The monetary transmission mechanism in Malaysia: current developments and issues

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1. Introduction

The Malaysian financial system has evolved in line with the changing structure of the economy. The changes in the economic structure and financial system in turn have had an important influence in shaping the increasing complexity of the relationship between monetary policy and the real economy. In this regard, as policymakers, it is important to first and foremost understand how the economic transformation affects the nature of the monetary transmission mechanism, in addition to evaluating the relative potency of transmission channels.

Specifically, the influence of the changing forms and characteristics of financing, the diversity and depth of financial markets, the spread of financial inclusion of households and corporates, as well as the degree of openness of the economy, are key features that determine the effectiveness of the monetary transmission mechanism in Malaysia. In this paper, five key issues are highlighted and their implications for the conduct of monetary policy are discussed. First, there has been a transformation of the Malaysian financial system that has raised the level of competition and improved the level of efficiency in the banking system. Second, a more diversified financial system and, in particular, the rapid growth of the bonds market have increased the alternative sources of financing available to both households and businesses. Third, the country has seen the emergence of an increasingly influential Islamic financial system. Fourth, the financing avenues for small and medium-sized enterprises (SMEs) that are mostly centered outside the formal banking system, and fifth, the openness of the Malaysian economy and the growing integration with the global economy and financial system.

Therefore, it is useful to analyse these features of the Malaysian economy to uncover the key issues that will have implications for the conduct of monetary policy. The next section will discuss the developments in these five key areas while the following section discusses the implications arising out of these developments.

2. Key developments in the financial system

2.1 Transformation of the banking system

Malaysia's financial system is characterised by the widespread availability of banking services across the country, a growing capital market and a high degree of international openness. As at end-2005, the total assets of the financial system were equivalent to 386% of GDP. With more than 50% of total financial assets, the banking institutions are very

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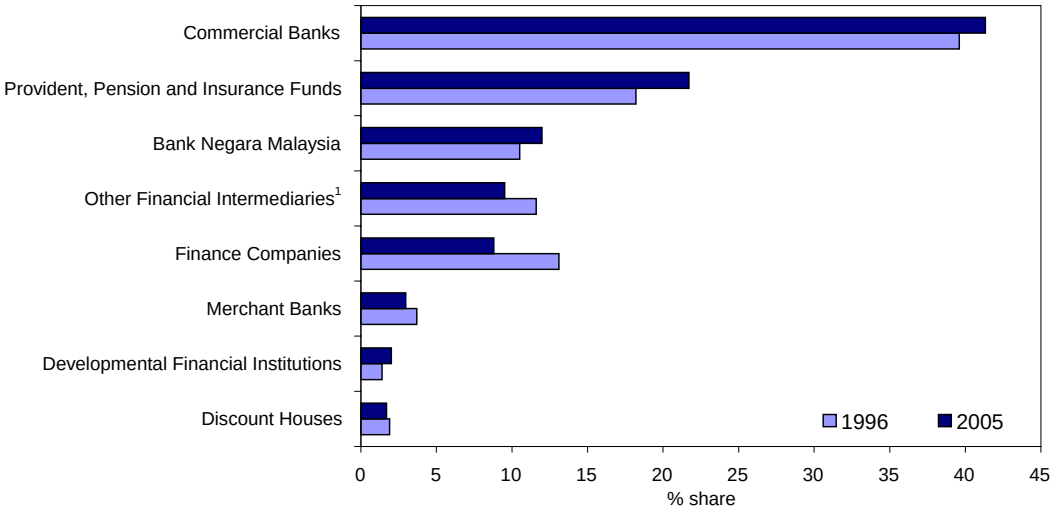
important financial intermediaries and the dominant participant in the financial system (Chart 1).

Since the Asian Financial Crisis in 1997, significant changes have taken place in the Malaysian banking sector. Prior to 1997, the banking sector was characterised by a large number of small institutions. However, the wave of consolidations and mergers of financial institutions since 1998 has led to the emergence of nine domestic banking groups by 2006. More importantly, these developments have helped create a financial sector that is more resilient, efficient, competitive, and responsive to changing economic requirements.

Chart 1

Assets of the financial system



[1] Includes savings institutions, co-operative societies, unit trusts, building societies, Pilgrims Fund Board, Credit Guarantee Corporation, Cagamas Berhad, leasing companies, factoring companies and venture capital companies.

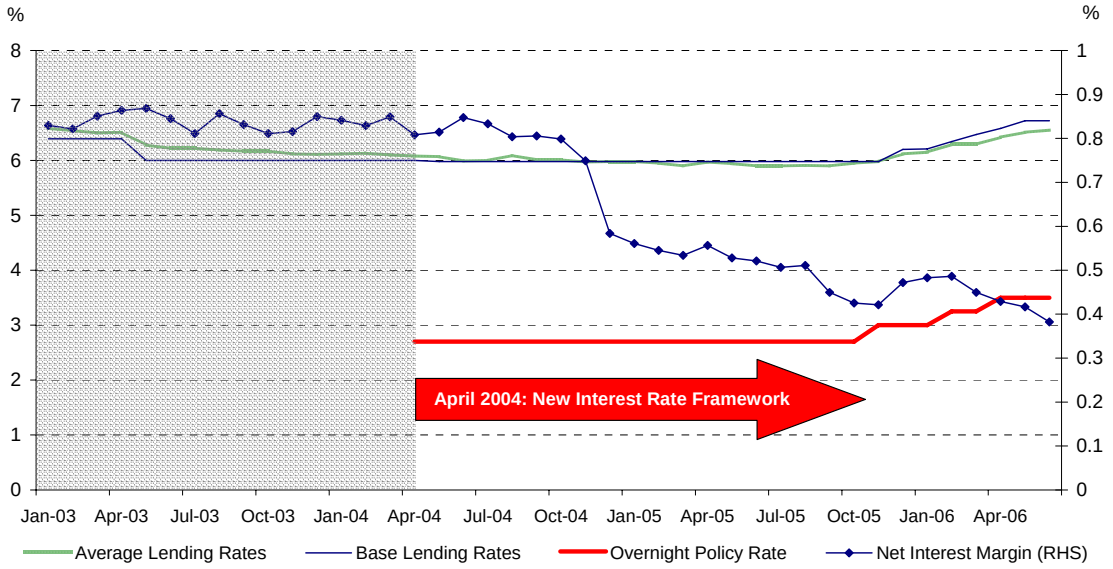
The completion of the financial restructuring, and the resulting stronger balance sheets, have enabled the banking institutions to focus on harnessing their operational efficiency and meeting the needs of their customers. Using a non-parametric method (DEA – Data Envelopment Analysis) to benchmark the banking industry, an internal study by Bank Negara Malaysia (BNM) finds that, on a macro basis, bank efficiency has increased since 1996.[2] This result is further supported by the declining trend of the banking system's net interest margin[3] (Chart 2). While many factors could influence interest margins, tighter interest margins are typically associated with greater competition and efficiency. The move by BNM to the New Interest Rate Framework in 2004 has resulted in a further liberalisation of the pricing of bank assets, thereby increasing the level of competition.

[2] This study computed the X-efficiency, which measures how managers are able to minimise cost and maximise profit by input allocation and exploration of technological opportunities alongside given output and input prices.

[3] Net interest margin is calculated as interest income net of overhead costs and provisions, as a percentage of total interest-earning assets.

