CAPITAL CONTROLS: IMPACT ON FOREIGN DIRECT INVESTMENT AND PORTFOLIO INVESTMENT IN MALAYSIA 1991-2004

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ABSTRACT

This paper examine the effects of three types of capital controls policies in Malaysia: (i) the existence of fixed exchange rates (indirect capital controls), (ii) controls on capital account and (iii) the stringency of requirements for the repatriation (direct capital controls) on FDI and PI flows as the dependent variable. The study examined the significant impact of the controls in influencing the investment atmosphere in Malaysia. The analysis were done over two period, where the period of 1991-1997 [7 years] is considered as a period where Malaysia imposed floating exchange rate system (liberalization of capital controls), and the second period 1998-2004 [7 years] as an age where the Malaysian government started imposing the fixed exchange rate regime. Overall, the result shows that the effect of capital controls on FDI flows was not significant as there were trade-off between the setback and the benefits of imposing capital controls. Meanwhile, it was also found that the reason why capital controls have more effect on PI than FDI was largely due to different nature of both investments.

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INTRODUCTION

East Asia's financial crisis began with the speculative attack on the Thai baht in May 1997. Despite attempts by the Bank of Thailand, the Thais were forced to float Thai baht on 2nd July 1997, and this move immediately sent shock waves throughout other East Asian countries. Before the Financial Crisis hit East Asia countries, many Asian businesses had acquired short-term financial instruments to finance or invest in long-term investment. It was believed that lack in transparency in banking and business dealings and the inefficient bank regulatory system and dependable financial information compounded the problem (Stiglitz, 1998). Acquiring short-term financial instruments without hedging the exposure had led to gushing defaults once the currency devaluations started.

Stiglitz (1998) noted that in respond to the Thai currency attack, the Malaysia ringgit, Indonesia rupiah, and Philippine peso were also devalued as these currencies were converted to dollar for safety purposes. The ringgit and other regional currencies came under intense selling pressure and the central banks were forced to intervene heavily to defend their respective currencies. In August 1998, ringgit was devalued 40% against US dollar compared to ringgit value on July 1997.

In order to prevent further pressure on the ringgit, the authority decided to peg the ringgit with the US dollar at MR3.80 per USD. Together with the new exchange rate regime, the Malaysian government also restricted the flow of short-term capital and prohibited the use of the ringgit outside Malaysia. All this was aimed to prevent further deterioration of the value of the domestic currency, which would adversely affect economic performance.

The portion of short-term flows surpassed that of FDI in 1992 and hit an all time high of 62 percent in 1993. Capital inflow controls imposed by BNM in 1994 (and lasted until mid-1995) did well in

moderating the surge of short-term flows. However they regained impetus following the lifting of controls, reaching 56 percent of total inflows in 1996.

Portfolio capital to Malaysia was mainly in the form of short-term capital inflows. They accounted for 45 percent of total annual capital inflow in 1996, up from 13 percent as compared to the previous year. Short-term debt of the private sector and banking institutions was low and mainly involved trade related transactions of the banking system, the bulk of which were hedged (BNM, 1999).

LITERATURE REVIEW

Based on studies by Hiebert (1999), Miller (1999) Hale (1998) & Hill (1998), capital controls indeed promote economic slow down by adversely affecting FDI in Malaysia. They believe that sudden departure from long standing commitment to open economy would certainly affect the general investment atmosphere of the country.

Reisen & Soto (2000) demonstrated that both FDI and portfolio investment put forth a significant impact on economic growth in post-crisis Asia. Furthermore, there were few macroeconomic intricacies resulted from the FDI flows since their reversibility was low. Other research done by De Mello (1999), and Borenzstein, De Gregorio & Lee (1998) also reported similar findings. Prasad et al.(2003) also concluded that FDI is one form of capital inflows which had significant correlation with domestic growth and investment.

Krugman (1998) suggested that capital controls such as the fixed exchange rate would only be relevant in short period of time to give the economy enough time to have space to breathe. However, Malaysia under the Bank Negara retained that very same tool to accommodate the economy since Malaysian economists believed that the regime would still be relevant to date. In addition, Kaplan & Rodrik (2001) cited that capital controls proved to be inefficient, diminish market confidence even further and would be used to delay needed adjustments.

