# Monitoring shadow banking and its challenges: the Malaysian experience

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## Abstract

The recent global crisis has shown that greater attention needs to be accorded to the role and scope of institutions operating within the shadow banking system in transmitting risks to the financial system. This paper describes the characteristics and size of credit intermediation activities undertaken by non-bank entities within the financial system in Malaysia and outlines the approach undertaken in monitoring the developments and assessing the potential transmission of risk into the system. The paper also describes the challenges faced in identifying and understanding the shadow banking system; obtaining the necessary information and statistics; and assessing the transmission of risks to the rest of the financial system

## 1.0 Introduction

The recent global financial crisis (GFC) in recent years was an eye-opening and defining moment for financial regulators around the world in two ways. First, the GFC has taught us that non-bank financial institutions (NBFIs), which existed in the early nineties to complement the traditional banking system, are a major source of systemic risk to the financial system through its significance as a source of credit and liquidity in the economy or its interconnectedness with the banking system. Second, the GFC shows the failure of regulators and market participants alike to fully understand and appreciate the strength of the amplifying mechanisms particularly those of the shadow banking system that exacerbated business and financial cycles in the financial system (Dudley, 2009).

Learning from the crisis, there have been increased efforts by policy makers around the globe to better understand the shadow banking system and to identify information needs to develop a robust monitoring framework. At the 2010 Seoul Summit, the G20 Leaders called for authorities to put greater focus on shadow banking and requested for the Financial Stability Board (FSB) to be the lead organization, along with other international bodies, in developing recommendations to strengthen the regulation and supervision of the shadow banking system by mid-2011 (FSB, 2011). The FSB has subsequently published a report

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The author wishes to express his gratitude to Zarina Zainal Abidin, Hamim Syahrum Mokhtar, Siti Hanifah Borhan Nordin, Muhamad Shukri Abdul Rani, Jocelyn Lee Kah Seen and Siow Zhen Shing for their assistance and feedback. The views expressed here are solely of the author and do not necessarily reflect the policy or stance of BNM.

with broad recommendations to strengthen the oversight and regulation of shadow banking in October 2011. In addition, other jurisdictions have also started to address the policy issues regarding shadow banking, including Malaysia.

While there have been steps forward, challenges abound to unravel the complexity and gain greater understanding of the shadow banking system. The FSB (2011), in its progress report on shadow banking, sets out with seven broad principles in monitoring the shadow banking system but stresses that the working groups on the shadow banking initiatives are in the process of finalizing the policy recommendations. The international setting body also highlights that the broad principles act as guidance for authorities in monitoring the shadow banking system and they are not exhaustive given the unique characteristics of the system varies across jurisdictions. This diversity has remains as the major challenge for authorities in conducting their surveillance on the shadow banking system.

This paper aims to shed some light towards greater understanding of the size and structure of the shadow banking system and its role in the Malaysian financial system. The paper is structured into four sections. The first section reviews the current literature on the shadow banking system. The second section provides a discussion on the shadow banking system in Malaysia. This includes the operational definition adopted by Bank Negara Malaysia (the central bank of Malaysia, BNM), estimated size of the system according to the definition and a brief overview of the components of the system. Given the structure and focus of the shadow banking system, the third section of the paper discusses an empirical analysis of the growth in financing by NBFIs to the household sector. Next, the paper looks at the current initiatives undertaken BNM in monitoring the developments in and assessing potential risk of the shadow banking system to the overall financial system stability and the challenges faced by BNM in exercising its surveillance routine on the shadow banking system.

## 2.0 Literature Review

### 2.1 Overview of Shadow Banking

The term ‘shadow banking’ was first coined by Paul McCulley in which he defined the system as a ‘levered-up financial intermediary whose liabilities are broadly perceived to be similar in money-goodness and liquidity as conventional bank deposits’ (McCulley, 2008). It is worth to note that the term ‘shadow banking’ does not bring any connotation to it as is the case of ‘shadow economy’. Pozsar et al. (2010) note that the term ‘shadow banking’ is in fact pejorative for such a large and important part of the financial system.

Similar to traditional banking, shadow banking may also be inherently unstable. This instability is particularly evident in the components of the United States (US) financial system, which was instrumental to the propagation of the GFC (Ricks, 2010). The instability of the shadow banking system is mainly attributable to the credit intermediation provided and facilitated by the institutions outside of the regular banking system, which typically rely on short-term funding from the markets (FSB, 2011). McCulley (2009) is among the first to discuss this channel of instability by establishing that shadow banking entities fund themselves with uninsured commercial paper, which may or may not be backstopped by

liquidity lines from banking institutions. He further stresses that the short-term funding may render the shadow banking system vulnerable to runs, especially when commercial paper investors refuse to invest in new papers when their holdings mature, leaving the shadow banking entities with a liquidity crisis. Ultimately, the shadow banking entities are left with two choices to keep the entities afloat; either relying on credit lines from banking institutions or liquidation of assets at fire sale prices or both.

The FSB has also attempted at providing guidance on the definition of a shadow banking system. The shadow banking system, intentionally defined to be rather broad, encompasses 'a system of credit intermediation involving entities and activities in an environment where prudential requirements are not applied or applied to a materially lesser or different degree than those applied to the banking system'. Being the core business of the traditional banking system, participation of shadow banking entities in credit intermediation, which involves maturity, liquidity and credit transformation, can significantly reduce the cost of lending (Pozsar et al., 2010). The reduction of cost of lending via credit intermediation is a contributing factor that explains the significant growth of the shadow banking system in the US prior to the GFC.

The complexity of the shadow banking system warrants authorities to cast their net of macroprudential surveillance wide in order to capture entities or activities involved in credit intermediation outside the regulated banking system. Although it is beneficial for authorities to monitor the shadow banking system from a macroprudential perspective, it may not be necessarily helpful if the authorities are unable to focus on specific activities or components of the shadow banking system that are likely to emit and transmit risks to the financial system. Recognising the complexity, the FSB has urged authorities to narrow their focus on activities that give rise to either or both systemic risk concerns and regulatory arbitrage concerns[2]. Regulatory arbitrage is another contributing factor that drove the growth of shadow banking. Regulatory arbitrage enables less-regulated shadow banking entities to offer financial products at prices that are cost-inefficient if offered by the regulated banking institutions.

Bakk-Simon et al. (2012) of the European Central Bank (ECB) provides an overview of the shadow banking system in the Euro area. The size of the shadow banking system in the Euro area is relatively smaller in comparison to that of the US, representing less than half of the total assets of the banking sector. Key components of the shadow banking system were studied in this paper. Similar to the US, the shadow banking system in Europe is diverse across countries, reflecting differences in legal and regulatory structure. Securitisation issuance is smaller in volume and remains less developed than in the US. Money market funds (MMFs) in the European countries are almost the same size as MMFs in the US although the former is more heterogeneous. Meanwhile, the repo market is a key source of funding in both the US and Europe. The study also highlights the increase in Euro banks' reliance on funding from the financial sector, with the bulk of the financing originate from other financial institutions (OFIs) that includes shadow banking entities. The OFIs are the main driver of the overall increase in banks' leverage before the crisis.

[2] Systemic risk concerns may arise from maturity and liquidity transformation activities, leverage and flawed credit risk transfer between banks and shadow banking entities. Regulatory arbitrage concerns, on the other hand, arise when shadow banking entities engage in activities that are capable of circumventing banking regulations (FSB, 2011).