Chart 2

Net interest margin and key interest rates



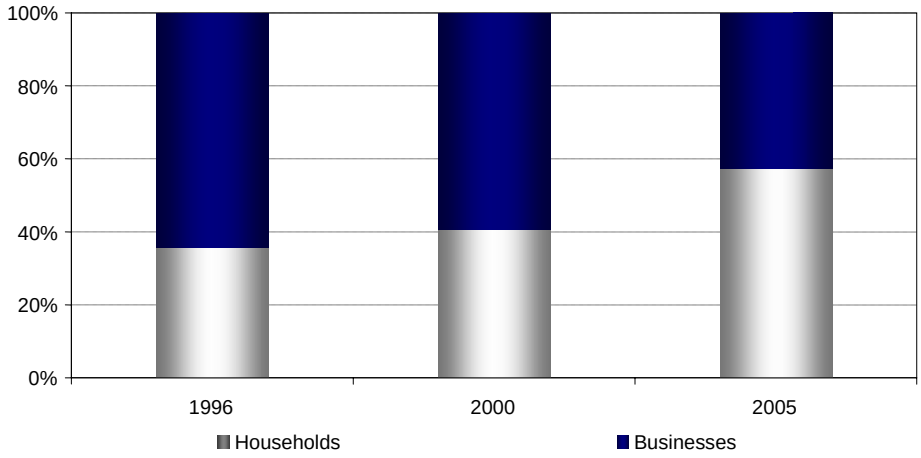
2.2 Increasingly diversified financial system and financial markets

Globally, changes in the financial system have transformed the opportunities for borrowing and saving that are facing households and businesses. Households have access to a broader range of financing and investment facilities. Since the crisis, the proportion of loans extended to the household sector has increased progressively (Chart 3). Businesses have greater options to diversify their financing away from banks through the issuance of bonds and equities – a move that has been facilitated by the growing role of the capital markets.

Chart 3

Profile of borrowers

Banking System



The increase in financing taking place via the equity and bond markets has been facilitated by policymakers' efforts to ensure greater depth and breadth in these markets. Numerous measures have been introduced to increase liquidity in the domestic bond market and improve the price discovery process. These include utilising repos as a monetary instrument

as well as shortening the timeframe for the review and consideration of initial public offering (IPO) applications in order to improve delivery efficiency, effectiveness and transparency to the market. Over the last decade, the maturity and sophistication of the Malaysian capital market has enabled market participants to price risk and return more efficiently and in the process has enhanced the transmission of monetary policy.

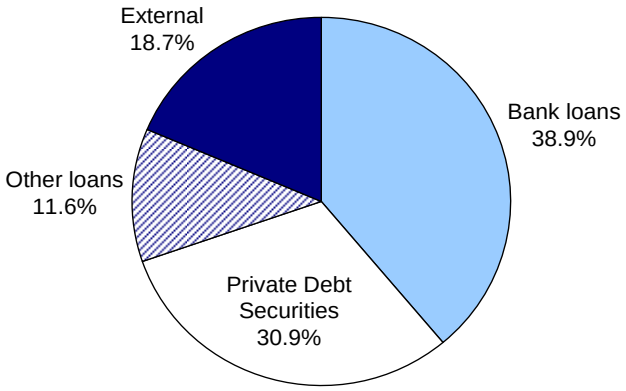
As a result of the authorities' efforts to develop the capital market in order to diversify the sources of financing away from the banking system, large corporations have increasingly had recourse to the capital market for their financing needs. While the banking system remains the major source of financing (Chart 4), a significant amount of funds obtained by businesses since the end of 2003 have been in the form of private debt securities, external borrowings, and new equity – significantly higher than the increase in bank lending to businesses, (Chart 5).

Chart 4

Sources of financing for large corporations

Outstanding amount (% share)

End-1Q 2006: RM555.5 billion

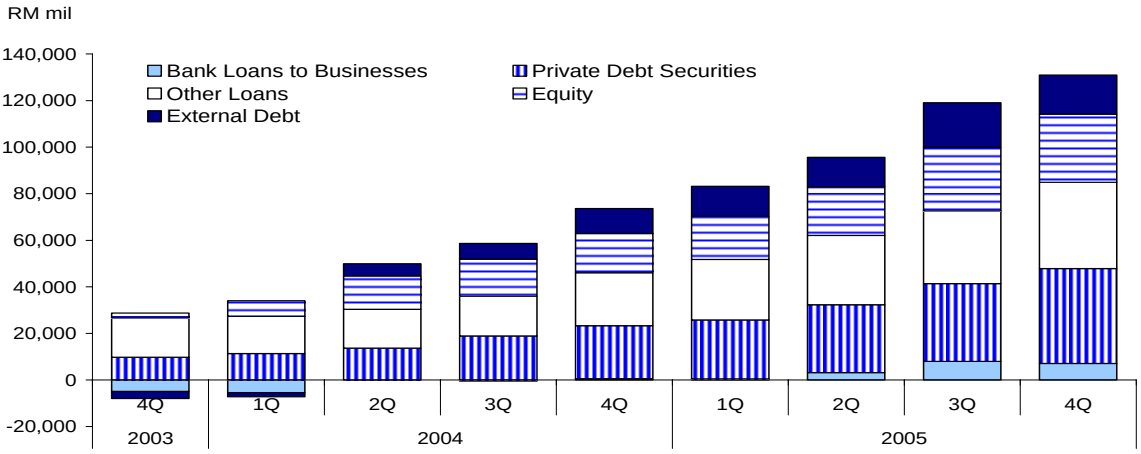


* Funds raised in the equity market is a flow variable and is shown in Chart 5.

Chart 5

Sources of financing for large corporations

Cumulative changes in total outstanding amounts



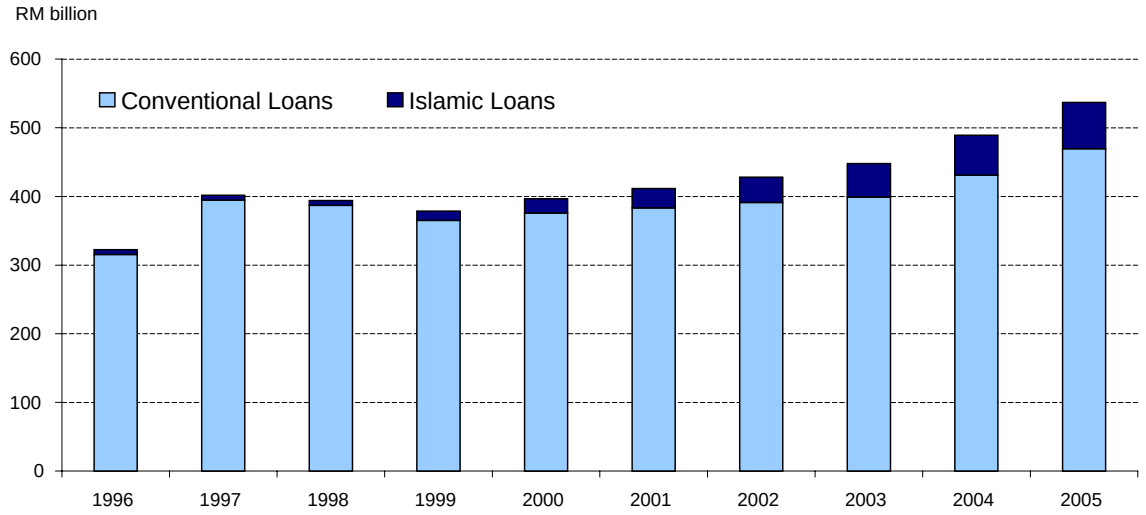
2.3 Emergence of a stronger and more influential Islamic financial system

An important feature of the Malaysian financial system is its dual banking system, where the non-interest rate based Islamic banking system operates alongside the interest rate based conventional banking system. The Islamic banking system is made up of independent full-fledged Islamic banks, Islamic banking subsidiaries and Islamic windows within the conventional banking institutions.[4] In the last decade, the Malaysian Islamic banking industry has grown rapidly. Total assets of this industry increased from RM17.9 billion in 1997 to RM43.5 billion in 2005.

