# Capital flows and financial assets in emerging markets: determinants, consequences and challenges for central banks: the Malaysian experience

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## I. Introduction

The subject of capital flows has always featured prominently on the agenda of central banks in the emerging market economies in general and Bank Negara Malaysia is no exception. As a recipient of capital inflows, Malaysia has benefited significantly in terms of lower financing costs, increased technological transfers, and higher investment and economic growth. At the same time, however, the relatively smaller size and greater openness of the Malaysian economy renders the country more susceptible to the associated risks and volatilities of financial globalisation. In such an environment, it is recognised that efforts to strengthen and deepen domestic financial markets, adopt sound macroeconomic policies and move toward more flexible exchange rate arrangements, while important, do not necessarily guarantee that one's economy will be spared the vagaries of large and volatile international capital flows. Therein lies the challenge for Bank Negara Malaysia (and central banks in emerging market economies in general) – to maximise the benefits of capital inflows, while continually strengthening our resilience to the inherent volatility of such flows and maintaining constant vigilance over developments in the capital account and the behaviour of asset prices.

This paper discusses Malaysia's experience in managing capital flows and the issues and challenges arising from increased international financial integration. Section II of the paper traces the changes in the profile of capital flows and the measures adopted by Bank Negara Malaysia to monitor these flows. The impact of the increasing integration of the Malaysian financial markets into the global financial system is outlined in Section III. Section IV elaborates on some of the implications of capital flows for the conduct of monetary policy while Section V highlights the challenges to financial stability and the central bank's regulatory and supervisory response. The paper concludes (Section VI) with some food for thought on moving forward the discussion on managing the challenges relating to capital flows in emerging market economies.

## II. Changes in capital inflows and outflows: underlying factors and mechanisms to monitor risks

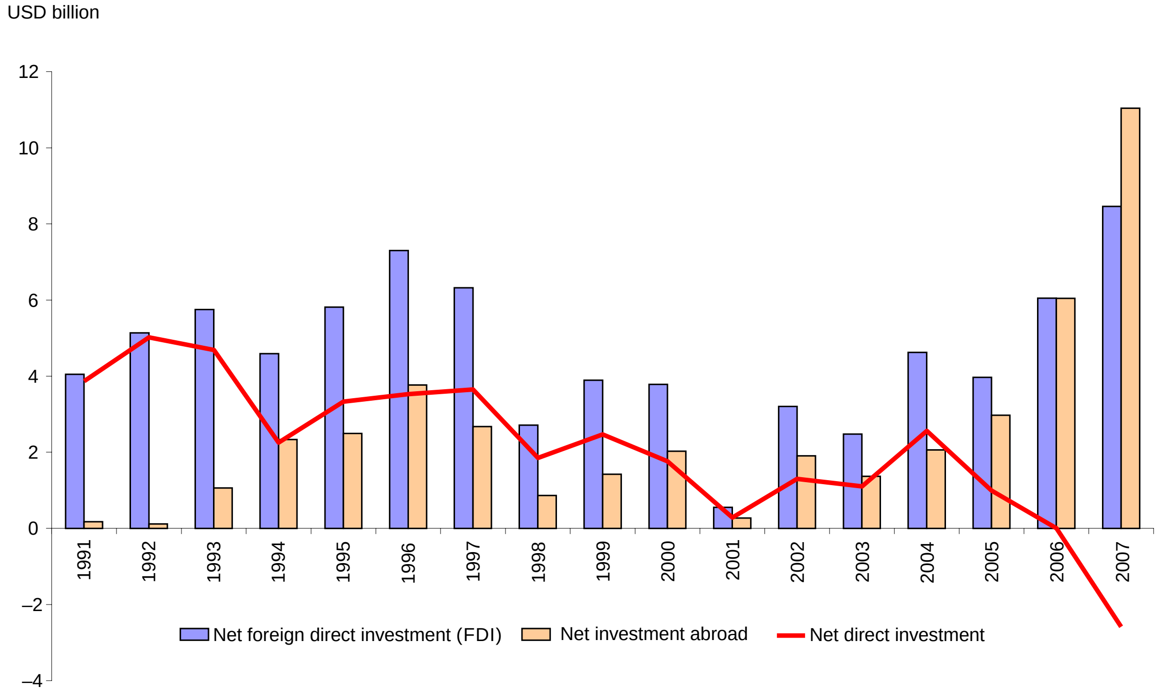
Historically, foreign direct investment (FDI) has been the mainstay of capital inflows into Malaysia, although portfolio flows have gained increasing significance in the recent period. Despite intensified competition, Malaysia continues to receive a steady ***inflow of net FDI***, averaging about USD 5.8 billion per annum (equivalent to about 3.8% of GDP) for the period 2004–07. At the same time, ***outward FDI*** (net investment abroad by Malaysian companies) has also increased, averaging about USD 5.5 billion (or 3.6% of GDP) per annum. The

[1] The views expressed in this paper are those of the author (Deputy Governor, Bank Negara Malaysia) and do not necessarily represent the stance or policy of the central bank. The author would like to thank Ms Madelena Mohamad, Ms Wan Hanisah Wan Ibrahim, Mr Fraziali Ismail, Mr Nazrul Hisyam Mohd Noh, Dr Shariman Alwani Mohamed Nordin, Mr Toh Hock Chai and Mr Ng Chow Soon for their assistance and research input.

outward FDI figure reflects the increasing capacity of Malaysian companies to expand and diversify their operations abroad, which is in line with government policy to promote more regional and global Malaysian players. While the progressive liberalisation of foreign exchange administration rules is not directly aimed at promoting outward FDI, it has facilitated such outflows by creating a more conducive environment for international trade and investment. Indeed, residents (individuals and corporations) are freely permitted to invest their own funds abroad, and no restrictions or controls apply if the investing company has no domestic ringgit borrowing. However, some prudential limits are prescribed in cases where domestic credit facilities are involved, but only for large investments abroad (individuals: in excess of a total of MYR 1 million equivalent per year; corporations: more than MYR 50 million equivalent per year). The aim is to encourage the use of the nation's financial resources for productive activities. Overall, it is not surprising that on a net basis, inflows of direct investment into Malaysia have trended downwards, signifying a rebalancing of Malaysia's role as both an importer and exporter of investment capital (Graph 1).

Graph 1

**Direct investment**




Source: Department of Statistics, Malaysia.

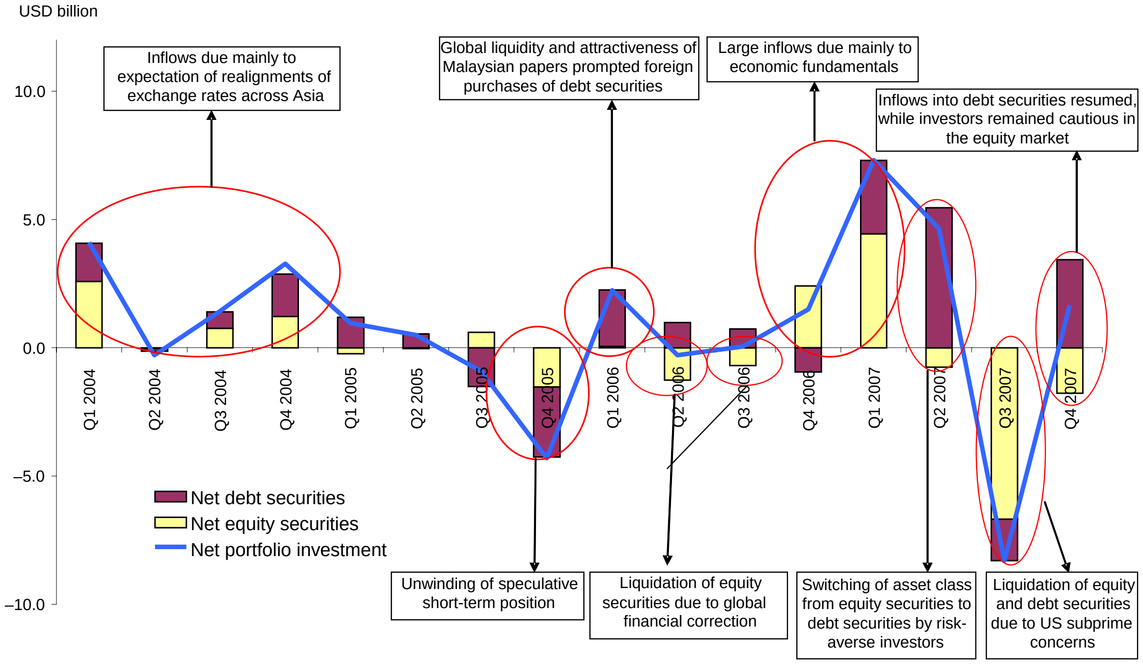
Notwithstanding the continuing importance of FDI flows, the significance of portfolio flows has also increased in the recent period (Graph 2). Both the ***magnitude and volatility of portfolio flows*** into and out of Malaysia have increased along with its greater integration into the global financial system. Such flows have been channelled mainly into equity and debt securities, short-term money market papers and non-resident bank deposits.