While there are scores of analytical literature on the role and development of NBFIs in the US before and after the GFC, similar study on NBFIs in Asia is scarce. A study by Shrestha (2007) is among the few that discusses the role of NBFIs in Asia and provides insights on the diversity of the NBFIs in selected South East Asian Central Banks (SEACEN) countries[3]. The study does not deliberate on shadow banking issues as currently debated globally. Instead, it focuses on the developments of NBFIs and their role in the transmission mechanism of monetary policy and financial system. However, no clear distinction between banks and NBFIs is made due to the different approaches adopted in defining the non-bank financial intermediation system across the countries surveyed. The provisions of credit and other financial services to sections of the population that are normally not served by the banks range from 1% to 27% of the countries' financial system. These institutions also facilitate the growth of selected economic sectors, such as real estate and agriculture through the provision of specialised services. Disbursement by NBFIs in South Korea, Malaysia, Singapore and Taiwan has seen a declining trend for the period between 1995 and 2005. In terms of assets, the market share of NBFIs in Brunei Darussalam, Indonesia, South Korea and Nepal have shown positive growth in the last decade prior to 2005 while the share of NBFIs in Malaysia, Philippines, Singapore and Thailand have shown gradual decline. The evidence led the author to conclude that the NBFIs should be promoted formally in the financial system and the oversight imposed on these entities should not lead to diminished capacity of their intermediary functions.

The size of the shadow banking in Asia, in general, is relatively smaller in comparison to the regulated banking sector[4]. Authorised deposit-taking banking institutions remain the major component of the financial system in most economies in the region (see Chart 1 in Annex)[5]. Markets in Asia are also generally less complex. While securitisation has notable presence in a few Asian markets such as Japan, Australia and Malaysia, such activity remains almost non-existent in other Asian economies. Pension funds and insurance companies account for a large portion of assets in the shadow banking system while the remaining components are very much diversified, ranging from traditional lending to fund management. Shadow banking activities in Asia remain predominantly the traditional provision of finance in the form of lending to certain segments of the economy, reflecting the less-complex nature of the shadow banking system in this region.

### 2.2 Data on shadow banking system

Coverage of the shadow banking system is critical to facilitate the understanding of the presence of maturity transformation, leverage and the possible channels for systemic contagion to the overall financial system. The lack of data capture for the shadow banking system also poses challenges for effective formulation of appropriate regulatory measures to contain systemic risk.

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[3] The sample countries include Indonesia, Brunei Darussalam, South Korea, Malaysia, Nepal, Philippines, Singapore, Sri Lanka, Taiwan and Thailand.

[4] Source: various national authorities' websites.

[5] Based on estimates on the size of the shadow banking system in selected Asia-Pacific countries, namely Australia, People's Republic of China, India, Thailand and Japan. See Chart 1 in Annex for details.

In the speech 'Macroprudential Surveillance and Statistical Challenges' delivered by Dr. Andreas Dombret, Member of the Executive Board of the Deutsche Bundesbank, at the Sixth European Central Bank Statistics Conference 2012, two aspects with regard to shadow banking are highlighted that are imperative for macroprudential surveillance exercises. First is the need to put data gap issue at the top of regulators' agenda. In this aspect, shadow banking and insurance are particularly challenging from a statistical point of view. Second is the lack of consensus on the operational definition of the shadow banking system and oftentimes, the classification of the entities is left to the discretion of journalists. This has become a concrete reason for Europe to have its own international business register for shadow banking entities. To address these challenges, Dombret (2012) proposes for central banks to be given the mandate to collect data from both banks and shadow banking entities and for Europe to have its own international business register for shadow banking entities. There has been progress made on these fronts. The ECB is enhancing its act to facilitate comprehensive data capture and establishing inter-agency cooperation with the Bank of International Settlements (BIS) in terms of data collection (Bakk-Simon et. al, 2012).

Shrestha (2007) also highlights the difficulty in obtaining granular data in his study. Furthermore, the data on NBFIs are inconsistent with the data on banking institutions particularly in terms of frequencies, resulting in difficulties in making comparisons between banks and NBFIs.

Given the complexity of the shadow banking system and geo-economic differences in each jurisdiction, there is no standard definition that is applicable across all jurisdictions while the broad definition crafted by the FSB merely acts as a guiding principle. Data availability remains a major challenge, which impedes the effectiveness of surveillance on the shadow banking system (Shrestha, 2007; Dombret, 2012; Bakk-Simon et. al, 2012). Notably, there is little analytical study done on shadow banking in Asia as compared to the growing trend of such study in the US. This paper attempts to contribute to the discussions on understanding the size of the shadow banking system and the challenges faced in monitoring the development of the system.

## 3.0 Overview of the Shadow Banking System in Malaysia

In Malaysia, shadow banking is defined as a 'system of credit intermediation that involves entities and activities outside BNM's regulatory capture'. Based on this definition, the Malaysian shadow banking system comprises non-bank entities that engage in (i) loan origination, (ii) purchase of debt securities, (iii) securitisation, (iv) credit guarantee or enhancement exercises and (v) credit rating or scoring activities (*Chart 2*), which account for approximately 93% of GDP[6].

[6] Size based on the first four shadow banking activities as a percentage of 2011 Gross Domestic Product (GDP).

Similar to the structure of the shadow banking system in Asia, the shadow banking system in Malaysia is relatively less complex and smaller than the banking system. Table 1 indicates the size of NBFIs in Malaysia in comparison with the banking institutions. The data used to measure the size of these entities were obtained through the annual Sources and Uses of Funds survey undertaken by BNM, which has been the central bank's approach in monitoring NBFIs since the early 1990s. The market share of assets held by NBFIs has shown gradual increment in the past decade, with 27% of total assets in the financial system in 2000, rising to 28% in 2010. Unit trust funds recorded the highest growth at 14.8% in the observed period, indicating an increase in wealth accumulation activities by the household sector. The gradual growth of the Malaysian shadow banking system reflects the increase in the complementary role assumed by NBFIs in deepening the Malaysian financial system. On the other hand, banks' assets market share remains above 50% every year, reflecting the position of the banking institutions as the backbone of the Malaysian financial system. In addition, credit intermediated by banks accounted for 61% of total credit intermediated in 2011 while the remaining was dispersed among various NBFIs[7]. The following summarises the key observations of the main components of the shadow banking system in Malaysia, which include (i) provident and pension funds, (ii) unit trust funds, (iii) securitisation activities and (iv) other non-bank credit providers.

Table 1: Assets of Banks and NBFIs in Malaysia

| Institutions | 2000 (RM billion) | Share (%) | 2005 (RM billion) | Share (%) | 2010 (RM billion) | Share (%) | CAGR[3] |
|---|---|---|---|---|---|---|---|
| Banks | 699.5 | 63.8 | 958.5 | 59.2 | 1,549.8 | 58.5 | 8.3 |
| NBFIs | 301.0 | 27.0 | 456.4 | 28.2 | 735.1 | 27.7 | 10.2 |
| *Unit Trust Funds* | *32.6* | *2.9* | *57.5* | *3.5* | *130.1* | *4.9* | *14.8* |
| *Co-operative Societies* | *12.3* | *1.1* | *34.5* | *2.1* | *15.1* | *0.6* | *2.1* |
| *Provident and Pension Funds* | *216.9* | *19.5* | *319.4* | *19.7* | *548.3* | *20.7* | *9.7* |
| *Other NBFIs[1]* | *39.1* | *3.5* | *45.0* | *2.8* | *41.6* | *1.6* | *0.6* |
| Total Assets of Financial System[2] | 1,114.3 | 100.0 | 1,618.5 | 100.0 | 2,650.7 | 100.0 | 9.0 |