In terms of financing base, the share of Islamic banking system financing in total loans (both conventional and Islamic) has increased, from 2.1% in 1996 to 12.5% in 2005 (Chart 6). As Islamic financing gains greater prominence, the monetary transmission mechanism needs to be re-examined. Generally, the structure of Islamic financing requires the sharing of risks and profits in some pre-agreed ratios. Given that the cost of a large proportion of existing Islamic financing is not directly linked to changes in the cost of funds, changes in monetary policy would have only a limited impact on the cost of existing loans of this type (Chart 7). Indeed, in the future, the extent to which Islamic returns change in response to changes in the policy rate will be a crucial factor in understanding how fast and effective is the monetary transmission via the Islamic financial institutions.

Chart 6

Total banking system loans

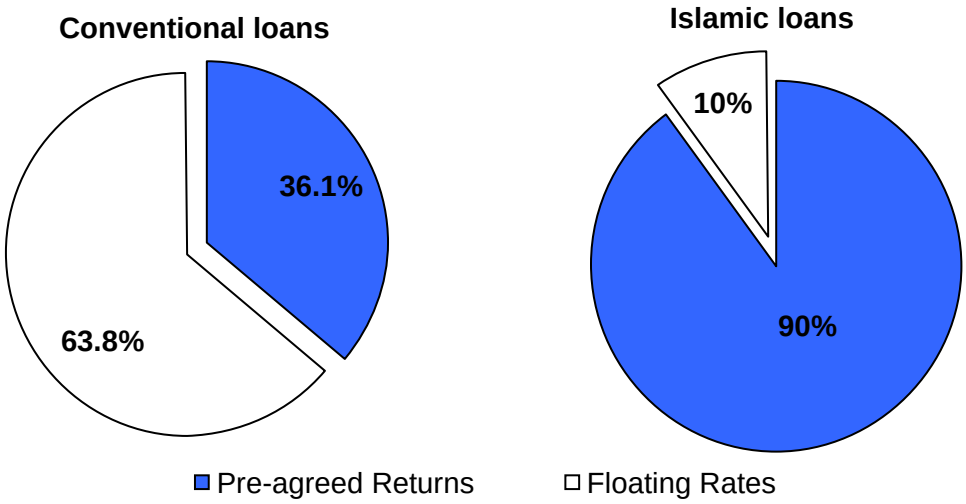


[4] As at end-November 2006, five banking groups have established Islamic subsidiaries while five banks have Islamic window operations.

Chart 7

Interest rate structures

Average for 1999–2005



2.4 Increased financing for small and medium-sized enterprises (SMEs)

Small and medium-sized enterprises (SMEs) are becoming an important driver of investment and growth in Malaysia. Given the SMEs' limited access to the capital market, their share in total outstanding loans of the banking system has grown over the past decade (Chart 8). However, the banking system still provides only 13% of total SME financing, most of which goes into micro SMEs and SMEs in the services sector (Chart 9). Therefore, roughly 87% of SME financing is sourced from outside the banking system. In addition, the SMEs can also make use of various specific-purpose special funds set up by the Government, although this represents a very small share of the financing of SMEs. The SMEs are also dependent on the Development Financial Institutions (DFIs), which may differ in terms of cost and capital structure, as a source of their financing. As such, a large portion of SME financing may be less sensitive to changes in the policy rate but the impact of the special funding on the effectiveness of the monetary transmission to this sector is slowly being diluted by the increasing participation of the banking system in financing the activities of SMEs.

Chart 8

Outstanding banking system loans: by borrower

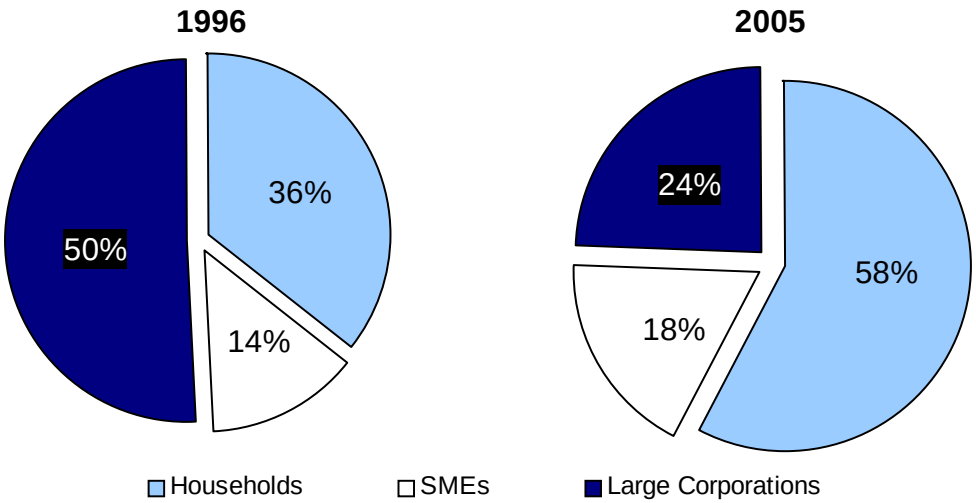
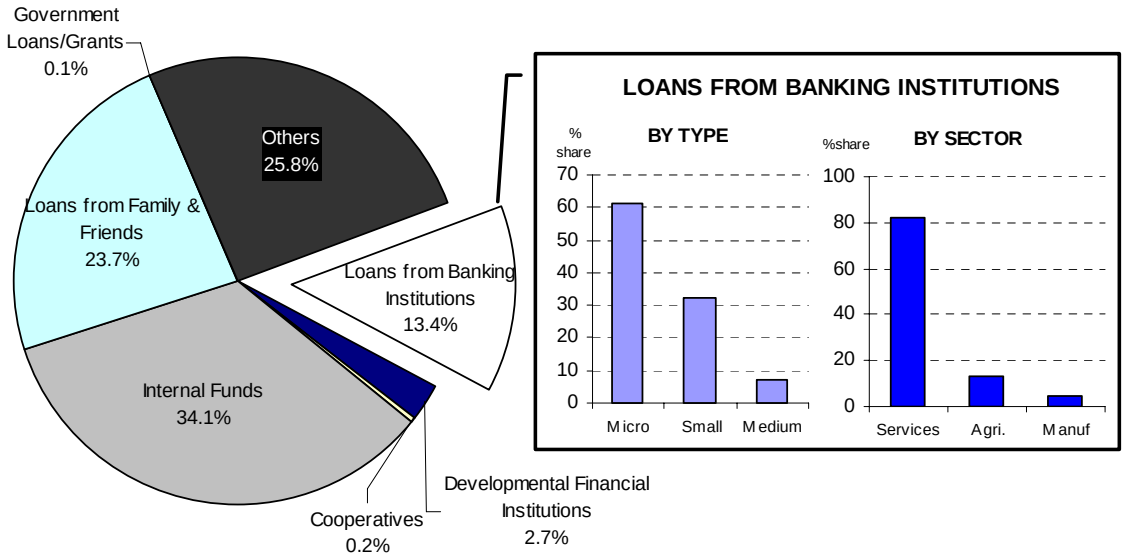