In 2004, ***portfolio*** investment recorded a ***net inflow*** of USD 8.5 billion, reflecting the enhanced attractiveness of Malaysian assets, amid a positive economic and corporate outlook and the deepening of the domestic bond market. There were intermittent episodes where market expectations of a realignment of Asian exchange rates, including that of the ringgit, contributed to significant inflows of speculative portfolio funds, particularly in the fourth quarter of 2004 and continuing into the first half of 2005. While there was a surge in portfolio inflows immediately following the depegging of the ringgit from the US dollar on

21 July 2005 (in anticipation of further ringgit appreciation), the flows normalised quickly amid orderly price adjustment in the foreign exchange market. The large unwinding of the speculative short-term positions in the fourth quarter of 2005 (as expectations of ringgit appreciation subsided) resulted in a decline in Bank Negara Malaysia's reserves from their peak of USD 80 billion as at end-September 2005 to USD 70.2 billion as at end-December 2005.

Graph 2

**Portfolio investments**




Source: Department of Statistics, Malaysia.

Strong economic fundamentals and a confluence of positive pull factors, including new investment incentive packages, further liberalisation of foreign exchange administration measures, and the general appreciation of the ringgit were factors that attracted foreign interest in Malaysian papers and equities in recent years. Nevertheless, the steady inflows since the first half of 2006 have been punctuated by several episodes of market correction and temporary foreign withdrawals, for example during the Shanghai market correction in February 2007 and heightened global market uncertainty following the US subprime mortgage problem in July–August 2007. Nevertheless, inflows of foreign funds for investment in the debt market resumed in the fourth quarter of 2007 as foreign investors remained cautious with investments in the equity market. While the impact on the domestic financial markets was relatively mild, the central bank maintained its vigilance over developments in the capital account.

In view of the important role of capital flows in the Malaysian economy, Bank Negara Malaysia has developed several internal reporting systems to enhance its surveillance and monitoring of capital account transactions. These systems provide the Bank with in-depth knowledge on the composition, size, source and currency exposure of capital inflows and outflows, and facilitate timely assessment of risks. The monitoring process is also facilitated by the fact that most of the FDI and portfolio capital flows are intermediated primarily through financial institutions. This intermediation channel also accords a greater degree of consumer protection, enhances efficiency and reduces cross-border transaction costs. The monitoring systems on capital flows include:

- The Ringgit Operations Monitoring System (ROMS), which provides information (near real-time basis) on cross-border flows which affect the international reserves of the Bank;
- The Cash Balance of Payments (CBOP) reporting system, which provides detailed data on all cross-border flows of funds between residents and non-residents effected through the banking system, intercompany and overseas accounts; and
- The quarterly External Asset and Liability (EAL) Survey, which provides detailed information on overall flows and stocks of external assets and liabilities of the economy, including potential claims or servicing obligations.

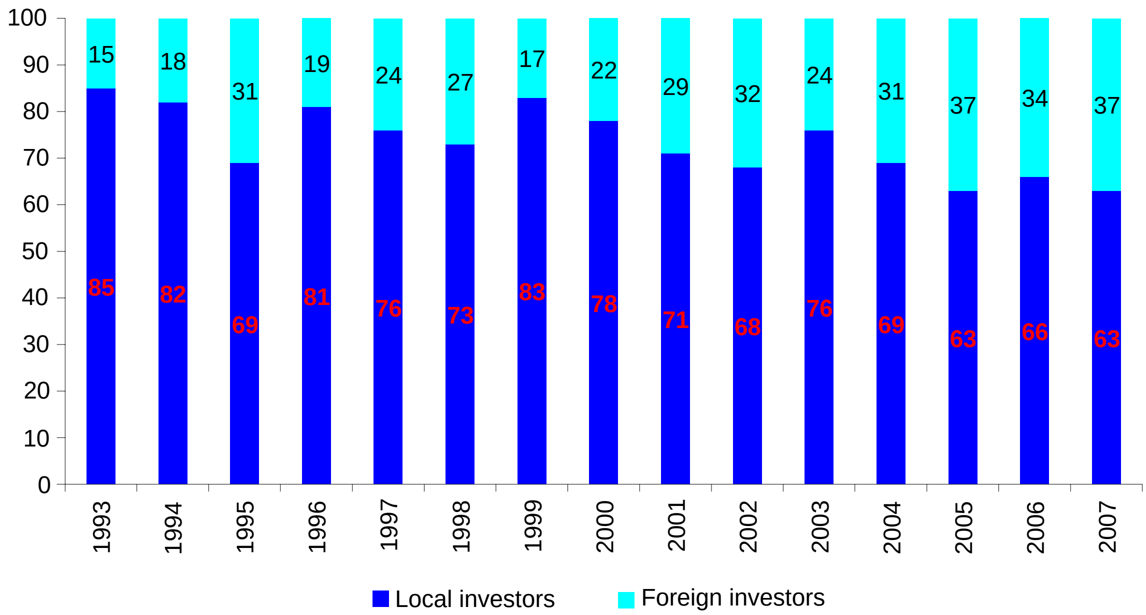
## III. Implications for the depth of the financial sector and its resilience

The increase in non-resident activity has had a positive impact on ***Malaysian financial markets*** as capital inflows have contributed to an increase in the size and liquidity of the country's asset markets. Graphs 3–6 highlight the impact of capital inflows on the equity and bond markets. Higher levels of foreign participation in the Malaysian stock exchange have greatly enhanced liquidity in the equity market. Significantly, shifts in capital flows into the equity market influence movements in the Kuala Lumpur Composite Index (KLCI), given its strong correlation with changes in non-resident holdings of stocks. In the bond market, the negative correlation between inflows of foreign portfolio investment and short-term yields further suggests that high capital inflows have contributed to lower yields in this market.

Graph 3

**Trading volume in Bursa Malaysia attributable to resident and non-resident market participants**

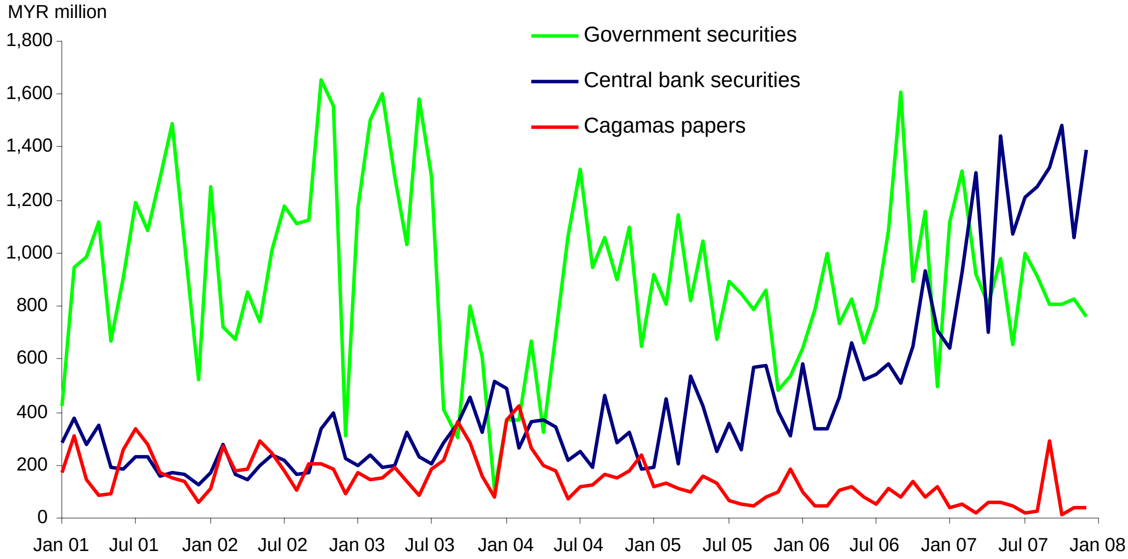
In per cent




Source: Bursa Malaysia.