*Source: BNM*

*Note:*

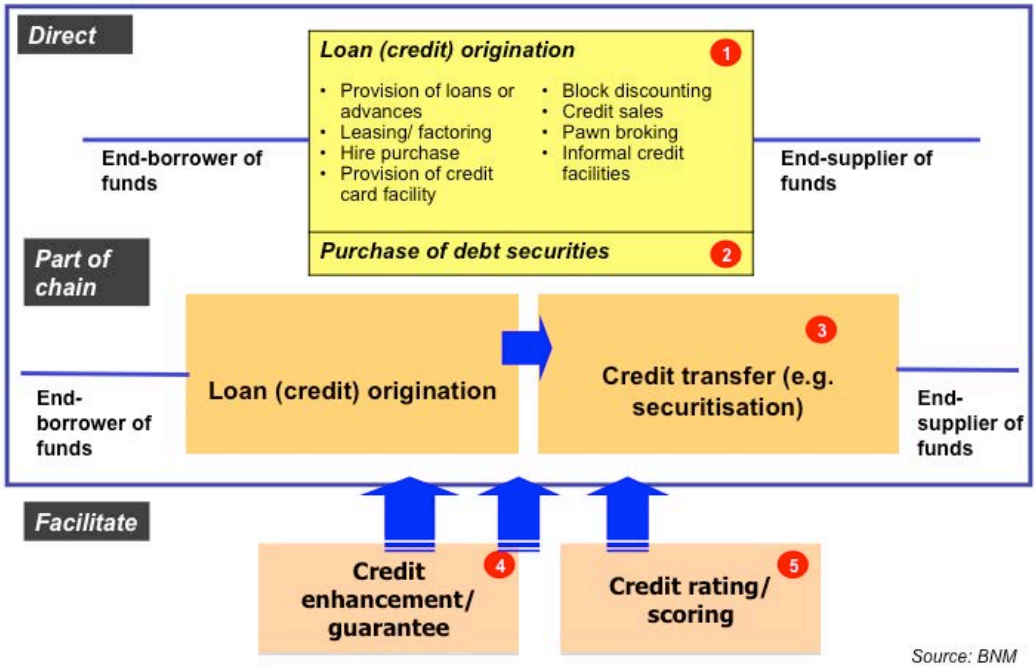
*[1] Other NBFIs comprise leasing companies, factoring companies, Cagamas, and major non-bank credit providers*

*[2] Total assets of the Malaysian financial system include assets of banks, insurance, development financial institutions (DFIs) and NBFIs*

*[3] Compounded annual growth rate, 2000-2010*

[7] See BNM's *Financial Stability and Payment Systems Report 2011, White Box Article: Non-bank Intermediaries in Malaysia.*

**Chart 2: Credit intermediation by non-banks in Malaysia**

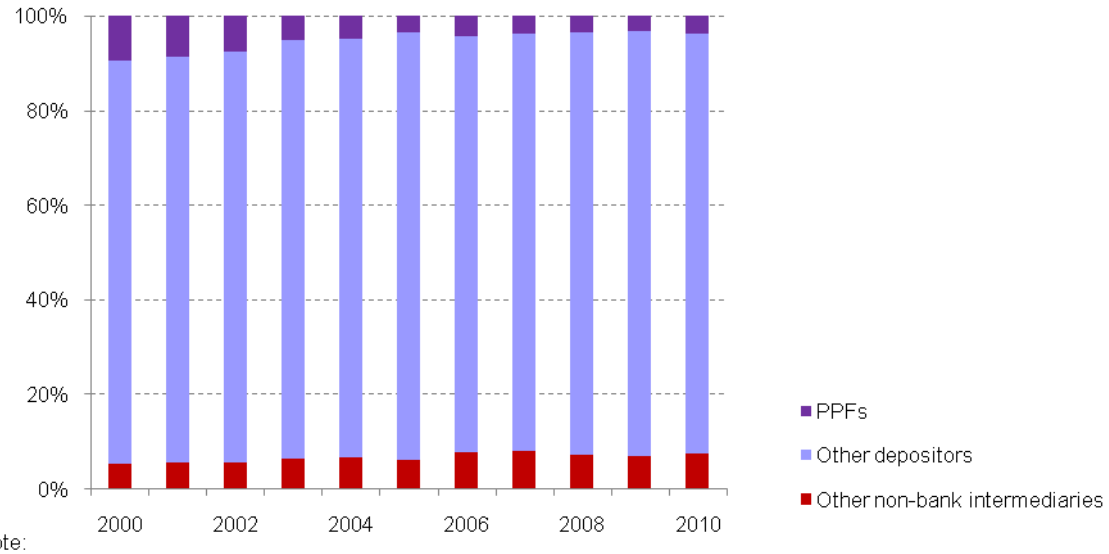



Source: BNM

### 3.1 Provident and pension funds

Provident and pension funds (PPFs) are the largest component of the Malaysian shadow banking system, accounting for 41% of total assets of NBFIs in Malaysia and 18% of total financial system assets as at end-2010. PPFs in Malaysia are a major provider of liquidity in the financial system, particularly to the banking institutions through their deposit placements. Despite the continuous growth of deposits in the banking system, Chart 3 shows that the deposits by PPFs started to moderate on the brink of the GFC in 2006 while the deposits by other NBFIs only began to grow at a slower pace during the crisis.

**Chart 3: Deposits with banks**




Note:
i) Other depositors include banking institutions, individuals and corporate

ii) Other non-bank intermediaries include unit trust funds, DFIs, co-operative societies, leasing and factoring companies, credit companies and securitsation company

*Source: BNM, author's estimate*

A simple regression analysis was conducted to determine whether a mass withdrawal of deposits by NBFIs and PPFs in particular have significant impact on the liquidity in the banking system. Chart 3 suggests that the impact will be minimal if such a situation occurs. There is also a concern that the deposit withdrawal by NBFIs would affect the liquidity standards under the Basel III requirement[8]. In particular, deposits by PPFs, which are made up mainly of households' contributions, would be subjected to severe withdrawal assumptions (or 'run-off' rates) under the new liquidity standard. The assumptions, however, do not take into consideration the underlying liquidity risk profile of the NBFIs' deposits. To assess the validity of these assumptions, a simple regression of the total deposits against its components was estimated. The following OLS was estimated:

$$log(TotalDep)_t = c + \beta_1 log(DepBank\&DFI)_t + \beta_2 log(DepIns)_t + \beta_3 log(DepPPF)_t + \beta_4 log(DepTrust)_t + \beta_5 log(DepCoop)_t + \beta_6 log(DepOtherNBFI)_t + \beta_7 log(DepHH\&Corp)_t + \beta_8 log(GDP)_t + \varepsilon_t, \quad \varepsilon_t \sim N(0,1)$$

Where $log(TotalDep)_t$ = log of total deposits in the banking system

$c$ = constant

$\beta_1 log(DepBank\&DFI)_t$ = log of deposits by banks and DFIs

$\beta_2 log(DepIns)_t$ = log of deposits by insurance companies

[8] See *"Basel III: International framework for liquidity risk measurement, standards and monitoring".* (BIS, 2010)

| | | |
|---|---|---|
| $\beta_3 log(DepPPF)_t$ | = | log of deposits by PPFs |
| $\beta_4 log(DepTrust)_t$ | = | log of deposits by unit trust funds |
| $\beta_5 log(DepCoop)_t$ | = | log of deposits by co-operative societies |
| $\beta_6 log(DepOtherNBFI)_t$ | = | log of deposits by other NBFIs |
| $\beta_7 log(DepHH\&Corp)_t$ | = | log of deposits by households and corporations |
| $\beta_8 log(GDP)_t$ | = | log of nominal GDP |
| $\varepsilon_t$ | = | error term |

The result of the OLS in Table 2 provides suggestive evidence that deposits by NBFIs do not explain the movement of total deposits in the banking system over time as compared to deposits by the households, corporate sectors, banks and DFIs. This suggests that an extremely large withdrawal by the PPFs may not pose a significant concern to the banks when the new liquidity requirements under Basel III take effect.

