February 2013
IMF Country Report No. 13/52

Malaysia: Financial Sector Stability Assessment

This Financial Sector Stability Assessment on Malaysia was prepared by staff of the International Monetary Fund and the World Bank as background documentation for the periodic consultation with the member country. It is based on the information available following discussions that ended on September 7, 2012, with the officials of Malaysia. Based on the information available at the time of these discussions, the assessment was completed on January 28, 2013. The views expressed in this document are those of the staff team and do not necessarily reflect the views of the government of Malaysia or the Executive Board of the IMF.

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MALAYSIA[1]

Financial System Stability Assessment

Prepared by the Monetary and Capital Markets and Asia Pacific Departments

Approved by José Viñals and Anoop Singh

January 28, 2013

This report summarizes the findings of the first Financial Sector Assessment Program (FSAP) undertaken for Malaysia in April and September 2012. The FSAP findings were further discussed with the authorities during the Article IV consultation mission in December 2012.

The main findings of the FSAP mission are as follows:

- Malaysia's financial system has weathered the recent global financial crisis well, helped by limited reliance of financial intermediaries on cross-border funding, a well developed supervisory and regulatory regime, and a well capitalized banking system.
- Stress tests suggest that banks are resilient to a range of economic and market shocks; though the high level of reliance on demand deposits is a potential vulnerability. Other risks faced by the financial system include those related to rapid loan growth, rising house prices, and high household leverage, which call for enhanced monitoring of household leverage and a review of the effectiveness of the macroprudential measures.
- The regulatory and supervisory regime for banks, insurance firms, securities markets, and market infrastructure exhibits a high degree of compliance with international standards. Areas for improvement include enhancing the framework of consolidated supervision and addressing legal provisions that could potentially compromise supervisory independence. In addition, in the case of the Labuan IBFC more work needs to be done to update the prudential framework to meet current International standards.

The FSAP team comprised Aditya Narain (mission chief, IMF); David Scott (mission chief, World Bank); Simon Gray and Alexander Pankov (deputy mission chiefs, IMF and World Bank respectively); Ravi Balakrishnan, Su Hoong Chang, Julian Chow, Mohamed Norat, Roberto Piazza and Mamoru Yanase (all IMF); Katia D'Hulster, Damodaran Krishnamurti, Ketut Kusuma, José De Luna Martínez, Claire McGuire, Harish Natarajan, William Price, Clemente Del Valle (all World Bank Group); Mark Causevic, Denise Dias, Ken Dorph, Tanis MacLaren, Richard Pratt and William Rutledge (external experts). The main author of this report is Simon Gray, with contributions from the other members of the FSAP team.

FSAP assessments are designed to assess the stability of the financial system as a whole and not that of individual institutions. They have been developed to help countries identify and remedy weaknesses in their financial sector structure, thereby enhancing their resilience to macroeconomic shocks and cross-border contagion. FSAP assessments do not cover risks that are specific to individual institutions such as asset quality, operational or legal risks, or fraud.

[1] Including Labuan International Business and Financial Center

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Glossary

AML/CFT	Anti-Money Laundering/Combating the Financing of Terrorism
BNM	Bank Negara Malaysia
CAR	Capital Adequacy Ratio
CASA	Current Account and Savings Account
CET1	Core Tier 1 Capital
CMP	Capital Market Masterplan
DFI	Development Finance Institution
EPF	Employee Provident Fund
FHC	Financial Holding Company
FSA	Financial Services Act
GDG	Government Deposit Guarantee
GLC	Government Linked Company
GLIC	Government Linked Investment Company
IBFC	International Business and Financial Center
IFSA	Islamic Financial Services Act
IOSCO	International Organization of Securities Commissions
LFSA	Labuan Financial Services Authority
MIFC	Malaysian International Financial Center
MoF	Ministry of Finance
SC	Securities Commission Malaysia
NPL	Non-Performing Loan
PIDM	Malaysia Deposit Insurance Corporation
PRS	Private Retirement Scheme
RM	Malaysian Ringgit
ROA	Return on Assets
ROE	Return on Equity
RWCR	Risk-Weighted Capital-Adequacy Ratio
SC	Securities Commission
SKM	Cooperatives Commission
SME	Small and Medium Enterprises

EXECUTIVE SUMMARY

1. **Malaysia, like many of its Asian neighbors, experienced significant macro/financial distress in the late 1990s, with severe economic consequences.** Policy responses proved largely successful in mitigating the worst consequences, and the authorities initiated far-reaching reforms of the financial system. A ten-year Financial Sector Masterplan covering 2001–2010, led by the Bank Negara Malaysia (BNM), and a parallel Capital Market Masterplan (CMP1) led by the Securities Commission (SC), supported a restructuring of the financial sector, underpinned by a strong regulatory and supervisory framework.

2. **The transformed and strengthened financial sector weathered the recent global financial crisis well.** Reliance by financial market intermediaries on cross-border and interbank funding remains limited, as is the exchange rate exposure of the economy. Mergers have led to the emergence of a number of strong banking and financial groups as well as capital market intermediaries which are now able to expand into neighboring markets.

3. **Banking institutions are well capitalized**. Asset quality has improved significantly over the last five years and banks are profitable. Stress tests indicate that the banking system is resilient to economic and market shocks, though some smaller banks are more vulnerable. Liquidity is a potential vulnerability, given banks' reliance on demand deposits.