Graph 4

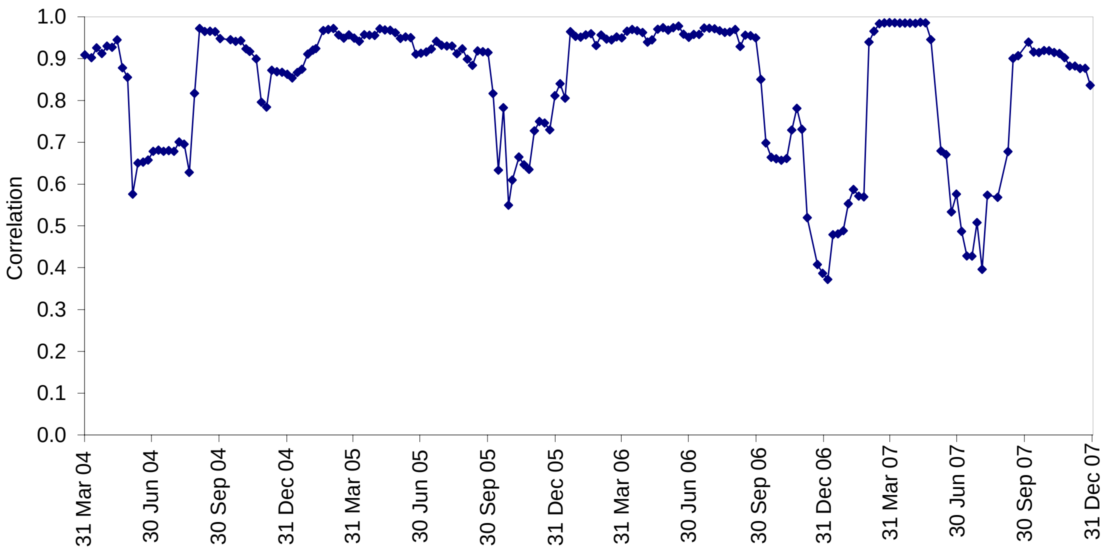
**Daily trading volume of Malaysian government, Bank Negara Malaysia and Cagamas debt securities (January 2001 to December 2007)**




Sources: Bank Negara Malaysia's Bond Information and Dissemination System (BIDS) and Bursa Malaysia's Electronic Trading Platform (ETP).

Graph 5

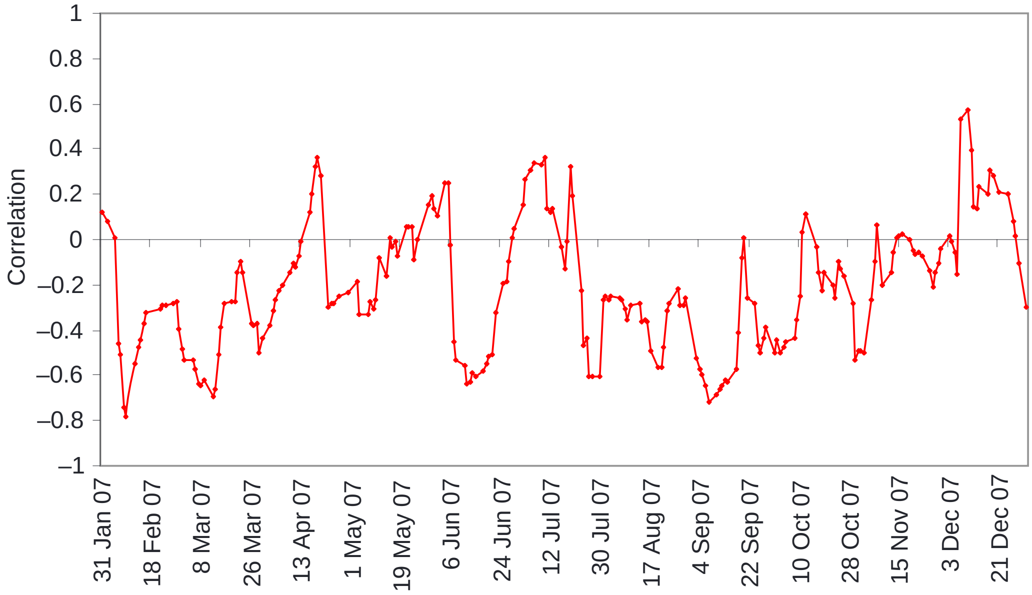
**Non-resident holdings of stocks vs KLCI: twelve-week rolling correlation**




Sources: Bursa Malaysia and Bloomberg.

Graph 6

**Three-month yields vs portfolio investment: thirty-day rolling correlation**

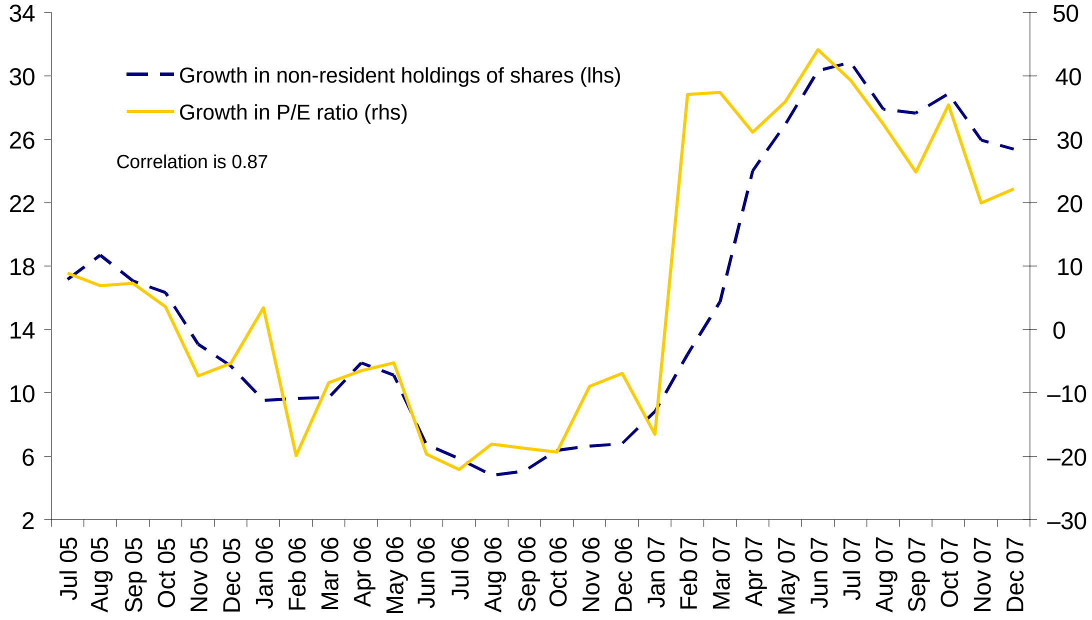



Sources: Bank Negara Malaysia's Fully Automated System for Issuing/Tendering (FAST) and Ringgit Operations and Monitoring System (ROMS).

As shown in Graph 7, the increase in foreign presence in the Malaysian equity market is highly correlated with the rise in price/earnings (P/E) ratios in the recent past. Non-resident holdings of shares as a percentage of total shares in the KLCI had risen to about 19% by end-2007 and the foreign presence has supported stronger performance in the stock market. As a result, with the higher P/E ratios, the cost of equity is now lower and this could encourage further fund-raising activities via the equity market, although this would also depend on other factors in the market.

Graph 7

**Annual change in non-resident holdings of shares in KLCI vs annual change in P/E ratio, in per cent**




Sources: Bursa Malaysia and Bloomberg.

## Introduction of new financial instruments and their impact on financial institutions

While liquidity in the domestic financial markets has increased steadily over the years, considerable efforts have also been made to further enhance financial market development. The introduction of new money market instruments, including Bank Negara Monetary Notes (BNMNs) and Islamic money market instruments have improved liquidity management, deepened and broadened the conventional and Islamic money markets and enhanced the capacity of the financial system to absorb capital inflows. Significantly, the size of the domestic bond market has increased more than fourfold since 1998, while the proportion of private debt securities in the bond market is approaching the 50% level. To a considerable extent, this has contributed to Malaysia's resilience against external shocks, such as the recent market turbulence. (It is also recognised that strong economic fundamentals were likewise important in building economic resilience, including a comfortable level of reserves.)

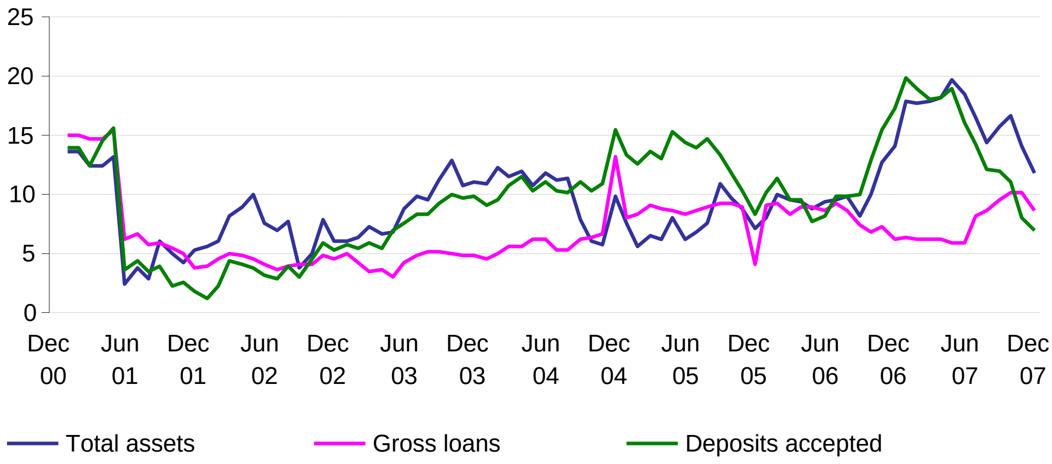
In terms of the impact of increasing non-resident activity in local asset markets on ***financial institutions***, the results have generally been positive, notably in terms of new financing and business opportunities. In particular, the use of securitisation as a means of financing has also increased, with a total MYR 8.4 billion being raised in the capital market, which amounts to 14.1% of total funds raised in this market year in 2007. Cagamas Berhad, the quasi-government national mortgage and securitisation agency, has also benefited from the overall increase in global investor interest. It successfully executed its fourth residential mortgage-backed securities (RMBS) deal in May 2007, amounting to MYR 2.1 billion at competitive yields, approximately 20% of which was allocated to non-resident investors at the primary level.