Table 2: OLS for Deposits by Banks and NBFIs in the Banking System

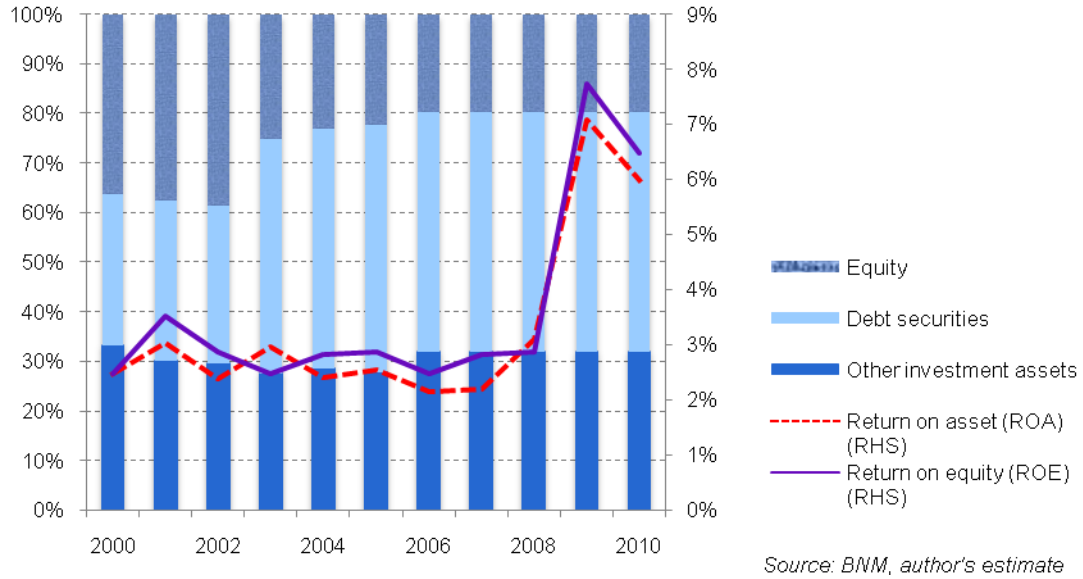
| Explanatory Variables | t-Statistic |
|---|---|
| Log of deposits by banks and DFI | 3.2258* |
| | *(0.2424)* |
| Log of deposits by insurance companies | 0.5867 |
| | *(0.3004)* |
| Log of deposits by PPF | 1.5395 |
| | *(0.0481)* |
| Log of deposits by unit trust funds | 1.4988 |
| | *(0.0305)* |
| Log of deposits by co-operative societies | 0.6207 |
| | *(0.0041)* |
| Log of deposits by other NBFIs | 0.4083 |
| | *(0.0026)* |
| Log of deposits by households and corporation | 5.0512* |
| | *(0.5271)* |
| Log of nominal GDP | 0.0629 |
| | *(0.0042)* |
| Adjusted R-squared | 0.8966 |
| Durbin-Watson statistic | 1.3349 |
| Number of observations | 12 |

*Notes: (1) Figures inside parenthesis are the coefficients of the corresponding statistic*

*(2) * Significant at 5% level of significance*

PPFs also play a significant role in providing liquidity in the domestic capital and bond markets with the Employee Provident Fund (EPF) and Retirement Fund Incorporation (KWAP) being the most significant players. The asset composition of PPFs has been stable over time since 2003, with investments in debt securities accounted for more than 40% of total assets on average, followed by equity holdings at 16% on average (Chart 4). This is in line with one of the main objectives of PPFs, which is to generate sustainable income in the long run.

**Chart 4: PPF asset composition**

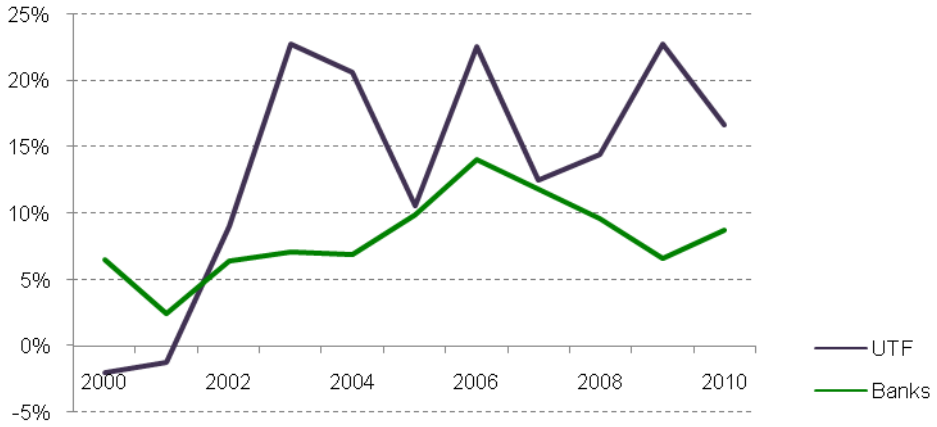



*Source: BNM, author's estimate*

### 3.2 Unit trust funds

The unit trust funds (UTFs) industry in Malaysia has grown significantly over the years (Chart 5). This growth was attributed to several factors including the role of the UTFs as an avenue for household to accumulate wealth, the generally high savings level in Malaysia and the introduction of a scheme by the EPF, which allows members to withdraw their funds to invest in UTFs. It is also worth to note that UTFs in Malaysia are not akin to MMFs in the US although both funds are subsets of mutual funds. MMFs are usually funds that invest in high quality and low duration fixed income instruments such as commercial paper and the US Treasury Bill, which are not prevalent in Malaysia. Therefore, UTFs do not transmit the same kind of shocks to the financial system as the MMFs in the US.

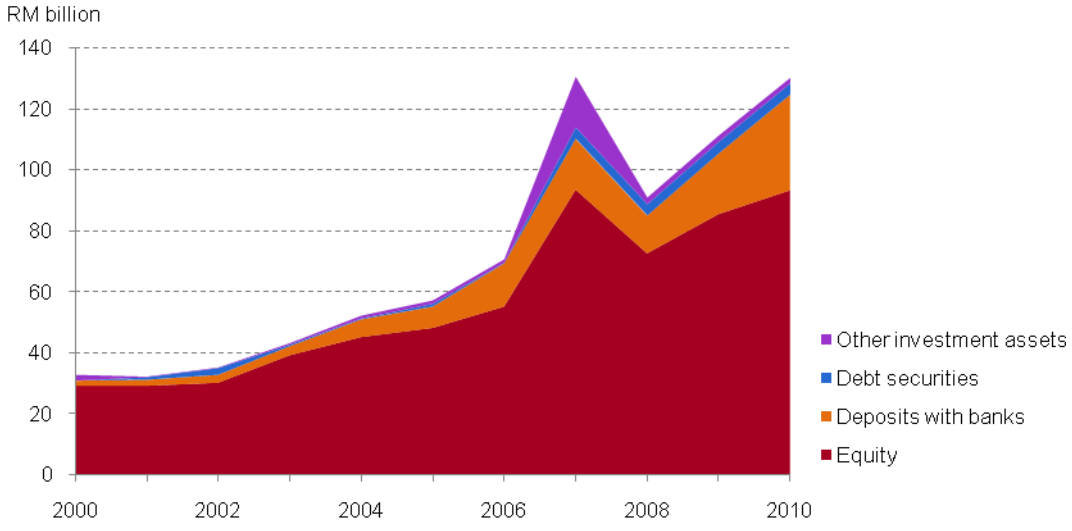
**Chart 5: Asset Growth of UTFs *vs.* Banks**




*Source: BNM, author's estimate*

UTFs in Malaysia are heterogeneous, comprising variable and fixed net asset value (NAV) funds. Unlike UTFs, MMFs in the US are homogenous where these funds are required to maintain a fixed NAV at USD1 akin to bank deposits. UTFs in Malaysia are also a major provider of liquidity to the financial system through their deposit placements in the banking system and significant holdings of securities in the capital market. Chart 6 shows that the investment assets of UTFs in Malaysia peaked at the beginning of the GFC and fell sharply in the following year at the height of the crisis. The decline in asset value was due to the decline in asset prices amidst global market volatility. Nevertheless, the impact of the crisis on Malaysian UTFs was short-lived as investments regained momentum in 2009.