4. **Recent rapid loan growth may give rise to significant risks, although the authorities have taken steps to monitor and mitigate them**. Household debt has risen strongly, and is one of the highest in the region; and house prices in urban areas have risen fast, prompting an increased supervisory focus and the introduction of a range of supervisory and macroprudential measures. Internationally, overseas credit operations have now reached significant levels for some Malaysian banks, which poses new supervisory and risk management challenges.

5. **The regulatory and supervisory regimes for banking, insurance, and securities are well developed and exhibit a high degree of compliance with international standards.** The authorities have initiated action to address most remaining shortcomings, with a draft law (passed in December) set to eliminate key gaps in the framework for banking and insurance supervision. Banking supervision is comprehensive and intensive, and gaps mainly relate to formal powers to include financial holding companies in the consolidated supervision framework, to certain legal provisions that could potentially compromise independence, and to lack of clarity in the definition of connected lending. The insurance supervision and regulation is well developed, and shortcomings mainly include the need to strengthen the regulation of financial guarantee business, and to enhance transparency, for instance in the licensing and acquisitions approval criteria. Securities regulation is robust, but enhancements should be made to the legal underpinning of the SC's operational independence and the disclosure deadlines for issuers and their substantial shareholders.

6. **The regulatory and supervisory framework for the Labuan IBFC, however, needs to be considerably strengthened and steps are being taken in this regard.** In particular, adopting the prudential and conduct-of-business requirements for banks and insurance companies issued by BNM for institutions in mainland Malaysia will move regulatory requirements toward international standards. Ensuring the regulation of the IBFC is robust and up to date will be an important element in maintaining strong supervision. In addition, LIBFC would also benefit from more clearly defining its business model and focusing on building on its comparative advantages.

7. **Malaysia has made significant progress in strengthening its AML/CFT regime**. The criminal framework is comprehensive. The financial sector appears to be subject to generally adequate AML/CFT obligations and supervision.

8. **The deposit insurance framework broadly conforms to best international practice**. The current reserve level for conventional deposits, however, is sufficient only for payouts in smaller banks, highlighting the need to introduce a back-up funding agreement with MoF.

9. **The national payment system is well-developed, with a clear demarcation of oversight, regulatory and supervision jurisdiction between SC and BNM**. The assessment concluded that Malaysia complied at a significantly high level with the new FMI Principles.

10. **The building blocks for a crisis management framework are in place.** An important enhancement would be an apex monitoring and crisis coordination committee involving on a regular and permanent basis the key financial sector authorities.

11. **Government ownership in the financial sector, through direct and indirect holdings, is extensive.** However, all banks and insurance companies are subject to the same regulations and governance, regardless of ownership. The authorities' development plans for this decade recognize that the transition to high-income, high-value added economy will need to rely much more on private sector initiatives.

12. **Further development of the domestic Islamic financial system presents opportunities and challenges.** Malaysia is a global centre for Islamic finance, with a facilitative regulatory framework and targeted incentives. As part of the FSAP work, the mission examined in detail the Islamic financial markets in Malaysia and their future development. As products with new features such as a greater degree of risk-sharing are developed, it will be important that users—both domestic and foreign—are clear about the changes involved.

13. **Looking forward, the authorities have published a Financial Sector Blueprint and a Capital Market Masterplan 2 covering the period 2011–2020, while a Corporate**

Governance Blueprint covers the period 2011–2015. These aim to support the transition into a developed nation by 2020 to intensify regional integration and internationalisation of Islamic finance; to progressively reduce the direct role of the state in the financial markets, and further liberalize the markets. The mission supports these objectives, but recognizes that opening up to greater foreign competition will involve new challenges; and a progressive, phased implementation of initiatives being undertaken by the government to reduce its involvement in financial intermediaries will require continued commitment and a clear timetable.

Table 1. Malaysia and Labuan IBFC: FSAP—High Priority Recommendations

Recommendations
Macrofinancial risks and vulnerabilities (Ch. 2)
Enhance monitoring of household sector leverage through more granular data capture including by income; and review effectiveness of macroprudential measures.
Adopt multi-year top-down and bottom-up macroeconomic stress testing, and introduce more conservative credit loss parameters in Bottom Up exercise.
Strengthening Financial Sector Oversight (Ch. 3)
Strengthen framework for consolidated supervision to address FHCs in such areas as consolidated capital standards and risk management expectations.
Ground the operational independence of SC by changing the legal provisions on removal of commission members and protections given to the members of the Commission and to its staff.
Implement proposed new FSA and IFSA at an early date; and strengthen legal and regulatory requirements for Islamic banks.
Strengthen the definition of connected lending.
Labuan International Business and Finance Center (Ch. 4)
Impose prudential and regulatory requirements on Labuan financial institutions in line with international standards and best practice.
Undertake more proactive engagement and effective communication of LFSA with home supervisors and external auditors so as to continue to rely on their work.
Managing Systemic Risks (Ch. 5)
Formalize a high-level committee involving BNM, SC, PIDM, and the fiscal authority with the responsibility for ongoing systemic risk monitoring, information sharing, and crisis action

I. MACROFINANCIAL SETTING

A. Macroeconomic and Financial Environment

14. **In contrast to the global trend, the Malaysian economy continued to grow strongly in the first three quarters of 2012.** Domestic demand has been the main driver of growth, with consumption supported by improved sentiment and fiscal transfers to low-income households, and strong private and public investment growth, partly related to the implementation of the Economic Transformation Program.[2] Headline inflation fell to 1.3 percent in September 2012, the lowest in more than two years.

