

# How Effective are Capital Controls? Evidence from Malaysia

PREMA-CHANDRA ATHUKORALA AND JUTHATHIP JONGWANICH

---

This paper examines the role of capital controls as a macroeconomic policy tool in light of the Malaysian experience. It consists of an econometric analysis of quarterly data over the period 1990–2010 using newly constructed capital inflow and outflow policy indexes as well as analytical narratives of episodes of controls imposed on inflows (1994) and outflows (1998–1999). The findings suggest that well-targeted controls have the potential to tame both short-term capital inflows and outflows without exerting a backwash effect on foreign direct investment, at least in the short to medium term. Controls on capital inflows introduced in the first half of 1994 helped moderate accumulation of short-term capital flows, particularly short-term bank credit. During 1998–1999, carefully designed temporary capital controls were successful in providing Malaysian policymakers a viable setting for applying the standard Keynesian therapy.

*JEL classification:* F32, F41, O53

---

## I. INTRODUCTION

The orthodox thinking on capital account convertibility during the Bretton Woods era was that capital account opening should be done cautiously and only after substantial progress had been made in restoring macroeconomic stability, liberalizing the trade account, and establishing a strong regulatory framework to foster a robust domestic financial system. Abrupt dismantling of capital controls at an early stage of reforms without achieving these preconditions was thought to be a recipe for exchange rate overvaluation, financial fragility, and eventual economic collapse (Edwards 1984, Corbo and de Melo 1987, McKinnon 1993, Michaely, Papageorgou, and Choksi 1991).

There was, however, a clear shift in policy emphasis in favor of greater capital account opening from about the late 1980s, with the IMF and the United States (US) Treasury adopting this view as a basic tenet of their policy advocacy for developing countries (Bhagwati 1998, Rodrik 2011). This new policy emphasis was reflected in a major decision by the International Monetary Fund (IMF) to pursue capital account opening as one of its operational objectives. In September 1997, at its annual meeting in Hong Kong, China, the Interim

---

Prema-chandra Athukorala is Professor of Economics, Arndt-Corden Department of Economics, Crawford School of Economics and Government, Australian National University. Juthathip Jongwanich is Assistant Professor, School of Management, Asian Institute of Technology.

Committee of the IMF proposed an amendment to the IMF Articles of Agreement with a view to extending the definition of currency convertibility, which was then limited to current account transactions, to encompass capital account transactions.

The push towards capital account opening came under serious reconsideration, however, following the onset of the Asian financial crisis (1997–1998) and the global reverberation that impacted a number of other emerging economies. The observation that the countries succumbing to the crisis had for some years received substantial foreign capital flows raised questions about the role of capital inflows in creating the conditions that generated the crisis or favored its dissemination. Informed opinion swung towards the thinking that those countries still maintaining closed capital account regimes should undertake the liberalization of short-term capital movements only gradually and with extreme caution (Cooper 1999, Bhagwati 1998, Eichengreen 2003, Furman and Stiglitz 1998, Stiglitz 2002, Radelet and Sachs 1998, Williamson 1993).

Even the IMF, despite its continuous flirting with mandatory capital account convertibility, became more sympathetic to this cautious approach to the opening of the capital account (Fischer 2004). Krugman (1999) added variety to the debate in the context of the East Asian crisis by arguing in favor of the Keynesian advocacy of using controls on capital outflows as a means of regaining macroeconomic policy autonomy in countries where the currency crisis had rapidly translated into painful economic collapse. In recent years, the case for not only retaining exit controls but also imposing new controls to tame short-term capital inflows gained added emphasis because of the increase in capital inflows to emerging market economies as part of the rapid globalization of capital, a process that intensified following the onset of the global financial crisis (2008–2009).

Critics of capital controls, however, argue that these controls are unlikely to cushion economies against the volatility and unpredictability of capital movement given difficulties involved in the actual implementation. A major doubt about the effectiveness of capital controls as a crisis management tool relates to presumably ample scope for avoidance and evasion, which can simply negate the expected monetary policy autonomy (Hale 1998, Edwards 1999a and 1999b). The general argument here is that the more extensive trade and investment links are, the more difficult and costly it would be to control capital account transactions because of the multiplication in the number of arbitrage possibilities that arise in the course of normal business. The problem with this argument is that it is based on a misleading mixing of “placing funds abroad retail” (retail transfer of funds abroad) by manipulating current account transactions and “exporting capital wholesale” (Williamson 1993, p. 36). There is ample evidence from both developed and developing countries that capital controls are in fact effective in substantially reducing, if not preventing, capital flows of the latter type (Eichengreen 2003, Larrain and Laban 2000, Radelet and Sachs 1998).

This paper aims to inform the policy debate on the effectiveness of capital controls in developing countries through a case study of Malaysia. The Malaysian experience provides an excellent laboratory to investigate these issues given the nature of policy shifts relating to capital account opening over the past four decades. During this period, Malaysia implemented selective capital controls on a temporary basis on two occasions as part of macroeconomic policy, against the backdrop of a long-term commitment to maintaining an open capital account policy regime. In the first half of 1994, capital inflow controls were introduced when the booming economy triggered massive short-term capital inflows jeopardizing macroeconomic stability. Capital outflow controls were the centerpiece of Malaysia's unorthodox policy response to the Asian financial crisis (1998–1999). This was the first case in postwar economic history of an emerging market economy imposing controls on capital outflows in a crisis context to set the stage for fixing the exchange rate and monetary and fiscal expansion.

The paper is written in three parts. Section II provides an overview of capital account policies in Malaysia. Section III examines the effectiveness of these policies by first constructing indexes based on a carefully compiled chronology of policy changes then using them as the key explanatory variables within a standard vector autoregressive modeling framework to examine the impact of capital account policy on capital flows and other related macroeconomic variables. Section IV supplements the econometric analysis with case studies of capital inflow controls in 1994 and capital outflow controls during 1998–1999. The main findings are summarized in the concluding section. A comprehensive chronology of Malaysia's capital account policy is provided in the Appendix.

## II. CAPITAL ACCOUNT POLICY

Malaysia is unique among developing countries in its long-standing commitment to an open foreign trade regime.<sup>1</sup> As an essential element of openness to trade, the Malaysian dollar (renamed ringgit in 1975) remained fully convertible on the current account throughout the post-independence period. Although exporters were required to convert foreign currency sales proceeds into local currency within 6 months, this was not a binding constraint on production for export because the import trade regime remained highly liberal. Despite mandatory approval procedures, the exchange rules relating to all current account transactions remained liberal. With this policy orientation, Malaysia achieved

---

<sup>1</sup>In a comprehensive study of the patterns and chronology of trade policy reforms during the postwar era, Sachs and Warner (1995) identify Malaysia as one of the eight developing countries whose trade regimes remained open throughout the period. The other seven countries were Barbados; Cyprus; Hong Kong, China; Mauritius; Singapore; Thailand; and Yemen.

Article VIII status (for current account convertibility) under the IMF Articles of Agreement on 11 November 1968, becoming the fourth Asian economy to enter this country league after Hong Kong, China (15 February 1961); Japan (1 April 1964); and Singapore (9 November 1968).

A natural companion to outward-oriented trade policy was a firm commitment to the promotion of foreign direct investment (FDI). FDI approval procedures and restrictions on foreign equity ownership were very liberal by developing country standards even in the 1950s and 1960s at a time when hostility towards multinationals was the order of the day in the developing world. Emphasis on FDI promotion received added impetus with a notable shift in development policy towards export-oriented industrialization in the early 1970s.

The Malaysian policy regime relating to non-FDI capital flows (that is, international flows of purely financial capital) in general, too, was much more liberal throughout the postwar period compared to most other developing countries (Williamson and Mahar 1998). However, liberalization in this sphere was much more cautious and gradual by Malaysia's own historical record of trade and FDI liberalization. Most restrictions on short-term overseas investment by residents were removed in the 1970s. By the turn of the decade, residents were free to place deposits abroad, lend to nonresidents, purchase immobile properties, or invest in foreign equity, provided such investments were not financed from borrowing in Malaysia. However, there were binding restrictions on short-term capital inflows, foreign share holdings in local brokerage firms, and bank lending to nonresidents.

As part of the reform package implemented in response to the economic crisis during 1985–1986, there was a new emphasis on promoting FDI in the economy. The Investment Coordination Act, promulgated in 1975 to achieve the objective of increased *Bumiputera* involvement at the enterprise level, was amended in October 1986 to apply only to investments of roughly \$1 million or more (the previous threshold was \$400,000) or to plants employing more than 75 workers. The amendment also eased limitations on the number of expatriates employed in foreign affiliates. Foreign investors could own 100% of new projects that exported most of their products or sold its products to firms in free trade zones that employ at least 350 full-time Malay workers. The Promotion of Investment Act (1986) strengthened incentives to foreign investors.

In response to the significant deterioration in bank balance sheets during 1985–1986, stringent limits on private foreign borrowing were introduced under the Banking and Financial Regulation Act enacted in 1989. This important legislation required Bank Negara Malaysia (BNM), the central bank, to monitor foreign currency borrowings by residents and domestic borrowing by nonresidents under borrowing/lending ceilings stipulated in foreign exchange regulations (Yousof et al. 1994, BNM 1994). By the mid-1990s, the ceilings on foreign currency

borrowing by residents and domestic borrowing by nonresident-controlled companies stood at RM1 million and RM10 million, respectively.<sup>2</sup>

Promotion of Kuala Lumpur as a global financial center became a key element of Malaysia's growth euphoria in the late 1980s. As the first step to give momentum to the growth of the Kuala Lumpur Stock Exchange (KLSE) as an independent entity, the government announced on 27 October 1989 the delisting (with effect from 2 January 1990) of Malaysian registered companies from the Stock Exchange of Singapore (SES).<sup>3</sup> This split from SES intended to set the stage for developing the KLSE as an independent exchange to attract international investors in competition with SES.<sup>4</sup> The early 1990s saw a number of initiatives towards further liberalization of portfolio capital inflows to promote trading on the KLSE and increase participation of institutional investors.

In 1992, the Securities Act was passed to enable the establishment of a new securities commission to take over monitoring and supervision of the share market, previously undertaken by the Capital Investment Committee under the jurisdiction of BNM. This initiative gave further impetus to stock market growth under a more flexible operational framework. In the same year, the ceiling on foreign share holdings of local brokerage firms was lifted from 30% to 49%. Tax rates for both foreign and local fund managers were reduced from 30% to 10%.

The Federal Territory of Labuan was inaugurated as an international offshore financial center on 1 October 1990 as part of the government's long-term plan to enhance the attractiveness of Kuala Lumpur as a regional financial center.<sup>5</sup> It was envisaged that with the Asia and the Pacific region emerging as the fastest growing region in the world, Labuan would play a key role in enhancing the attractiveness of Malaysia as a world investment center (BNM 1994). Licensed offshore banks, offshore insurance entities, and other offshore companies operating in Labuan were declared as nonresidents for exchange control purposes. This initiative enabled these institutions to freely operate foreign currency accounts and move funds into and out of Malaysia without being subject to any exchange control monitoring. Licensed offshore banks were also permitted to accept deposits and grant loans in foreign currency. Investment guidelines were liberalized to allow Malaysian fund management companies to form joint ventures with foreign fund management companies. Management companies of unit trust funds located in Labuan were permitted to invest in Malaysian

---

<sup>2</sup>These borrowing limits contributed significantly to limiting external debt exposure of the economy, a significant factor in providing Malaysian authorities with some autonomy in managing the 1997–1998 financial crisis (Athukorala 2002).

<sup>3</sup>The formal share market in Malaysia has a history dating back to 1960 when the Malaysia Stock Exchange (MSE) was set up. Following the termination of currency interchangeability with Singapore, the MSE was separated into the KLSE and SES in 1973. However, there was no legal restriction on the listing of Malaysian company shares on SES until 2 January 1990.

<sup>4</sup>Following the split of KLSE from SES on 2 January 1990, a new "over-the-counter market," which later came to be known as the central limit over the book (CLOB) market, emerged on the same day in Singapore.

<sup>5</sup>For details on the regulatory framework and incentives offered see BNM 1999, Chapter 13.

securities. Generous tax exemptions were granted to companies incorporated in Labuan and their expatriate employees.<sup>6</sup>

The ongoing process of capital account opening was temporarily halted in 1994 as the ringgit came under strong buying pressure with the booming economy creating expectations about the currency's increasing strength. From late 1993, speculators bought ringgit in large amounts, increasing short-term deposits and forward transactions. To avoid an adverse effect on export competitiveness from a sharp exchange rate appreciation, BNM imposed a number of restrictions on capital inflows during January–February 1994. Once speculative pressure subsided, BNM gradually removed the controls and freed up capital flows, completely lifting all restrictions by August 1994 (World Bank 1996, BNM 1999).

In June 1995, the finance minister announced a package of incentives to attract foreign fund managers to Malaysia. Trading in financial derivatives on KLSE was started in 1995 with two instruments, the KLSE composite index futures and 3-month Kuala Lumpur interbank offer rate futures.

Malaysia succumbed to the Asian financial crisis in mid-1997 with low foreign debt exposure compared to other crisis-hit countries in East Asia (Indonesia, the Republic of Korea, the Philippines, and Thailand) thanks to prudential regulations implemented by BNM from the late 1980s. However, the booming economy coupled with various government initiatives to promote Kuala Lumpur as a global financial center had resulted in massive accumulation of portfolio capital in the lead-up to the crisis. By the mid-1990s, market capitalization of the KLSE was around 200 billion, with foreign investors accounting for 30%–40% of total capitalization. Net quarterly flow of portfolio capital turned negative in the second quarter of 1997 for the first time after 1991 and total net outflow in the first three quarters of the year amounted to over \$11 billion (Athukorala 2002).

The immediate policy reaction to the currency collapse was to directly intervene in share market operation with a view to punishing speculators. On 27 August 1997, the KLSE banned the short-selling of 100 blue-chip stocks and rules were introduced to discourage the sale of stocks: sellers were required to deliver physical share certificates to their brokers before selling and the settlement period was reduced from 5 to 2 days. On 3 September 1997, the Prime Minister unveiled a plan to use funds from the Employees Provident Fund to prop up share prices by buying stocks from Malaysian shareholders—but not foreigners—at a premium above prevailing prices. These moves backfired, triggering a massive sell-off of stocks in KLSE and undermining sentiment on other regional bourses. Ironically, the share purchases sponsored by the government were seen by market participants, both local and foreign, as an opportunity to get rid of Malaysian

---

<sup>6</sup>By the end of 1996, 47 offshore banks, 5 offshore insurance and re-insurance companies, 13 trust companies, and 3 fund management companies had been incorporated in Labuan.

shares rather than a reason for holding on to them. The ban on short-selling was lifted in early September 1997. By August 1998, the economy was in recession and there were no signs of achieving currency and share price stability.

The Malaysian leadership opted for managing the crisis on its own while rejecting the conventional IMF path. The lynchpin of this radical policy choice was capital controls, which were expected to set the stage for fixing the exchange rate and provide breathing space for vigorous pursuance of monetary and fiscal expansion to fight recession. With policy autonomy gained through a fixed exchange rate and capital controls, the government swiftly embarked on a recovery package consisting of two key elements: fiscal and monetary stimulants and banking and corporate restructuring (Athukorala 2002). The newly introduced capital controls were gradually relaxed and subsequently removed at successive stages during the next 2 years. On 21 July 2005, the ringgit peg to the dollar was abolished in favor of a managed floating exchange rate system.

Following the onset of the global financial crisis in 2008, share prices in Malaysia fell sharply (by 20% between 2007 and 2009), although the magnitude of the collapse was far less than in the Asian crisis (by 53% between 1996 and 1998). There was also a large exodus of short-term capital, around \$6 billion in 2009 (BNM 2010). However, these shocks were well absorbed by the domestic financial markets given ample liquidity in the financial system, a sound banking system, and the strong reserve position of the country. In addition, the broad-based financial sector reforms and capacity building undertaken following the Asian financial crisis had increased the sector's resilience to financial turmoil. Moreover, Malaysia (and other Southeast Asian countries) had little exposure to collateral debt obligations that originated in the US subprime market (BIS 2009). Therefore, unlike in the 1997–1998 crisis policymakers did not have to contemplate on capital controls as part of the crisis management strategy (Athukorala 2012).

### **III. EFFECTIVENESS OF CAPITAL CONTROLS: AN ECONOMETRIC ANALYSIS**

In this section, we examine the effects of capital account policies on capital flows in Malaysia using quarterly data over the period 1990–2010. We first construct capital policy indexes based on a carefully compiled chronology of policy changes during this period. We then use these indexes as the key explanatory variable within the standard vector autoregressive (VAR) modeling framework to examine the impact of capital account policy on capital flows and other related macroeconomic variables.