**Chart 6: Asset Composition of UTFs**




*Source: BNM, author's estimate*

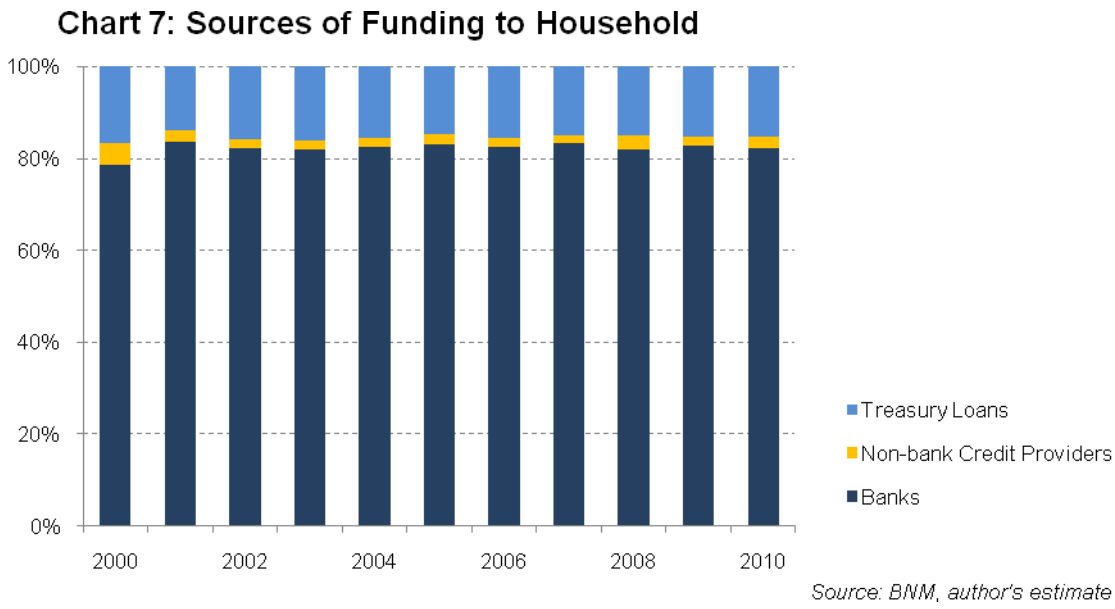
### 3.3 Securitisation activities

The progressiveness of the Malaysian financial markets over time has spurred innovations for sophisticated instruments such as asset securitisation to meet growing financing needs. While Malaysia is among the few countries in Asia that has some presence of securitisation activities, mainly due to the government's concerted efforts in transforming Malaysia from an unknown bond market to the largest bond market in South East Asia over the past two decades, asset securitisation only accounts for a small share of credit intermediation by NBFIs. The low reliance on securitisation in Malaysia, given the ample liquidity environment and well-capitalised banking system, resulted in securitisation activities to continue to remain small. Cagamas MBS Berhad, a subsidiary of the national mortgage corporation Cagamas Berhad[9], is the major issuer of asset-backed securities (ABS) in Malaysia. The ABS issued by Cagamas MBS Berhad is currently backed by the Treasury housing loans, which makes it safer than privately issued ABS. The Treasury housing loans are provided only to Government employees and are based on repayment at source (i.e. monthly salary deduction).

### 3.4 Other non-bank credit providers

Within the Malaysian shadow banking system, other non-bank credit providers account for a sizeable share of credit extension to households. These credit providers include credit co-operative societies, building societies, money lenders, pawnbrokers, factoring and leasing companies. These 'shadow' credit providers exist mainly to serve certain sections of the population. Generally, this segment of population comprises borrowers in the middle- and lower-income groups who usually reach for non-bank credit providers for personal financing or to finance their small businesses. These institutions continue to be the major provider of personal financing to households, which collectively accounts for approximately 60% of outstanding personal financing to household in 2011 (BNM, 2011). However, in terms of financing to the household sector, which include personal financing, property financing and credit cards, the market share of non-bank credit providers remains small as compared to the market share of financing extended by banks, accounting for approximately 2% of total financing extended to household (Chart 7).

[9] Cagamas is majority-owned by banks while BNM has a representative sitting on its Board. More information on Cagamas can be found at http://www.cagamas.com.my




Another salient feature of shadow banking in Malaysia is most activities and entities are subject to certain oversight by various authorities. This shows the stark contrast between the shadow banking system and shadow economy whereby the latter operates as a channel for 'underground' transactions beyond the parameter of the formal markets established by jurisdictions, which is not necessarily the case for shadow banking especially in Malaysia. UTFs, securitisation entities, as well as credit rating agencies are subject to oversight by the Securities Commission Malaysia (SC). PPFs such as EPF and KWAP, meanwhile, are governed by their specific legislations and monitored by the Ministry of Finance while private pension funds, which are relatively new in Malaysia, are under the oversight of the SC. The Malaysia Co-operative Societies Commission is the authority responsible for the progress of the co-operative societies' movements in Malaysia.

## 4.0 Empirical Analysis on Financing by Non-bank Credit Providers

Shadow banking entities in Malaysia complement the banking system through provision of financial services to specific segments in the economy. In some Asian countries including Malaysia, the emergence of these non-bank credit providers and shadow banking entities in general is the outcome of deliberate policies by the government of the respective country to serve the financial and other supportive needs of specific sectors of the economy (Shrestha, 2007). Non-bank credit providers in Malaysia, which include co-operative societies, building societies and other institutions, are the key providers of personal financing (BNM, 2011). However, in terms total financing to households, banks remain the major provider of credit followed by the Treasury particular for financing the purchase of properties and cars.

Recognising the increasing role of non-bank credit providers in providing credit to households over time, this section of the paper attempts to study further the factors that contribute towards the financing behaviour of these institutions.

### 4.1 Empirical Background on Financing by Non-bank Financial Institutions

Carmichael & Pomerleano (2002) examine the factors that drive the growth of NBFIs in both developed and emerging markets. In developed markets, the growth of NBFIs is mainly driven by the benefits that accrue to specialisation while in the emerging markets, they often play a broader role in deepening financial markets and overcoming legal and regulatory shortcomings. However, the recent financial crisis has shown that regulatory arbitrage has been the main factor that drives the growth of NBFIs in developed markets (Pozsar et al., 2010). Lax, ineffective or non-existent financial regulation may lead to excessive risk taking by both financial institutions and investors (Liang & Reichert, 2012). Acharya et al. (2011) and Plantin (2012) argue that many shadow-banking arrangements preceding the recent financial crisis aim at bypassing bank capital requirements, thereby achieving a higher leverage than that permitted by prudential regulation.

The main competitors for banks and insurance companies in the real estate markets have been specialised NBFIs, such as savings and loans associations, mortgage banks and credit societies. In their study, Carmichael & Pomerleano (2002) find that the dominant factor behind the overall growth of the real estate finance market has been demographic patterns. The demand for new residential housing follows the growth of population and wealth of which are accompanied by an increase in urbanisation and housing investment.

Regulatory arbitrage also contributes significantly to the level of competition in the real estate markets. Carmichael & Pomerleano (2002) cite heavily the experience in Australia, which shows that finance companies and building societies are competing against banks and insurance companies in providing mortgage lending. The effect of differing regulatory framework on the behaviour of these financial entities was more pronounced in the 1970s where bank lending rates were capped and inflation was rising sharply. In this environment, Carmichael & Pomerleano (2002) note that NBFIs' specialising in real estate financing found it attractive to bid away depositors from banks and offer mortgages at unregulated interest rates, which had won them the largest market share in residential housing lending. The evidence led Carmichael & Pomerleano (2002) to conclude that the growth of NBFIs that is driven by regulatory arbitrage is potentially dangerous for systemic stability and costly in terms of financial failure.

Endut & Toh (2009) drew attention to the role of non-bank credit lenders in Malaysia in the provision of credit to the household sector. Non-bank credit providers such as DFIs have grown in prominence in the provision of credit to this segment of the economy. Nonetheless, the banking system, with its extensive branch network and increasingly flexible financing packages, remains the largest provider of household credit in Malaysia. The banking system acts as the main mobiliser of funds in the Malaysian economy and has been able to meet the increasing demand for credit arising from the growth in household asset accumulation. In the provision of credit to household, Endut & Toh (2009) identified macroeconomic stability, financial sector development and government policies as important in influencing the supply and demand of mortgages and other household credit. Sustained economic growth in Malaysia for the period between 2000 and 2007 has raised household incomes and boosted consumer confidence, which in turn, has induced optimistic expectations of future income. Low inflation rate and low interest rate environment have helped to reduce the cost of borrowing, which have increased the incentive for household to borrow. The emergence of a more diversified and competitive banking system has resulted in downward pressure on interest rates, expanded credit coverage and increased loan amounts. Meanwhile, the existence of Cagamas, which purchases mortgage loans from originators such as banks and

other financial institutions, have helped the Government to promote home ownership among households.