15. **Capital inflows have been more volatile over the last two years.** Inflows were robust through H1 2011, mainly into the bond market, but foreign demand reversed during H2 2011. The outflows weakened the exchange rate and bond yields rose; but the impact was muted by BNM sales of foreign exchange, and bond purchases by EPF and other domestic institutional investors. Overall, the financial account has been close to balance in recent quarters and foreign exchange intervention has generally been two sided.[3]

16. **The authorities were proactive in responding to the global financial crisis.** Pre-emptive measures were taken by BNM, including reductions in the Policy Rate, extension of access to the BNM's standing facility to insurance companies, temporary reduction of the Reserve Requirement and, the extension of a Government Deposit Guarantee (GDG) on all RM and foreign currency deposits.[4]

17. **In 2011, BNM launched a ten-year Financial Sector Blueprint ("Blueprint"), covering the period 2011 to 2020.** The Blueprint focuses on further strengthening the role of the financial sector to facilitate the transition toward a high value-added, high-income economy, and suggests a need for the private sector to take the lead. The Blueprint also envisions a larger role for the financial sector in meeting regional and international needs.

18. **SC, too, launched a second ten-year Capital Market Masterplan (CMP2), covering the same period.** CMP2, with the theme 'Growth with Governance,' outlines SC's strategy to further develop the capital market and support the establishment of a robust culture of governance.

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[2] The government launched the Economic Transformation Program in 2010. It aims to more than double per capita GDP over the decade to 2020, taking Malaysia into the high-income nation level.

[3] BNM describes its intervention as limited to smoothing excessive volatility and facilitating orderly exchange rate adjustment.

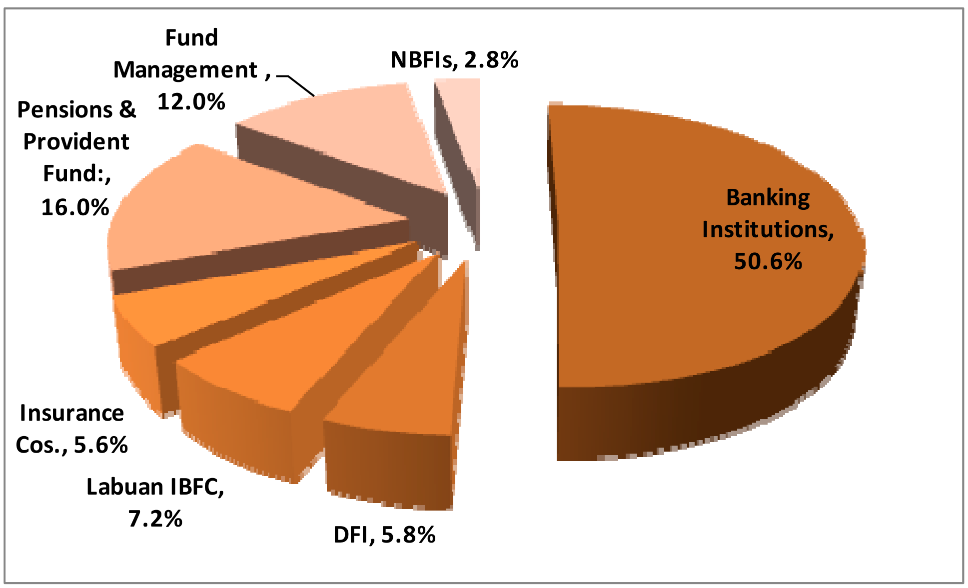
[4] The GDG was lifted in 2011 in accordance with the announced schedule, accompanied by an increase in deposit insurance coverage from RM 60,000 to RM 250,000.

B. Overview of the Financial System

Main players

19. **Malaysia's financial sector is well diversified.** It comprises banking intermediaries, insurance companies and capital market intermediaries with overall assets of close to 400 percent of GDP as of end-2011 (Figure 1 and Appendix 2). Banking intermediaries account for half the financial system.[5] Those supervised by BNM comprise commercial and Islamic banking institutions, investment banks (co-regulated with SC), and the major development financial institutions (DFIs). BNM also supervises insurance companies. Capital market intermediaries are regulated by SC and comprise fund management companies, broker-dealers, investment banks, and the securities and derivatives market. The offshore financial centre in Labuan is supervised by the Labuan Financial Services Authority (LFSA): businesses include offshore banking, insurance, trust and fund management; activities are carried out only in foreign currencies.

Figure 1. Structure of the Financial Sector (by asset share)



Source: BNM

20. **The banking sector has undergone considerable consolidation.** The number of domestic commercial banking groups has been reduced from 22 in 1986 to 8 currently. Finance companies were merged into commercial banking groups while discount houses, securities firms and merchant banks were consolidated into investment banks. However, consolidation has led to the rationalization of costs and raised competitiveness.

[5] This includes commercial banks in Labuan IBFC, which account for 3 percent of total assets, and DFIs.

