined by the Schwarz Bayesian Criteria (SBC) and partially governed by the length of the sample for each system which varied by specification as well as country. We used a battery of diagnostics to evaluate model robustness, including serial correlation (LM), heteroskedasticity (LM), in and out of sample stability (Phillips and Quiritos, CUSUM of Squares) and functional form (Ramsey RESET). *Source*: Goldman Sachs estimates.

inflation targeting, that is, trying to keep underlying inflation between 2 and 3 per cent on average, over the cycle. The flexible band and medium term of inflation targeting has helped Australia stabilize both inflation and output variation. However, a major prerequisite of inflation targeting is to have well-developed and diversified financial systems that are able to minimize real sector disruptions due to transitory exchange rate variation. Most importantly the advanced countries are able to borrow overseas in their domestic currencies. Many developing countries are unable to do so leading to accumulation of foreign currency debt liabilities that are primarily dollar-denominated and unhedged. In such countries, sharp depreciation in their currencies affects the domestic currency value of their debt with adverse real sector effects (so called “balance sheet” effects).

A more realistic alternative is to peg the ringgit to a basket of currencies weighted by trade balance. Consistent with the trilemma, Malaysia can have a managed effective exchange rate with a flexible wide band (in order to allow both an independent monetary policy and free capital movement).

Depegging the ringgit in the near future is likely to result in a slight appreciation of ringgit, but it is not likely to have any significant volatility in exchange rate because an appreciation of ringgit against US\$ would:

1. not increase the price of manufactured exports by the full amount of the likely appreciation (a) because of the lower costs of *imported inputs* used in the high import contents of manufactured exports (such as electronics, electrical and transport equipments and telecommunications) constituting about 70% of total exports (Chandran, Pandiyan & Madhavan 2004), (b) because of the likely fall in unit labor cost (i.e., the cost of labor per unit of output) caused by the increase in the productivity of labor in technology-intensive and skill-intensive exports, and (c) reduce the CPI by reducing the cost of imported food;

2. reduce the cost of external debt and debt servicing denominated in foreign currencies;

3. enhance the flow of foreign capital (both portfolio and FDI) into Malaysia;

4. ease the enormous burden now placed on fiscal policy. Given the peg, the exchange rate cannot be used as a policy instrument and hence as the capital controls are slowly eased, the room for monetary independence gets correspondingly diminished because more responsibility falls on the monetary policy to keep the exchange rate fixed by keeping the inflation rate differential and interest rate differential with the base country stable. No wonder, therefore, most of the burden of achieving the domestic policy objectives, such as higher growth and employment and income distribution, etc. has fallen disproportionately on the shoulder of fiscal policy resulting in a significant fiscal deficit in Malaysia for the last six consecutive years since 1998; and

5. reduce the sterilization costs of foreign reserves. Right now, as a percentage of GDP, Malaysia is bearing the highest sterilization debt service cost in the East Asian region (whereas China has the least cost of sterilization in the region) (Le Mesurier 2004).

### THE TIMING OF DEPEGGING RINGGIT

I think the crucial issue in Malaysia is not whether Malaysia should or should not depeg the ringgit and lift capital controls but *when*. The timing of de-pegging is, of course, a matter of political judgement but it appears that Malaysia has the psychological “fear of floating” as long as the big partner (China) keeps her currency pegged to the US\$. Despite, the fact that none of the major trade partners in East Asia, particularly the three worse hit countries in 1997 such as Indonesia, Thailand and South Korea have kept their currencies pegged with the US\$.

One should remember that the lesson from the 1997 financial crisis is not that the managed effective exchange rate system is inappropriate for the crisis countries but that these countries should not have given an excessive weight to the US dollar. The US dollar had the overwhelming weight “defacto”, whereas the Japanese yen had a weight of less than 0.1 in the average S.E Asian currency basket (although Japan was the region’s largest export market along with the US and the region’s dominant import source). Japan was also the region’s largest creditor, and a substantial share of bank lending (debt flow) and external debt (stock) to the region was denominated in yen. It appears that the SE Asian countries made the mistake of rigidly pegging to the US dollar, rather than pegging more flexibly to a basket of currencies. A simple average of the various studies reveals the optimum weight of the Japanese yen to be on the range between 0.3 and 0.4, the remainder being divided between the US\$, Euro and or regional currencies. This is far higher than the ‘de facto’ pre-crisis weight for Japanese of less than 0.1 (Rajan 2002).