## A. Capital Account Policy Indexes

Previous studies of capital controls (e.g., Gochoco-Bautista et al. 2012, Schindler 2009, Ito and Chinn 2005, Mody and Murshid 2005, Miniane 2004, Johnston and Tamirisa 1998, and Tamirisa 1999) have used annual information from the IMF's *Annual Report on Exchange Arrangement and Exchange Restrictions* (AREAER) to construct capital flow restriction indexes (CFRIs). But annual information cannot capture well the variations of capital restrictions. In this study, we construct CFRIs on a quarterly basis by supplementing information reported in AREAER with information pieced together from notifications, press releases, and speeches related to foreign exchange and the capital account issued by BNM. CFRIs are constructed separately for capital inflows and outflows, with each further disaggregated into four categories of capital flows: FDI, equity securities, debt securities, and other investment flows (including foreign currency holdings and nonresident ringgit accounts). The chronology of capital account policy shifts on which the indexes are based is given in the Appendix.

The indexes are constructed by assigning +1 or -1 to each announced measure. Policy changes that facilitate inflows and outflows are assigned +1 and those that restrict inflows and outflows are assigned -1 regardless of whether they relate to transactions by residents or nonresidents. The number is scaled by different weights based on direct and indirect impact criteria. The weight is set at between 0 and 2 (the higher the weight, the more severe the measure, especially from policymakers' point of view). For example, a weight of 2 is assigned when the central bank imposes a tax or lifts certain policy measures. The weight is equal to 1 when the central bank requests and/or requires investors or financial institutions to undertake certain measures. A weight between 0.25 to 0.5 is given when the central bank changes the regulation slightly, seeks the cooperation of investors (including financial institutions), or provides them a particular option.

Once the number and weight have been assigned to every measure, the weighted numbers are sequentially accumulated over time to arrive at the CFRI for each asset class.<sup>7</sup> The indexes are rescaled to lie between 0 and 1 for capital inflow policy, where 1 represents capital inflow liberalization and 0 represents capital inflow restrictions. For the outflow side, the indexes are rescaled to lie between 0 and -1 where 0 represents capital outflow restrictions while -1 refers to capital outflow liberalization.

The capital outflow and inflow restriction indexes we constructed are shown in Figures 1 and 2, respectively. The outflow indexes rose significantly during the Asian financial crisis. This is consistent with the capital outflow control policies introduced during this period. After 1999, the indexes (especially those relating to portfolio capital and other capital outflows) gradually declined,

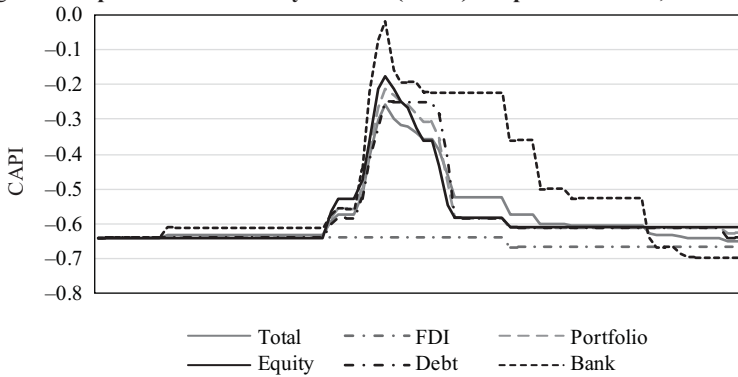
---

<sup>7</sup>Note that to be able to compare the control indexes across the asset types, the maximum accumulation value of a particular asset type is used as a base for the index.



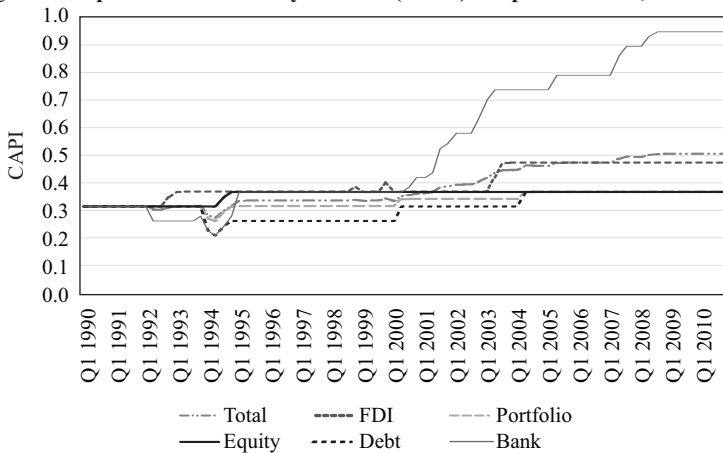
as the central bank gradually liberalized restrictions. The index for portfolio outflows increased at a faster rate than that for bank-related outflows during the early period of the crisis. However, after the second quarter of 1999, the speed became slower and policy measures on flows relating to financial institutions became more pronounced. On the inflow side, the indexes have shown a lesser degree of variability throughout the period covered in our estimates. Against this overall pattern, we can observe a mild increase in the inflow indexes, particularly those relating to short-term capital during the capital inflow control episode in the first half of 1994.

Figure 1. Capital Account Policy Indexes (CAPI): Capital Outflows, 1990–2010



Note: The indexes lie between “0” and “-1”, where “0” refers to restrictions and “-1” refers to liberalization.  
 Source: Authors’ calculation.

Figure 2. Capital Account Policy Indexes (CAPI): Capital Inflows, 1990–2010



Note: The indexes lie between “0” and “1”, where “0” refers to restrictions while “1” refers to liberalization.  
 Source: Authors’ calculation.

## B. The Model

The analytical tool used for examining the effectiveness of capital restrictions is the standard VAR model. The endogenous variables in the model are capital flows, the real exchange rate, exchange rate volatility, the manufacturing production index, (real) interest rate differentials, and capital control indexes.<sup>8</sup> The exogenous variables are the real gross domestic product (GDP) of G3 countries and the share price indexes of industrialized countries. Since the incidence of capital account policy on each asset class is different, we include capital control indexes separately for each asset class, distinguishing between capital inflow and outflow policies. The variables are defined below.

### 1. Capital flows

#### *Inflows:*

TIF	total net capital inflows (% of GDP).
IFDI	net FDI inflows (% of GDP)
IEQUITY	net equity investment inflows (% of GDP)
IDEBT	net debt security investment inflows (% of GDP)
IDEBTINFLOW	gross debt security inflows (% of GDP)
IBANK	net other investment inflows (% of GDP).

#### *Outflows:*

TOF	total net capital outflows (% of GDP).
OFDI	outward FDI (% of GDP)
OEQUITY	net equity outflows (% of GDP).
ODEBT	net debt security outflows (% of GDP)
OBANK	net other investment outflows (% of GDP)

To facilitate interpretation of the results, a positive sign is assigned to all asset types of capital outflows. A higher positive value implies a larger volume of capital outflows.

### 2. Capital account policy indexes

#### *Inflows<sup>9</sup>:*

LIA_INFDI	capital account policy index for FDI inflows
LIA_INPORT	capital account policy index for portfolio inflows

<sup>8</sup>The results were not significantly different when real GDP was used as an alternative variable.

<sup>9</sup>The index ranges from 0 (maximum restrictions) to 1 (liberalization).

LIA_INBANK	capital account policy index for other inflows, especially bank loans
LIA_INPORTBANK	capital account policy index for portfolio and other inflows
Outflows <sup>10</sup> :	
AS_OUTPORT	capital account policy index for portfolio outflows
AS_OUTBANK	capital account policy index for other capital outflows

### 3. Real exchange rate

REER	real effective exchange rate <sup>11</sup> (2005=100) (An increase reflects an appreciation.)
------	--

### 4. Exchange rate volatility

FXVO1	exchange rate volatility (baht/\$), calculated as the standard deviation of changes in the exchange rate <sup>12</sup>
FXVO2	exchange rate volatility (weighted average for key export partners), calculated as the standard deviation of changes in the exchange rate

### 5. Real interest rate differentials

RINTEREST	Interest rate differentials between Malaysia's policy rate and the US 3-month Treasury bill rate, adjusted for consumer price index (CPI) inflation.
-----------	--

### 6. Manufacturing production index

MPI	Manufacturing production index (2000=100)
-----	---

The model is,

---

<sup>10</sup>The index ranges from 0 (maximum restrictions) to -1 (liberalization).

<sup>11</sup>The results when using the nominal exchange rate were similar to those using the REER but the diagnostic tests using the REER were better.

<sup>12</sup>Note that the results when we apply a GARCH or EGARCH model in calculating exchange rate volatility (bilateral and multilateral) are the same as when the standard deviation method is used.

$$\begin{aligned}
TIF_t &= \sum_{i=1}^n \alpha_{1i} TIF_{t-i} + \sum_{i=1}^n \alpha_{2i} FXVO1_{t-i} + \sum_{i=1}^n \alpha_{3i} RER_{t-i} + \sum_{i=1}^n \alpha_{4i} MPI_{t-i} + \sum_{i=1}^n \alpha_{5i} RRINTEREST_{t-i} + \sum_{i=1}^n \alpha_{6i} LIA\_INFDI_{t-i} \\
&+ \sum_{i=1}^n \alpha_{7i} LIA\_INPORTBANK_{t-i} + \sum_{i=1}^n \alpha_{8i} LIA\_OUTPORTBANK_{t-i} + \sum_{i=1}^n \alpha_{9i} G3GDP_{t-i} + \sum_{i=1}^n \alpha_{10i} Share_{t-i} + \varepsilon_{1t} \\
FXVO1_t &= \sum_{i=1}^n \varphi_{1i} TIF_{t-i} + \sum_{i=1}^n \varphi_{2i} FXVO1_{t-i} + \sum_{i=1}^n \varphi_{3i} RER_{t-i} + \sum_{i=1}^n \varphi_{4i} MPI_{t-i} + \sum_{i=1}^n \varphi_{5i} RRINTEREST_{t-i} + \sum_{i=1}^n \varphi_{6i} LIA\_INFDI_{t-i} \\
&+ \sum_{i=1}^n \varphi_{7i} LIA\_INPORTBANK_{t-i} + \sum_{i=1}^n \varphi_{8i} LIA\_OUTPORTBANK_{t-i} + \sum_{i=1}^n \varphi_{9i} G3GDP_{t-i} + \sum_{i=1}^n \varphi_{10i} Share_{t-i} + \varepsilon_{1t} \\
RER_t &= \sum_{i=1}^n \delta_{1i} TIF_{t-i} + \sum_{i=1}^n \delta_{2i} FXVO1_{t-i} + \sum_{i=1}^n \delta_{3i} RER_{t-i} + \sum_{i=1}^n \delta_{4i} MPI_{t-i} + \sum_{i=1}^n \delta_{5i} RRINTEREST_{t-i} + \sum_{i=1}^n \delta_{6i} LIA\_INFDI_{t-i} \\
&+ \sum_{i=1}^n \delta_{7i} LIA\_INPORTBANK_{t-i} + \sum_{i=1}^n \delta_{8i} LIA\_OUTPORTBANK_{t-i} + \sum_{i=1}^n \delta_{9i} G3GDP_{t-i} + \sum_{i=1}^n \delta_{10i} Share_{t-i} + \varepsilon_{1t} \\
MPI_t &= \sum_{i=1}^n \beta_{1i} TIF_{t-i} + \sum_{i=1}^n \beta_{2i} FXVO1_{t-i} + \sum_{i=1}^n \beta_{3i} RER_{t-i} + \sum_{i=1}^n \beta_{4i} MPI_{t-i} + \sum_{i=1}^n \beta_{5i} RRINTEREST_{t-i} + \sum_{i=1}^n \beta_{6i} LIA\_INFDI_{t-i} \\
&+ \sum_{i=1}^n \beta_{7i} LIA\_INPORTBANK_{t-i} + \sum_{i=1}^n \beta_{8i} LIA\_OUTPORTBANK_{t-i} + \sum_{i=1}^n \beta_{9i} G3GDP_{t-i} + \sum_{i=1}^n \beta_{10i} Share_{t-i} + \varepsilon_{1t} \\
RINTEREST_t &= \sum_{i=1}^n \gamma_{1i} TIF_{t-i} + \sum_{i=1}^n \gamma_{2i} FXVO1_{t-i} + \sum_{i=1}^n \gamma_{3i} RER_{t-i} + \sum_{i=1}^n \gamma_{4i} MPI_{t-i} + \sum_{i=1}^n \gamma_{5i} RRINTEREST_{t-i} + \\
&\sum_{i=1}^n \gamma_{6i} LIA\_INFDI_{t-i} + \sum_{i=1}^n \gamma_{7i} LIA\_INPORTBANK_{t-i} + \sum_{i=1}^n \gamma_{8i} LIA\_OUTPORTBANK_{t-i} + \sum_{i=1}^n \gamma_{9i} G3GDP_{t-i} + \\
&\sum_{i=1}^n \gamma_{10i} Share_{t-i} + \varepsilon_{1t} \\
LIA\_INEXFDI_t &= \sum_{i=1}^n \phi_{1i} TIF_{t-i} + \sum_{i=1}^n \phi_{2i} FXVO1_{t-i} + \sum_{i=1}^n \phi_{3i} RER_{t-i} + \sum_{i=1}^n \phi_{4i} MPI_{t-i} + \sum_{i=1}^n \phi_{5i} RRINTEREST_{t-i} \\
&+ \sum_{i=1}^n \phi_{6i} LIA\_INFDI_{t-i} + \sum_{i=1}^n \phi_{7i} LIA\_INPORTBANK_{t-i} + \sum_{i=1}^n \phi_{8i} LIA\_OUTPORTBANK_{t-i} + \sum_{i=1}^n \phi_{9i} G3GDP_{t-i} + \\
&\sum_{i=1}^n \phi_{10i} Share_{t-i} + \varepsilon_{1t} \\
LIA\_OUTEXFDI_t &= \sum_{i=1}^n \omega_{1i} TIF_{t-i} + \sum_{i=1}^n \omega_{2i} FXVO1_{t-i} + \sum_{i=1}^n \omega_{3i} RER_{t-i} + \sum_{i=1}^n \omega_{4i} MPI_{t-i} + \sum_{i=1}^n \omega_{5i} RRINTEREST_{t-i} \\
&+ \sum_{i=1}^n \omega_{6i} LIA\_INFDI_{t-i} + \sum_{i=1}^n \omega_{7i} LIA\_INPORTBANK_{t-i} + \sum_{i=1}^n \omega_{8i} LIA\_OUTPORTBANK_{t-i} + \sum_{i=1}^n \omega_{9i} G3GDP_{t-i} + \\
&\sum_{i=1}^n \omega_{10i} Share_{t-i} + \varepsilon_{1t}
\end{aligned}$$

### C. Data and Estimation Method

Data on capital inflows and outflows, Malaysian interest rates, the CPI, the manufacturing production index, and nominal and real effective exchange rates are compiled from the *Monthly Statistical Bulletin* database of BNM. Real GDP of G3 countries and share prices are compiled from the International Financial Statistics database of IMF. All data series are seasonally adjusted.

For the purpose of estimating the model, the period under study is divided into two subperiods: 1990–1999 and 2000–2010. This is done because investors' responses to capital account policy and other related determinants are likely to be different before and after the Asian financial crisis. For example, controls on capital outflows introduced during the crisis may help increase net capital inflows (i.e., positive relationship between the control index and net capital inflows),

while capital outflow liberalization after the crisis may also help encourage more capital inflows (i.e., negative relationship between the control index and net capital inflows). Thus, the results might be blurred if the model uses the whole sample (1990–2010).

The model is estimated separately for capital inflows and outflows. In addition, to examine the switching effect of capital controls, the model is estimated for the different asset classes: FDI, portfolio investment (equity and debt securities), and other investment flows. The model is estimated for all assets classes for 2000–2010. However, given the data availability, we were able to estimate for only two asset classes (portfolio investment and other investment flows) for 1990–1999.

The Augmented Dickey-Fuller test was used to test the time series properties of the data, and all variables were found to be nonstationary. We therefore use first differences to estimate VAR. The lag length of the variables was decided based on the Akaike information criterion and the sequential modified LR test statistic. In all cases, the one-period lag turned out to be the appropriate choice. This is consistent with the a priori view that capital flows (unlike trade flows) swiftly respond to policy shifts.