Overall competition has also increased, with better pricing, quality and value added and more customer-centric financial services. Product offerings have also expanded, with new financial innovations to capture and retain a wider customer base, including private banking, wealth management and structured investment instruments. Significantly, total assets, loans and deposits of the banking system have grown at annual average rates of 10.9%, 8.7% and 12.6% respectively over the past three years (Graphs 8 and 9).

Graph 8

**Banking system total assets, loans and deposits 2001–07**

Annual growth, in per cent

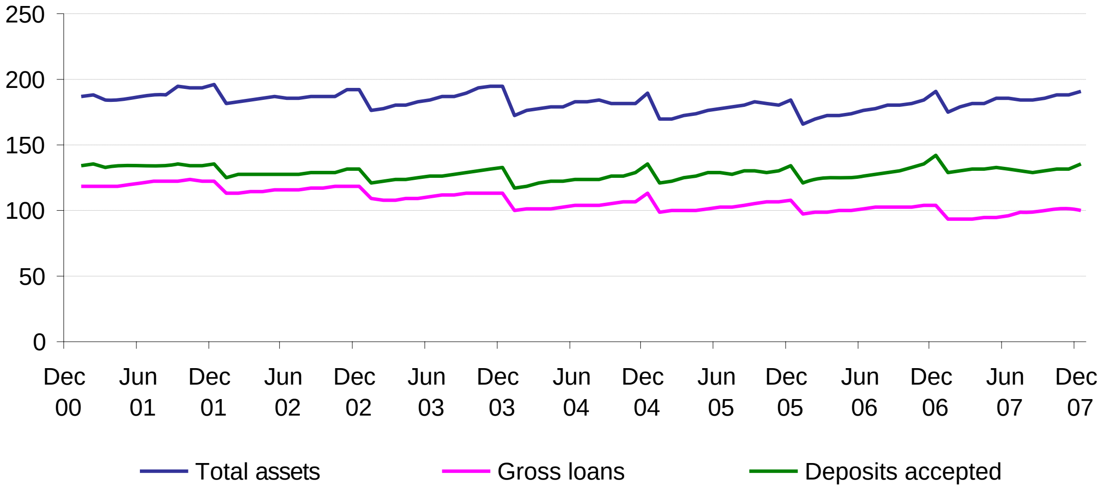



Source: Bank Negara Malaysia's Monthly Statistical Bulletin.

Graph 9

**Banking system total assets, loans and deposits 2001–07**

As a percentage of nominal GDP




Source: Bank Negara Malaysia's Monthly Statistical Bulletin.

Apart from growth in traditional banking business, greater depth in the financial markets has also provided more treasury-related opportunities for banking institutions. While profits from financing-related activities remain high, net gains from treasury-related operations have also increased as an alternative profit centre. In the first half of 2007, the net interest income of the banking system expanded by 13.5% (year-on-year), whilst growth in profit before tax was also supported by higher income from fee-related (+41.4%) and treasury and investment (+111%) activities (fee-related activities include loan arrangement and credit card portfolios, corporate advisory, wealth management and remittance services). Despite some progress, however, the securitisation market and risk transfer instruments in Malaysia remain largely untapped thus far, given the prolonged period of ample liquidity and as demand for and capacity to offer such instruments have only started gaining momentum in the more recent period.

### Role of foreign financial institutions

The banking system in Malaysia comprises commercial and full-fledged Islamic banks and investment banks. Foreign-owned banking institutions in Malaysia are locally incorporated and subject to a similar regulatory and supervisory framework to that of their domestic counterparts. These institutions have always played a significant role in financial intermediation and operate in direct competition with domestic players. As at end-July 2007, foreign commercial and Islamic banks accounted for approximately 22% of market share, in terms of assets, loans and deposits (approximately 19–20% in 2004).

Over the years, foreign players have facilitated the transfer of technology and expertise to domestic institutions, including the promotion of: (i) international best practices and standards in risk management; (ii) new and innovative financial products and services; (iii) new business models and strategies and ventures into new growth areas (for instance, foreign-owned Islamic banking institutions newly established in Malaysia have adopted a business model similar to that being used in the Middle East by venturing into new areas such as property development and actively promoting two-way investments between Malaysia and the Middle East); and (iv) access to international financial instruments, institutions and markets for customers as well as for other domestic players through their extensive international networks, for both risk management and investment purposes. Foreign banks also act as counterparts to domestic players in some derivatives transactions.

Prior to 2006, foreign participation in the domestic asset markets was relatively low. Since then, however, interest in such participation has increased significantly, attracted by the positive pull factors cited in Section II above. In the equity market, the KLCI improved by 21.8% in 2006, the strongest performance since 2003. At end-2007, the KLCI rose by a further 31.8%, above the 2006 level. The increase in foreign demand for ringgit bonds resulted in a downward trend in Malaysian Government Securities (MGS) yields, from a high of 4.5% to 5% at end-June 2006 (Table 1). Since June 2006, MGS yields have declined by 79–91 basis points for three- to ten-year maturities. In addition, the spreads between ten-year and one-year MGS have also narrowed significantly (Graphs 10 and 11).

Table 1

**MGS yields, June 2006–December 2007**

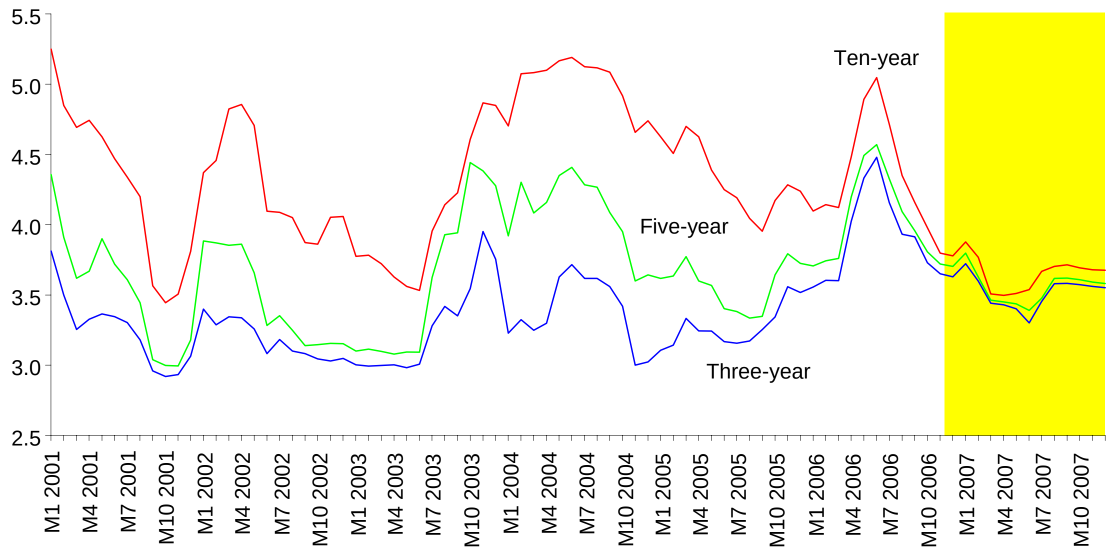
| | **June 2006** | **December 2007** | **Changes (in basis points)** |
|---|---|---|---|
| Three-year | 4.480 | 3.635 | –85 |
| Five-year | 4.570 | 3.783 | –79 |
| Ten-year | 5.047 | 4.142 | –91 |

Source: Bank Negara Malaysia's Fully Automated System for Issuing/Tendering (FAST).