Recent developments have shown that nonbank lenders continue to grow despite the persistent economic turbulence, as well as the role these entities have played in the propagation of risks in the recent GFC. In Australia, nonbank lenders remain a major provider of housing loans with their share in the refinancing market increasing from 21% to 28% by the end of 2011 (Australian Associated Press, January 2012). Low interest rate environment, a ban on loan exit fees and demographic factor were cited to be the drivers of the growth of nonbank lenders (Australian Associated Press, January 2012; The Sydney Morning Herald, June 2012). Meanwhile, nonbank lenders in the US are trying to solidify their presence in the mortgage market, which was adversely affected by the recent financial crisis, through lobbying to policymakers and offering loans with attractive rates to middle income earners (New York Times, March 2012). In the United Kingdom (UK), stricter credit underwriting by banks and government supportive policy have created a new push for alternative financing such as peer-to-peer financing and asset leasing for small and medium enterprises (SMEs), as well as financing from community finance institutions (Financial Times, April 2012).

### 4.2 Methodology

To explain the lending behaviour of NBFIs to the household sector, this paper uses a simple regression analysis on the determinants that have been identified in the literature as follows:

- The growth rate of financing to households by non-bank credit lenders[10]
- The inverse of the growth rate of total financing approved by banks
- The growth rate of nominal GDP

Data availability remains the biggest challenge in conducting empirical research on non-bank credit providers in Malaysia. Data collection is done on an annual basis hence only annual data are available. This has restricted the period coverage of this study to 2001 2010.

Variables that can be used to explain the financing disbursement include the average return on assets (ROA), average cost-income ratio and average capital ratio over estimation period to measure the growth in assets as applied in other studies (Barron et al., 1994). However, data limitation impedes the use of such variables. Consequently, in this study, the growth rate of financing to households indicates the trend of financing disbursement by non-bank credit providers in Malaysia over the years. As reflected in Chart 7 in the previous section, the disbursements of financing to households by non-bank credit lenders have seen moderate growth for the past decade and account for approximately 2% of total household indebtedness.

[10] A sample was taken from major non-bank credit providers that include credit co-operative societies, building societies, finance companies and hire purchase credit providers.

The growth rate of nominal GDP is the only macroeconomic variable used, which hypothetically may explain broadly the financing behaviour of both banks and non-bank credit providers. The growth rate of financing approved by banks is expected to have an inverse relationship with the non-bank credit providers' financing behaviour.

An OLS was estimated:

$$\widetilde{Nonbank}L_t = c + \beta_1 \widetilde{InvApprv}_t + \beta_2 \widetilde{GDP}_t + \varepsilon_t, \qquad \varepsilon_t \sim N(0,1)$$

Where $\widetilde{Nonbank}L_t$ = the growth rate of financing to households by non-bank credit lenders

$c$ = constant

$\beta_1 InvApprv_t$ = the inverse of the growth rate of total financing approved by banks

$\beta_2 GDP_t$ = the growth rate of nominal GDP

$\varepsilon_t$ = error term

### 4.3 Results

The result of the OLS in Table 3 suggests that the growth of nominal GDP explains the financing disbursement to the household sector by non-bank credit providers. An increase in GDP growth may translate into higher financing to the household sector by the credit providers. Meanwhile, the coefficient on the growth rate of financing approved by banks carries the expected sign but not statistically significant, suggesting that there is a possibility for non-bank credit providers to take up banks' market share in financing to households although it is unlikely to materialise at present.

Table 3: OLS for Financing to Household Sector by Non-bank Credit Providers

| Explanatory Variables | t-Statistic |
|---|---|
| Inverse of growth rate of total financing approved by banks | 0.4449 |
| | *(0.0109)* |
| Growth rate of nominal GDP | 2.4092* |
| | *(4.5378)* |
| Adjusted R-squared | 0.3048 |
| Durbin-Watson statistic | 1.7550 |
| Number of observations | 10 |

*Notes: (1) Figures inside parenthesis are the coefficients of the corresponding statistic*

*(2) * Significant at 5% level of significance*

While the result may not be statistically robust given the data limitation, it provides an indicative picture of lending behaviour of non-bank credit providers over time. Short time series data availability has also limited the possibility of identifying determinants of the lending behaviour of non-bank credit providers. This study lends support to the need for better data capture on the shadow banking system and gives credence to the current initiatives undertaken by BNM in enhancing further its surveillance framework including improving the data capture on the activities and entities of the shadow banking system in Malaysia that may give rise to systemic risk to financial system stability. The initiatives are discussed in the next section.

## 5.0 Surveillance framework of the shadow banking system in Malaysia

### 5.1 Surveillance framework

The regulation of shadow banking should not be skewed towards limiting the size of the shadow banking per se[11] because shadow banking, as discussed earlier, is the other component that completes the overall financial system. Regulation also should not be static or uniformed across all jurisdictions as there is no unique way to monitor the ever-evolving shadow banking system. Realising this challenge, the FSB has proposed seven high-level principles in developing an effective monitoring framework and stylised steps on monitoring the shadow banking system (Table 4).

[11] See for example Schwarcz (2012).

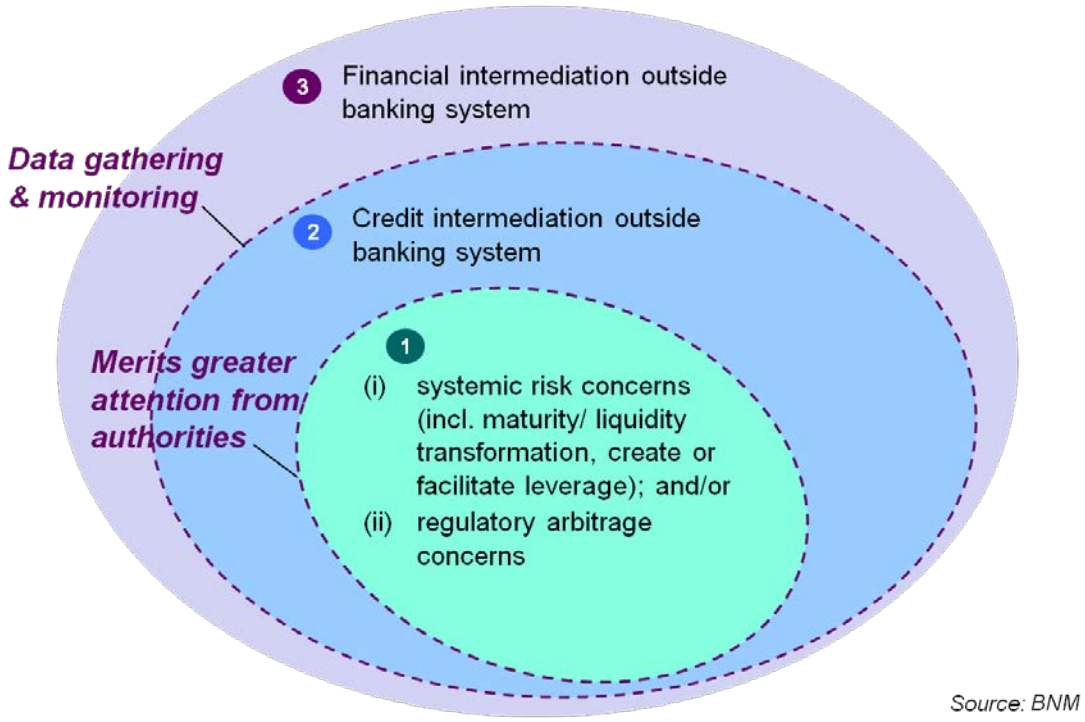
Table 4: Proposed Monitoring Framework of the Shadow Banking System

| High Level Principles | Stylised Steps to Strengthen Monitoring |
|---|---|
| Authorities should cast their surveillance net wide and have and appropriate system-wide oversight in place. | Scanning and mapping the overall shadow banking system |
| Identification and assessment of risk emanating from shadow banking should be conducted on a regular basis | Narrowing focus to aspects that pose systemic risk or arbitrage concerns |
| Authorities should have the power to collect all necessary data and information | Conduct detail assessment on those identified aspects |
| Monitoring framework should be flexible, adaptable and forward-looking | |
| Authorities need to be mindful of possible avenues for regulatory arbitrage | |
| The monitoring framework must take into consideration the structure of the financial system, current regulatory frameworks and international practices | |
| Authorities are advised to exchange appropriate information within and across relevant jurisdictions on a regular basis | |