The ordering of the variables in VAR estimation is set by listing the policy variables last, after the other key economic variables—i.e., capital flows, exchange rate volatility, the real exchange rate, the manufacturing production index, the policy rate, and the capital account policy indexes. However, since the VAR model could be sensitive to the ordering of variables, we check the stability of the results by changing the order of the variables in the model. For example, we tried putting capital account policy indexes first followed by capital flows, exchange rate volatility, the real exchange rate, the manufacturing production index, and the policy rate. The results were remarkably robust to alternative specifications.

## D. Results

The estimated VAR models are reported in Table 1. Figures 3–4 show impulse responses of net capital inflows and other key variables to one standard deviation increase in capital account policy indexes during 1990–1999 and 2000–2010, respectively, while Figure 5 shows impulse responses of net capital outflows and other key variables to a one standard deviation increase in capital policy indexes during 2000–2010. For the period 1990–1999, results show that

Table 1. VAR Estimates

Table 1a. Results of Capital Account Policy on Net Portfolio and Loan Inflows, 1990–1999

	D(IIMPORT_SA(-1))	D(IEQUITY_SA(-1))	D(INONEQUITY_SA(-1))	D(ILoan_SA(-1))
D(IIMPORT_SA(-1))	-0.37 [-2.65]*			
D(IEQUITY_SA(-1))		-0.68 [-4.09]*		
D(INONEQUITY_SA(-1))			-0.37 [-2.73]*	
D(ILoan_SA(-1))				-0.67 [-3.62]*
DLOG(REER(-1))	-0.47 [-1.73]**	-0.05 [-0.84]	-0.42 [-1.58]***	-0.00 [-0.01]
DLOG(MPI(-1))	0.34 [ 1.44]	0.08 [ 1.36]	0.29 [ 1.27]	0.12 [ 1.15]
D(RINTEREST(-1))	0.075 [ 5.39]*	-0.01 [-0.76]	0.08 [ 5.73]*	-0.00 [-0.30]
D(LIA_IMPORT(-1))	-1.98 [-1.70]**	-0.50 [-1.95]**	-1.61 [-1.38]	
D(LIA_OUTPORT(-1))	3.19 [ 2.77]*	0.11 [ 0.44]	3.11 [ 2.77]*	-1.81 [-1.68]***
D(LIA_INBANK(-1))				-0.06 [-0.25]
D(LIA_OUTBANK(-1))				0.66 [ 1.83]*
C	0.01 [ 0.79]	-0.011 [-1.86]	0.02 [ 1.27]	-0.01 [-0.79]
DLOG(RGDPG3)	0.60 [ 1.23]	0.06 [ 0.54]	0.54 [ 1.15]	-0.13 [-0.58]
DLOG(SHAREUSA)	-0.53 [-1.74]**	0.08 [ 1.16]	-0.63 [-2.13]*	0.17 [ 1.14]
R-squared	0.69	0.54	0.71	0.51
Adj. R-squared	0.57	0.34	0.59	0.30
Sum sq. resids	0.07	0.01	0.07	0.01
S.E. equation	0.06	0.01	0.05	0.02
F-statistic	5.29	2.70	5.77	2.38
Log likelihood	56.97	107.54	57.91	84.33
Akaike AIC	-2.70	-5.68	-2.75	-4.31
Schwarz SC	-2.21	-5.19	-2.26	-3.82
Mean dependent	0.01	-0.01	0.01	-0.00
S.D. dependent	0.08	0.01	0.08	0.02

Note: The results show only the direct impacts of capital account policy. The value in parenthesis is the t-statistic where \* = 5%; \*\* = 10% and \*\*\* = 15% significance.

Source: Authors' calculation.

Table 1b. Results of Capital Account Policy on Net Capital Inflows, 2000–2010

	TIF SA	D(IFDI SA)	I PORT SA	IEQUITY SA	IDEBT SA	IBANK SA
TIF_SA(-1)	0.03					
	[ 0.16]					
D(IFDI_SA(-1))		-0.71				
		[-5.85]*				
I PORT_SA(-1)			0.10			
			[ 0.55]			
IEQUITY_SA(-1)				0.37		
				[ 2.78]*		
					-0.28	
					[-1.05]	
IBANK_SA(-1)						-0.04
						[-0.33]
DLOG(REER(-1))	-0.83	0.23	-0.21	-0.85	0.32	-0.35
	[-0.98]	[ 1.22]	[-0.31]	[-2.64]*	[ 0.47]	[-1.05]
DLOG(MPI(-1))	0.38	-0.02	0.16	-0.06	0.77	0.08
	[ 0.87]	[-0.22]	[ 0.45]	[-0.35]	[ 1.79]**	[ 0.45]
D(RINTEREST(-1))	0.02	0.00	-0.01	-0.01	0.02	0.01
	[ 1.30]	[ 0.33]	[-0.24]	[-3.75]*	[ 1.42]***	[ 1.74]**
D(LIA_INFDI(-1))	-0.79	0.36				
	[-0.72]	[ 1.46]***				
D(LIA_INPORTBANK(-1))	-1.11	-0.60				
	[-0.97]	[-2.39]*				
D(LIA_OUTPORTBANK(-1))	-0.09	-0.00				
	[-0.11]	[-0.02]				
D(LIA_INPORT(-1))			-0.44	0.41	-0.08	-3.37
			[-0.21]	[ 0.25]	[-0.02]	[-1.96]**
D(LIA_OUTPORT(-1))			-0.67	0.77	0.30	1.39
			[-0.89]	[ 0.87]	[ 0.14]	[ 1.44]***
D(LIA_INBANK(-1))			-0.95	-0.48	-0.43	0.53
			[-2.09]*	[-2.25]*	[-0.90]	[ 2.21]*
D(LIA_OUTBANK(-1))			0.08	-0.37	0.27	-0.73
			[ 0.20]	[-1.13]	[ 0.35]	[-2.05]*
C	0.98	0.00	0.90	0.61	1.29	1.03
	[ 6.10]*	[ 0.46]	[ 5.01]*	[ 4.50]*	[ 4.79]*	[ 6.93]*
DLOG(RGDPG3)	2.07	0.01	1.37	0.36	0.78	0.89
	[ 2.35]*	[ 0.03]	[ 1.88]**	[ 1.21]	[ 1.13]	[ 2.69]*
DLOG(SHAREUSA)	0.42	0.081	0.35	0.27	0.21	-0.05
	[ 1.75]**	[ 1.41]***	[ 1.70]**	[ 3.04]*	[ 1.03]	[-0.59]
R-squared	0.53	0.58	0.49	0.74	0.46	0.63
Adj. R-squared	0.41	0.47	0.33	0.60	0.21	0.46
Sum sq. resids	0.24	0.01	0.12	0.01	0.07	0.016
S.E. equation	0.08	0.01	0.06	0.02	0.05	0.02
F-statistic	4.25	5.24	2.97	5.38	1.86	3.65
Log likelihood	52.05	116.13	60.41	79.37	52.17	75.54
Akaike AIC	-1.91	-4.94	-2.41	-4.21	-2.57	-4.03
Schwarz SC	-1.50	-4.52	-1.95	-3.66	-2.06	-3.53
Mean dependent	1.03	-0.00	1.00	0.99	1.01	1.00
S.D. dependent	0.109323	0.03	0.07	0.04	0.06	0.038

Note: The results show only the direct impacts of capital account policy. The value in parenthesis is the t-statistic where \* = 5%; \*\* = 10% and \*\*\* = 15% significance.

Source: Authors' calculation.

Table 1c. Results of Capital Account Policy on Net Capital Outflows, 1999–2010

	D(OFDI_SA)	D(OPORT_SA)	D(OEQUITY_SA)	D(ODEBT_SA)	D(OBANK_SA)
D(OFDI_SA(-1))	-0.28 [-2.02]*				
D(OPORT_SA(-1))		-0.52 [-3.76]*			
D(OEQUITY_SA(-1))			-0.15 [-0.83]		
D(ODEBT_SA(-1))				-0.76 [-4.31]*	
D(OBANK_SA(-1))					-0.48 [-2.59]
DLOG(REER(-1))	0.094478 [ 1.00]	0.144242 [ 1.35]***	0.22 [ 2.04]*	0.08 [ 0.89]	0.06 [ 0.12]
DLOG(MPI(-1))	0.24 [ 1.98]**	0.00 [ 0.10]	0.01 [ 0.08]	-0.02 [-0.41]	-0.25 [-0.36]
D(RINTEREST(-1))	-0.01 [-1.12]	-0.00 [-0.300]	0.00 [ 0.20]	-0.00 [-0.14]	-0.01 [-0.97]
D(AS_OUTPORT(-1))	-0.04 [-0.31]	0.09 [ 0.65]	0.20 [ 1.81]**	0.17 [ 1.51]***	0.41 [ 0.63]
D(AS_OUTBANK(-1))	0.04 [ 0.730]	0.09 [ 1.47]***	0.03 [ 1.66]***	-0.04 [-0.75]	-0.15 [-0.49]
C	-0.01 [-1.94]	0.00 [ 2.42]*	0.02 [ 2.26]*	-0.01 [-0.37]	0.01 [ 1.19]
DLOG(RGDPG3)	0.28 [ 2.72]*	-0.21 [-1.80]**	-0.42 [-3.76]*	0.07 [ 0.76]	-0.75 [-1.45]***
DLOG(SHAREUSA)	0.059 [ 1.99]*	0.06 [ 1.98]**	0.04 [ 1.57]***	0.01 [ 0.32]	0.19 [ 1.32]***
R-squared	0.52	0.48	0.56	0.649	0.42
Adj. R-squared	0.40	0.31	0.38	0.48	0.17
Sum sq. resids	0.00	0.00	0.00	0.00	0.04
S.E. equation	0.009648	0.01	0.00	0.01	0.04
F-statistic	4.63	2.96	3.07	4.16	1.70
Log likelihood	143.59	140.50	111.25	11	58.79
Akaike AIC	-6.26	-6.02	-6.53	-6.59	-3.14
Schwarz SC	-5.89	-5.57	-6.07	-6.13	-2.68
Mean dependent	0.00	0.00	0.00	-0.00	0.00
S.D. dependent	0.01	0.01	0.01	0.01	0.04

Note: The results show only the direct impacts of capital account policy and the data of net equity outflows (OEQUITY), net debt security outflows (ODEBT), and bank lending (OBANK) started in 2002. The value in parenthesis is the t-statistic where \* = 5%; \*\* = 10% and \*\*\* = 15% significance.

Source: Authors' calculation.

controls on outflows of portfolio investment (LIA\_OUTPORT) and bank loans (LIA\_OUTBANK) tend to reduce outflows and eventually increase net capital inflows. Figure 3a.2 clearly shows the positive and significant response of net portfolio inflows (IPORT) to an increase in restrictions on capital outflows (LIA\_OUTPORT). Non-equity investment tends to respond more to such restrictions than equity investment (Figures 3c.2–3c.3). There is also evidence that that an increase in restrictions on other capital outflows including on bank loans (LIA\_OUTBANK) leads to a rise in net other investment inflows (IBANK)

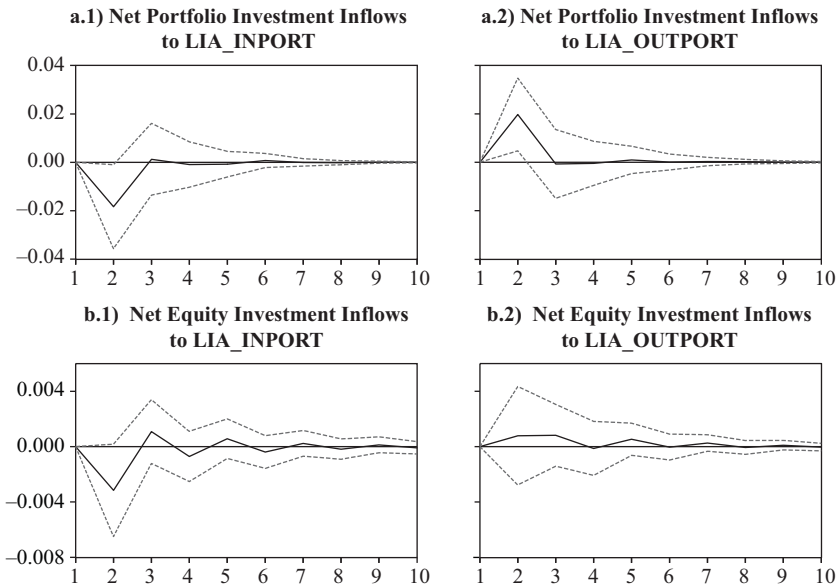


to the country (Figure 3h.2). Note that there is no cross effect of restrictions among asset classes, i.e., restrictions imposed on portfolio investment do not impact on other investment inflows. All in all, these results imply that capital outflow controls seem to have been effective in reducing capital outflows and increasing net capital inflows during the crisis period.

Interestingly, the results indicate a negative and significant relationship between portfolio inflow controls (LIA\_INPORT) and net portfolio investment inflows (IIMPORT) (Figure 3a.1). This suggests that restrictions on capital inflows introduced in 1993–1994 were not effective in significantly reducing net portfolio inflows. The same pattern can be observed relating to both equity and non-equity inflows (Figure 3b.1 and 3c.1). Reflecting the ineffectiveness of capital inflow controls, both the real exchange rate (REER) and the interest rate (RINTEREST) did not significantly respond to capital inflow controls (Figures 3d.1 and 3e.1).

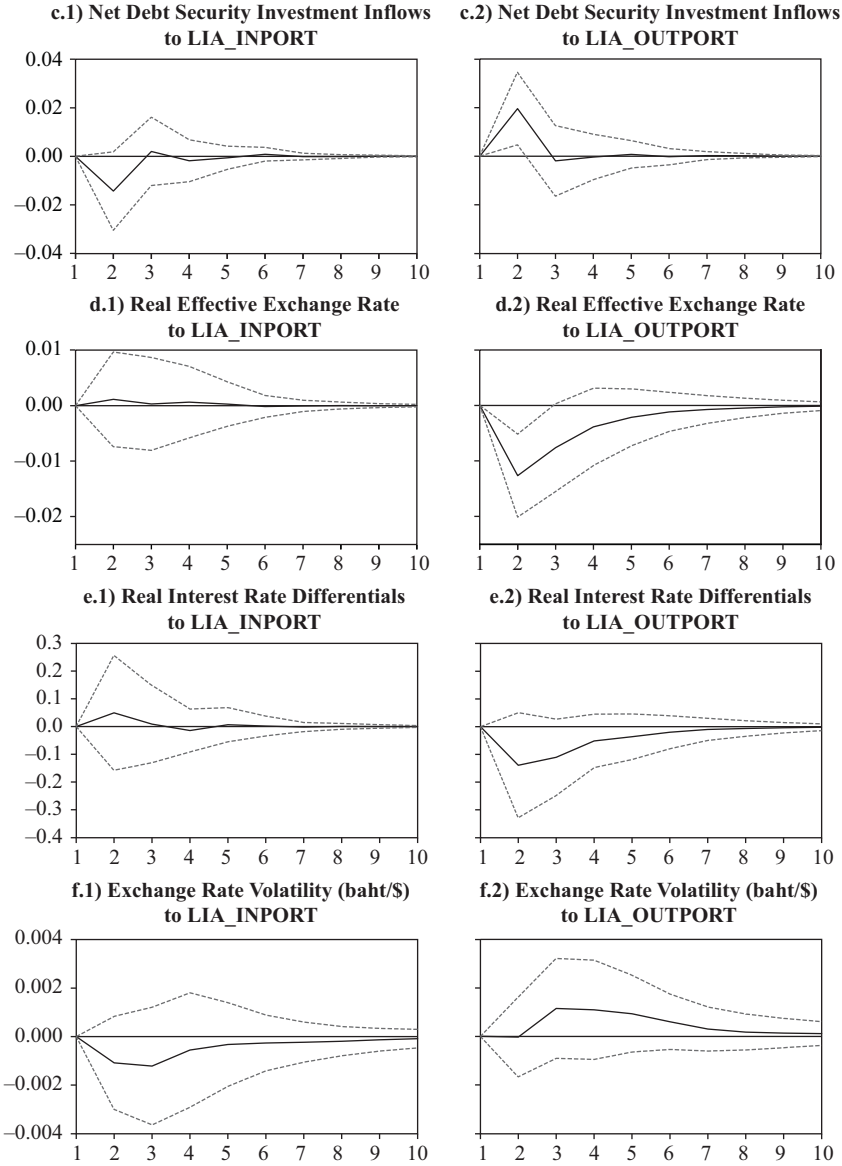
By contrast, capital outflow controls introduced during the Asian financial crisis seem to have brought about monetary policy autonomy. The real interest rate declined significantly during 1998–2000 implying that the central bank could stimulate the economy during this period with less concern on capital outflows (Figure 3e.2). Results show capital outflow controls also significantly slow down the depreciation of the exchange rate (Figure 3i.2).