Graph 10

**Historical series of three, five and ten-year MGS benchmark yields**

In per cent

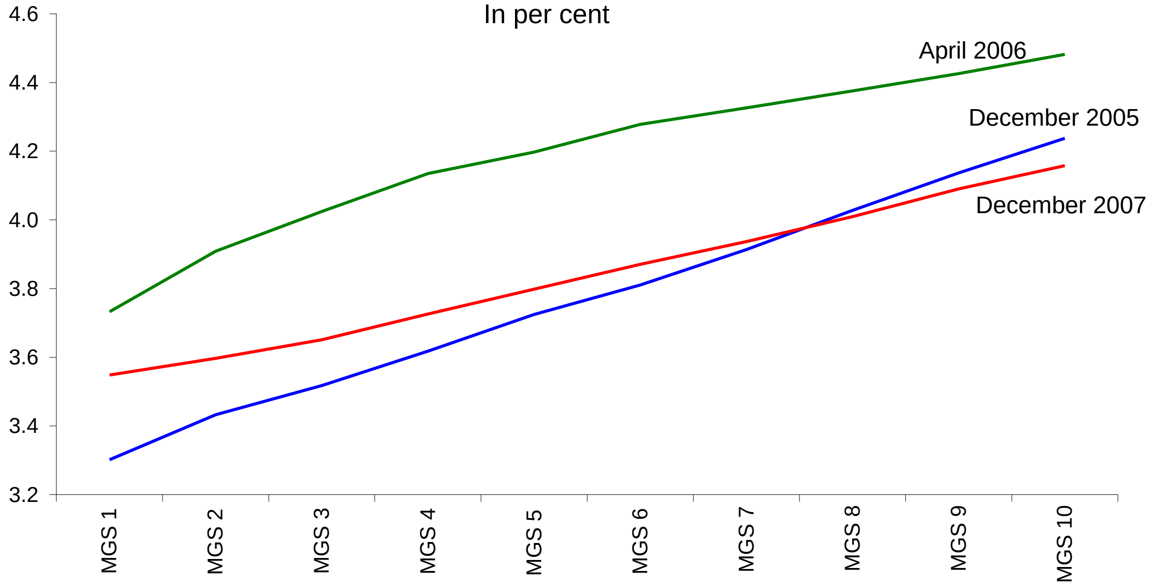



Source: Bank Negara Malaysia's Fully Automated System for Issuing/Tendering (FAST).

Graph 11

**MGS benchmark yield curve since December 2005**

In per cent

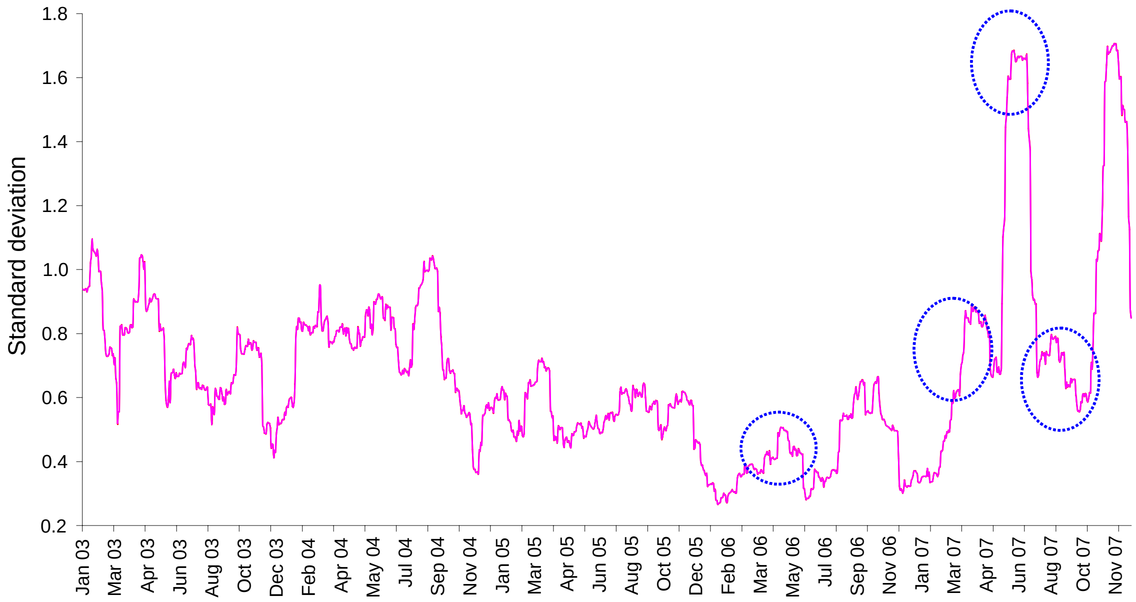



Source: Bank Negara Malaysia's Fully Automated System for Issuing/ Tendering (FAST).

The stronger equity market performance and relatively lower MGS yields were achieved despite the several distinct periods of market corrections cited earlier (in May–June 2006, February and June 2007, and July–August 2007). While there were some outflows of funds effected by non-residents during these periods, foreign participation in Malaysia's equity market remained generally high. Similarly, in the bond market, foreign holdings of long-term bonds have been relatively stable. The impact of the outflow of non-resident investments during the recent subprime mortgage problem was mainly felt in the short-term securities market. Overall, conditions in the Malaysian financial markets have become more volatile during the periods of foreign financial market corrections and particularly during the global bond sell-off in June 2007 (Graphs 12 and 13).

Graph 12

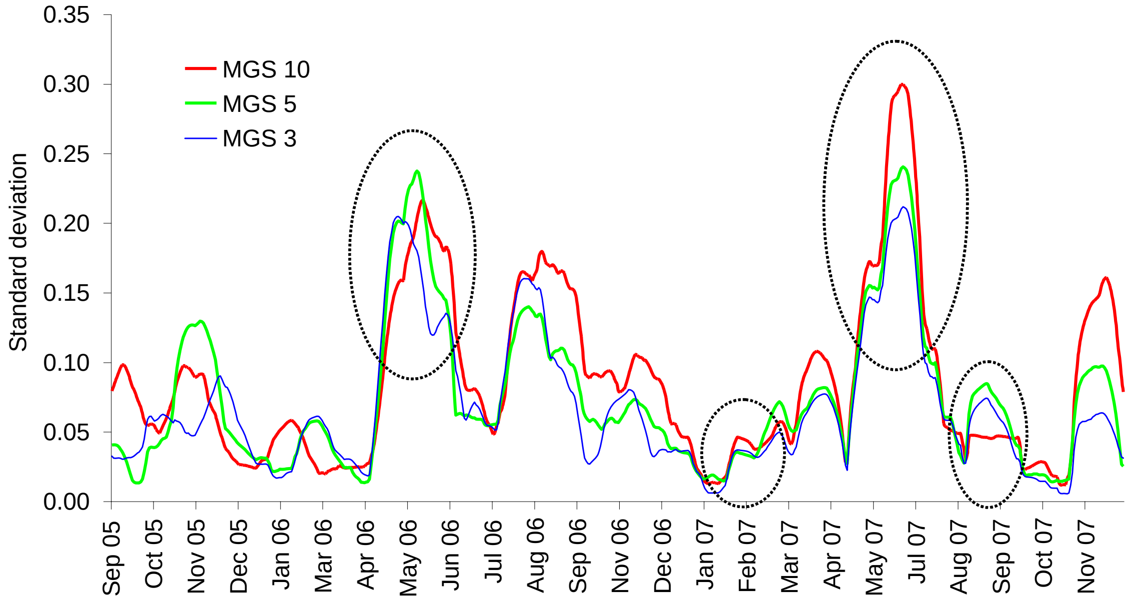
**KLCI daily returns: thirty-day rolling standard deviation**




Source: Bloomberg.

Graph 13

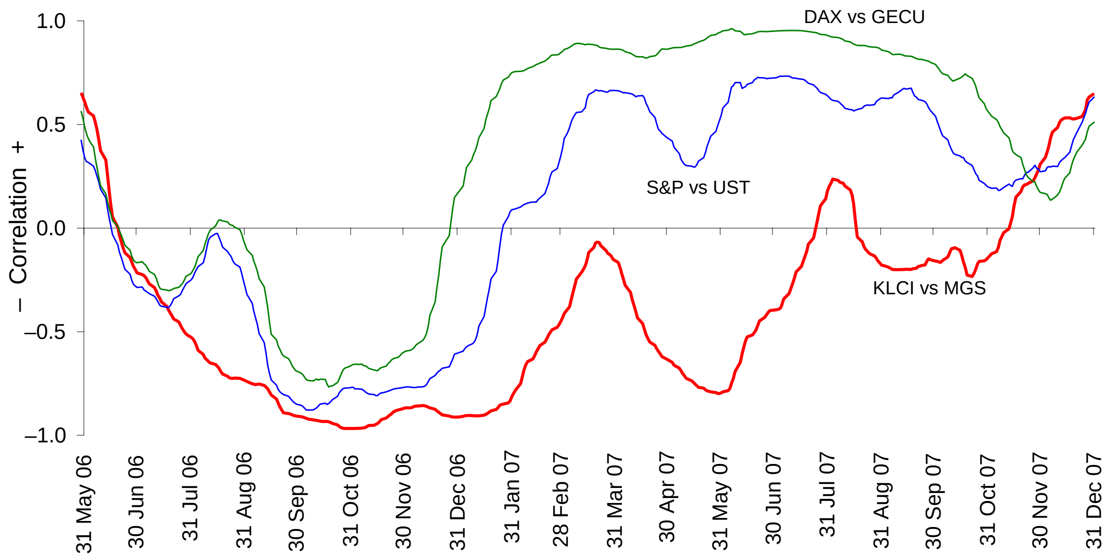
**MGS yields: thirty-day rolling standard deviation**




Source: Bank Negara Malaysia's Fully Automated System for Issuing/Tendering (FAST).