Nevertheless, other studies indicated that there are ample evidence from both developed and developing countries that capital controls were in fact effective in substantially reducing, if not preventing, capital flows of latter type, in particular placement abroad of institutional saving (De Gregorio et al., 1998; Radelet & Sachs, 1998). However, controls seem to have helped to lower interest rates and to encourage a revival of domestic consumption and investment without creating precipitate mass capital flights (Athukorala, 2001).

Jomo (2001) noted that capital account controls provide greater leeway for monetary policy, stabilize exchange rates, enhance macroeconomic stability and avoid inflation due to excessive inflows. The World Bank (1997), using panel data, concluded that countries with strong fundamentals received the largest proportion of capital flows when compared to those who had weaker fundamental in economic.

The resurgence of portfolio flows also may have come about because new, inexperienced investors replace the ones who have been buried, or because memories of all investors are generally short (DeLong, 1999). The pessimistic view was based on a false aggregation of FDI with portfolio investment and short-term bank credits. It ignored the time-honored dictum in the balance of payments theory, 'in terms of underlying determinants of mobility, long-term investment (FDI) is quite different from "hot money" (Meade, 1951).

DATA AND METHODOLOGY

The analysis were done over two period, where the period of 1991-1997 [7 years] is considered as a period where Malaysia imposed floating exchange rate system (liberalization of capital controls), and the second period 1998-2004 [7 years] as an age where the Malaysian government started imposing the fixed exchange rate regime. The data needed for the analysis was derived from Bank Negara Malaysia Annual Report, Ministry of Finance Annual Economic Report and also from the IMF sources. The dependent variables, that is, FDI, PI were built using data extracted from the Balance of Payments/International Position Statistics (BOPS). Data sets used in the empirical study are based on Moody's investors' service dataset. The variables and data sets are presented in Table 1.

Table 1 : The Data Sets Used in the Empirical Study

Data	Moody's Data Set
Dependent Variables	
	FDI
	Portfolio Investment
Explanatory Variables	
Market Size	Nominal GDP (NGDP)
Country Conditions	Real GDP Growth (RGDP)
Liquidity	Exports (E)
Government Finance	Government Debt/GDP (DGDP)
Vulnerability	External Debt (ED)

This table presents the data that is udilized in the study. All Variables in RM, apart from Ratios and indices. FDI and portfolio flows come from Bank Negara data in the Moody's dataset.

The dependent variable, CCE is the Capital Controls Effects. The equation for the regression analysis is shown below:

$$CCE = \alpha + \beta_1 \, NGDP + \beta_2 \, RGDP + \beta_3 \, E + \beta_4 \, DGDP + \beta_5 \, ED + \varepsilon \qquad (1)$$

CCE   =   Capital Controls Effects
NGDP =   Nominal GDP
RGDP =   Real GDP Growth
E   =   Exports
DGDP =   Government Debt/GDP
ED   =   External Debt

RESULTS

The results are presented in Table 2. The results are discussed in two sections. First we discuss the regression results for DFI flows before and after the implementation of capital controls (1991-2004. Next, we examine the results for PI flows bgefore and after capital controls were implemented.

Discussion of Result for FDI Flows Before and After the Implementation of Capital Controls

The regression results on FDI flows show R value was 0.970 prior to the controls implementation back in 1998. When the control took place, the regression on FDI indicated R value of 0.995. For correlation purposes 0.90 is considered to have a strong linear relationship. This in fact proves that the controls had a significant effect as the R value grew stronger after the imposition.