Figure 3. Impulse Responses of Key Variables to Capital Account Policies (Net Capital Inflows: Liability Side), 1990–1999



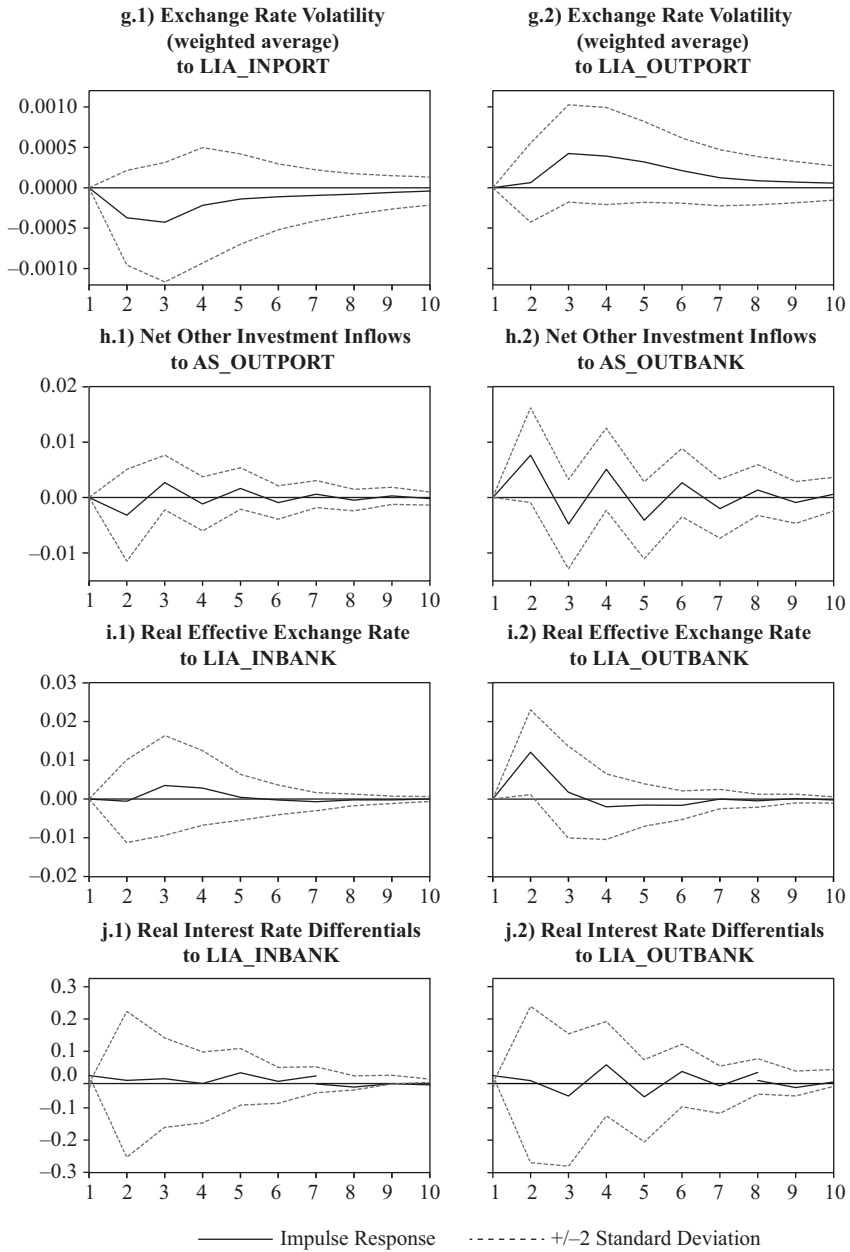
*continued.*

Figure 3. *continued.*



*continued.*

Figure 3. *continued.*

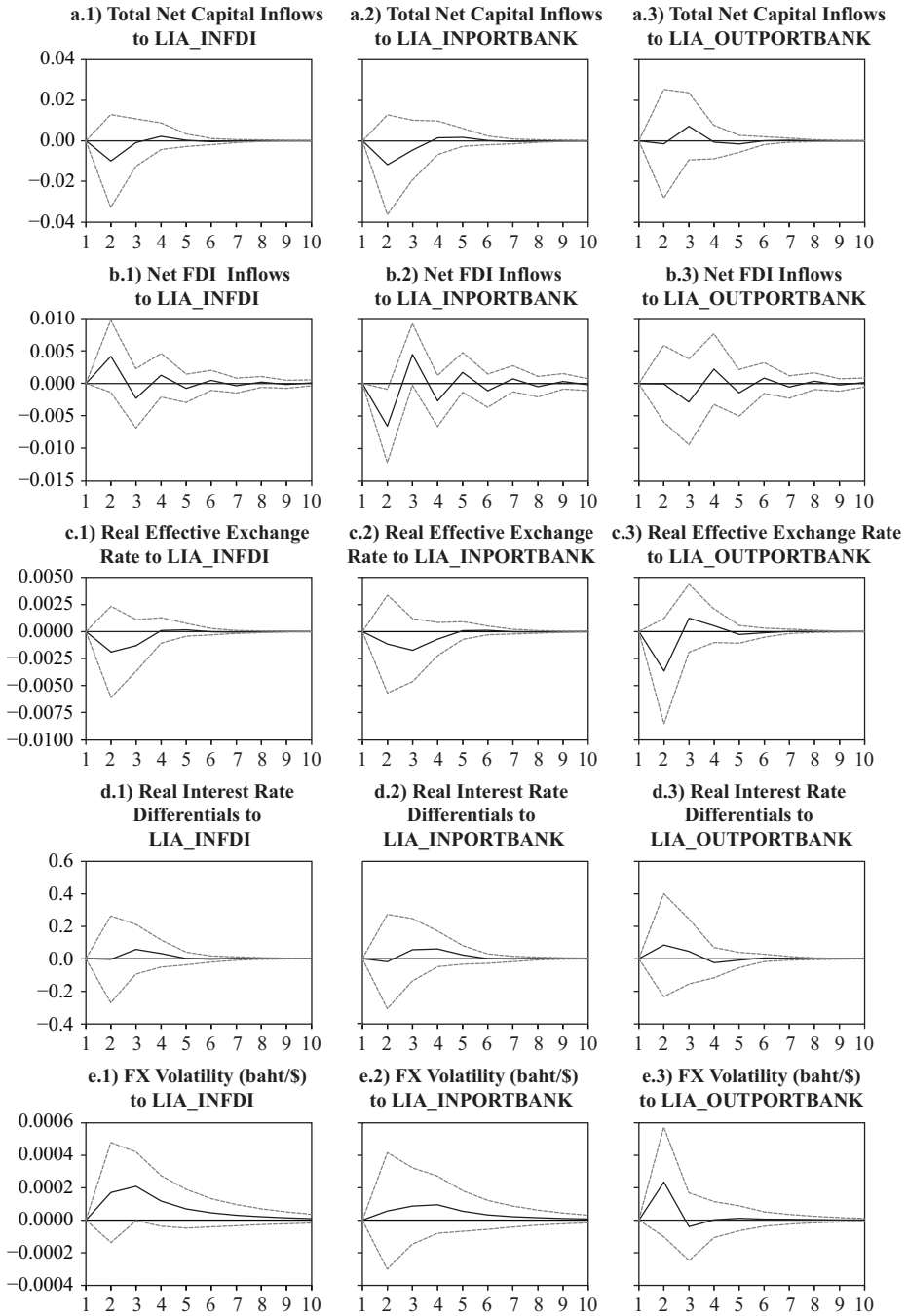


Source: Authors' calculation.

Both capital inflow and outflow policies were liberalized after the Asian financial crisis, with likely impacts on capital movements. Results show liberalization of portfolio inflow policy significantly and positively affected net equity inflows (Figure 4g.1). A similar outcome can be seen relating to the liberalization of financial institution inflow policy on net other investment inflows (Figure 4i.3) and liberalization of FDI inflow policy on net FDI inflows (Figure 4b.1). Interestingly, liberalization of capital outflow policy seems to have had limited effects for 2000–2010. A significant impact of outflow controls is found only in the case of net other investment inflows (IBANK).

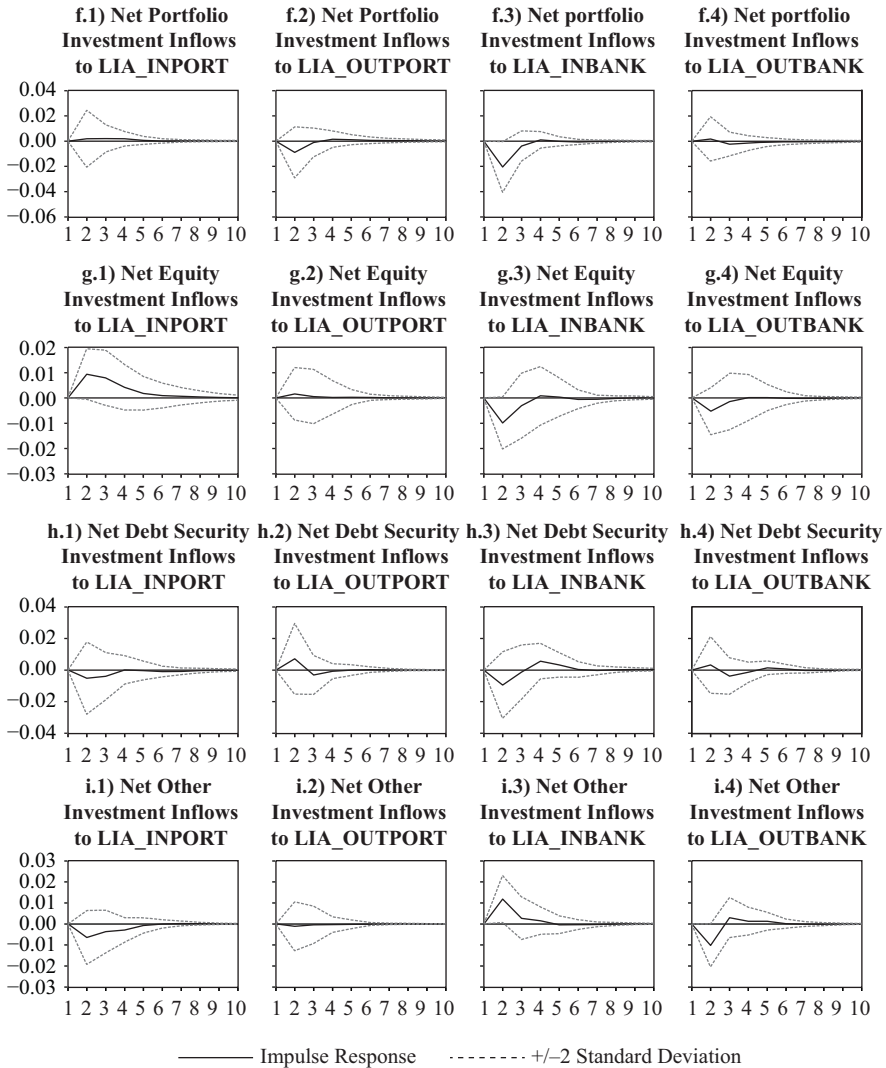
Some cross-effects of capital control relaxation among asset classes were found in the period after the Asian financial crisis. Liberalization of financial institution inflow policy (LIA\_INBANK), where the speed and magnitude of liberalization tends to be faster than other asset types, could result in a switching effect from equity investment to other investment. This was shown by the negative and significant responses of net portfolio inflows (IPOINT) and net equity inflows (IEQUITY) to less stringent financial institution inflow policy (LIA\_INBANK) (Figures 4f.3 and 4g.3). Meanwhile, liberalization in portfolio and financial institutions could, to some extent, lead to a switching effect away from FDI. Figure 4b.2 shows the negative relationship between liberalization of portfolio and other investment and net FDI inflows. This may have been the outcome of increasing importance of mergers and acquisitions as a means of FDI investment in recent years. There is no evidence of a significant response of the real exchange rate, real interest rate, and exchange rate volatility to capital inflow or outflow liberalization during the post-crisis period. This may be because the cross effects occurring among asset classes counterbalanced the effects of capital inflow and outflow policy liberalization (Figures 4a.1–4a.3).

Figure 4. **Impulse Responses of Key Variables to Capital Account Policies (Net Capital Inflows: Liability Side), 2000–2010**



*continued.*

Figure 4. *continued.*

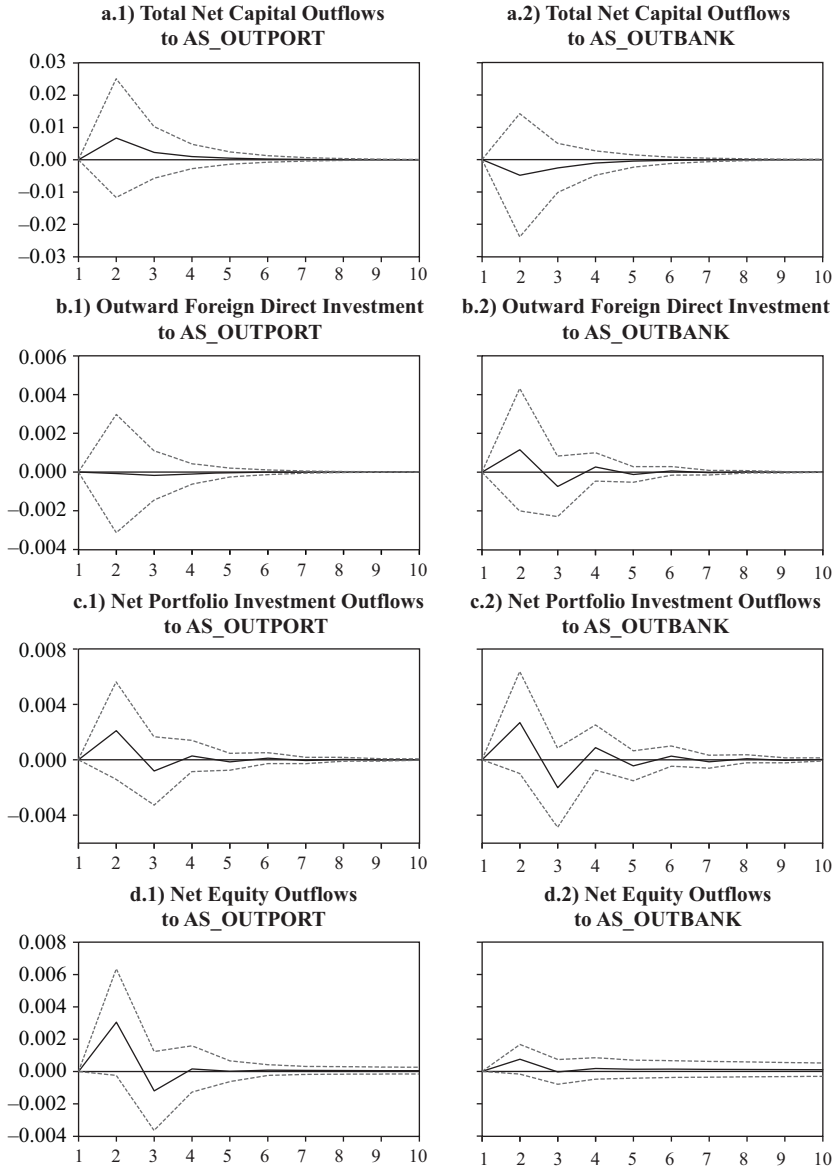


Source: Authors' calculation.