Graph 14

**KLCI, S&P 500, FTSE 100 and DAX vs ten-year yields: ninety-day rolling correlation**

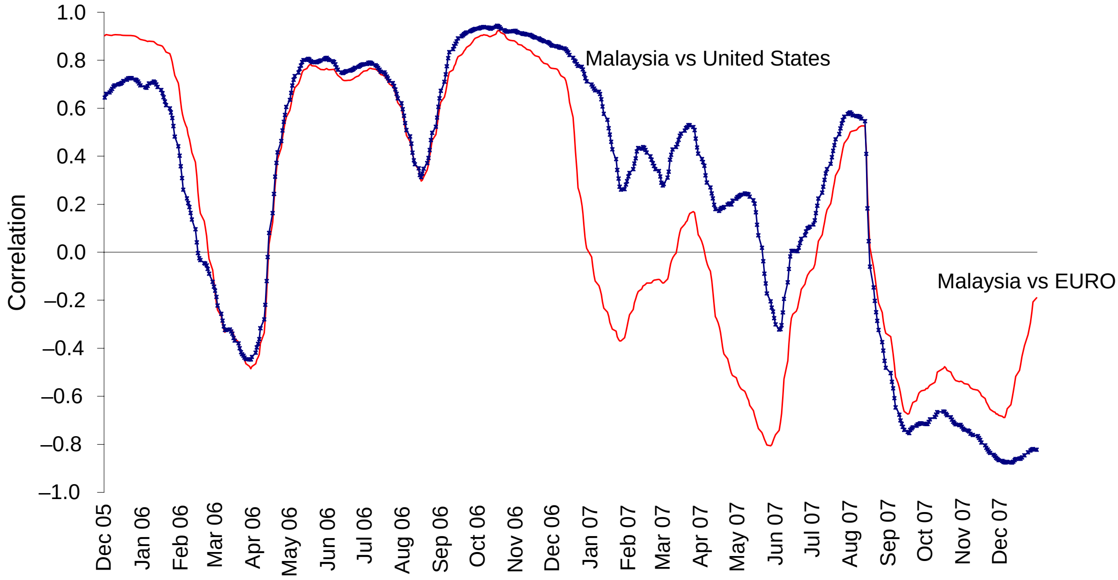



Source: Bloomberg.

A rough proxy for determining the level of integration of domestic financial market segments is to assess if the relationships between the different segments exhibit trends that resemble those normally seen in the more advanced financial markets and to compare how different market segments respond to similar shocks. In this regard, the positive correlation between the KLCI and MGS yields has been strengthening, in line with the trend in the more advanced financial markets (Graph 14). Nonetheless, intermittent periods of negative correlation do not necessarily imply that the different market segments of the Malaysian financial markets are not integrated, as this could reflect the ease with which portfolio investments flow between the equity and bond markets as investors reassess their risk appetite and diversification strategies, thus suggesting some level of integration. The closer correlation between the domestic and international markets, on the other hand, suggests that capital flows, especially outflows, are largely influenced by developments in international financial markets (Graphs 15 and 16).

Graph 15

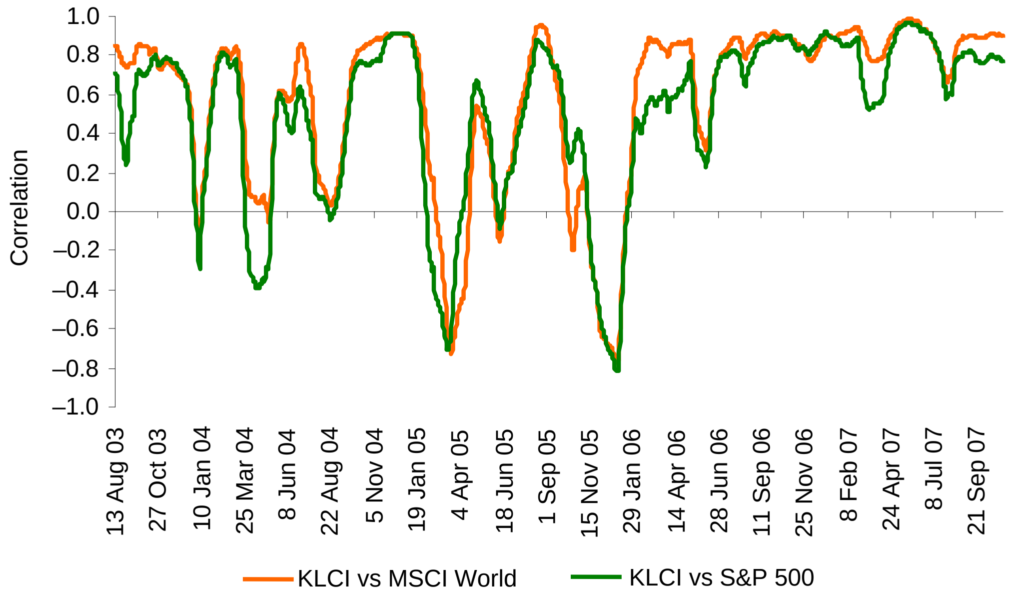
**Ten-year government bond yields: Malaysia against Euro and United States: ninety-day rolling correlation**




Source: Bank Negara Malaysia's Fully Automated System for Issuing/Tendering (FAST).

Graph 16

**KLCI vs MSCI World and KLCI vs S&P 500: ninety-day rolling correlation**




Source: Bloomberg.

In terms of the impact of large capital flows, this can be seen across all market segments. The KLCI rose as large inflows entered the equity market, while MGS yields declined following large inflows into the bond market. Conversely, the impact of a reversal (capital outflows) is reflected in a decline in the KLCI and higher bond yields.

Despite the increasing presence of hedge funds in this region, to date foreign investor participation in the domestic financial markets has been fairly straightforward. Purchases of domestic financial assets have been direct, without significant recourse to the derivatives markets and as such, these purchases are reflected in the capital flows data captured by the existing monitoring systems (cited in Section II). The Malaysian derivatives market is still in its developmental stage and market activity is gradually picking up. Most of the transactions are over-the-counter and not exchange-traded. Thus, the significance of derivatives markets in allowing foreign investors to take positions without these being reflected in capital flows is still minimal.

The influence of hedge fund growth and carry trades on the Malaysian financial markets is relatively indirect. In the aftermath of the subprime mortgage problem, efforts by hedge funds to rebalance their portfolio allocation in the emerging markets have indirectly affected the domestic financial markets. In the last two years, the influence of hedge funds and carry trades on the domestic equity and bond markets has been incidental to their activities in taking positions on the outlook of the domestic currency.

## IV. Implications of capital flows for the conduct of monetary policy: exchange rate developments; sterilisation; control over interest rates

Bank Negara Malaysia's monetary policy stance is determined on the basis of an assessment of the balance of risks on the outlook for inflation and growth. However, foreign currency inflows and their impact on liquidity and on the price and ownership structure of financial assets are closely monitored.

Since the removal of the ringgit peg in July 2005, capital inflows and outflows have had a significant impact on exchange rate movements. Generally, capital inflows have generated upward pressure on the exchange rate. However, the broad appreciation trend has often been punctuated by sporadic periods of capital outflows arising from external factors. The ringgit's performance in 2006 is exemplary of this trend. In the first five months of the year, it appreciated against the US dollar by 5.5%, reaching a high of 3.5825 on 11 May, as net trade inflows were augmented by investment inflows attracted by the favourable economic fundamentals and expectations of ringgit appreciation. In the latter half of May, however, the uptrend of the ringgit reversed following a broad withdrawal of investments from emerging market equities and bonds. As the effects of the emerging market sell-off subsided in July, the ringgit remained relatively stable against the US dollar, with net trade inflows being offset by outflows for overseas direct investment, portfolio investment, repayment and prepayment of external loans and the repatriation of profits. The ringgit traded in the range of 3.6970–3.5860. The currency then trended upwards from mid-October 2006, gaining momentum in December, as portfolio flows returned to emerging markets amid positive investor sentiment. During this period, the ringgit appreciated against the US dollar, ending the year at 3.5315. For the year 2006 as a whole, the ringgit appreciated by 7% against the US dollar.

In 2007, regional currencies benefited from positive investor sentiment towards the region, as evident from the buoyant equity and capital markets. However, as in 2006, the broad positive trend was punctuated by the several corrections cited earlier, namely the correction in the Shanghai stock market in March, the strengthening of the US dollar on interest rate expectations in June and concerns over weaknesses in the US subprime mortgage markets in July and August. Between 21 July 2005 and 31 December 2007, the ringgit appreciated by

12.9% against the US dollar, 12% against the Japanese yen and 0.1% against the pound sterling, but depreciated against the euro (–5.4%). The ringgit exhibited a mixed performance against regional currencies, appreciating against most currencies in the range of 1.2 to 14.9%, but depreciating against the Philippine peso (–17.4%), Thai baht (–6.5%) and Singapore dollar (–1.6%).