Table 2: Regression Results for FDI and PI Flows (1991-2004)

Explanatory Variables	Dependent Variables			
	FDI Flow		PI Flows	
	Before (β)	After (β)	Before	After (β)
Nominal GDP	-0.391	-0.766	-0.423	-0.815
Real GDP Growth	-0.94	0.952	-0.635	0.293
Export	0.353	0.864	1.136	1.583
Government Debt/GDP	-0.423	-0.647	-0.698	0.008
External Debt	0.297	-0.776	-1.568	-0.493
R Value	0.97	0.995	0.999	0.986
R-Squared Value	0.941	0.991	0.988	0.973
Coefficient Significant Value	0.401	0.161	0.075	0.277
F Value	3.179	21.904	102.664	7.086
Durbin-Watson Value	2.952	3.061	2.952	3.061

This table shows the regression results for FDI and PI Flows from 1991-2004, before and after the implementation of capital controls.

The impact of controls on FDI were even intensified as shown by R-squared values before and after the imposition were 94.1% and 99.1% respectively. The percentage had increased to almost 100% after the controls imposition. While Coefficient significant values were 0.401 and 0.161 before and after the introduction of controls.

The F value was 3.179 before the controls were introduced, however, after the controls were established, the F value was large 21.904. The variance indicates that the controls impact on FDI flows were statistically significant. Finally, Durbin-Watson values pre-imposition and post-imposition of controls were 2.952 and 3.061 respectively. Therefore there were a significant relationship between FDI and the battery of independent variables.

First, this paper examines the effects of capital controls variables on FDI flows. These variables were chosen from existing literature. The regression results were displayed in the Table 2 above. They were consistence with theoretical predictions. The coefficients for Market size, Country Condition, Liquidity, Government Finance, and Vulnerability were all statistically significant at 1% level.

Before the controls took place, when the Nominal GDP (NGDP) increased by 1%, the Foreign Direct Investment (FDI) flows dwindled at about 0.391%. After the controls had been implemented, when NGDP escalate by 1%, the FDI flows were reduced by 0.766% as both had an inversed relationship. This signifies that the introduction of capital controls had in fact contributed towards a decrease of more than 95% in FDI flows.

On the other hand, a soar of 1% in Real GDP (RGDP) contributed to a fall of 0.940% in FDI flows prior to the adoption of controls. Thus, both variables indicate an opposite correlation. However, it demonstrated different result after the controls was implemented where an increase of 1% in RGDP would contribute to a rise of 0.952% in FDI. Thus, both reflect a positive relationship. This demonstrates a different result before and after the implementation, thus concluded that capital control indeed promotes a healthier FDI flows environment.

A hike of 1% in Exports (E) before the controls were served contributed towards a rise of 0.353% in FDI flows. An augment of 1% in E increased the FDI by 0.864% after the controls were set. Hence, the first and the second situation clearly showed parallel results between the dependents and explanatory variables. The first and second situations had demonstrated a positive relationship between FDI and the controls. The justification of both cases shows that the capital controls seem to encourage the FDI flows.

Before the controls took place, both Government Debt over Real GDP (DGDP) and FDI indicated a negative correlation. When the DGDP ratio increases by 1%, the FDI ratio reduces by 0.423%

accordingly. When the controls took place on September 1998, 1% increase in DGDP would lead to a fall of FDI flows by 0.562% accordingly that obviously indicated both had an adverse relationship. Therefore, the capital controls really had deteriorated the FDI flows in this case.

An increase in External Debt (ED) by 1% would result a hike of 0.297% in FDI flows as both had parallel relation. Whereas, when the controls were introduced, a soar in External Debt by 1% would result a reduction of 0.776% in FDI flows as both had an inversed correlation. This definitely demonstrated the capital controls had a side effect on FDI flows.

Empirical Analysis For PI Flows Before and After Capital Controls Were Implemented

The regression result on PI flows show R value was 0.999 prior to the controls implementation back in 1998. After the control was introduced, the regression of PI on the battery resulted in an R value of 0.986. For correlation purposes 0.90 is considered a strong linear relationship. Even though it was considered of having strong linear relationship, there were no significant impact of controls on the PI flows.

The impacts of controls on PI were supported by R-squared values, the R-squared values before and after the controls were 98.8% and 97.3% respectively. The percentage had decreased slightly to 97.3% after the controls imposition. No clear impact can be seen after 1998. Coefficient significant values were 0.075 and 0.277 before and after the introduction of controls. This shows that the controls had a significant impact on PI flows after 1998.