21. **Non-bank intermediaries, including pension and provident funds, unit trusts and non-bank financial institutions, continue to register rapid growth.** These intermediaries—mainly GLICs or GLIC-owned (see Box 1)—comprise 36 percent of financial system assets.

22. **Malaysia's insurance sector accounts for around 6 percent of financial sector assets.**[6] Insurance penetration and density rates are relatively low, although both have been steadily improving, led by the life insurance sector. The general insurance industry remains very fragmented, although there is a clear trend towards consolidation. Cross-border operations of domestic insurers are small, at 0.5 percent of insurance industry assets in 2011, spanning four nearby countries.

23. **The financial system has become highly interconnected through both funding sources and ownership.** Banks, non-bank financial companies and mutual funds are linked through the wholesale funding market (Figure 2). Financial conglomeration has grown with major banks owning insurance and fund management companies and securities firms.[7] Six financial conglomerates operate under a financial holding company (FHC) structure, while two are headed by licensed banking institutions.[8] They account for 70 percent of total assets in the banking system.

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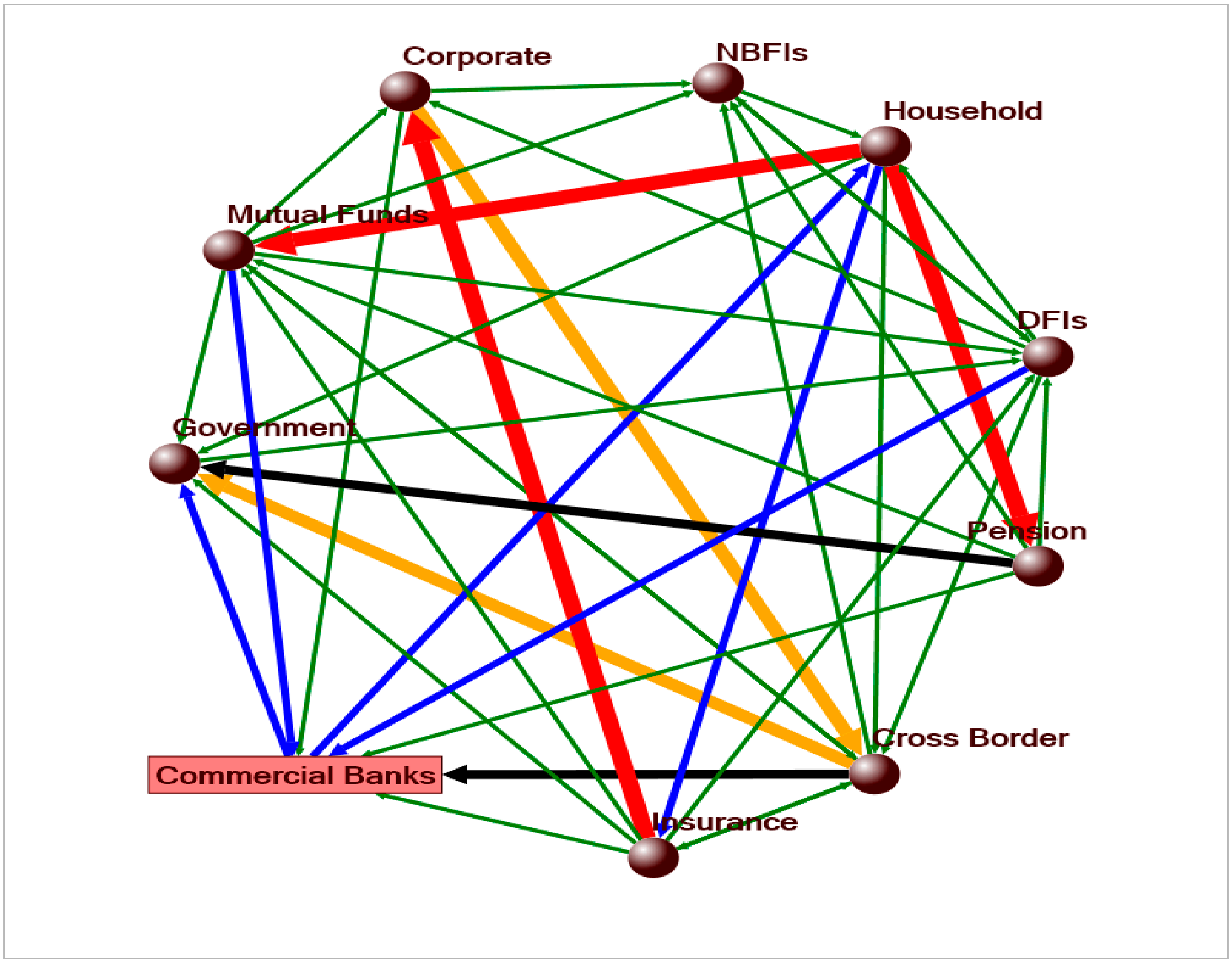
[6] Includes insurance companies in Labuan IBFC, which account for 0.3 percent of total financial system assets.

[7] Four out of the nine life insurers are owned by the large domestic banks, while foreign insurers play an important role in the general insurance market. Domestic banks have a major presence in the takaful market, with the dominant takaful operator being a subsidiary of a large domestic bank.