The central bank's intervention in the foreign exchange market seeks to moderate large fluctuations, not to influence the underlying trend. The aim is to minimise disruptions to trade and investment, reduce misalignments and facilitate orderly adjustments. No specific measures have been introduced to deal with currency appreciation pressures over the past five years.

Some commentators have argued that the benefits of a stronger ringgit outweigh the costs as it mitigates imported inflation, encourages exporters to increase efficiency and competitiveness, and reduces the input cost of imported manufactured products. Nevertheless, the strength of the ringgit, particularly against the US dollar, remains on the "watch list" for some Malaysian manufacturers. In regular dialogues with the manufacturing industry, the central bank has sought to enhance communication on exchange rate developments, while encouraging industry players to take proactive measures to improve productivity and widen recourse to hedging their foreign exchange exposure with the banking institutions.

**Challenges of sterilisation of intervention**

The increase in inflows arising from the recent current account and capital account surpluses has resulted in an accumulation of international reserves and an increase in liquidity in the interbank system. Throughout the year in 2007, domestic liquidity increased significantly, by MYR 50.9 billion to MYR 298.6 billion. A challenge for Bank Negara Malaysia is to absorb any excess liquidity to pre-empt the build-up of inflationary pressures, while ensuring that the cost of sterilisation is effectively managed.

In managing domestic liquidity, the central bank employs various monetary policy tools, including direct money market borrowings, repo operations, issuance of BNMNs and FX swap operations. Currently, direct money market borrowing is the main monetary instrument, accounting for 41.3% of surplus liquidity sterilised as at 31 December 2007. The maturity structure for direct borrowing ranges from overnight to three months.

Bank Negara Malaysia has gradually shifted towards the use of repo operations and BNMNs to manage liquidity. Repo operations allow the Bank to absorb surplus liquidity at lower cost (typically 2–3 basis points lower than direct borrowings) due to its collateralised nature. In addition, they facilitate the development of both the repo market and the underlying cash market in debt securities by promoting market turnover and interest in trading and market-making. The repo tenure ranges from one month to three months. As at 31 December, repo operations absorbed 10.1% of sterilised liquidity.

In absorbing liquidity for longer tenures, Bank Negara Malaysia prefers to issue BNMNs. These instruments may be issued based on conventional or sharia-compliant principles, as well as various structures such as discount to face value, fixed or floating coupon bearing, with maturity terms ranging from one month up to three years. To date, the central bank has issued three-month, six-month, nine-month and one-year discount to face value BNMNs, one-year coupon bearing and two-year floating rate BNMNs. As at 31 December 2007, BNMNs accounted for 22.9% of total monetary instruments employed by the central bank, compared with 10.6% as at end-2006.

Given the magnitude of surplus liquidity to be sterilised relative to the size of the economy, the advantages of issuing longer-term BNMNs are that it facilitates more efficient longer-term sterilisation and reduces the need for larger turnover of shorter-term sterilisation transactions on a daily basis. At times, market conditions have also allowed the central bank to reduce the sterilisation cost by using longer-term instruments. The Bank has also issued floating rate bonds to enable it to absorb liquidity for longer terms, while hedging against interest rate risks. The increase in issuances of BNMNs (Table 2) has a positive impact on the local short-term bills market by enhancing the depth and breadth of the short-term securities market. This instrument is also an effective tool in managing liquidity arising from volatile short-term capital flows.

Table 2

**Bank Negara Bills, Bank Negara Negotiable Notes and Bank Negara Monetary Notes as at year-end**

| Year | Outstanding amount (MYR billions) | Average duration (days) |
|---|---|---|
| 2002 | 11.8 | 76.1 |
| 2003 | 12.9 | 75.0 |
| 2004 | 14.9 | 80.8 |
| 2005 | 16.9 | 84.6 |
| 2006 | 22.9 | 104.3 |
| 2007 | 69.0 | 103.1 |

Source: Bank Negara Malaysia.

The direct cost of sterilisation is low given that the overnight policy rate (OPR) in Malaysia is lower than in most G7 countries except Japan, providing an interest differential in favour of Malaysia. Sterilised intervention has enabled the central bank to manage the surplus liquidity effectively and kept the OPR near to its target.

Bank Negara Malaysia recognises the potential risks of currency exposure and has instituted several measures to manage and mitigate such risks. In managing reserves, the investment strategy emphasises diversification to preserve the purchasing power of the Bank's international reserves over the medium and long term. Currency exposures are monitored and foreign exchange gains or losses are revalued on a quarterly basis. The gains and losses are smoothed out via the exchange rate fluctuation reserves account. FX swap transactions in this area are recognised as a pair of borrowing and lending transactions in separate currencies rather than as a pair of FX transactions to avoid fluctuations arising from the use of FX swaps.

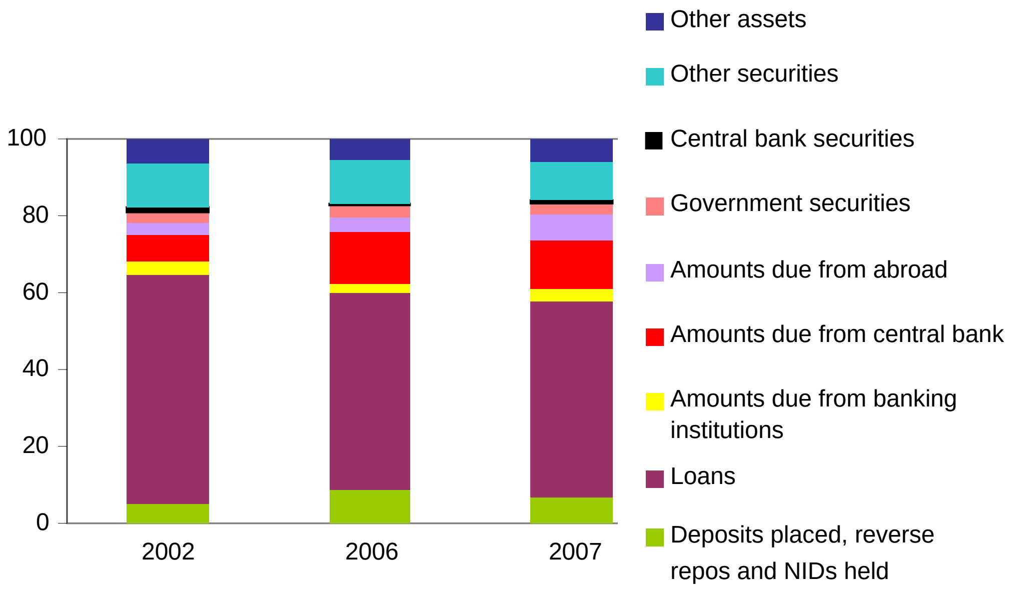
### Effect of sterilised intervention on the banking system's balance sheet

The effect of sterilised intervention on banks' balance sheets (Graph 17) depends on the sterilisation instruments used and whether the banks, as opposed to the non-bank private sector, are the ultimate holders of these instruments. While direct borrowing clearly leads to an increase in banks' liquid assets (increase in banks' net lending to the central bank), the effect of BNMNs is less straightforward, as not all the securities issued end up in the banks' portfolios. Instead, a substantial portion of the BNMNs has been taken up by non-residents (see Table 3), with banks merely acting as intermediaries. Though a relatively new instrument, the BNMN was used more actively than direct borrowing in 2007, resulting in an increase in the share of BNMNs in the total liquidity absorbed to about half the share of direct borrowing.

Graph 17

**Assets of the banking system**

In per cent




Source: Bank Negara Malaysia's Monthly Statistical Bulletin.

Table 3

**Central bank securities**

| | **Outstanding amount** | **Non-resident holdings** |
|---|---|---|
| | **MYR billions** | |
| 2002 | 11.8 | 0 |
| 2006 | 22.9 | 9.4 |
| 2007 | 69.0 | 36.1 |

Source: Holdings data from Bank Negara Malaysia's Real-Time Transfer of Funds and Securities (RENTAS) system.

There are two channels through which sterilised intervention can influence bank lending behaviour. The first possible channel is that "easy and risk-free profits" from large holdings of sterilisation securities could alter banks' incentives to lend to the non-bank private sector. However, the perceived incentive to reap "easy profits" may be overstated. In practice, banks find it more profitable to invest in other assets given larger risk premiums embedded in loans and non-sterilisation papers. In fact, banks in Malaysia have been competing with each other to increase lending, amid ample liquidity, on price and non-price factors to ensure that they continue to be able to generate sufficient returns to meet shareholders' expectations.