The F value was 102.664 before the controls were introduced and after the establishment of the controls, the F value was a large 7.086. The variance indicated that the controls impact on PI flows were statistically significant. Finally, Durbin-Watson values pre-imposition and post-imposition of controls were 2.952 and 3.061 respectively. Therefore there was a significant relationship between PI and the battery of independent variables.

Secondly, this paper examines the effects of capital controls variables on PI flows. These variables were chosen from existing literature. The regression results were displayed in the Table 2 above. They were consistent with theoretical predictions. The coefficients for Market size, Country Condition, Liquidity, Government Finance, and Vulnerability were all statistically significant at 1% level.

Before the controls was adopted, when Nominal GDP (NGDP) escalated by 1%, the Portfolio Investment (PI) flows decrease by 0.423% as both had an inversed relationship. However, just after the controls took place on September 1998, when NGDP increased by 1%, the PI flows would fall by 0.815% as both had an opposite relationship. This justify that the introduction of capital controls somehow deter the PI flows.

On another occasion, an augment of 1% in Real GDP (RGDP) would lead to a cut of 0.635% in PI prior to the introduction of controls. When the controls were adopted, a rise of 1% in RGDP caused an increase of 0.293% in PI flows. These indicate that both the dependent and explanatory variables had a parallel correlation. This study justify that the introduction of capital controls had helped Malaysia to improve the situation by promoting a sound environment for PI activities.

The Exports (E) and PI flows potray a positive relationship as a hike of 1% in E would cause an increase of 1.136 % in PI flows just before the controls were introduced. In the mean time, the Exports and PI flows indicated a parallel correlation as a rise of 1% in Exports contribute towards an increase of 1.583% in PI flows when the controls were adopted, an increase of almost 40%. The controls proved to fuel the PI activities in this circumstance.

When the Government Debt over Real GDP ratio (DGDP) escalated by 1%, the PI ratio decreased by 0.698 % accordingly. However, after the control was adopted, when the DGDP ratio increased by 1%, the PI ratio increases by 0.008% accordingly. It signals that those variables had a positive relationship. The establishment of the controls seems to promote healthy environment for PI activities here in Malaysia now.

A hike in External Debt (ED) by 1% would result a reduction of 1.568% in PI flows. Whereas, a hike in External Debt by 1% after the implementation would results a decrease of 0.493% in PI flows which clearly saw an improvement. Therefore, it indicates that in both situations ED show an inversed relation with the PI flows. In short, the introduction of controls indeed improved the situation better than before.

Figure 1 : The Flows of FDI and PI 1991 Through 2004
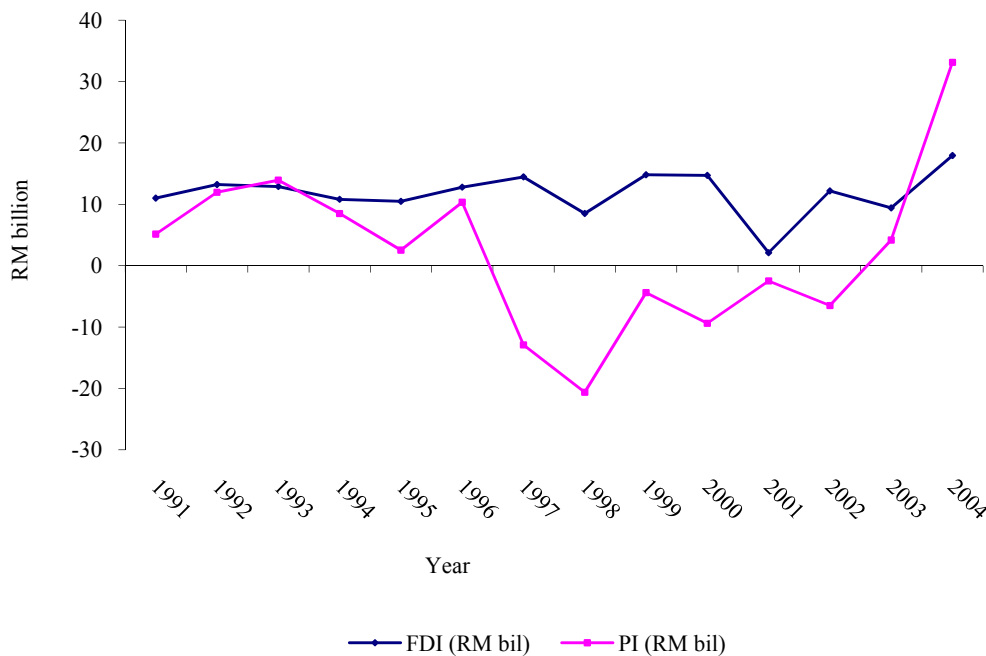
The line graph above shows the movement of FDI and PI flows for the period of 1991 to 2004. The first part of the line graph demonstrates the period of 1991 to 1997 before capital controls was introduced, which was a period when Malaysia was still embracing the capital liberalization policy. This paper demonstrated that the flows of FDI and PI were quite encouraging. However, when the Financial Crisis hit Asian in on mid 1997, the movement had fall slightly for the FDI while the PI flows was severely affected. The implementation of Capital Controls (1998-2004) provide a relief to both FDI and PI flows as the investment flows were seen to be back on track especially for portfolio investment.