Chart 9

Sources of financing for SMEs



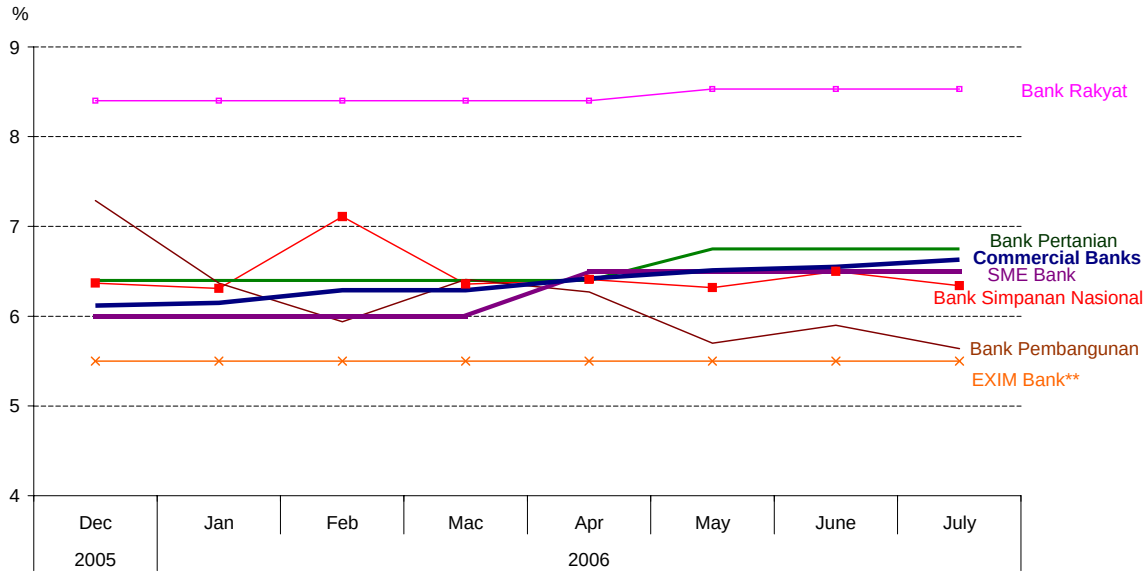
Source: Department of Statistics, Malaysia and Bank Negara Malasia.

About 6.7% of total loans are disbursed via the Development Financial Institutions (DFIs), whose objective is to provide financing for certain sectors of the economy. About 2.7% of SME financing is obtained from DFIs. The various DFIs serve the financing needs of specific sectors of the economy. Several DFIs' loan structures are heavily skewed towards individuals, specifically for consumer credit, while others are focused on specific businesses and industry. With the differences in the direction and focus of lending, there are also significant differences in the interest rates offered by the DFIs (Chart 10).

Chart 10

Average lending rates

Commercial banks and development financial institutions



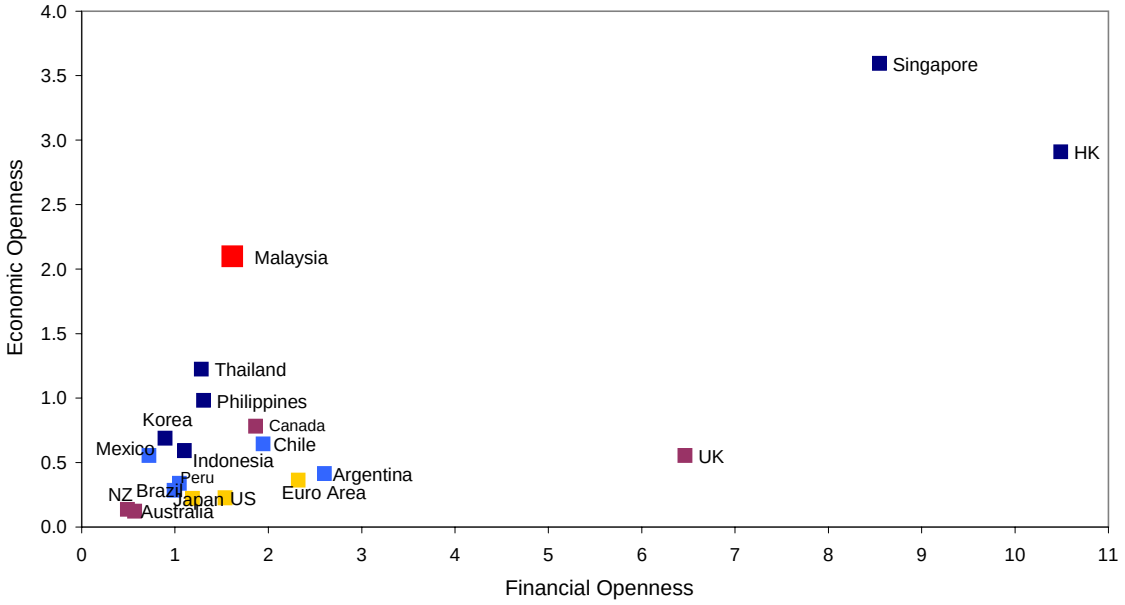
2.5 Openness of the Malaysian economy

Another distinguishing feature of the Malaysian economy is its high degree of economic and financial openness.[5] In 2002, total trade was more than twice the size of the economy, making Malaysia among the most economically open nations in the world. The total stock of international investment credit and debit was also significant, at more than 1.5 times the size of the economy. Chart 11 maps out the relative openness of the Malaysian economy compared to eighteen economies representing East Asia, the Western Hemisphere and the developed nations.[6] Chart 12 shows that the degree of openness of the Malaysian economy has also increased over time. Given the small and highly open nature of the Malaysian economy, conventional theory suggests that the exchange rate is likely to be a significant channel of the monetary transmission mechanism.

Chart 11

Economic & financial openness of selected countries

2002



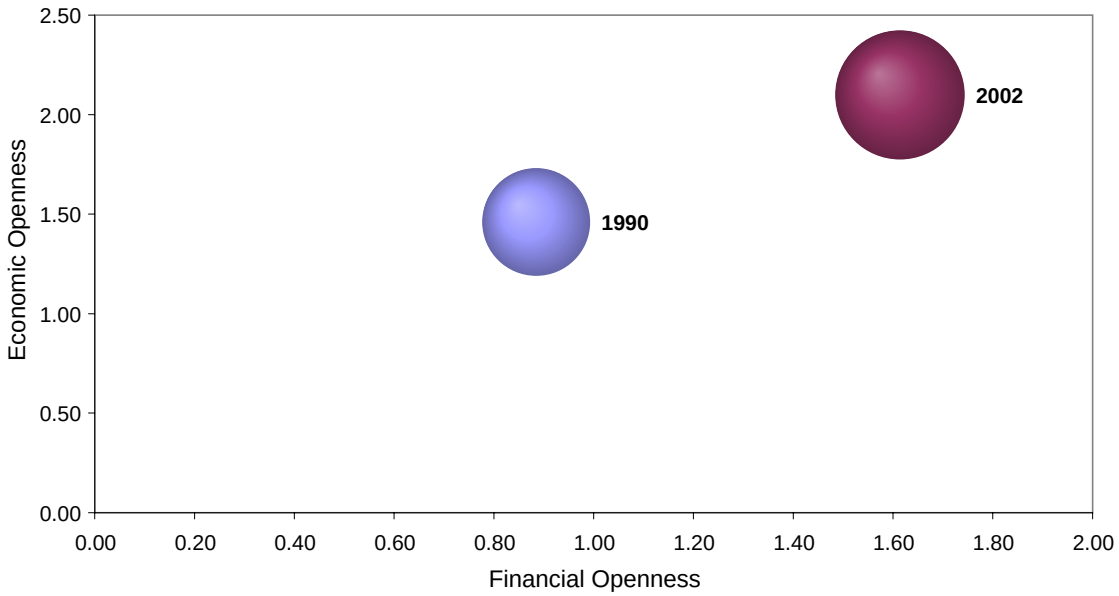
Source: BNM calculations; data from IMF International Financial Statistics June 2006.