[8] Financial conglomerates headed by a FHC are CIMB Group, RHB Group, Affin Group, Alliance Group, Hong Leong Group and AmBank Group. Financial conglomerates headed by a banking institution are Maybank Group and Public Bank Group.

Figure 2. Financial System Interlinkages, 2011

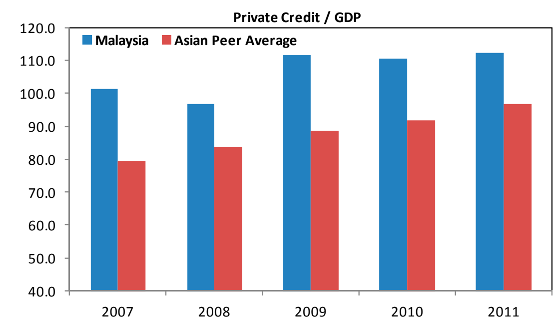


Source: IMF Staff estimates, BNM data
Notes: NBFIs (non-bank financial institutions) comprise cooperatives, leasing and factoring companies, building/housing institutions/corporations and Cagamas.
The direction of the arrows shows net claims, while the thickness shows the extent of such claims. The red line indicates flows that are around 50 percent of GDP.

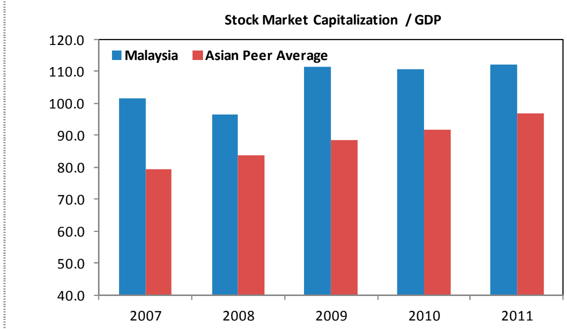
24. **Credit intermediation is high when benchmarked against regional peers** (Figure 3). The domestic stock market, insurance sector, provident/pension and mutual funds have all grown in tandem with and have outperformed regional peers.

Figure 3. Financial Development Indicators, 2006–2011

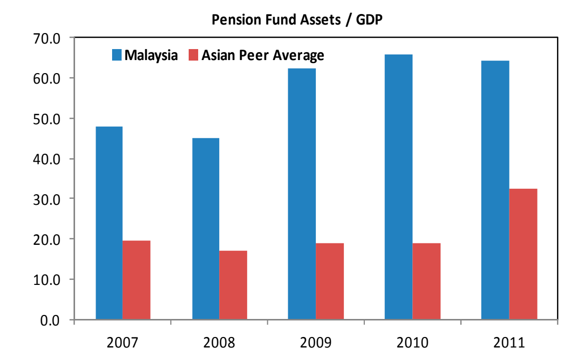
Credit intermediation is higher relative to peers …



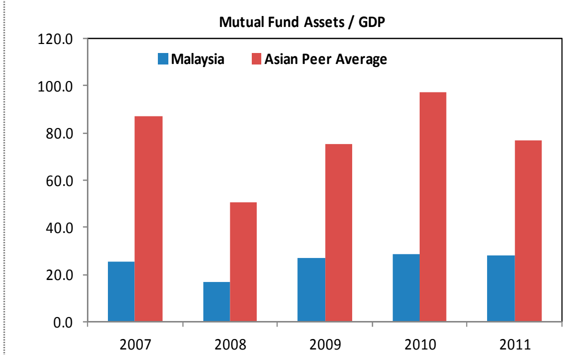
… and stock market capitalization has been growing at a faster pace …



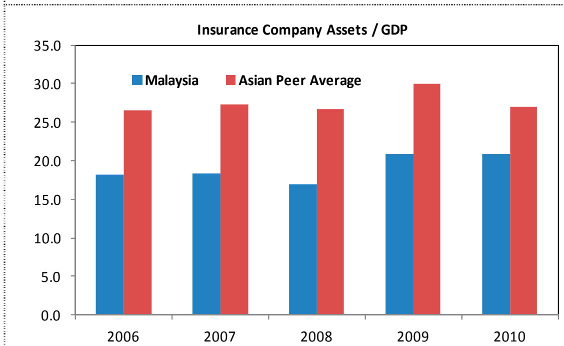
Provident and pension funds are leading peers …



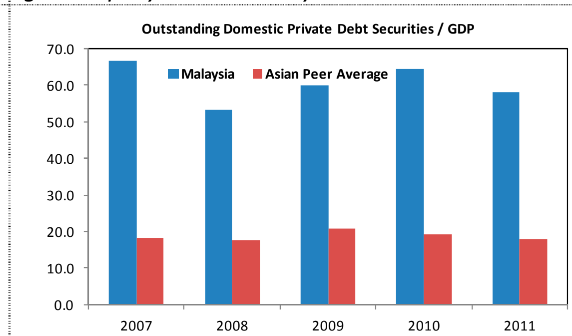
…but mutual funds seem to be lagging.



The insurance sector has lagged behind peers.[1]



The corporate domestic debt market continues to grow rapidly…but is mostly associated with GLCs.



Source: World Bank

Note: Regional peers comprise China, Hong Kong SAR, India, Indonesia, Japan, Korea, Philippines, Singapore and Thailand.

[1] 2011 data not available.