CONCLUSIONS

This paper clearly revealed that the decision made by the Malaysian government to implement capital controls was in fact a wise decision. The unpopular decision really works in helping the investment atmosphere in Malaysia by providing stable financial environment. Overall, the study disclosed that capital controls had definitely encourage FDI and PI flows in Malaysia to date. The regime had enabled the authority to built investors' confidence in continuing to invest in this country despite urge by various parties asking Malaysia to abandon the controls.

This paper had enabled the author to scrutinize the effects of three types of capital controls policies on FDI and PI flows: (i) the existence of fixed exchange rates (indirect capital controls), (ii) controls on capital account and (iii) the stringency of requirements for the repatriation (direct capital controls). The approach was important because countries typically use these instruments conjunctively. To the best of our knowledge, this is the first study that examines the impact of various types of capital controls on FDI and PI flows. In addition, the study assessment only cover Malaysia as a background study. This clearly indicate a much more focused research than the previous studies, since good quality data for the period only subsist for a more focused study.

Undoubtedly, the FDI and PI flows represent an imperative part of the Balance of Payments, and it was of this decisive motivation that the policy makers were called to understand the impact of capital controls towards the investment flows. This enabled the authority to evaluate the impact of policy decisions on the Balance of Payments. Investments flows have, in fact, played an important role in recent emerging market crises like the 1997 Asian Financial Crisis, and mass inflows of portfolio investment, in particular, often turns out to be a catastrophe rather than a blessing, when such flows come to an abrupt stop or even reverse.

Nonetheless, Malaysia's capital control (the currency peg to the dollar) poses two major threats. Firstly, its financial system is not market-based and could contribute to accumulation of bad debts in long run. Secondly, Malaysia's economic system does not create globally competitive atmosphere to companies in Malaysia and relies on export processing for growth. The capital controls could only be treated as a temporary relief, since espousal too long to the regime will cause Malaysia to be incompetent in competitive global market (Krugman, 1998).

At the same time, capital controls were posed to be inept, faded market confidence and delay needed adjustments (Kaplan & Rodrik, 2001). The impositions also tarnished government's integrity, credibility, and commitment in dealing with the financial framework for foreign investment in the future.

The distinction between FDI and PI were important for two reasons: a) Portfolio investment flows were much more volatile than FDI flows. Although FDI could decline in a crisis, it was unlikely to reverse. b) Malaysia did not need to fully liberalize their capital accounts in order to benefit from FDI since both inflows and outflows could be accommodated through special provisions. Portfolio investment did, however, require capital account liberalization. Taken together, these remarks imply that an openness to portfolio investment offer fewer benefits and imposes higher costs than does openness to FDI, and that many of the benefits access to FDI could be obtained without full liberalization.

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