BNM liberalized capital outflow policy after the Asian financial crisis, especially for financial institutions (AS\_OUTBANK) and portfolio investment (AS\_OUTPORT), permitting domestic investors to invest overseas. However, the impact of such liberalization is limited with responses of net capital outflows mostly insignificant (Figures 5a–5c, 5f, and 5g). Only net equity outflows seem to have responded significantly to the liberalization. Our results point to a perverse (negative) relationship between liberalization policy and net equity outflows (OEQUITY). This may reflect home bias in equity investment given more

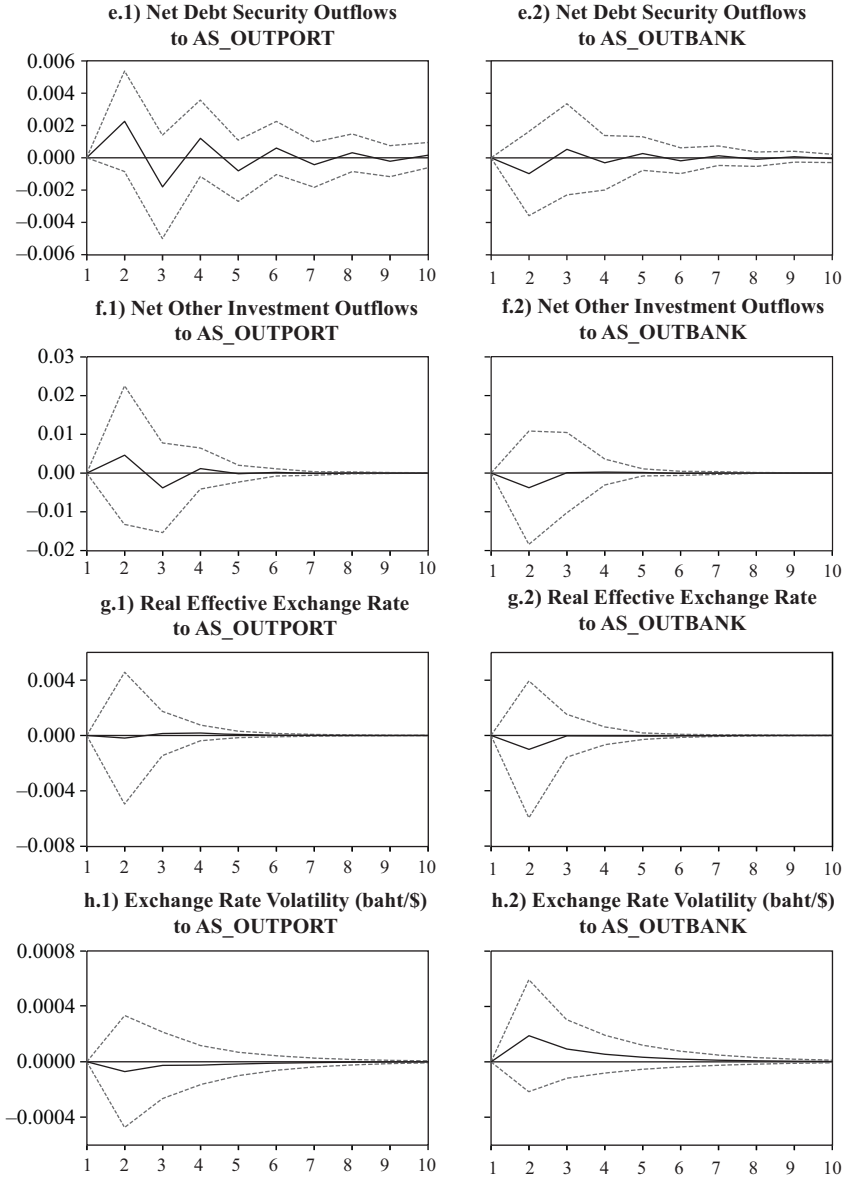
attractive domestic returns compared to investment in other countries in the region. There is no evidence of significant effects of liberalization policy on the real exchange rate, real interest rate, and exchange rate volatility.

Figure 5. Impulse Responses of Key Variables to Capital Account Policies (Net Capital Outflows: Asset Side), 2000–2010



*continued.*

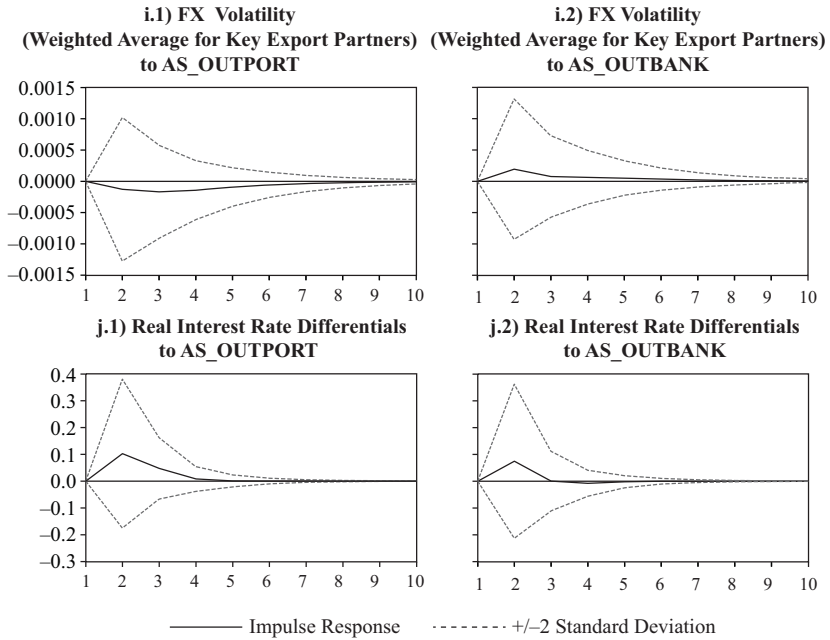
Figure 5. *continued.*



*continued.*



Figure 5. *continued.*



Source: Authors' calculation.

#### IV. TWO CAPITAL CONTROL EPISODES

In Section II, we identified two distinct policy episodes in Malaysia that marked a clear departure from the country's long-term commitment to an open capital account regime: capital inflow controls in 1994 and capital outflow controls during 1998–1999. In this section, we take a close look at these two episodes to supplement the econometric analysis in the previous section. We examine the nature and magnitude of capital flows that trigger the policy response and the impact of the policy choice on domestic macroeconomic adjustment and economic performance.

##### A. Capital Inflow Controls, 1994

Following the macroeconomic crisis in the mid-1980s, Malaysia entered a rapid growth phase which lasted until the onset of the Asian financial crisis in mid-1997 (Athukorala 2012). The booming economy coupled with an international interest rate differential of more than 3% per annum in favor of Malaysia triggered strong inflows of foreign capital, with a notable shift in total net flows towards short-term flows (BNM 1999). During the period 1990–1993, total net flows to Malaysia amounted to over 13% of GDP compared to 4.9%

during 1980–1989. In 1993, this figure hit a historical high of 16.8% (Table 2). The share of short-term flows surpassed that of FDI in 1992 and hit an all-time high of 62% in 1993. The short-term inflows took mainly the form of borrowing by commercial banks and increased placement of deposits by both bank and nonbank foreign customers with banks in Malaysia.

Table 2. **Malaysia: Net Capital Inflow,<sup>a</sup> 1990–1996**

	1980-1989 <sup>b</sup>	1990	1991	1992	1993	1994	1995	1996
\$ million								
Official long-term capital	549	-1249	-356	-1,018	226	58	1,936	226
Foreign direct investment	894	2,780	5,846	4,660	3,036	4,435	3,291	3,858
Private short term capital <sup>c</sup>	6	260	439	4,900	7,029	447	2,305	5,348
Portfolio investment	-26	-213	-1,027	2,788	6,041	934	1,687	2,650
Banking sector borrowing	32	473	1,466	2,112	978	-510	459	1,735
Non-bank private borrowing <sup>d</sup>	---	---	---	---	---	22	158	962
<b>Total</b>	<b>1,449</b>	<b>1,790</b>	<b>5,935</b>	<b>8,551</b>	<b>10,291</b>	<b>4,940</b>	<b>7,532</b>	<b>9,432</b>
Composition of total capital flows (%)								
Official long-term capital	37.9	-69.8	-6	-11.9	2.2	1.2	25.7	2.4
Foreign direct investment	61.7	155.3	98.5	54.5	29.5	89.8	43.7	40.9
Private short term capital <sup>c</sup>	0.4	14.5	7.4	57.3	68.3	9.0	30.6	56.7
Portfolio investment	-1.8	-11.9	-17.3	32.6	58.7	18.9	22.4	28.1
Banking sector borrowing	2.2	26.4	24.7	24.7	9.5	-10.3	6.1	18.4
Non-bank private borrowing <sup>d</sup>	---	---	---	---	---	0.4	2.1	10.2
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Total capital flows as a share of GDP (%)	4.9	4.2	11.7	15	16.8	1.7	8.8	9.6
Growth of Broad money (M3) (%)	4.9	18.2	15.3	19.5	23.2	12.6	22.0	9.6
Total capital flows as a share of GDP (%)	4.9	4.2	11.7	15.0	16.8	1.7	8.8	9.6

--- Data not available.

Notes:

<sup>a</sup>Net capital flows comprise net direct foreign investment, net portfolio investment (equity and bond flows), and official and private bank borrowings. Changes in national foreign exchange reserves are not included.

<sup>b</sup>Annual average.

<sup>c</sup>Borrowing for a period of one year and below.

<sup>d</sup>Mostly trade related.

Source: Compiled from Bank Negara Malaysia (1999) and Bank Negara Malaysia (1995, various issues).

To mop up excess liquidity amidst rising inflationary pressure, BNM first resorted to sterilization operations and raising the statutory reserve requirement for the commercial banks. Despite these measures, excess liquidity in the economy remained high. To discourage capital inflows, an adjustment of the exchange rate (i.e., greater exchange rate flexibility in place of the commitment to the dollar peg) was the standard textbook recipe available to BNM at the time. However, this option was eschewed because of the concern that “allowing the ringgit to appreciate sharply arising from the inflows of funds that were of a very

short-term nature would run the risk of overshooting of the exchange rate,” jeopardizing macroeconomic stability and international competitiveness of the economy (BNM 1999, p 289).

In this context, BNM opted to implement several capital inflow control measures in January and February 1994. As in the case of the 1998–1999 capital control episode, the restrictions were specifically aimed at short-term flows (clearly leaving aside FDI) and were introduced with a clear assurance that they were short-term in nature. These included placing ceilings on external liabilities of commercial banks, banning sales of short-term debt instruments to foreigners, restricting ringgit deposits of foreign institutions to non-interest-bearing accounts, prohibiting non-trade-related currency swaps, and introducing a new maintenance charge on non-interest-bearing foreign deposits (Appendix). Once speculative pressure subsided and the exchange rate returned to the level of late 1993, BNM gradually removed the controls and freed up capital flows, completely lifting all restrictions by August 1994 (World Bank 1996, BNM 1999).

The capital inflow controls were successful in moderating the surge of short-term flows and slowing down domestic monetary expansion. M3 growth moderated from 23.5% in 1993 to 13.1% in 1994. Short-term flows regained momentum following the lifting of controls, reaching 56.7% of total inflows in 1996 but was much lower compared to the average level in 1992–1993. As in the case of the 1998–1999 capital control episode, the restrictions led to widespread concern about a possible contraction in foreign investment flows to Malaysia, both portfolio investment and FDI. Against these gloomy predictions, capital inflows to the country continued to expand at an increasing rate during the ensuing three years. The introduction of specific controls in 1994 did not affect long-term investment flows—FDI inflows showed a sustained increase, amounting to \$4.4 billion in 1994 compared to \$4.0 billion in 1993.

Following the removal of capital controls, short-term flows increased during the next two years. But in the lead-up to the Asian financial crisis, Malaysia’s exposure to short-term bank borrowing continued to be rather low compared to the other crisis-affected East Asian countries. The share of net short-term bank credit in total capital inflows to Malaysia during 1994–1996 was a mere 22%. Comparable figures for the other countries were: 62% for Indonesia, 56% for the Republic of Korea, 77% for the Philippines, and 83% for Thailand. As we will see in the next section, the exceptionally low exposure to short-term foreign debt was a key factor that enabled Malaysia’s unique policy response to the crisis.

## **B. Capital Outflow Controls, 1998–2002**

Malaysia made headlines in the context of the Asian financial crisis by taking an unorthodox (and risky) policy posture where key elements were capital

controls and expansionary macroeconomic policy. As the first step, on 31 August 1998, offshore trading of shares of Malaysian companies was banned in a move to freeze over-the-counter share trading in the central limit order book (CLOB) market in Singapore.<sup>13</sup> This was followed by the imposition of comprehensive controls over short-term capital flows, introduction of a 12-month withholding period on the repatriation of proceeds (principal and profit) from foreign portfolio investment (1 September 1998), and fixing of the exchange rate at RM3.80 per \$1 (2 September 1998). Other capital control measures employed included bans on: trading in ringgit instruments by offshore banks operating in Malaysia, offering of domestic credit facilities to nonresident banks and stockbrokers, trading in ringgit in overseas markets (predominantly in Singapore), and the use of ringgit as an invoicing currency in foreign trade. There were also stringent limits placed on the approval of foreign exchange for overseas travel and investment by Malaysian nationals (Appendix).

The controls were strong but they were narrowly focused on short-term capital flows. The aim was to make it harder for short-term portfolio investors, both foreign and local, to sell their shares and repatriate proceeds, and for offshore hedge funds to drive down the currency. There was no retreat from the country's long-standing commitment to an open trade and FDI policy. Current account transactions (with the sole exception of limits on foreign exchange for travel by Malaysian citizens) as well as profit remittance and repatriation of capital by foreign direct investors continued to remain free of control.

In early February 1999, the original 12-month holding restriction on portfolio investment was converted into a two-tier exit levy: 30% on profits made and repatriated within one year and 10% on profits repatriated after one year. In August 1999, the two-tier levy on profit repatriation was replaced by a unified 10% levy. An agreement between the KLSE and the SES reached on 26 February 2000 provided for the transfer of the shares trapped in the CLOB market to the Malaysian stock exchange, which allowed trading to resume. The 10% exit levy was lifted on 1 May 2001.

Following this policy choice, which marked a significant departure from the IMF-centered approach adopted by the other crisis-hit countries in the region, the Malaysian economy recovered smoothly, defying widespread pessimism that prevailed in economic circles at the time. There continues to be, however, an intense debate on whether this episode holds lessons for using capital controls as a tool of crisis resolution: *precedence* does not necessarily imply *causation*.

One can distinguish two alternative views. The first sees the imposition of controls as a case of "locking the stable door after the horse had bolted." At the time Malaysia made the policy U-turn, capital had already left the country and

---

<sup>13</sup> At the time, total value of Malaysian shares traded in the CLOB market amounted to \$4.2 billion (*Far Eastern Economic Review*, 9 March 1998). Following the Malaysian move to ban offshore trading of Malaysian company shares, the CLOB market was closed on 15 September 1998.

speculative pressure for capital outflow from the Asian region was coming to an end (e.g., Jomo 2004, Dornbusch 2002). More specifically, the proponents of this view emphasize that not only Malaysia but also the other crisis-hit Asian countries, which maintained open capital accounts under IMF-centered reform packages, began to recover at about the same time. The second view holds that capital controls did play a pivotal role in the recovery by insulating the domestic capital market from the world capital market (with respect to short-term flows) and thus allowing the Malaysian government to engage in fiscal and monetary expansion and to restructure troubled banks and companies (e.g., Corden 2003, Athukorala 2002)

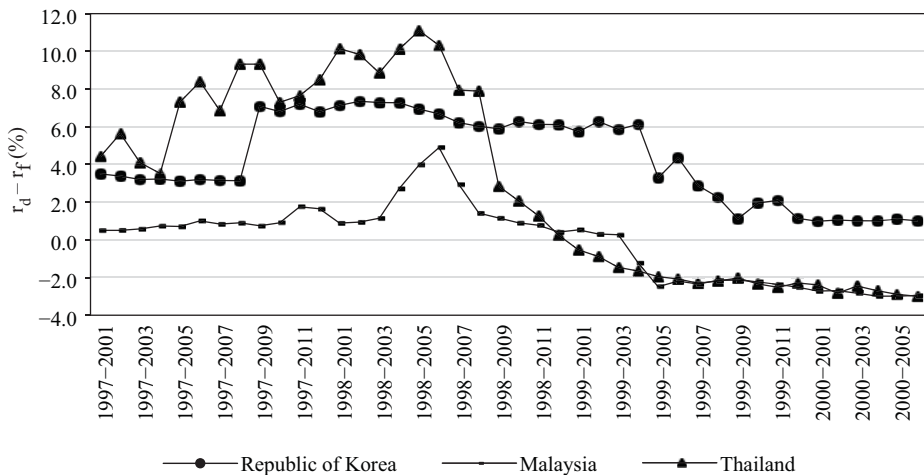
The “barn door” analogy misses the important point that the purpose of capital control was to set the stage for monetary and fiscal expansion by preventing an outflow of funds—both local and foreign-owned—that could occur in response to a lowering of the domestic interest rate relative to world market rates under the new expansionary macroeconomic policy stance. The potential threat of such an outflow was much greater in Malaysia than in other crisis-hit countries because of the pivotal role played by the Singapore money market as a convenient alternative to the domestic market for Malaysian investors.