Money market, foreign exchange and derivatives markets

25. **Malaysia maintains a de facto relatively liberal foreign exchange administration regime.** The main capital account restrictions relate to internationalization of the Ringgit (transacting Ringgit outside Malaysia).[9] Residents without domestic borrowing are free to invest outside Malaysia; and there is no restriction on residents borrowing foreign currency from related companies outside Malaysia, although borrowing from others is subject to limits.

26. **The authorities have expressed their intention to liberalize remaining restrictions in the coming years; but sequencing and timing will depend on market circumstances.** One consideration is that banks are reliant on a high level of non-retail customer deposits, which are virtually all at call. It would be advisable to precede liberalization with the development of reliably longer-term funding for banks.

27. **Banking institutions' exposure to derivatives is small.** Exchange-traded financial derivatives are little used. The net exposure to off-balance sheet derivatives accounts for 0.01 percent of total assets.[10] OTC derivatives are largely plain vanilla. In 2011, foreign exchange derivatives comprised 70 percent of total OTC derivatives, followed by interest rate derivatives which account for 27 percent.[11] The use of credit derivatives is still insignificant.

Bond and equity markets

28. **The size of the Malaysian bond market is comparable to that in more developed markets.** Efforts to develop the bond market were accelerated following the Asian financial crisis, to resolve the issue of maturity mismatch amongst corporations which had relied on (relatively) short-term bank loans to finance long-term investments (Figure 4). The bond market is the largest in ASEAN and third largest in Asia as a percentage of GDP.

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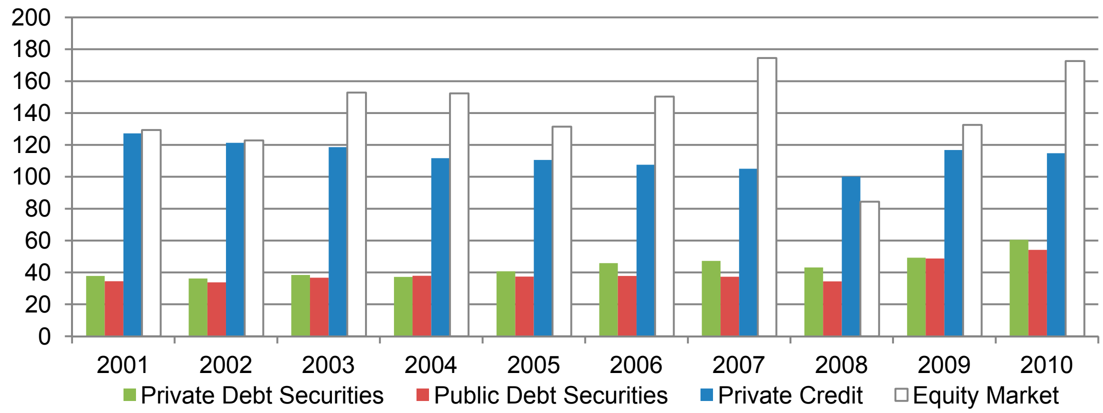
[9] Non-residents may buy and sell ringgit through the appointed overseas office of an onshore banking institution for settlement of ringgit assets or international trade of goods and services with residents. Additionally, non-residents may buy and sell ringgit with onshore banking institutions for any purpose on a spot basis, and on a forward basis where there is a confirmed underlying transaction.

[10] The gross notional value of derivatives to total assets is close to 70 percent, relatively small when compared to as emerging Asian country such as India whose ratio is close to 200 percent.

[11] Non-deliverable forwards are traded offshore; but while some market participants may be able to arbitrage the onshore and offshore markets, in practice these markets are used by different groups of players, and do not move closely in tandem.

Figure 4. Financial Assets Composition in Malaysia (in percent of GDP)



Source: WB Finstat

29. **The issuance of private debt securities has been growing and has become a consistent source of corporate funding.** It is concentrated in high-grade instruments, issued mainly by GLCs and the major banking groups. A wide variety of sectors use the bond market to raise funds, although the financial sector remains the main issuer of conventional bonds. Approximately 60 percent of issuance is Shariah-compliant (sukuk), driven largely by state-related issuers, with the infrastructure sector a significant issuer.[12] Turnover is in line with regional peers.

30. **Both by regional standards and when compared to other emerging market economies, Malaysia has a large listed equity market.** End-2011 ratio of market capitalization to GDP was substantially higher than in most high-income countries or other countries in Asia, reflecting the important role of long-term institutional investors.

31. **The investment management industry is one of the fastest-growing segments within the capital market, enabling greater mobilization of funds provided by retail investors.** Retail unit trusts account for over half of AUM; the government-sponsored PNB is by far the largest unit trust provider. Capital market intermediaries not only remained resilient throughout the recent global financial crisis but are also taking steps towards internationalization. In anticipation of greater competition arising from market liberalization, Malaysian intermediaries have strengthened their presence in regional markets (particularly ASEAN).

[12] GLCs accounted for something over half of issuance, by value, in 2007–2011, and the government for 17 percent.

Role of the State Sector

32. **The government has substantial *de facto* ownership in the financial sector: the seven GLICs (Box 1) have large interests in the main Malaysian financial and banking groups.** For example, PNB owns 5 percent of the Maybank group, the country's largest financial group with a further 45 percent held by PNB managed unit trusts; and the government's main investment holding vehicle, Khazanah, owns 30 percent of CIMB Group Holdings, the second largest banking group. EPF holds an additional 16 percent and 13 percent, respectively, of both. The authorities state that government does not interfere with management: the banks are held to the same governance and risk management standards as other banks, and board members and senior management are subject to the same fit and proper criteria.