[5] Economic openness is defined as the sum of exports and imports relative to GDP, while financial openness is defined as the sum of international investment credit and debit positions relative to GDP.

[6] East Asia is represented by Hong Kong, Indonesia, Korea, Malaysia, the Philippines, Singapore and Thailand; the Western Hemisphere is represented by Argentina, Brazil, Chile, Mexico and Peru; the developed countries are represented by Australia, Canada, Japan, New Zealand, the United Kingdom and the United States.

Chart 12

Greater openness of the Malaysian economy



Source: BNM calculations; data from IMF International Financial Statistics June 2006.

3. Implications for the monetary transmission mechanism

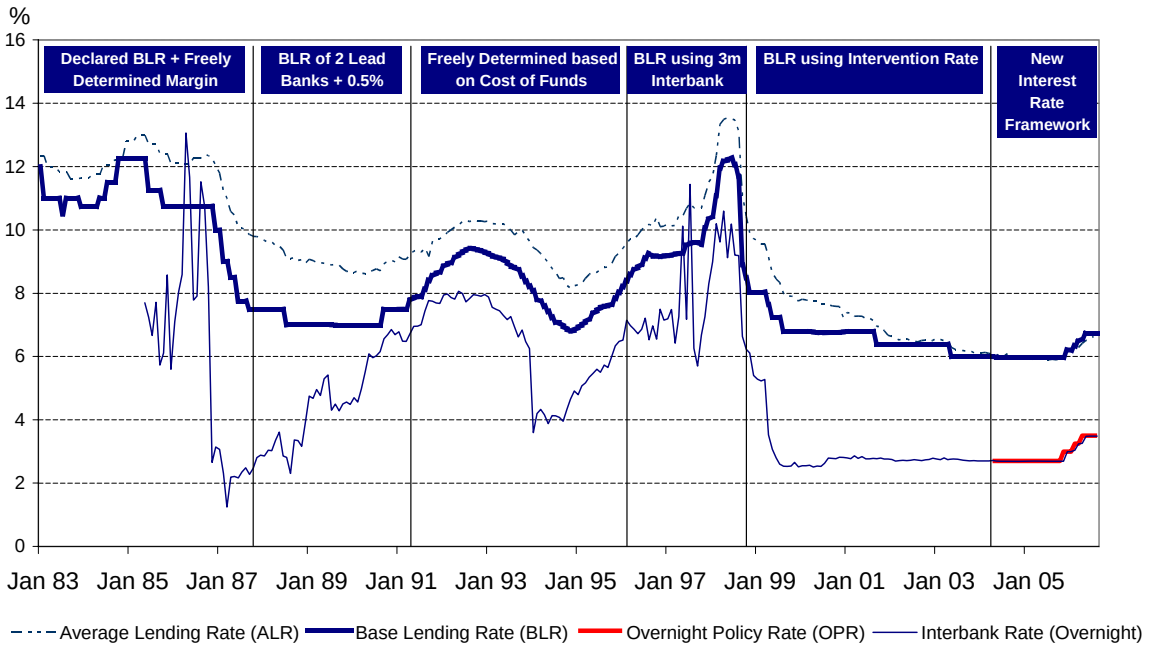
The effectiveness of the transmission mechanism at any point in time is influenced by the structural developments that shape the financial intermediation process. In particular, the availability of alternative sources of financing, the depth of financial markets, as well as the emergence of new financial instruments and financial institutions, have changed the way businesses and households obtain financing and park their savings. These changes could impact on the effectiveness of the monetary transmission mechanism by increasing or decreasing the lags from changes in the central bank policy rate to the cost of funds to businesses and households, as well as to the relative returns of different asset classes for savers and investors. The changing structure of the financial system and the spread of financial instruments and products may lead to different sectors of the economy being impacted differently by changes in the central bank policy rates. In this section, the possible implications for the monetary transmission mechanism of the five key developments outlined above are explored sequentially.

3.1 Efficiency of the banking system and greater interest rate pass-through

The emergence of a more diversified and competitive banking system allowed BNM to move towards a more market-driven interest rate framework in April 2004 (Chart 13). The new interest rate framework also enhanced the effort to improve banking system efficiency by encouraging more efficient pricing of risk within the banking system. As a result, with greater pricing efficiency, the speed and size of interest rate pass-through, both from the policy rate to the interbank rates and from the policy rates to the retail rates, have risen significantly.

Chart 13

Key interest rates under different regimes



Estimates show that the pass-through from the overnight policy rate[7] (OPR) to other interbank rates and retail market rates has remained high since April 2004 and has increased significantly during the most recent increases in the OPR (Chart 14). As the level of competitiveness in the banking system has increased over the past decade, long-run interest rate pass-through has also increased and has generally remained high, at between 0.6 and 1.[8] The pass-through to deposit rates is generally higher and faster than that for lending rates. Indeed, the high level of pass-through in Malaysia during and after the Asian financial crisis was crucial in ensuring that monetary policy impulses were effectively transmitted to the real sector. With the new interest rate framework in place, it is also possible to see the higher short-run pass-through (impact pass-through), which has risen from about 0.4 in 2000 to 0.9 during the most recent interest rate increases.

Therefore, ***changes in the financial infrastructure and policy framework during the past several years have led to significant improvements in the level of efficiency in the banking system and have contributed to the greater speed and magnitude of interest rate pass-through***.

[7] Since the OPR was only instituted from April 2004, the interbank overnight rate was used to proxy for the central bank policy rate for the period prior to April 2004. Prior to 2004, the policy rate was the 3-month interbank rate. Results using the 3-month interbank rate also showed a similar increase in interest rate pass-through.

[8] Long-run pass-through may exceed 1 for certain periods, especially during crises, when risk aversion is high.

Chart 14a

Long-run interest rate pass-through

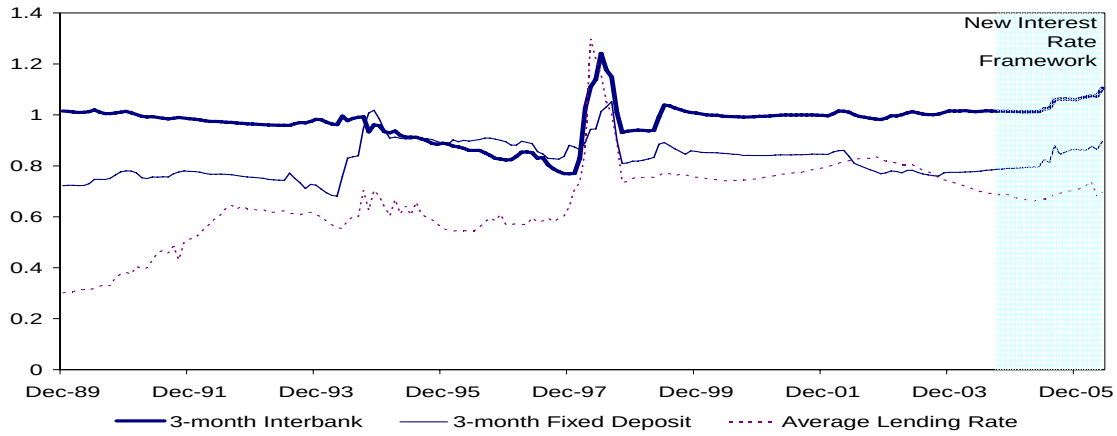
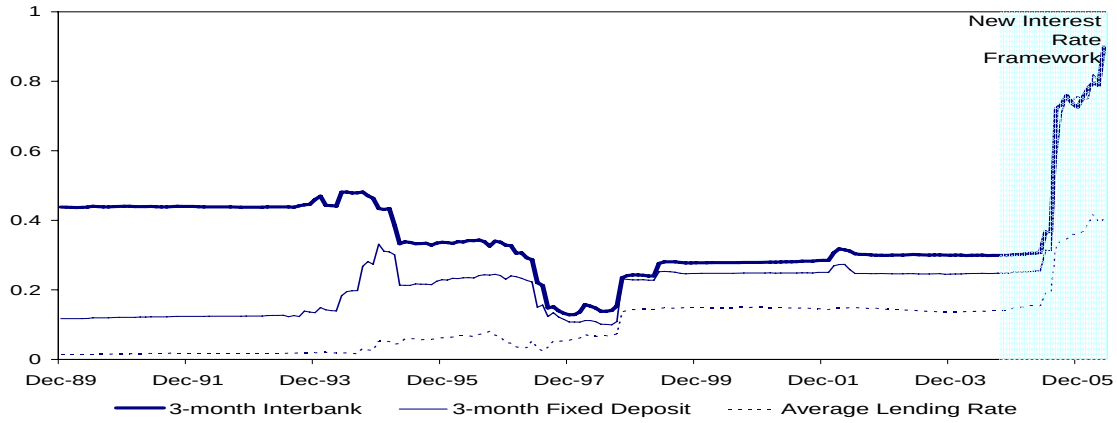