Singapore was formally separated from Malaysia in 1965 and the KLSE was split from the SES in 1970. However, family ties and business connections between the two countries remained strong. Trade in shares of Malaysian companies in the informal CLOB market was a major activity of both Singaporean and Malaysian brokerage firms. Ringgit was the main, if not the sole, invoicing currency for thriving trade between the two countries (which accounted for over 30% of Malaysia’s total trade by the mid-1990s), and many Singaporean banks and individual money dealers were actively involved in ringgit trading.

A striking feature of capital flight from Malaysia from about early 1998 was that they largely took the form of ringgit (rather than foreign currency) flowing into Singapore. As much as RM25 billion–RM35 billion (\$6.3 billion–\$8.8 billion) had ended up in Singapore at the height of the crisis in mid-1998 (Tripathi, Dolven, and Keenan 1998). This amounted to 46%–64% of the total domestic supply of currency and demand deposits in Malaysia. These flows were triggered by very attractive money market rates of around 20%–40% in Singapore, which provided a hefty premium over the domestic rate (about 11 percentage points), coupled by a weakening ringgit. Arbitrage between the two rates by money market dealers in both Singapore and Malaysia began putting pressure on the domestic interest rates in Malaysia. Thus, policymakers became increasingly concerned about the “internationalization” of the national currency, which had carried a potential new threat to economic stability and monetary policy autonomy. The strong demand for offshore ringgit and the consequent buildup of offshore ringgit deposits increased the vulnerability of the ringgit, undermining the effectiveness of monetary policy (BNM 1999).

The effectiveness of capital controls in bringing in expected monetary policy autonomy is evident from the dramatic turnaround in the differential between domestic and international interest rates in Malaysia following the imposition of these controls (Figure 6). The differential remained positive and varied in the range of 0.6%–2% during the period before the onset of the crisis then increased to a peak of 8% at the height of the crisis in mid-1998. Following the imposition of capital controls in September 1998, it tended to decline, entering negative territory by March 1999. From then, the differential has remained around –2.5% with little monthly fluctuations. Both the dramatic decline in the differential and its remarkable stability clearly attest to the effectiveness of controls in insulating the domestic interest rate from international financial market developments. This inference based on simple visual inspection of relative movement in interest rates is supported strongly by systematic econometric analyses of Edison and Reinhart (2000), Kaminsky and Schmukler (2001), Kaplan and Rodrik (2002), and Doraisami (2004).

Figure 6: Differential Between Domestic and International Money Market Interest Rates ( $r_d - r_f$ ) in the Republic of Korea, Malaysia, and Thailand (January 1996–June 2000) (percentage points)



Note: Domestic money market rate used for each of the three countries: Republic of Korea (91-day beneficial certificate rate), Malaysia (3-month Treasury bill rate), and Thailand (3-month repurchase rate on government bonds in the inter-bank market). The 3-month US Treasury bill rate is used as proxy for the international money market rate.

Sources: Bank Negara Malaysia, *Monthly Statistical Bulletin* and IMF, *International Financial Statistics* (various issues).

Unlike the situation before imposition of capital controls, short-term capital flows stabilized in the first quarter of 1998. Therefore, the foreign reserve position began to improve in tandem with the surplus in the current account. Total

foreign exchange reserves, which remained around \$20 billion from the third quarter of 1997, surpassed the pre-crisis level of \$30 billion by the end of 1999. The “errors and omission” item in the balance of payments, which is widely considered to be a convenient indicator of “unofficial” capital flows, in fact shrank following the imposition of capital controls. As foreign exchange controls were targeted carefully on short-term investment flows and trade and FDI-related transactions continued to remain liberal, the policy shift did not result in the emergence of a black market for foreign exchange.

Malaysia was able to ride the crisis without building up a massive debt overhang, as severing the link between international and domestic capital markets helped the authorities to harness domestic finance to implement banking and corporate restructuring programs and for fiscal expansion. Stock public debt as a share of GDP recorded only a mild increase, from 32% in 1996 to 36% in 2000. Almost 85% of the addition to total debt stock during 1998–2000 came from domestic borrowing. The share of foreign debt in the total stock did increase from 12% to 16.6%, but the bulk of it (over 80%) comprised long-term concessionary loans obtained from multilateral financial organizations and foreign governments. By the end of 1999, Malaysia’s foreign exchange reserves stood at \$31 billion, providing 300% cover for total outstanding short-term debt.

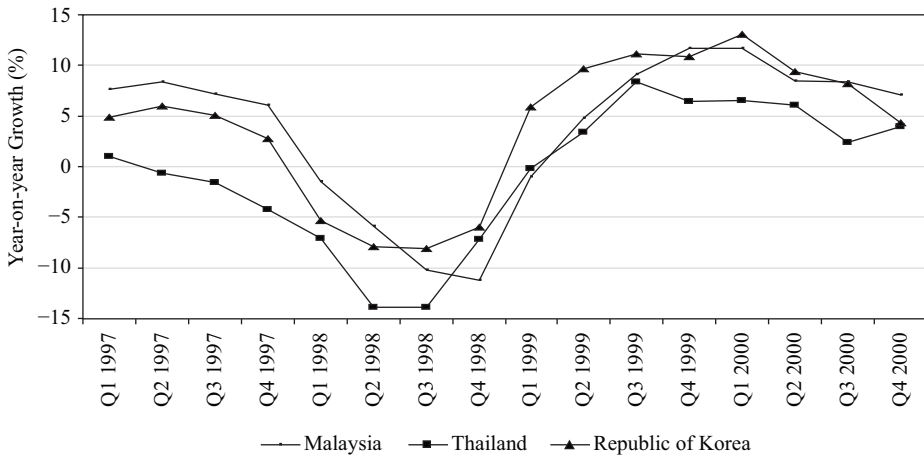
There is little justification for using the “superiority” yardstick (i.e., whether Malaysia has done better than the other crisis-hit Asian countries) in examining the outcome of Malaysia’s unorthodox policy. This was basically a policy choice made in desperation given the domestic socio-political resistance to going along the IMF path (Crouch 1988). There is no evidence to suggest that Malaysian policymakers expected it to generate a superior outcome. Moreover, the almost unanimous view of the critics at the time was that Malaysia’s non-conventional approach was doomed to fail.

In any case, the available performance indicators are not consistent with the view that Malaysia was slower to recover than the IMF program countries. In a comparison of Malaysia with the Republic of Korea and Thailand, only the Republic of Korea recorded a faster recovery than Malaysia (Figure 7). But the Republic of Korea is a mature industrial nation with a diversified manufacturing base. Moreover, the dominant role played by a few national companies (*chaebol*) in manufacturing production and trade seems to have put it in a uniquely advantageous position in the recovery process (Corden 2007, Blustein 2003).

In terms of the stage of development and economic structure, undoubtedly the better comparison for Malaysia is Thailand. Malaysia’s recovery rate was much faster and steadier than Thailand’s. The difference in the experiences of the two countries becomes even more significant when one goes beyond aggregate GDP growth to consider other performance indicators. For instance, even in the mid-2000s Thailand continued to rely on massive public sector demand, with private consumption remaining well below pre-crisis levels. By contrast, the

recovery process in Malaysia had become broad-based by late 1999, with rapid recovery in private sector consumption and investment. Unlike in Malaysia, the nonperforming loan ratio of the Thai financial system in the early 2000s remained stubbornly high (nearly 40 %) and the volume of real outstanding credit continued to fall (Siamwalla 2000).

Figure 7. GDP Growth of the Republic of Korea, Malaysia, and Thailand, 1997Q1–2000Q4 (year-on-year, %)



Source: International Monetary Fund, International Financial Statistics Database.

Crisis management behind closed doors could well have involved considerable misallocation of resources. There is indeed ample anecdotal evidence of some inappropriate rescue operations. There are also unexplained differences in discount rates applied by the asset management company Danaharta to various assisted banks and the criteria used by Danamodal<sup>14</sup> in setting priorities in injecting capital (Johnson and Mitton 2003). But whether these opaque practices are unique to the capital-control-based crisis management in Malaysia is a debatable issue. Similar concerns have been raised relating to banking and corporate restructuring processes in the Indonesia, Republic of Korea, and Thailand—countries that rode the crisis without capital controls. Moreover, one can reasonably argue (along the lines of Krueger and Tornell 1999) that economic gains associated with the speedy implementation of banking and corporate restructuring in Malaysia might have compensated significantly, if not totally, for these alleged costs. Notwithstanding initial grave misgivings, it is now widely acknowledged that the Malaysian authorities have successfully used

<sup>14</sup>Danamodal was established in July 1998 with the main objective of recapitalizing the banking system. Capital injections from Danamodal were destined to enable institutions to restore their capital adequacy ratios to 9%.



the shelter provided by capital controls to implement the most effective and far-reaching financial system cleanup among the crisis countries (Fischer 2004).

## V. CONCLUDING REMARKS

The purpose of this paper is to inform the contemporary policy debate on the effectiveness of capital controls in developing countries through a case study of Malaysia. Following a comprehensive survey of capital account policy in Malaysia since the early 1970s, we have probed the role of capital outflow controls in Malaysia's policy response to the Asian financial crisis and provided an econometric analysis of the impact of capital account policies on capital flows.

The results of our econometric analysis suggest that capital outflow controls are effective in reducing capital outflows, in particular portfolio and bank borrowings. However, we failed to find a significant negative impact of capital inflow controls on portfolio investment inflows. There is also no evidence to suggest that FDI inflows or outflows are sensitive to capital account policies. This presumably reflects the fact that the Malaysian policy regime relating to FDI has remained virtually fully liberal thorough the period under study (and hence little variability in the capital account policy indexes relating to FDI).

Capital inflow controls introduced in the first half of 1994 helped moderate the accumulation of short-term capital flows, in particular short-term bank credit. The resulting low exposure to short-term bank borrowing arguably provided Malaysian authorities with policy autonomy in managing the 1997–1998 financial crisis.

Our analysis of the Malaysian policy response to the Asian financial crisis suggests that the carefully designed temporary capital controls were successful in providing Malaysian policymakers a viable setting for aiding the recovery process through standard Keynesian therapy. Capital controls also assisted banking and corporate restructuring by facilitating the mobilization of domestic resources, and more importantly, by providing a cushion against possible adverse impacts on market sentiment of “national” initiatives.

Evidence from the two event studies also corroborates the inference we drew from the econometric analysis that controls specifically targeted at short-term capital flows do not have an adverse backwash effect on FDI at least in the short to medium term. Of course other countries should be cautious in deriving policy lessons from Malaysia because a number of factors specific to Malaysia seem to have significantly conditioned the outcome of the capital-control-based recovery package.

**APPENDIX**  
**A CHRONOLOGY OF CAPITAL CONTROL MEASURES IN MALAYSIA**

Date	Events
<b>1992</b>	
April	Total borrowing by residents in foreign currency from domestic commercial and merchant banks to finance imports of goods and services was restricted to the equivalent of RM1 million.
July	Borrowing under the export credit refinance facilities (both pre- and post-shipment) by nonresident-controlled companies would be considered domestic borrowing.
October	Offshore guarantees obtained by residents to secure domestic borrowing, except offshore guarantees (whether dominated in ringgit or foreign currency) without recourse to Malaysian residents and obtained from the licensed offshore banks in Labuan to secure domestic borrowing, were deemed as foreign borrowing. In cases where an offshore guarantee is denominated in ringgit, it was subject to the condition that, in the event the guarantee is called on, the licensed offshore banks in Labuan must make payments in foreign currency (with some exceptions), not in ringgit.
November	The guidelines on foreign equity capital ownership were liberalized. Companies exporting at least 80% of their production were no longer subject to any equity requirement, whereas companies exporting between 50% and 79% of their production were permitted to hold 100% equity, provided that they have invested \$50 million or more in fixed assets or completed projects with at least 50% local value added and that company's products do not compete with those produced by domestic firms. These guidelines were not to apply to sectors in which limits on foreign equity participation have been established.
December	Residents and the offshore companies in Labuan were prohibited from transacting with the currency of the Former Yugoslav Republic without specific prior approval from the Controller of Foreign Exchange
<b>1993</b>	
December	Nonresident controlled companies involved in manufacturing and tourism-related activities were freely allowed to obtain domestic credit facilities to finance the acquisition and/or the development of immovable property required for their own business activities.
<b>1994</b>	
17 January	A ceiling was placed on outstanding net external liability position of domestic banks (excluding trade-related inflows or for FDI in Malaysia)
24 January	Restriction on sales of short-term monetary instruments to nonresidents. The restriction applied only to instruments used by BNM to influence liquidity in the market: negotiable instruments of deposit, Bank Negara bills, Treasury bills, government securities (including Islamic securities) with a remaining maturity of one year or less.
1 February	The list of securities on the prohibition list for selling to nonresidents was extended to cover private debt securities (including commercial papers but excluding securities convertible to ordinary shares) with maturity of one year or less, covering both initial issues and the subsequent secondary market trade.
February	Prohibition of forward transactions (bid side) and non-trade-related swaps by commercial banks with foreign customers to curtail the speculative activities of offshore agents seeking long positions in ringgit.
August	Residents were permitted to sell to nonresidents any Malaysian securities. Prohibition on forward transactions and non-trade swaps by commercial banks were lifted.

<b>Date</b>	<b>Events</b>
December	<p>Residents may borrow in foreign currency up to a total of the equivalent of RM5 million from nonresidents and from commercial and merchant banks in Malaysia.</p> <p>Nonresident-controlled companies were allowed to obtain credit facilities, including immovable property loans, up to RM10 million without specific approval, provided that at least 60% of their total credit facilities from banking institutions were obtained from Malaysian-owned financial institutions.</p> <p>Nonresidents with valid work permits may obtain domestic borrowing to finance up to 60% of the purchase prices of residential property for their own accommodation.</p>
<b>1995</b>	
January	A ceiling of the net external liability position of domestic banks was lifted.
June	Corporate residents with a domestic credit facility were allowed to remit funds up to the equivalent of RM10 million for overseas investment purposes each calendar year
<b>1997</b>	
August	<p>Controls were imposed on banks to limit outstanding non-commercial-related ringgit offer-side swap transactions (i.e., forward order/spot purchases of ringgit by foreign customers) to \$2 million per foreign customer or its equivalent.</p> <p>Hedging requirements of foreigners were imposed (excluding trade-related and genuine portfolio and foreign direct investment ).</p> <p>Residents are allowed to enter into non-commercial-related swap transaction up to a limit (no limits previously).</p> <p>A ban on short-selling of the listed securities on KLSE was introduced to limit speculative pressures on stock prices and exchange rates.</p>
<b>1998</b>	
September	<p>A requirement introduced to repatriate all ringgit held offshore (including ringgit deposits in overseas banks) by 1 October 1998 (BNM approval thereafter).</p> <p>Approval requirement was imposed for transfer of funds between external accounts (freely allowed previously) and for the use of funds other than permitted purposes.</p> <p>Licensed offshore banks were prohibited from trade in ringgit assets.</p> <p>A limit was introduced on exports and imports of ringgit by resident and nonresident travellers.</p> <p>Residents were prohibited from granting ringgit credit facilities to nonresident corresponding banks and stockbroking companies (subject to a limit previously).</p> <p>All imports and exports were required to be settled in foreign currency.</p> <p>Residents were prohibited from obtaining ringgit credit facilities from nonresidents.</p> <p>All purchases and sales of ringgit facilities can only be transacted through authorized depository institutions.</p> <p>Approval requirement for nonresidents to convert RM in external account into foreign currency, except for purchases of RM assets, conversion of profits, dividends, interest, and other permitted purposes.</p>

Date	Events
	<p>A 12-month waiting period was introduced for nonresidents wishing to convert Malaysian ringgit proceeds from the sale of Malaysian securities held in external accounts (excluding FDI, repatriation of interest, dividends, fees, commissions, and rental income from portfolio investment).</p> <p>A prior approval requirement was imposed for all residents intending to invest abroad (in any form) beyond a certain limit.</p> <p>A specific limit on exports of foreign currency by residents and up to the amount brought into Malaysia for nonresidents.</p> <p>Trading in Malaysia shares on Singapore's central limit order book (CLOB) OTC market actually became prohibited as a result of strict enforcement of the existing law requiring Malaysian shares to be registered in KLSE prior to trade.</p>
December	Residents were allowed to grant loans to nonresidents for purchases of immovable properties from 12 December 1998 to 12 January 1999.
<b>1999</b>	
January	<p>Designated nonresident accounts for future trading were allowed and exempted from the 12-month holding period.</p> <p>Capital flows for the purpose of trading derivatives on the commodity and monetary exchange of Malaysia and the Kuala Lumpur options and financial futures exchange were permitted for nonresidents without being subject to the rules governing external accounts when transactions were conducted through "designated external account" that could be treated with tier-1 commercial banks in Malaysia.</p>
February	The 12-month waiting period was replaced with a graduated exit levy system on the repatriation of the principal of capital investments (in shares, bonds, and other financial instruments, except for property investments) made prior to 15 Feb 1999. The levy decreased over the duration of the investment and thus penalized earlier repatriations—the levy was 30% if repatriated in less than 7 months after entry, 20% if repatriated in 7–9 months, and 10% if repatriated in 9–12 months. No levy, on principle, if repatriated after 12 months
February	Repatriation of funds relating to investments in immovable property was exempted from the exit levy regulations
March	<p>The ceiling on the import and export of ringgit for border trade with Thailand was raised.</p> <p>Investors in MESDAQ (Malaysian Exchange of Securities Dealing and Automated Quotation) were exempted from the exit levy introduced on 15 February 1999.</p>
July	Residents were allowed to grant overdraft facility in aggregate not exceeding RM200 million for intraday, and not exceeding RM5 million for overnight to a foreign stockbroking company subject to certain conditions
September	Commercial banks were allowed to enter into short-term currency swap arrangement with nonresident stockbrokers to cover payment for purchases of shares on the KLSE and in outright ringgit forward sale contracts with nonresidents who have firm commitment to purchase shares on the KLSE, for maturity periods not exceeding five working days and with no rollover option.
October	Residents are allowed to grant ringgit loans to nonresidents for purchases of immovable properties from 29 October 1999 to 7 December 1999.
<b>2000</b>	
March	Funds arising from the sale of securities purchased by nonresidents on the CLOB market can be repatriated without payment of an exit levy.