It is very important to bear in mind that although a bad exchange rate regime may be damaging for a country, but a good exchange rate regime alone cannot be successful, unless the exchange rate regime is supported by other policy arms of the government. The broad lessons from all the crises that happened in the recent past, say for example, the crisis in Mexico (1994), in East Asia (1997), and more recently in Argentina (2002), is that the exchange rate was not supported fully by other policy weapons of the government in particular, the monetary and fiscal policies.

As to the timing of depegging and lifting of controls, it appears to me that the longer the Malaysian government delays in taking decision to depeg and decontrol, the more is likely to be the loss in terms of the potential

growth in FDI and GDP, and the more is likely to be the volatility when the government is forced to depeg. Right now Malaysia is giving a wrong psychological signal to the world about the strength of her economy. The rest of the world is wondering as to the fact that if the economic health of Malaysia is genuinely strong, then why is ringgit still pegged to a drastically depreciating US dollar, and why does not Malaysia have the courage and confidence to lift controls on capital movement and transmit the right signal to the rest of the world.

If Malaysia is in fact waiting for China to depeg, is Malaysia so much afraid that she wants to be the last country in East Asia to depeg, despite the fact that all other crisis-affected East Asian countries had the courage to depeg with the US dollar and did not wait for China to dictate them. Indonesia and Thailand are doing far better in terms of growth than Malaysia although they have weaker economic fundamentals and political environments. Despite the increased flow of FDI into Malaysia in recent years, a lot of FDI investors who are really interested in coming over to Malaysia are being prevented from entering Malaysia because all other neighboring East Asian countries (excepting Malaysia and China) are giving them the freedom of capital movement (in and out). These potential FDI investors are afraid to come into Malaysia because of the capital controls imposed on them. The case of China is quite different. China is getting a high rate of FDI despite capital controls as China is now one of the largest markets in the world and they cannot afford to relax capital controls because unlike Malaysia, their financial and corporate systems are relatively much weaker.

China should be considered as an opportunity (rather than as a threat). Malaysia cannot compete with China or India or Indonesia in labor-intensive industries. The future of Malaysia lies in moving towards technology-intensive and skill-intensive industries (Annual Reports, Bank Negara Malaysia and Economic Reports, Ministry of Finance Malaysia). The technology-intensive and skill-intensive industries can be classified into 'low', 'medium', and 'high'. In line with the 'product cycle theory', if Malaysia moves towards 'medium' technology-intensive and 'medium' skill-intensive industries, there will be less competition with China's relatively lower technology-intensive and lower skill-intensive industries.

## CONCLUSION

In an increasingly globalized world, the investment psychology plays a very important role in causing volatility. In order to reduce the possible volatility, a major policy change should take place when the speculators least expect that change. Now is the time therefore, to ride the boat across the sea when the economic sea appears to be relatively calm and quiet and there is no

possible economic or political storm on the horizon. Volatility is likely to be more if the speculators can predict the timing of the possible regime change. Since any economic reform usually takes a while to bear the desired fruits, politically it is always advisable, on the basis of the experience of many democracies of the world, that the sooner the change takes place just after a very successful (recent) election, the longer the time will be available for the Malaysian government to face the next election with the fruits of the regime change. The longer the delay in taking the decision on a regime change, the more is the chance that some factors either domestic or international will suddenly get worse and more sharp is likely to be the volatility when the government is finally forced to have a regime change. Given the current relatively good economic health, the sooner the exchange rate changes along with a freer capital movement to reflect that health, the quicker the doubts and misgivings of the rest of the world about the genuine strength of the Malaysian economy will be over.

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