Chart 14b

Short-run interest rate pass-through



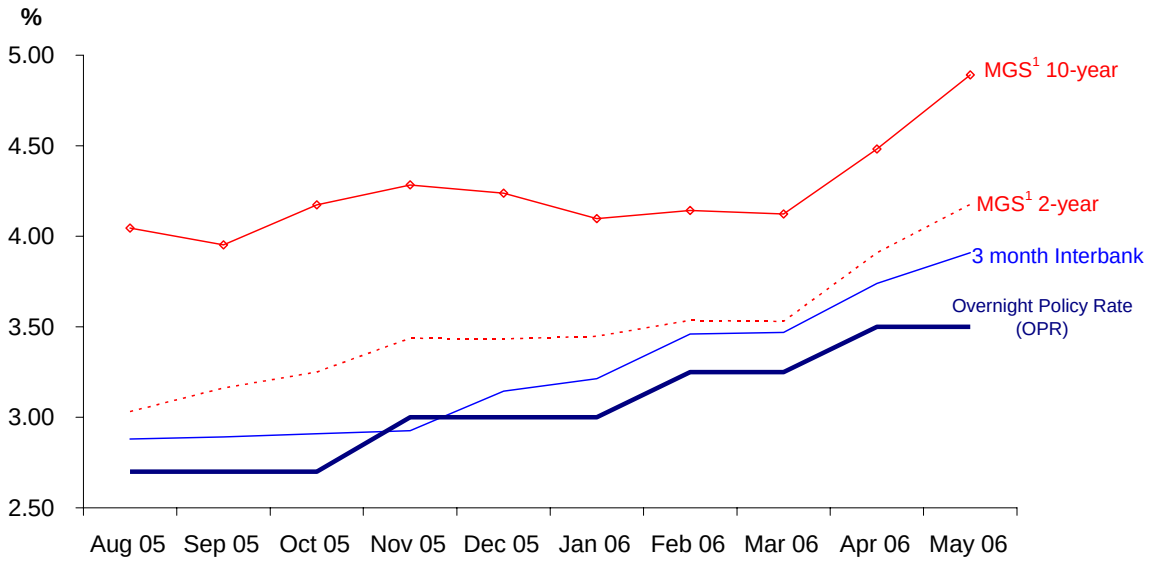
3.2 Emergence of a diversified financial system and financial market

The greater reliance on alternative sources of financing, by both small businesses and larger corporations, may delay the speed and magnitude of the transmission of policy rates to the actual cost of financing. This is especially the case if these alternative sources of financing have significantly different funding structures that are not directly influenced by the central bank's policy rate.

However, in a well-developed and sophisticated financial market that prices risks efficiently, the cost of most types of financing would still be benchmarked on the cost of financing via the banking system. Thus, the opportunity cost of financing would still be influenced to a large extent by the central bank policy actions. With an efficient financial market, the influence of monetary policy would likely be larger and faster. For Malaysia, aside from some short-term volatility, changes in the bond yields, which reflect the cost of debt financing, generally follow closely changes in the policy rate (Chart 15). Therefore, one can conclude that ***the emergence of alternative sources of funding has not had an adverse effect on the pass-through from the policy rate to market rates, but rather has increased the pace and magnitude of the pass-through across all segments of the economy***.

Chart 15

Interbank rates and bond yields



[1] Malaysian Government Securities (MGS)

Indeed, the increasing influence of the capital markets as a source of financing, especially through the bond market, has certainly enriched the monetary transmission mechanism in Malaysia by expanding the possible transmission channels. As the financial markets develop, the increase in financing via the equity and bond markets means that the transmission of monetary policy impulses via the asset price and expectation channels has become relatively more important. This is in fact an expected stage in the development of any monetary system, whereby the traditional credit and interest rate channels of monetary transmission are complemented by the expectation and asset price channels that work through the capital markets. The more sophisticated financial markets have enabled market participants to not only price risk and return more efficiently, but also to shift asset allocation speedily in markets which have become more liquid. In addition, to the extent that the prices of financial products, such as bond yields, reflect market participants' risk preferences over the near future, an active and efficient capital market helps the central bank in gauging and influencing market expectations. More and more, the ability of the central bank to affect market expectations relies on the efficiency with which financial markets correctly transmit central bank actions into financial asset prices and the effectiveness with which the central bank communicates its message to the financial markets.

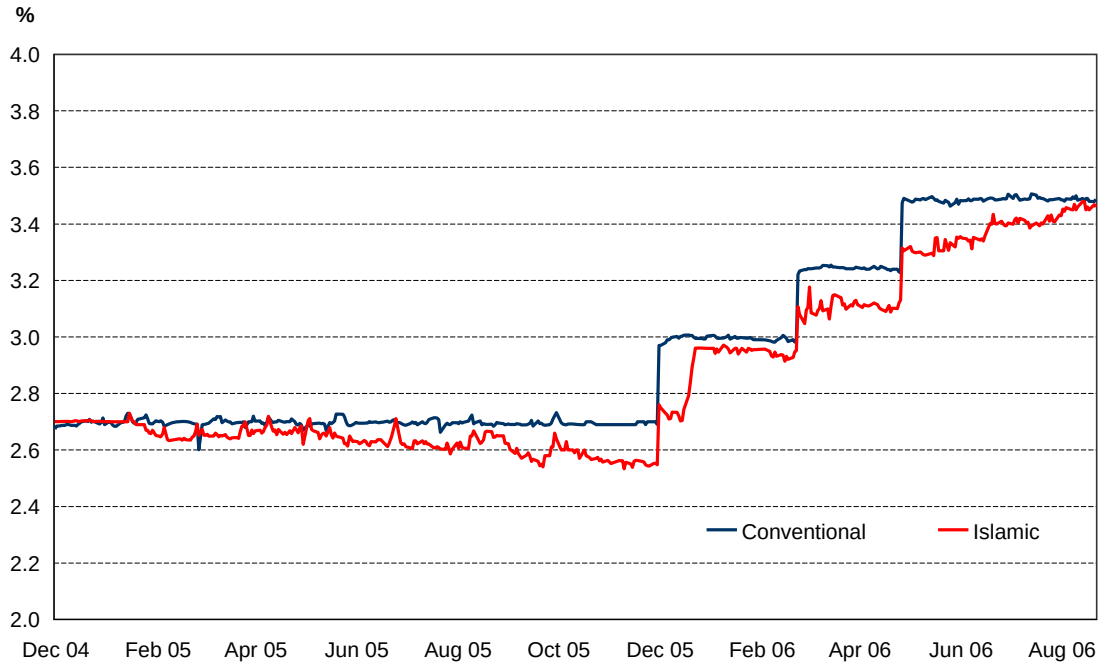
3.3 Emergence of a stronger and more influential Islamic financial system