Date	Events
April	Nonresident-controlled companies raising domestic credit through private debt securities were exempted from the RM19 million limit and the 50:50 requirement for issuance of private debt securities on tender basis through the fully automated system for tendering.
June	Administrative procedures were issued to facilitate classification of proceeds from the sale of CLOB securities as being free from levy.
July	Residents and nonresidents were no longer required to make a declaration in the travel's declaration for as long as they carry currency notes and/or travellers' checks within the permissible limits. For nonresidents, the declaration was incorporated into the embarkation card issued by the immigration department.
September	Licensed offshore banks in the Labuan international offshore financial center were allowed to invest in ringgit assets and instruments in Malaysia for their own accounts only and not on behalf of clients (and not financed by ringgit borrowing).
December	<p>Foreign-owned banks in Malaysia were allowed to extend up to 50% (from 40%) of total domestic credit facilities to nonresident-controlled companies, in case of credit facilities extended by resident banks. This is to fulfil Malaysia's commitment under General Agreement on Trade in Services.</p> <p>Licensed company banks were allowed to extend intraday overdraft facilities not exceeding RM200 million in aggregate and overnight facilities not exceeding RM10 million (previously RM5 million) to foreign stockbroking companies and foreign global custodian banks.</p>
<b>2001</b>	
February	The exit levy on profit repatriated after one year from the month the profits are realized was abolished. Portfolio profits repatriated within one year remained subject to the 10% levy.
May	The 10% exit levy imposed on profits arising from portfolio investments repatriated within one year of realization was abolished.
June	<p>All controls on the trading of futures and options by nonresidents on the Malaysia Digital Enterprise Exchange (MDEX) were eliminated. The commodity and monetary exchange of Malaysia and the KLSE were merged to form the MDEX.</p> <p>Resident insurance companies were allowed to extend ringgit policy loans to nonresident policy holders with the terms and conditions of the policies. The amount of ringgit loans extended may not exceed the policy's attended cash surrendered value and may be for the duration of the policies.</p>
July	Resident financial institutions were allowed to extend ringgit loans to nonresidents to finance the purchase or construction of any immovable property in Malaysia (excluding financing for purchases of land only) up to a maximum of three property loans in aggregate.
<b>2002</b>	
November	Banks are allowed to extend additional ringgit credit facilities to nonresidents up to an aggregate of RM5 million per nonresident to finance projects undertaken in Malaysia. Prior to this, credit facilities in ringgit to nonresidents for purposes other than purchases of three immovable properties or a vehicle were limited to RM200,000.
December	<p>In addition to obtaining property loans to finance new purchases or construction of any property in Malaysia, nonresidents may also refinance their ringgit domestic property loans. The above is subject to a maximum of three property loans.</p> <p>The limit of RM10,000 equivalent in foreign currency for investment abroad by residents under the employee share option/purchase scheme was removed. Effective this date, general permission was granted for overseas investment for this purpose.</p>

Date	Events
	Payments between residents and nonresidents as well as between nonresidents for ringgit assets were liberalized to allow payments to be made either in ringgit or foreign currency (previously, only in ringgit).
<b>2003</b>	
March	Banking institutions as a group were permitted to extend ringgit overdraft facilities, not exceeding RM500,000 in aggregate to a nonresident customer if the credit facilities were fully covered at all times by fixed deposits placed by the nonresident customer with the banking institutions extending the credit facilities.
April	<p>Exporters were allowed to retain a portion of their export proceeds in foreign currency accounts with onshore licensed banks in Malaysia with overnight limits ranging between the equivalent of \$1 million and \$70 million or any other amount that has been approved (previously, the limit was between \$1 million and \$10 million).</p> <p>Residents were allowed to sell up to 12 months forward foreign currency receivables for ringgit to an authorized dealer for any purpose, if the transaction was supported by a firm underlying commitment to receive such currency.</p> <p>The maximum amount of payment of profits, dividends, rental income, and interest to a nonresident on all bona fide investments that may be remitted without prior approval, but upon completion of statistical forms, was increased from RM10,000 to RM50,000 or its equivalent in foreign currency per transaction.</p>
May	The threshold level for acquisition by foreign and Malaysian interests exempted from foreign investment committee (FIC) approval was raised from RM5 million to RM10 million. Acquisition proposals by licensed manufacturing companies were centralized at the Ministry of International Trade and Industry, while corporate proposals were centralized at the Securities Commission. These proposals no longer required FIC consideration.
June	Foreign equity holdings in manufacturing projects were allowed up to 100% for all types of investment.
<b>2004</b>	
April	<p>Residents were allowed to sell forward non-export foreign currency receivables for ringgit or another foreign currency to an authorized dealer or an approved merchant bank for any purpose, provided the transaction is supported by an underlying commitment to receive currency.</p> <p>Residents with permitted foreign currency borrowing were allowed to enter into interest rate swaps with onshore licensed banks, approved merchant banks, or licensed offshore banks in Labuan, provided that the transaction was supported by a firm underlying commitment.</p> <p>Resident individuals with funds abroad (not converted from ringgit) were allowed to maintain non-export foreign currency accounts offshore without any limit imposed on overnight balances.</p> <p>Resident companies with domestic borrowing were allowed to open non-export foreign currency accounts with licensed onshore banks in Malaysia to retain foreign currency receivables other than export proceeds with no limit on the overnight balances.</p> <p>Resident companies without domestic borrowing were allowed to open non-export foreign currency accounts in licensed offshore banks in Labuan up to an overnight limit of \$500,000 or its equivalent.</p>

Date	Events
	<p>Resident individuals were permitted to open foreign currency accounts to facilitate payments for education and employment overseas with an aggregate overnight limit equivalent to \$150,000 with Labuan offshore banks. Previously, the limit was \$100,000 (\$50,000 for overseas banks).</p> <p>Resident individuals who have foreign currency funds were allowed to invest freely in any foreign currency product offered by onshore licensed banks.</p> <p>The amount of export proceeds that residents may retain in foreign currency accounts with licensed onshore banks was increased from the range of \$1 million to \$70 million to the range of \$30 million to \$70 million.</p> <p>The controller of foreign exchange (COFE) approval was required for the issuance of ringgit bonds in Malaysia by multinational development institutions and foreign multinational corporations.</p> <p>Resident banks and nonbanks were permitted to extend ringgit loans to finance or refinance the purchase or construction of any immovable property in Malaysia (excluding financing for purchases of land only) up to a maximum of three property loans in aggregate.</p> <p>The limit for banking institutions on loans to nonresidents (excluding stockbroking companies, custodian banks, and correspondent banks) was raised from RM200,000 to RM10,000,000.</p> <p>Licensed insurers and <i>takaful</i> operators (Islamic insurance) were allowed to invest abroad up to 5% of their margins of solvency and total assets. These entities were also allowed to invest up to 10% of net asset value (NAV) in their own investment-linked funds.</p> <p>Unit trust management companies were allowed to invest abroad the full amount of NAV attributed to nonresidents and up to 10% of NAV attributed to residents without prior COFE approval. In addition, fund/asset managers were allowed to invest abroad up to the full amount of investments of nonresident clients and up to 10% of investments of their resident clients.</p> <p>Bank Negara Malaysia (BNM) liberalized its foreign exchange administration rules to facilitate multilateral development banks (MDBs) or multilateral financial institutions (MFIs) in raising ringgit-denominated bonds in the Malaysian capital market.</p> <p>The size of the bond to be issued by MDBs or MFIs should be large enough to contribute to the development of the domestic bond market, and the minimum tenure of the bonds should be 3 years. Ringgit funds raised from the issuance of ringgit-denominated bonds could be used either in Malaysia or overseas. MDB or MFI issuers and nonresident investors of ringgit-denominated bonds could maintain, without restrictions, foreign currency accounts or ringgit accounts as external accounts with any onshore licensed bank in Malaysia. MDBs, MFIs, or nonresident investors would be allowed to enter into forward foreign exchange contracts or swap arrangements to hedge ringgit exposure, and MDB or MFI issuers would be allowed to enter into interest rate swap arrangements with onshore banks.</p>

Date	Events
	<p>BNM liberalized rules to facilitate foreign multinational corporations (MNCs) in raising ringgit-denominated bonds in the Malaysian capital market. The ringgit funds raised from such issues could be used in Malaysia or overseas. MNC issuers and nonresident investors of ringgit-denominated bonds could maintain, without restrictions, foreign currency accounts, or ringgit accounts as external accounts with any onshore licensed bank. MNC issuers or nonresident investors would be allowed to enter forward exchange contracts or swap arrangements to hedge ringgit exposures, and MNC issuers would be allowed to enter interest rate swap arrangements with onshore banks.</p>
<b>2005</b>	
April	<p>Residents without domestic credit facilities were allowed to invest abroad in foreign currency, to be funded either from their own foreign currency or from conversion of ringgit funds. Individuals with domestic credit facilities were allowed to invest abroad any amount of their foreign currency funds or convert ringgit up to RM100,000 per annum for such purposes.</p> <p>Corporations with domestic credit facilities were also allowed to use their foreign currency funds or convert ringgit up to RM10 million per annum for investment in foreign currency assets. These corporations must have a minimum shareholders' fund of RM100,000 and must be operating for at least 1 year.</p> <p>The threshold for investing abroad funds attributed to residents by a unit trust company was increased to 30% (from 10% previously) of the NAV of all resident funds managed by the unit trust company. Still no restrictions were placed on investment abroad for funds attributed to nonresident clients.</p> <p>Fund managers could now invest abroad any amount of funds belonging to nonresident clients and resident clients that do not have any domestic credit facilities. They were also free to invest up to 30% of funds of resident clients with domestic credit facilities. Currently they could invest only 10% of resident funds, irrespective of whether the resident clients have any domestic credit facilities.</p> <p>Residents were now free to open a foreign currency account (FCA) onshore or offshore (except for export FCA). No specific prior permission was required and no limit on the amount of foreign currency funds a resident could retain onshore or offshore. Residents without any domestic credit facilities were allowed to convert any amount of ringgit funds for credit into FCAs maintained onshore or offshore.</p> <p>A resident corporation with domestic credit facilities was allowed to convert ringgit up to RM10 million in a calendar year for credit into its FCA.</p> <p>A resident individual with domestic credit facilities was also allowed to convert ringgit for credit into FCA as follows: for education or overseas employment purposes (up to \$150,000 for credit into onshore FCA or FCA maintained with offshore banks in Labuan and up to \$50,000 for credit into overseas FCA) and for other purposes (up to RM100,000 per annum).</p> <p>Exporters could now retain any amount of their foreign currency export proceeds onshore with licensed banks (the previous limit of between \$30 million and \$100 million abolished). All export proceeds continue to be required to be repatriated to Malaysia onshore.</p>



Date	Events
	<p>Resident corporation, on a per corporate group basis, could now obtain foreign currency credit facilities up to the aggregate of RM50 million equivalent. The foreign currency borrowing could be used to finance overseas investment up to RM10 million equivalent.</p> <p>The aggregate limit for foreign currency borrowing by individuals was also increased from RM5 million to RM10 million equivalent. The funds could be used for any purpose, including financing overseas investments.</p> <p>The rules for domestic borrowing by nonresident-controlled companies were fully liberalized via the removal of the RM50 million limit and the 3:1 gearing ratio requirement.</p>
<b>2007</b>	
April	<p>The net open position limit of licensed onshore banks was abolished. Previously, the open position limit had been capped at 20% of the banks' capital base. The limits imposed on licensed onshore banks for foreign currency accounts maintained by residents were also removed. Investment banks in Malaysia were allowed to undertake foreign currency business subject to a comprehensive supervisory review on the capacity and capability of the investment banks.</p> <p>Further flexibility for nonresident stockbroking companies and custodian banks were given further flexibility in obtaining ringgit overdraft facilities from licensed onshore banks by: removing the previous overdraft limit of RM200 million; and expanding the scope on utilization of the overdraft facility to include ringgit instruments settled through the Real Time Electronic Transfer of Funds and Securities System and Bursa Malaysia. Previously, utilization of the facility had been confined to shares traded on Bursa Malaysia.</p> <p>The limit on the number of residential or commercial property loans obtained by nonresidents was abolished. Under the previous policy, nonresidents were allowed to obtain a maximum limit of three property loans from residents to finance the purchase or construction of residential or commercial properties in Malaysia. Licensed onshore banks were allowed to appoint overseas branches of their banking group as a vehicle to facilitate the settlement of any ringgit assets of their nonresident clients. Also removed were restrictions on Labuan offshore banks from transacting in ringgit financial products on behalf of nonresident clients.</p> <p>The limit on foreign currency borrowing that can be obtained by resident corporations from licensed onshore banks and nonresidents as well as through issuance of onshore foreign currency bonds was increased to RM100 million equivalent in aggregate and on corporate group basis from the previous RM50 million equivalent. The proceeds could be used for domestic purposes or offshore investment. Residents were allowed to hedge foreign currency loan repayment up to the full amount of underlying commitment.</p> <p>Flexibilities for resident individuals and corporations to invest in foreign currency assets were enhanced by the following:</p> <ol style="list-style-type: none"> <li>i. Resident individuals with domestic ringgit borrowing could now invest in foreign currency assets up to RM1 million per calendar year from the previous limit of RM100,000; and</li> <li>ii. Resident corporations with domestic ringgit borrowing could now invest in foreign currency assets up to RM50 million per calendar year from the previous limit of RM10 million.</li> </ol>

Date	Events
	<p>The limit for resident institutional investors investing in foreign currency assets was increased as follows:</p> <ol style="list-style-type: none"> <li>i. Unit trust companies—up to 50% of NAV attributable to residents from 30% of NAV previously</li> <li>ii. Fund management companies—up to 50% of funds of resident clients with domestic credit facilities from 30% previously.</li> <li>iii. Insurance companies and takaful operators—up to 50% of NAV of investment-linked funds marketed from the from 30% of NAV previously.</li> </ol>
June	<p>Licensed onshore banks were also allowed to appoint overseas branches of their banking group to facilitate the settlement of any ringgit assets of their nonresident clients. Ringgit transactions undertaken by the overseas branches were subjected to the following conditions:</p> <ol style="list-style-type: none"> <li>i. Overseas branches must conduct only straight passthrough transactions matched with a back-to-back arrangement on exchange rate, amount, and value date with the licensed onshore bank. There should be: <ul style="list-style-type: none"> <li>• no gapping of the ringgit positions in the books of the overseas branches;</li> <li>• no ringgit account, physical withdrawal or transfer of ringgit at the overseas branches (all ringgit settlements must be made onshore); and</li> <li>• no public display of the ringgit exchange rate by the overseas branches.</li> </ul> </li> <li>ii. The arrangement could be made available only to nonresident investors with <u>firm underlying commitment to purchase or sell ringgit assets.</u></li> </ol>
October	<p>The registration requirement on forward foreign exchange contracts exceeding RM50 million equivalent per contract for permitted capital account transactions and anticipatory current account transactions was abolished.</p> <p>The registration requirement on ringgit-denominated loans exceeding RM50 million extended by a resident to a nonresident to finance or refinance the purchase or construction of residential and commercial properties in Malaysia was abolished.</p> <p>The registration requirement on investment in foreign currency assets exceeding RM50 million equivalent by a resident (individual or company on corporate group basis) without domestic ringgit borrowing was abolished.</p> <p>On foreign currency borrowing by residents:</p> <ol style="list-style-type: none"> <li>i. The registration requirement on foreign currency borrowing in aggregate between RM50,000,001 and up to RM100 million equivalent by a resident company on corporate group basis from licensed onshore banks and nonresidents was abolished.</li> <li>ii. The registration requirement on foreign currency borrowing exceeding RM50 million equivalent by an approved operational headquarters from licensed onshore banks and nonresidents to finance its own operation was abolished.</li> <li>iii. The registration requirement on foreign currency borrowing exceeding RM50 million equivalent by a resident company from another resident company within the same corporate group using proceeds from an initial public offering on foreign stock exchanges was abolished.</li> </ol> <p>On prepayment or repayment of foreign currency borrowing by residents:</p> <ol style="list-style-type: none"> <li>i. The registration requirement on prepayment exceeding RM50 million equivalent on permitted foreign currency borrowing from a nonresident lender was abolished.</li> <li>ii. Repayment of foreign currency borrowing with no fixed tenure or repayment schedule is deemed to be a prepayment, and therefore, registration requirement was also abolished.</li> </ol>