33. **The GLICs are by far the most influential players in the Malaysian capital market.** The pension providers EPF, KWAP, and LTAT have combined assets of around RM 565 billion; Khazanah has a further RM 100 billion and PNB RM 214 billion.

Box 1. GLICs and GLCs

The seven Government Linked Investment Companies (GLICs) [1] are major investors in listed companies, and directly hold about 24 percent of the total market capitalization of Bursa Malaysia. They control a large number of government-linked companies (GLCs) and have minority stakes in dozens more.[2] They also invest in several dozen non-listed companies, and are major investors in government and corporate bonds. The GLICs are subject to government oversight and participation on their board, usually through the MoF or the Prime Minister's office. Most have beneficiaries—pensioners and investors—also represented on their board. The MoF plays a role in the governance and investment decisions of GLICs.

The government established the Putrajaya Committee on GLC High Performance (PCG), chaired by the Second Finance Minister, to improve the performance and governance of the largest GLCs. The program has largely succeeded in improving board practices and training, performance management, and overall performance in the largest GLCs. The MoF has "golden shares", special rights usually set out in the company articles of association, that give the MoF special powers in a small number of large companies, including Pos Malaysia (the postal service). The MoF also chooses Public Interest Directors for the board of Bursa Malaysia in consultation with SC.

[1] There are seven GLICs: Khazanah Nasional Bhd (KNB), Kumpulan Wang Simpanan Pekerja (KWSP), Kumpulan Wang Amanah Pencen (KWAP), Lembaga Tabung Angkatan Tentera (LTAT), Lembaga Tabung Haji (LTH), Menteri Kewangan Diperbadankan (MKD), and Permodalan Nasional Bhd (PNB). PNB is supervised by the SC.

[2] GLCs are defined as companies that have a primary commercial objective and in which the Malaysian Government has a direct controlling stake. Controlling stake refers to the Government's ability (not just percentage ownership) to appoint BOD members, senior management, make major decisions (e.g., contract awards, strategy, restructuring and financing, acquisitions and divestments, etc.) for GLCs either directly or through GLICs.

34. **Two government-created entities absorb some market risks in order to support bond market development.**

- Danajamin, a credit guarantee institution was set up in 2009 to enable bond issues that might not otherwise come to market at competitive rates. All issuances guaranteed by Danajamin have thus far obtained an AAA rating. BNM's plan to develop the capital framework for such financial guarantee insurers should be expedited.

- Cagamas, the National Mortgage Corporation, was established in 1986 to promote home ownership and the growth of the secondary mortgage market. It is jointly-owned by BNM (20 percent) and the commercial and investment banks (80 percent).

35. **In addition, the government owns or controls 19 DFIs.** At end-2011 they accounted for some 10 percent of banking system assets. The six large DFIs are all supervised by BNM. Three of these take deposits: they have a large branch network, and account for 40 percent of the total number of deposit accounts in the banking system.

C. Government Debt

36. **As of December 2011 total federal government debt stood at RM 456 billion, equivalent to 52 percent of GDP, just below the informal ceiling of 55 percent.** The government bond market is well-developed, with clear benchmark issues. Over 95 percent of government debt is domestic. Market turnover is comparable with regional peers, at around 2.5 times a year.

37. **The fiscal position appears manageable, but risks are significant.** An increase in spending by public enterprises and off-budget vehicles means that the consolidated public sector deficit projected to has risen to over 5 percent of GDP in 2012 from 3¼ percent in 2011, with a further increase expected in 2013.[13] The government's interlinkages with the financial sector—both financial institution holdings of government debt, and explicit and implicit government guarantees for elements of the financial sector—had in the past been a source of strength. However, now fiscal headroom is limited, and a fiscal shock could result in the financial sector interlinkages becoming a significant risk factor.