The greater proportion of existing financing with returns that are not directly linked to changes in the cost of funds suggests that assets structured under Islamic financing would be less sensitive to policy rate changes. As a result, interest rate pass-through could be diluted. With the proportion of Islamic loans as a share of total loans, presently at 10%, expected to increase in the future, the issue would be an area for further study going forward. Nonetheless, in estimating the pass-through from the policy rates to the Islamic money market, BNM estimates suggests that the pass-through is fast and sizeable and consistent with those of conventional estimates (Chart 16). However, the estimates for pass-through from policy rates to Islamic banks' retail rate of returns suffer from a lack of reliable data on the rate of returns (the proxy measure of the average lending rate for conventional banks) for

Islamic loans. As such, the estimates do not show any conclusive evidence on pass-through from policy rates to the Islamic retail rate of returns.

Chart 16

Overnight rates: conventional and Islamic



The significant presence of different methods of determining returns within the Islamic financial system also raises possible issues regarding the transmission of policy rates to market rates. It is possible that Islamic loans may be priced higher or lower than their conventional counterparts depending on their structure and risk profile. Although Islamic deposits are expected to provide a rate of return that is somewhat comparable to conventional deposits, increases in interest rates could result in a lowering of the margins between the rate of return on Islamic loans and the cost of Islamic deposits. While Islamic banks do utilise their profit equalisation reserves, which are built up to smooth the fluctuations in their margins by helping Islamic banks to pay depositors when the rate of return on deposits is rising, the reserves are still capped at 30% of their capital fund.[9] If policy rates continue to increase, the margins will eventually be affected as the reserves are depleted. As a result, to manage this risk, the pricing of Islamic loans could be significantly different than that of their conventional counterparts, although the differential may again be determined by the structure of risk and return sharing, and also constrained by competitive pressures. The implication is that the impact of monetary changes could be magnified or diluted for Islamic financial institutions relative to the conventional financial institutions.

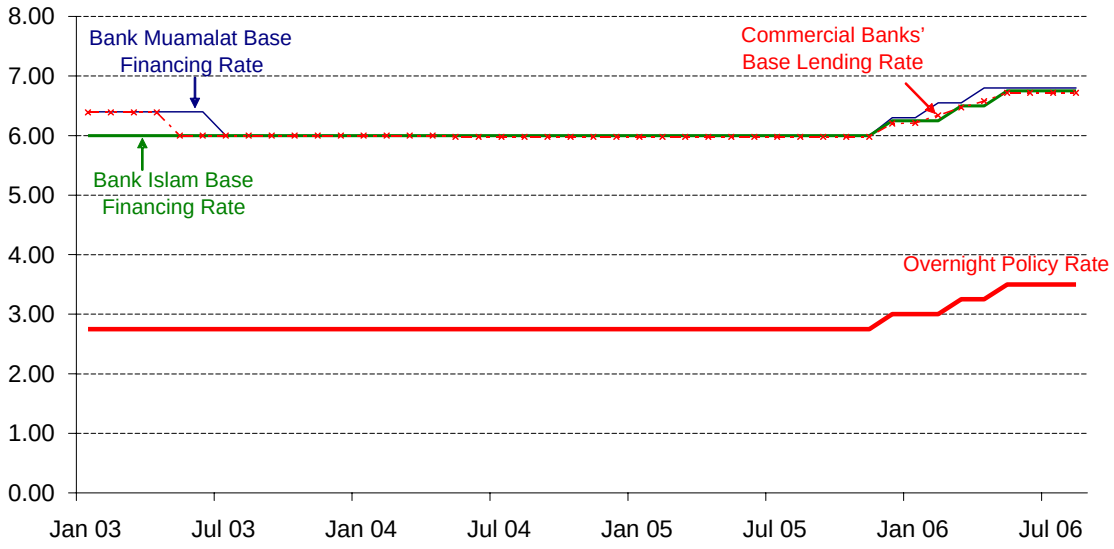
Unfortunately, the absence of reliable data on the structure and sharing of returns on Islamic loans across the banking sector makes it difficult to assess the impact of policy rates with certainty. In Chart 17, the base financing rates (BFRs) of two major Islamic banks do move fairly closely with the BLRs of conventional banks. For a clearer analysis, however, a

[9] The Islamic banking institutions are allowed to make monthly provisions up to 15% of the gross income plus net trading income, other income and irregular income such as recovery of non-performing financing (NPF) and write-back of provisions.

comparison needs to be made of the differential between the cost of new Islamic loans against rates on new conventional loans to determine if Islamic loans are priced higher to compensate for the interest rate risk, particularly in a rising interest rate environment like the one experienced recently.

Chart 17

Islamic & commercial banks prime lending rates



At present, the relatively smaller size of the Islamic banking system has limited its overall significance in the monetary transmission mechanism. However, this will change over time. It is projected that the Islamic banking and takaful industry could represent about 20% of the banking and insurance market share by 2010. Consequently, it is imperative that more research is undertaken to better understand the implications of the Islamic banking system for the speed and magnitude of transmission of monetary policy.

3.4 Increased financing for the SMEs

As shown in Chart 9, almost 87% of SME financing comes from sources other than the banking system. The rest of the funding comes from the informal sector, self-funding, special government funds, and the developmental finance institutions. The differentiated market rates offered to the SME sector, some at below market rates and on fixed terms, may result in a slower transmission of policy rates to this sector. The straightforward implication is that changes in the policy rate do not easily transmit to these rates and therefore do not affect the cost of financing for this class of borrowers. This is true for special funds set up by the government whereby the rates offered on the loans are fixed and mostly set below market rates. For DFIs, their lending rates may differ from the commercial banks' average lending rates not only in terms of the levels, but also in terms of their movements in response to policy rate changes (Chart 10). In part this reflects the different management and capital structure of the DFIs, which influences their cost structure. However, the size of funding from DFIs remains small relative to funds sourced from the banking sector.

SMEs now account for close to one fifth of bank loans and their share is growing rapidly. Moving forward, the bulk of their funding will increasingly be from sources that are directly affected by changes in the policy rate.

3.5 Openness of the Malaysian economy

The standard view on the role of the exchange rate in the transmission mechanism of monetary policy is that the larger the external sector of an economy, the greater would be the role of the exchange rate as a channel of monetary transmission. Nonetheless, many studies of open economies find that the exchange rate does not play as significant a role in transmitting monetary policy as predicted by standard theory. BNM's estimates show that the ratio of the exchange rate channel to the interest rate channel is 1:4 for Malaysia. In other words, the interest rate channel is as much as four times more important than the exchange rate in transmitting monetary policy impulses.

According to the standard theory, changes in monetary policy lead to changes in nominal and real domestic interest rates. These changes affect capital flows and portfolio reallocation and hence lead to changes in the nominal and real exchange rate. In essence, this theory assumes a perfect transmission from real domestic interest rates to the real exchange rate. However, the transmission from domestic real interest rates to the real exchange rate is far from perfect. Changes in domestic real interest rates are not the only factor that drives capital flows and other determinants of the exchange rate. The relative valuation and performance of domestic and foreign equity markets, political developments, trade shocks, inflation expectations and currency speculation are some of the factors that have an impact on the exchange rate. Hence, the dominance of these other factors in more open economies will result in changes in domestic real interest rates having a relatively weaker impact on the real exchange rate, making this channel of less importance in the monetary transmission process despite the large size of the external sector.