*Source: FSB (2011)*

Surveillance framework for shadow banking in Malaysia was developed based on the FSB's approach with necessary adjustments according to the local shadow banking system. Chart 8 illustrates the current surveillance framework undertaken by BNM.

## Chart 8: Surveillance framework for shadow banking




*Source: BNM*

Entities that meet the definition of shadow banking are grouped based on their activities. Circle 1 contains entities that raise potential systemic risk concerns through their high level of interconnectedness with the banking system, which includes, inter alia, banks' funding exposures to the shadow banking entities, deposit placement with banks and ownership of financial institutions, apart from maturity and liquidity transformation activities. These entities also possess sizeable balance sheet in general that raises substitutability concerns. Moreover, several of them have the financial muscle to move the markets via their substantial participation in capital and money markets. Lack of substitution and high inter-linkages with banks are among the factors that make these entities systemically important that warrant greater surveillance from authorities.

Circle 2 encompasses entities that are involved in the extension of credit, either directly or as part of the credit intermediation chain. Most NBFIs are grouped in this circle, making it an integral part of the monitoring framework. Meanwhile, Circle 3 encompasses entities that do not fall under the shadow banking definition yet facilitate the flow of capital between end-supplier and end-user of funds, which is part of the financial intermediation chain at large. Examples of entities that fall under this category are institutional investors that provide equity funding and investment venture capital that may facilitate the conduct of credit intermediation process.

In operationalising this framework, BNM is empowered by the Central Bank of Malaysia Act 2009 to collect appropriate data from shadow banking entities outside BNM's regulatory perimeter. The current monitoring framework is tailored to each circle based on the entities' potential systemic risk to the financial system. Table 5 summarises the enhanced types of information requested according to the entities' risk profile.

Table 5[12]: Types of Information based on Risk Profile

| Information Required/Risk Profile | Types of Information |
|---|---|
| Information to facilitate assessment on financial inter-linkages and market risk position | • Asset allocation at cost and market value, and in local and foreign currencies<br>• Asset concentration in particular industry<br>• Derivatives position and other off-balance sheet data<br>• Exposure to repurchase agreement (repo) market<br>• Borrowings from banks or other financial institutions<br>• Credit exposure via financing granted and investment in private debt securities (PDS)<br>• Analysis on the profile and concentration of contributors of fund |
| Information on liquidity risk position | • Maturity profile of assets and liabilities<br>• Asset-liability mismatch analysis<br>• Value of proportion of liquid assets held<br>• Cash reserves<br>• Cash flow position<br>• Key components of income and expenditure |

*Source: BNM*

The submission frequency differs for each circle. The current monitoring framework undertaken by BNM is summarised as follows:

1. Non-bank SIFIs in Circle 1 require more intensive monitoring. This is done via quarterly submission of information and data. These entities also have the possibility of future regulation by BNM should their activities pose greater systemic risks to the financial system and the wider economy.
2. The monitoring approach for entities in Circle 2 is conducted through annual submission of required data and information. Nonetheless, the frequency of data submission of an entity will be increased to quarterly should there is a necessity to do so based on the risk assessment of that particular entity.
3. For entities in the third circle that do not meet the shadow banking criteria, surveillance is done via annual submission of data and information.

The seventh broad principle for developing an effective monitoring framework requires authorities to exchange appropriate data and information within and across jurisdictions. While cooperation among regulators in Malaysia has always been present, BNM has embarked on several initiatives to enhance its monitoring framework through strengthened

[12] The list of information requested is non-exhaustive and will be reviewed periodically.

inter-agency cooperation and information exchange arrangements. These include the ongoing enhancements to the Memorandum of Understanding (MoU) with the Securities Commission Malaysia and the establishment of a MoU with the Malaysia Co-operative Societies Commission, which is currently in progress.

### 5.2 Monitoring challenges

One of the key challenges faced is lack of granular and quality information for risk assessment. As discussed earlier, most shadow banking entities in Malaysia are subjected to some form of oversight by various authorities. Nevertheless, there are also entities that remain outside any regulatory perimeter and hence, are not subjected to any form of statistical reporting; implying lack of transparency. Furthermore, lack of transparency in disclosing data and limited publicly available information about the balance sheet activities hamper the understanding of the shadow banking entities, which eventually complicate the assessment of risk and inter-linkages of shadow banking entities with the financial system.

The integrity of information collected from the shadow banking entities also remains an integral issue that warrants attention and immediate action. The concept of information integrity focuses primarily on the reliability of the information, which also plays a central role in information relevance and usability (Boritz, 2004). One of the attributes of information integrity is the granularity of the data. These complications arise from two ends, namely the end-provider of information (i.e shadow banking entities) and the end-user of information (i.e authorities). Authorities are currently plagued by the problem of having an unclear picture of the shadow banking inter-institutional exposures with the financial system and the probability of cascading collapse from the former to the latter, which in turn compromise the quality and integrity of information collected. This is probably due to either authorities lack appreciation of how the shadow banking system really works or the limited dimensions in data collection. Lack of information transparency and reluctance in disclosing data by NBFIs remain the major contributing factors to the small dimensions in data collection.

Another interesting yet challenging area that this paper wishes to highlight is the difficulty in finding the common financial soundness indicators for shadow banking entities and activities. The difficulty arises from the varied nature of the shadow banking system. As discussed in the previous section of this paper, shadow banking entities in Malaysia are clustered in three different circles. Although the circles indicate clearly the traits of entities that are grouped into them, there are still rooms for improvements in the current framework relating to statistical gauges that are specific to each circle. Currently, there are no specific systemic risk determinants that may explain the inter-circle movement among the shadow banking entities.

## Conclusion

The shadow banking system can be defined as a system comprising NBFIs that undertake or facilitate credit intermediation process. In Malaysia, the current approach in defining the shadow banking defines the system as a ‘system of credit intermediation that involves entities and activities beyond the regulatory parameter of BNM’. Similar to their counterparts in Asia, NBFIs in Malaysia play a complementary role in providing access to financing to

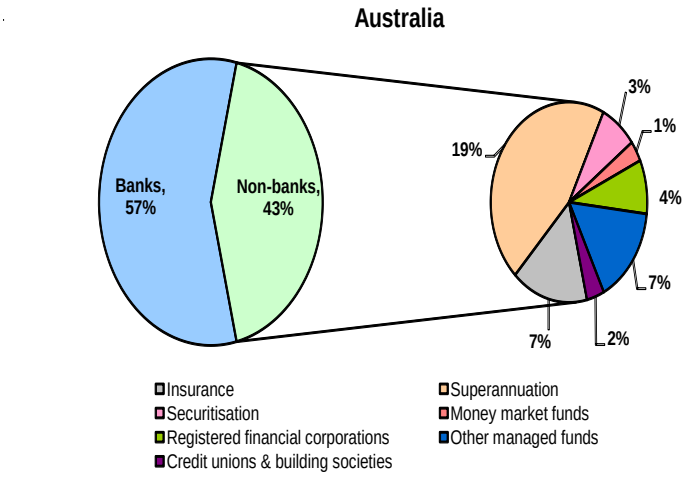
niche segments in the economy that are usually unable to get the same access from the banking institutions. These entities are interconnected with the banking system through several channels such as deposit placements and borrowings, which make them a potential source of systemic risk to the financial system stability.