Date	Events
	<p>On investments of Islamic funds in foreign currency assets:</p> <ul style="list-style-type: none"> <li>i. To further promote Malaysia as an Islamic financial center and a center for origination of Shariah-compliant investment instruments, the thresholds (50% of the NAV for unit trust companies and total funds attributable to residents with domestic ringgit borrowing for fund management companies) on investments of Islamic funds in foreign currency assets were abolished.</li> <li>ii. The investment in foreign currency assets by conventional funds managed by the unit trust and fund management companies continued to be subject to the existing thresholds of 50% of the NAV and the total funds attributable to resident clients with domestic ringgit borrowing.</li> </ul> <p>To provide greater flexibility to nonresident investors in managing their ringgit exposure, the requirement for a nonresident to reinvest within 7 working days the proceeds arising from the sale of ringgit assets prior to the maturity of the forward foreign exchange contract in order to continue with the existing forward foreign exchange contract, was abolished. With the abolition, a nonresident is allowed to continue with the existing forward foreign exchange contract entered with a licensed onshore bank for: proceeds arising from the sale of ringgit assets sold prior to the maturity of the forward foreign exchange contract, and income from the ringgit assets.</p>
November	<p>Resident companies with export earnings were allowed to pay another resident company in foreign currency for the settlement of purchases of goods and services. The objective of this liberalization was to enhance Malaysia's competitiveness by reducing the cost of doing business for resident companies. With the liberalization, exporters would have greater control and flexibility in the management of their foreign currency cash flow and thereby more effectively settle their domestic and overseas transactions.</p>
<b>2008</b>	
January	<p>A resident company maintaining an overseas account, including a foreign currency account with a licensed offshore bank in Labuan, was no longer required to submit an overseas account statement. Similarly, a resident company maintaining an inter-company account with a nonresident company no longer needed to submit an inter-company account statement.</p>
May	<p>On borrowing in foreign currency by residents:</p> <ul style="list-style-type: none"> <li>i. A resident company was now free to borrow any amount in foreign currency from its nonresident nonbank parent company; other resident companies within the same corporate group in Malaysia (previously, approval had been required for any amount); and licensed onshore banks.</li> <li>ii. A resident company was free to obtain any amount of foreign currency supplier's credit for capital goods from nonresident suppliers; and</li> <li>iii. A resident company or individual was free to refinance outstanding approved foreign currency borrowing, including principal and accrued interest.</li> </ul> <p>The thresholds for foreign currency borrowing of RM100 million in aggregate by a resident company on a corporate group basis and RM10 million for a resident individual would no longer be applicable for the above financing activities.</p> <p>On borrowing in ringgit by residents from nonresidents:</p> <ul style="list-style-type: none"> <li>i. A resident company was now allowed to borrow in ringgit, including through the issuance of ringgit-denominated redeemable preference shares or loan stocks, any amount from its nonresident nonbank parent company to finance activities in the real sector in Malaysia and up to RM1 million in aggregate from other nonresident non-bank companies and individuals for use in Malaysia.</li> </ul>

Date	Events
	<p>ii. A resident individual was now allowed to borrow in ringgit up to RM1 million in aggregate from nonresident nonbank companies and individuals for use in Malaysia.</p> <p>Previously, borrowing in ringgit in any amount from nonresidents required prior permission of the COPE.</p> <p>On lending in ringgit by residents to nonresidents:</p> <p>i. A resident company or individual was now free to lend in ringgit in any amount to nonresident nonbank companies and individuals to finance activities in the real sector in Malaysia (previously, only allowed up to RM10,000).</p> <p>ii. A licensed onshore bank was now free to lend in ringgit in any amount to nonresident nonbank companies and individuals to finance activities in the real sector in Malaysia (previously, only allowed up to RM10 million in aggregate).</p>
October	<p>To promote Malaysia as an international Islamic financial center, the following changes were announced by the BNM (with immediate effect):</p> <p>i. All international Islamic banks were now allowed to conduct the following transactions with any person in or outside Malaysia: buy or sell foreign currency against another foreign currency or borrow or lend in foreign currency.</p> <p>ii. All international Islamic banks, international takaful operators, and international currency business units of licensed onshore banks, takaful operators, or <i>retakaful</i> operators<sup>15</sup> were allowed to make payments in foreign currency to resident intermediaries (individuals and companies) for the financial services rendered by the intermediaries to these institutions.</p>
<b>2010</b>	
April	<p>Resident futures brokers were allowed to make payments to nonresidents for foreign currency-denominated derivatives (other than currency contracts) transacted on overseas specified exchanges.</p> <p>Residents were allowed to transact foreign currency-denominated derivatives (other than currency contracts) on the overseas specified exchanges only through resident futures brokers as follows: any amount, for transactions that are supported by firm underlying commitment; and subject to limits on investment in foreign currency assets, for transactions that are not supported by firm underlying commitment.</p> <p>In undertaking the above, resident futures brokers were required to ensure that the resident clients comply with the limits on investment in foreign currency assets if the derivative transactions were not supported by firm underlying commitment, and that the derivatives transacted on the overseas specified exchanges do not involve ringgit directly or indirectly.</p>

<sup>15</sup>See definition of takaful and retakaful operators in Kettell (2011).

## REFERENCES

- Ariyoshi, A., K. Habermeier, B. Laurens, I. Otker-Robe, J. Canales-Kriljenko, and A. Kirilenko. 2000. "Capital Controls: Country Experiences with Their Use and Liberalization". *IMF Occasional Paper* 190. International Monetary Fund, Washington, DC.
- Athukorala, P. 2002. *Crisis and Recovery in Malaysia: The Role of Capital Controls*. 2nd ed. Cheltenham: Edward Elgar.
- \_\_\_\_\_. 2003. "FDI in Crisis and Recovery: Lessons from the 1997–98 Asian Crisis." *Australian Economic History Review* 43(2):197–213.
- \_\_\_\_\_. 2012. "The Malaysian Economy during Three Crises." In H. Hill, S. Y. Tham, and R. H. M. Zin, eds. *Malaysia's Development Challenge: Graduating from the Middle*. London: Routledge.
- Bank for International Settlements. 2009. *The International Financial Crisis: Timeline, Impact and Policy Responses in Asia and the Pacific*, BIS Representative Office for Asia and the Pacific, Hong Kong, China.
- Bank Negara Malaysia. 1994. *Money and Banking in Malaysia*. BNM, Kuala Lumpur.
- \_\_\_\_\_. 1998. *International Banking and Financial Market Development*, BIS, Basle.
- \_\_\_\_\_. 1999. *The Central Bank and the Financial System in Malaysia*. BNM, Kuala Lumpur.
- \_\_\_\_\_. 2010. *Annual Report 2010*. BNM, Kuala Lumpur.
- Bhagwati, J. 1998. "The Capital Myth: The Difference between Trade in Widgets and Dollars." *Foreign Affairs* 77(3):7–12.
- Binici, M., M. Hutchison, and M. Schindler. 2010. "Controlling Capital? Legal Restrictions and the Asset Composition of International Financial Flows." *Journal of International Money and Finance* 29:666–84.
- Blustein, P. 2003. *The Chastening: Inside the Crisis that Rocked the Global Financial System and Humbled the IMF* (revised edition). New York: Public Affairs.
- Cooper, R. N. 1999. "Should Capital Controls be Banished?" *Brooking Papers on Economic Activity* 2:89–125.
- Corbo, V., and J. de Melo. 1987. "Lessons from the Southern Cone Policy Reforms." *World Bank Research Observer* 2(1):111–142.
- Corden, W. M. 2003. *Too Sensational: On the Choice of Exchange Rate Regimes*. Cambridge, Massachusetts: MIT Press.
- Crouch, H. 1998. "The Asian Economic Crisis and Democracy." *Public Policy* 11(3):39–62.
- De Gregorio, J., S. Edwards, and R. Valdes. 2000. "Controls on Capital Inflows: Do They Work?" *Journal of Development Economics* 63(1):59–83.
- Doraisami, A. 2004. "From Crisis to Recovery: The Motivations for and Effectiveness of Malaysian Capital Controls." *Journal of International Development* 16(2): 241–254.
- Dornbusch, R. 2002. "Malaysia's Crisis: Was it Different?" In S. Edwards and J. A. Frankel, eds. *Preventing Currency Crises in Emerging Markets*. Chicago: Chicago University Press.
- Edison, H. J., and C. M. Reinhart. 2000. "Capital Controls During Financial Crises: The Case of Malaysia and Thailand". *International Finance Discussion Papers* No. 62. New York: Federal Reserve Bank of New York.
- Edwards, S. 1984. "The Order of Liberalization of the External Sector in Developing Countries". *Princeton Essays in International Finance* No. 156. N.J: Princeton University.

- Edwards, S. 1999a. "How Effective Are Capital Controls?" *Journal of Economic Perspectives* 13:65–84.
- \_\_\_\_\_. 1999b. "A Capital Idea? Reconsidering a Financial Quick Fix." *Foreign Affairs* 78(3):18–22.
- Eichengreen, B. 2003. *Capital Flows and Crises*. Cambridge, Massachusetts: MIT Press.
- Fischer, S. 2004. *IMF Essay from a Time of Crisis: International Financial System, Stabilization and Development*. Cambridge, Massachusetts: MIT Press.
- Foong, K. 2008. Managing Capital Flows: The Case of Malaysia." *ADB Discussion Paper* No. 93. Tokyo: Asian Development Bank Institute.
- Furman, J., and J. Stiglitz. 1998. Economic Crisis: Evidence and Insights from East Asia, *Brookings Paper on Economic Activity*, issue no. 2: 1–135, Brookings Institution: Washington DC.
- Gochoco-Bautista, M. S., J. Jongwanich, and J.-W. Lee. 2012. "How Effective are Capital Controls in Asia?" *Asian Economic Papers* 11(2) 122–143.
- Hale, D. 1998. "The Hot Money Debate." *The International Economy* 12:8–12, 66–69.
- Hood, R. 2001. "Malaysian Capital Controls." *Policy Research Working Paper* No. 2536. Washington DC: World Bank.
- Ito, H., and M. Chinn. 2005. Notes on the Calculation of the Chinn-Ito Financial Openness Variable. Available: [www.ssc.wisc.edu/~mchinn/Readme\\_kaopen163.pdf](http://www.ssc.wisc.edu/~mchinn/Readme_kaopen163.pdf)
- Johnson, S., and T. Mitton. 2003. "Cronyism and Capital Control: Evidence from Malaysia." *Journal of Financial Economics* 67(2):351–82.
- Johnston, B., and N.T. Tamirisa. 1998. "Why Do Countries Use Capital Controls?" *IMF Working Paper* No. 98/181. Washington, D.C: International Monetary Fund.
- Jomo, K. S. 2004. "Were Malaysia's Capital Controls Effective?" In K. S. Jomo, ed., *After the Storm: Crisis, Recovery and Sustaining Development in Four Asian Economies*. Singapore: Singapore University Press.
- Jongwanich, J., M. S. Gochoco-Bautista, and J.-W. Lee. 2011. "When Are Capital Controls Effective? Evidence from Malaysia and Thailand". *ADB Economics Working Paper* No. 251. Manila: Asian Development Bank.
- Kaminsky G., and S. Schmukler. 2001. "Short-lived or Long Lasting? A New Look at the Effects of Capital Controls." In S. Collins and D. Rodrik, eds. *Brooking Trade Forum 2000*. Washington, DC: Brookings Institution.
- Kaplan, E., and D. Rodrik. 2002. "Did the Malaysian Capital Controls Work?" In S. Edwards and J. A. Frankel, eds. *Preventing Currency Crises in Emerging Markets*. Chicago: Chicago University Press.
- Kettel, B. 2011. Introduction to Islamic Banking and Finance. Pp 127–138. United Kingdom: John Wiley and Sons.
- Krueger, A. O., and A. Tornell. 1999. "The Role of Bank Restructuring in Recovering from Crisis". NBER Working Paper No. 7042. Cambridge, Massachusetts: National Bureau of Economic Research.
- Krugman, P. 1999. *The Return of Depression Economics*. New York: Norton and Company.
- Larrain, F., and R. M. Laban. 2000. "Private Capital Flows to Chile in the 1990: Causes, Effects and Policy Reactions." In F. B. Larrain, ed. *Capital Flows, Capital Controls, and Currency Crises: Latin American in the 1990s*. Ann Arbor: University of Michigan Press.
- McCauley, R. 2008. "Managing Recent Hot Money Flows in Asia." *ADB Discussion Paper* No. 99. Tokyo: Asian Development Bank Institute.
- McKinnon, R. R. 1991. *The Order of Economic Liberalization: Financial Control in the Transition to a Market Economy*. Baltimore: Johns Hopkins University.

- Michaely, M., D. Papageorgiou, and A. Choksi. 1991. *Liberalizing Foreign Trade: Lessons of Experience in Developing Countries*. Oxford: Basil Blackwell.
- Miniane, J. 2004. "A New Set of Measures on Capital Account Restrictions." *IMF Staff Papers* 51(2):276–308.
- Mody, A., and A.P. Murshid. 2005. "Growing up with Capital Flows." *Journal of International Economics* 65(1):249–266.
- Montiel, P., and C. M. Reinhart. 1999. "Do Capital Controls and Macroeconomic Policies Influence the Volume and Composition of Capital Flows? Evidence from The 1990s." *Journal of International Money and Finance* 18(4):619–653.
- Radelet, S., and J. Sachs. 1998. "The East Asian Financial Crisis: Diagnosis, Remedies and Prospects." *Brookings Papers on Economic Activity* 2:1–89.
- Rodrik, D. 2011. *The Globalization Paradox: Democracy and the Future of the World Economy*. New York: W.W. Norton.
- Sachs, J., and A. Warner. 1995. "Economic Reform and the Process of Global Integration." *Brookings Papers on Economic Activity* 26(1):1–118.
- Schindler, M. 2009. "Measuring Financial Integration: A New Data Set." *IMF Staff Papers* 56(1):222–38.
- Siamwalla, A. 2000. *Anatomy of the Thai Economic Crisis*. Bangkok: Thailand Development Research Institute.
- Stiglitz, J. E. 2002. *Globalization and Its Discontents*. New York: W.W. Norton.
- Tamirisa, N. T. 1999. "Exchange and Capital Controls as Barriers to Trade." *IMF Staff Papers* 46(1):69–88.
- Tripathi, S., B. Dolven, and F. Keenan. 1998. "Some Pains, Some Gains." *Far Eastern Economic Review*. 17 September. Pages 5–12.
- Williamson, J. 1993. "A Cost–Benefit Analysis of Capital Account Liberalisation." In M. Reisen and B. Fischer, eds. *Financial Opening: Policy Issues and Experiences in Developing Countries*. Paris: OECD.
- Williamson, J., and M. Mahar. 1998. "A Survey of Financial Liberalisation." *Princeton Essays in International Finance* No. 211. N.J.: Princeton University.
- World Bank. 1996. *Managing Capital Flows in East Asia*. Washington, DC: World Bank.
- Yousof, Z. A., A. A. Hussain, I. Alowi, L. C. Sing, and S. Singh. 1994. "Financial Reforms in Malaysia." In G. Caprio, I. Atias, and J. A. Hanson, eds. *Financial Reforms: Theory and Evidence*. Cambridge: Cambridge University Press.