The sample correlation[10] between exchange rate and interest rate for Malaysia is rather small (0.09) compared to comparatively closed economies such as the United States (0.27), Australia (0.67) and Japan (0.49).[11] The relatively weak relationship between exchange rates and interest rates indicates, to some extent, that in some cases the connection between monetary policy and the exchange rate is not strong. Despite the economy being very open, the actions taken by the authorities to mitigate the impact of large capital flows and exchange rate changes on the domestic economy affect the impact of external developments on the exchange rate channel.

For countries with a high degree of trade openness, it can be shown that the exchange rate is important in influencing the real economy. Chart 18 depicts the scatter plot of the changes in output due to changes in the exchange rate relative to the changes in output due to changes in the interest rate.[12] With the exception of Japan,[13] it can be deduced that as countries become more open, exchange rate changes relative to interest rate changes have a greater influence on the variation in output. It follows that there exist incentives for authorities to intervene directly in the foreign exchange markets to smoothen the exchange rate, which to some extent may mitigate the impact of changes in monetary policy on the exchange rate. In countries like Malaysia that have a relatively shallow foreign exchange market (Chart 19), it does not take a very large transaction to drive the exchange rate to some level that may not be reflective of and consistent with economic fundamentals.[14] Such

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[10] Apart from the sample correlation, the pass-through from interest rate to exchange rate was also estimated. However, the results are not statistically significant and hence are not reported.

[11] The sample correlations are estimated using data from 1990:Q1–1997:Q2.

[12] Bank Negara Malaysia's estimates using data from 1990:Q1 to 2006:Q1.

[13] The result for Japan is within expectations, as its interest rates were kept relatively stable during the period under review.

[14] An example would be the repatriation of profits and dividends abroad of a large multinational firm operating in Malaysia.

distortions can often last for prolonged periods. In this case, central banks may have to intervene to moderate the impact of such transactions.

Chart 18

Exchange rate changes have a bigger impact on more open economies

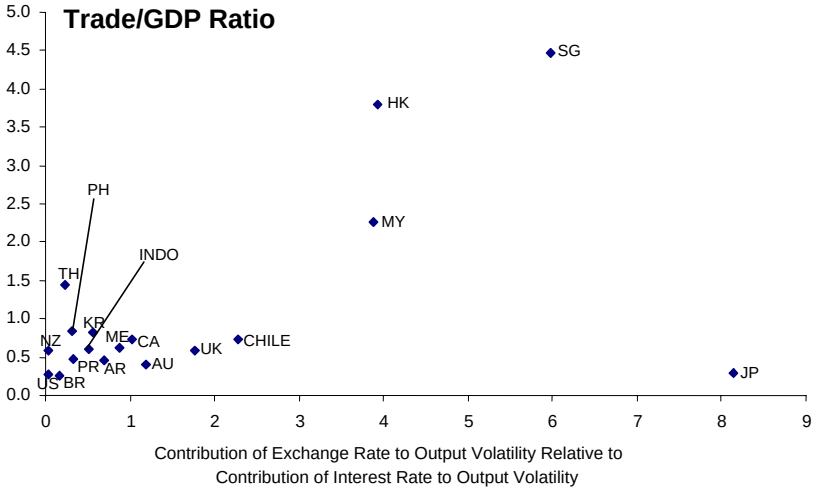
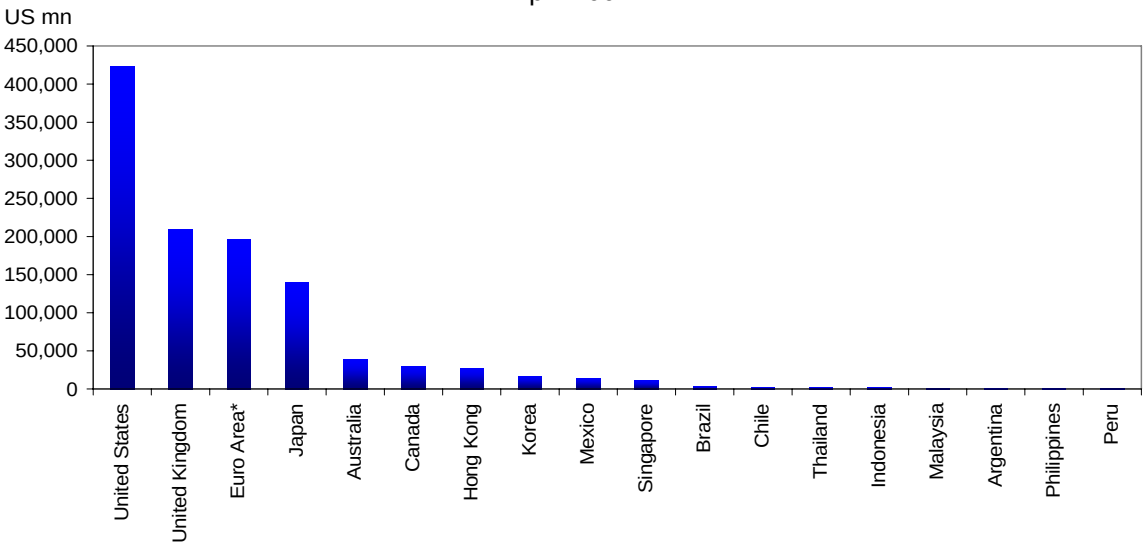


Chart 19

Daily average foreign exchange turnover in selected countries

April 2004



Source: BIS Triennial Central Bank Survey 2004.

Therefore, ***in more open economies the role of the exchange rate as a channel of transmission of monetary policy may not be of the magnitude traditionally postulated by the conventional theory of the monetary transmission mechanism***. This is the outcome of both the impact of other non-monetary factors that influence capital flows and the

exchange rate, and of policymakers' intervention to mitigate large exchange rate volatility, given the significant impact of exchange rate developments in more open economies.

4. Conclusions

The paper highlights some key developments in the Malaysian economy and financial system that could have important implications for the channels and relative magnitude of monetary transmission in Malaysia and, hence, the conduct of monetary policy. These developments include the evolution of a more resilient, efficient and competitive financial system, the development of diversified sources of financing, the emergence of a stronger and more influential Islamic financial system, the increasing importance of financing the SMEs as a major driver of investment and growth as well as the high degree of economic and financial openness of the Malaysian economy.

The results show some mixed evidence on the transmission mechanism:

- Positive developments in the financial sector had permitted Bank Negara Malaysia to move towards a market-based interest rate determination framework, which has helped to increase the level of interest rate pass-through in Malaysia. This in turn has contributed to the increased effectiveness of monetary policy.
- The diversified sources of financing, especially from the capital markets, have not impacted monetary transmission in a significant way. Changes in the policy rate have been effectively transmitted and reflected in the costs of raising new funds from the capital market and in financial asset prices.
- At present, the impact of different structure and returns under the Islamic financial system has not had any discernible impact on the effectiveness of the monetary transmission, with pass-through remaining high from policy rates to Islamic money market rates. However, at this stage we can only conjecture about the impact on retail Islamic rates, due to the paucity of data. However, given the growing importance of the Islamic financial system, the implications for monetary policy deserve careful study.
- For the SMEs, the present financing structure is expected to change moving forward as the SME sector increasingly obtains more of its financing from sources whose costs are directly influenced by the policy rate.
- Finally, for open economies, the exchange rate has an important impact on the economy, but its role as a monetary transmission channel may not be as significant as conventional theory tells us.