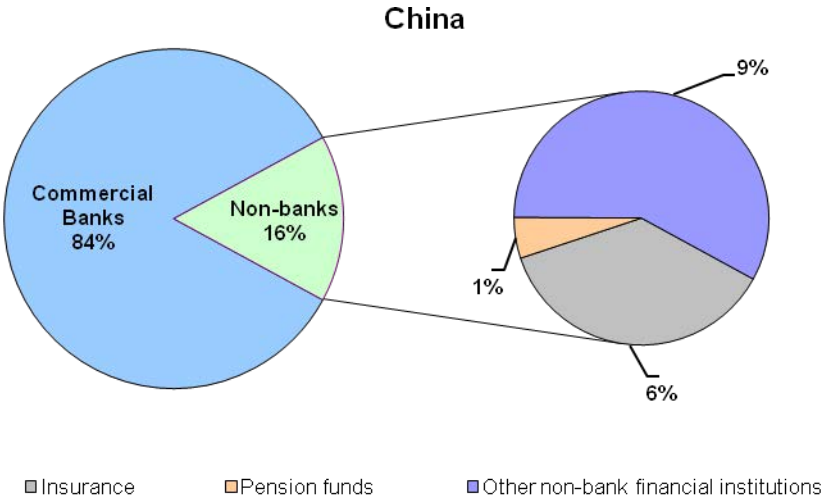
The recent GFC has drawn tentative lessons for authorities worldwide on the need to put greater emphasis on the surveillance of the shadow banking system. A number of initiatives to improve the surveillance on the system undertaken by international standard setting bodies are already under way. Malaysia through its central bank has embarked on several measures on improving its surveillance of the domestic shadow banking system. The current surveillance framework differs according to an NBFI's potential systemic risk to the financial system. NBFIs that are systemically important in the financial system are required to submit granular data on a quarterly basis to BNM for risk assessment purposes. Entities that are less systemic to the financial system are required to submit relevant information on an annual basis.

Data limitation remains the biggest challenge faced by financial stability authorities in their surveillance of the shadow banking system. Experience in Malaysia has shown that the lack of granular data impedes the central bank's initiative in developing a more robust surveillance framework. While there are challenges, the accordance of power to collect relevant information from non-BNM regulated NBFIs to BNM by the Central Bank of Malaysia Act 2009 has enabled BNM to undertake rigorous assessments on the systemic implications of the Malaysian shadow banking system to the financial system and the overall economy.

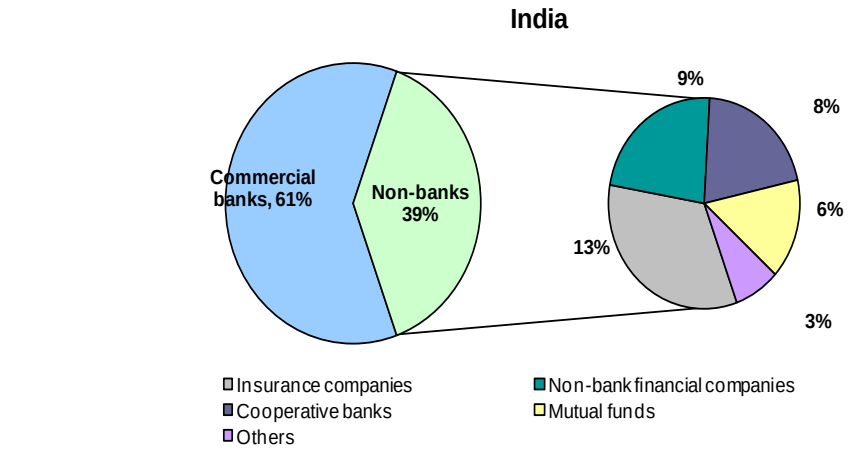
# Annex

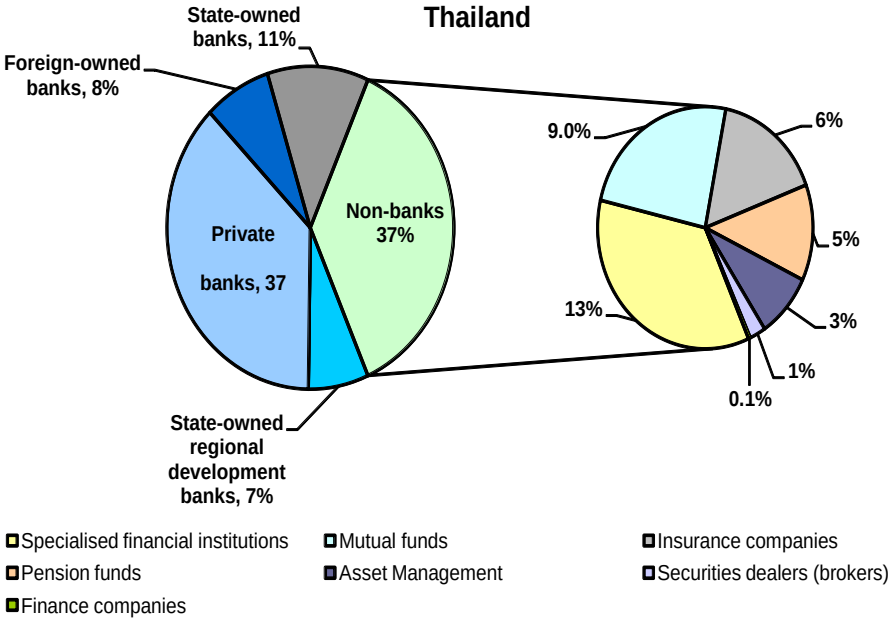
## Chart 1: Composition of Financial System Assets for selected Asian economies

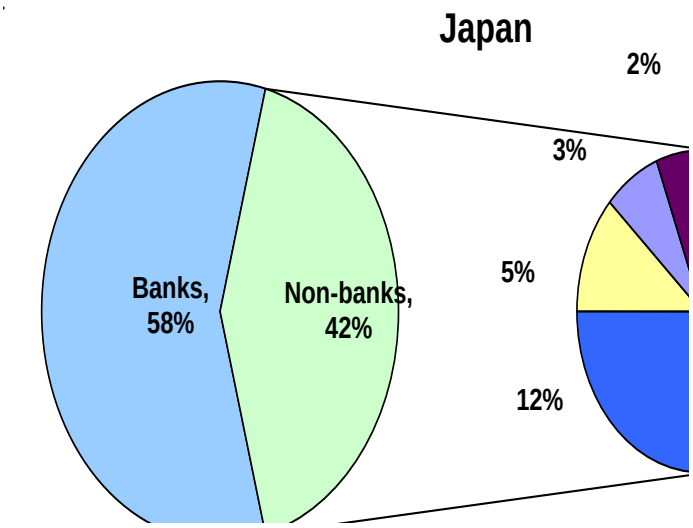



** Other non-bank financial institutions include policy banks, rural commercial banks, rural cooperative banks, foreign banks, credit co-operatives, finance companies affiliated to enterprise groups, trust and investment companies, financial leasing companies, auto financing companies, money brokers and postal savings.*


India
Commercial banks, 61%
Non-banks 39%
9%
8%
6%
13%
3%
Insurance companies
Non-bank financial companies
Cooperative banks
Mutual funds
Others


Thailand
State-owned banks, 11%
Foreign-owned banks, 8%
Private banks, 37
Non-banks 37%
State-owned regional development banks, 7%
9.0%
6%
5%
3%
1%
0.1%
13%
Specialised financial institutions
Mutual funds
Insurance companies
Pension funds
Asset Management
Securities dealers (brokers)
Finance companies




Source: National authorities, IMF Global Financial Stability Reports (various years) and FSB (2011).

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