Second, to the extent that banks with liquid assets feel better placed to expand credit going forward (switching from holdings of sterilisation instruments to loans), the restraining influence of sterilised intervention on monetary growth could be temporary. Ultimately, however, whether or not banks expand credit depends on the underlying economic conditions. It would be more of a concern in instances where demand for credit is very strong. Thus far, there is no indication of excessive credit growth in Malaysia.

As noted earlier, Malaysia's interest rate policy has always been based on the central bank's assessment of the prospects for inflation and economic growth. As Malaysia is a small and highly open economy, close attention is paid to external factors and their potential implications for domestic stability. While large capital inflows have played a role in influencing the level of short-term and long-term rates in the bond market, the central bank's efforts in promoting the depth and breadth of the financial markets, especially the bond market, have enhanced Malaysia's resilience and improved its capacity to manage and absorb external shocks and volatility. Nonetheless, shocks driven by short-term volatility in the global financial markets may still result in fluctuations in short-term bond yields, but this does not imply any reduction in the central bank's ability to influence domestic interest rates. Market fundamentals as reflected and influenced by the level of the Bank's policy rate would still exert a significant influence on the eventual shape and level of the yield curve. Occasionally, the yield curve may even temporarily be flat or inverse in shape instead of upward-sloping.

## V. Regulatory and supervisory response to financial stability challenges posed by capital flows

Given the opportunistic and volatile nature of capital flows, regulatory authorities face the challenge of decoupling fluctuations in asset prices, in particular equity and property prices, due to changes in macroeconomic fundamentals from the emergence of asset bubbles. The capacity and capability of regulatory authorities to formulate timely and appropriate economic and prudential policies in response to increased cross-border capital flows and the possible formation of asset bubbles remain a major challenge.

In an increasingly integrated global economy and financial system, the process of decoupling stresses and risks in one economy from another becomes more complex. A case in point is the current period of higher volatility in the global and regional financial markets, triggered primarily by the unwinding of positions by international investors amid mounting uncertainty following the subprime episode, which was followed by corrections in domestic markets.

This underscores the importance of effective mechanisms for coordination and collaboration between regulators in the host and home country with emphasis on meeting the information needs of those responsible for financial and macroeconomic stability. The growing presence of cross-border financial conglomerates entails greater migration of decision-making and incongruence of organisational structures. While widely recognised, the effectiveness of existing mechanisms remains largely untested.

Intensified competition in lending activities can lead to higher risk-taking appetite as financial institutions strive to sustain the return on assets and profitability. This, together with the rapid pace of product innovation and financial engineering, can potentially result in mispricing and concentration of risks and the misassumption of liquidity. The challenge therefore is for central banks to strike a balance between promoting competition and efficiency in the banking system, and putting in place the necessary prudential safeguards to preserve stability and orderly market conditions.

On the regulatory front, concerted efforts have, over the years, been made towards further strengthening and streamlining the existing prudential and regulatory framework in line with international best practices, whereby the key focus has been on enhancing institutional risk management infrastructure and capabilities as well as promoting stronger governance and accountability amid greater transparency within and among financial institutions. These efforts have paved the way for more operational flexibility being accorded to financial institutions that have consistently demonstrated strong risk management capability. Highlights of some of the key flexibilities are as follows:

In April 2007, Bank Negara Malaysia's limit on the foreign currency net open position (20% of banks' capital base) was abolished to provide greater flexibility to licensed onshore banks to undertake foreign currency business. Beginning in January 2007, banking institutions that have the capacity and capability, and that meet the central bank's supervisory standards, were given the flexibility to determine their own internal policy governing their equity-related activities instead of being subject to the prevailing limit of 5% prescribed by the central bank. The type of shares in which an institution can invest has also been expanded to include all listed shares, preference shares, unlisted shares and foreign equities. The limit for aggregate exposures to investments in shares and interest in shares, however, has remained at 25% of a bank's capital base. This is being reinforced through the continued rigorous supervisory assessments on capabilities covering equity valuation, policies on risk diversification, risk mitigation arrangements and stress testing capabilities of banking institutions.

Exposures to private debt securities of banking institutions are subject to single customer credit limits, with a separate limit of 10% of the bank's total capital. Valuations for securities (fixed income, equity and their hybrid) in the trading books of banking institutions are based on market valuation to reflect market movements. Since April 2005, banking institutions have been required to set aside capital for market risk exposures. The capital charges on market and large exposure risks vary depending on the level and type of exposures.

While the direct and spillover effects from the fallout of the subprime market crisis and its contagion into credit and financial markets were relatively large in some countries, the impact on Malaysia was relatively small and largely emanates from the associated increase in external financial market volatility. This is due to the almost negligible direct exposures of Malaysian banking institutions and insurers to the subprime market. Notwithstanding this, the central bank has continuously enhanced its supervisory oversight and regulatory measures to ensure the resilience and soundness of financial institutions and the financial system, in tandem with the changing financial and operating environment. With growing maturity of the market and the players' capabilities, the supervisory and regulatory approach has evolved from being predominantly "rule-based" via the adoption of administrative controls and prescriptive rules, towards a "principle-based" approach which is more adaptive to changing market circumstances and business practices. Under this regime, greater flexibility from both the regulatory and supervisory perspectives is accorded to institutions that have strong risk management and corporate governance practices in place.

Similarly, on the supervisory front, the approach has evolved to adapt to increased complexities and to enhance the effectiveness of supervision in line with the rapid structural and operating changes taking place in the domestic financial system. Supervisory activities are now premised on a rigorous risk-based framework whereby supervisory resources are prioritised towards areas that pose substantial risks to the stability and soundness of the financial system and individual institutions. This should enable a structured and pre-emptive approach in assessing financial institutions' risk profiles and the effectiveness of internal risk management systems.

For instance, the increasingly complex group structures involving financial conglomerates have called for the development of a consolidated supervision framework to ensure balance between allowing group synergy and efficiency, and ensuring that the conglomerates do not introduce excessive risks into the overall system. Similarly, due attention will continue to be paid to enhancing cooperation and exchange of information between home/host supervisors amid the increased capital flows environment. Micro stress testing is now being adopted at the institutional level not merely as a risk management tool, but more importantly as a business management and strategy tool.

It is now more widely recognised that the task of preserving financial stability is not the sole accountability of the central bank but rather the shared responsibility of different stakeholders. Bank Negara Malaysia is now placing greater emphasis on the principal responsibilities and accountabilities of the boards and senior management of banking institutions, particularly in ensuring that their institutions embrace a strong culture of corporate governance and integrity, with robust internal controls and risk management practices. Greater emphasis has also been placed on enhancing the effectiveness of macroprudential surveillance that provides a more holistic view of structural imbalances, interactions and vulnerabilities within the financial system as well as facilitating the monitoring of the system at the national and global level.

The need to identify and assess the link to and risk of contagion for the domestic financial systems arising from regional and global financial markets poses an additional challenge. This is in view of the magnitude and speed of mobility of international capital and the increasing risks of contagion from financial crises between markets. Equally important but nevertheless very challenging would be the identification and measurement of contagion risk between various economic sectors and the financial sector with a view to facilitating the assessment of the impact of stresses from the economy on the financial sector and vice versa.

Coupled with more integrated micro and macro surveillance activities, improved financial safety nets, prudential standards and risk management principles that are aligned with international practices, the enhanced supervisory and regulatory measures adopted by Bank Negara Malaysia have enabled more efficient identification of emerging vulnerabilities and effective remedial response to financial stability challenges.

## VI. Conclusion

Emerging market economies, including Malaysia, face a real challenge in managing the increasing magnitude and volatility of capital flows. In many respects there is a dilemma as, given their openness and relatively nascent stage of financial deepening, it is not feasible for emerging market economies to allow the domestic currency to absorb the full impact of capital flows. To do so would risk disruptive currency movements that could undermine real trade and investment activity. At the same time, efforts to deepen and broaden domestic financial markets (to better absorb capital flows) cannot move as quickly as the authorities would like. It needs to be recognised that financial deepening is a long-term process, requiring a long gestation period to achieve financial maturity.

While measures to strengthen monitoring systems and enhance the resilience of the domestic economic and financial system are important in building resilience, they do not guarantee that an economy will be completely insulated from volatile capital flows. This begs the question: what else can the international community in general, and emerging market economies in particular, do to better cope with large and volatile capital flows? At one extreme, the conventional "Wall Street" view that capital flows will take care of themselves does not appear to be a feasible option for emerging markets, at least for the foreseeable future. At the other end of the spectrum, calls for active management of capital flows, including capital controls and a tax on inflows (the so-called "neo-structuralist" view) may face practical limitations.

The exogenous nature of capital flows and their strong contagion effects do, however, suggest an important role for closer international cooperation in supporting national policies to build resilience. In this regard, this meeting of deputy governors represents an important element in such cooperation – to promote a better understanding of the nature and policy implications of capital flows. There is much scope for closer cooperation to penetrate the opaqueness of capital flows. With greater transparency, hopefully, the task of managing these flows will become less onerous.