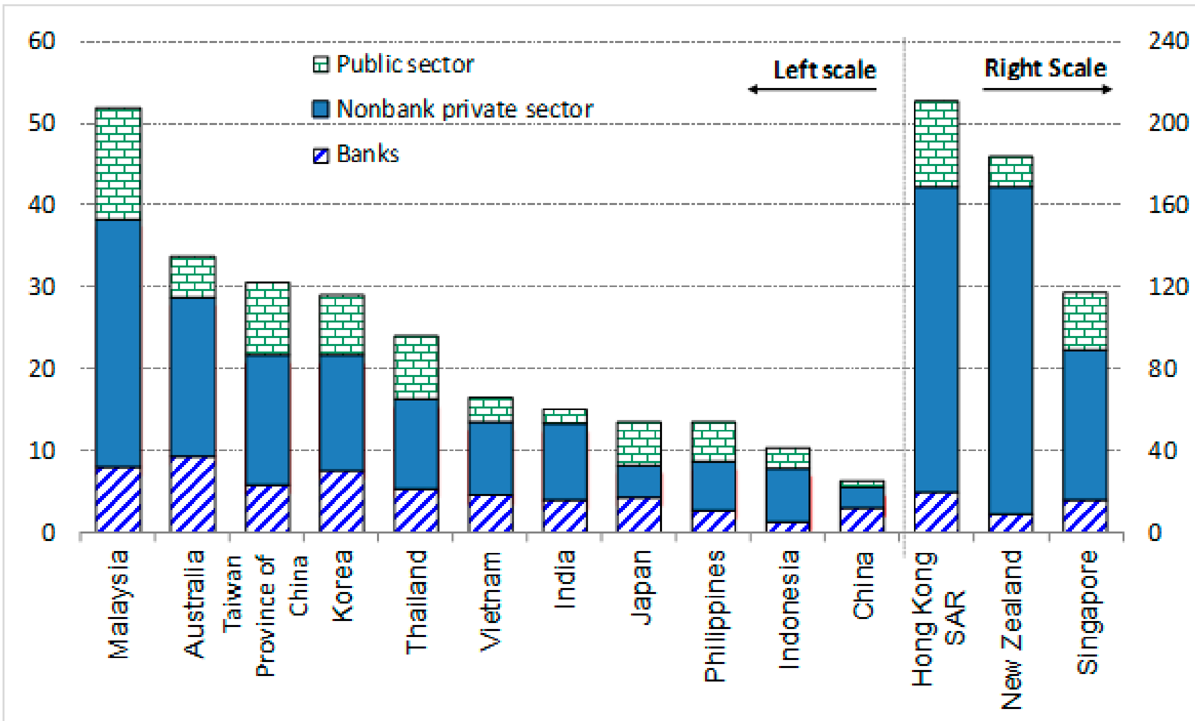
D. Cross-Border Banking Flows

38. **Foreign bank claims on Malaysia are relatively large but not a major risk** (Figure 5). Although the eurozone crisis may lead to some deleveraging, the impact should be manageable. Even when foreign claims on Malaysia fell during the GFC, overall credit

[13] The increase in the deficit reflects major projects being undertaken by Petronas and other public enterprises engaged in the oil and gas sector; the Tun Razak Exchange; and property developments in Iskandar.

growth held up. Some 80 percent of foreign bank claims on Malaysia (as reported to the BIS) comprise the local operations of foreign banks in Malaysia,[14] which are predominantly funded by local RM deposits (they have extensive branch networks); and the banks with a systemic presence in Malaysia are not strongly interconnected with the eurozone.

Figure 5. Total Foreign Bank Claims[1]
(in percent of GDP)



[1] Claims are on an ultimate risk basis. The sum of quarterly GDP in U.S. dollars between 2011:Q3 and 2012:Q2 is used in the denominator.
Sources: BIS-reported Consolidated Bank Claims; CEIC Data Company Ltd.; Haver Analytics; and IMF staff calculations.

39. **Over the last decade, Malaysian banks have expanded abroad significantly; while moderate relative to other jurisdictions, these overseas operations should continue to be subject to careful monitoring.** The six biggest banking groups all have an overseas presence. The biggest operations are in Hong Kong, Indonesia, Singapore, and Thailand, where exposures of the biggest three Malaysian banks are just below 30 percent of Malaysian GDP. Overseas assets account for 19 percent of banks' total assets and 30 percent of total operating income. Traditional lending activities account for around ¾ of these assets; some 90 percent is funded from local deposits. Soundness indicators appear strong, although rising loan-to-deposit ratios need to be watched. International experience suggests that rapid bank expansion in new markets can pose challenges as bank risk management and

[14] All foreign commercial banks have to be locally-incorporated.

supervisory monitoring may fail to keep pace. Further deepening of home-host cooperation in supervision and crisis prevention will be important. BNM has enhanced its supervisory engagement including through annual overseas inspections of key operations, and hosting supervisory colleges.

E. Market Distortions

40. **The current level of involvement of the state, the benefits that state players and state-sponsored activities enjoy, individually or taken together may weaken market development prospects.** Prominent examples include tax incentives available for shariah-compliant finance, preferential features of PNB's largest unit trusts (to promote long-term investing by the public), and the increasing commercial activities of DFIs.

41. **Tax incentives granted to Islamic finance are significant.** Some of these are designed with the goal of compensating for the extra issuance costs associated with Islamic products.[15] According to the authorities, these incentives are finite and time-bound and are only accorded to specific contracts to promote new markets. Other tax breaks are in place permanently in order to "level the playing field" between conventional and Islamic products.

42. **The largest funds of one GLIC enjoy operating advantages over unit trusts provided by the private sector.** For socio-economic reasons, its largest fund, with some RM 100 billion in assets, is exempt from the mark-to-market valuation requirements applied to other unit trust providers and can use its accumulated surplus to smooth dividend payments to investors.[16] The make-up of the Board (appointed by government; the Board of Trustees consists of government ministers) may be perceived to imply a government guarantee of these investments.

II. Stability Assessment

A. Banking Institutions

43. **Banking institutions—commercial and Islamic—as a whole well capitalized, and asset quality has improved significantly.** The banking sector is profitable, and the banking sector risk-weighted capital adequacy ratio (RWCR) increased to 15.1 percent in 2011 (Figure 6). Banks are expected to be able to meet Basel III capital requirements by the 2019 implementation deadline, even allowing for loan growth. The gross NPL ratio has fallen and provision coverage is close to 100 percent. Banks are also relatively efficient—the average cost-to-income ratio at 43.6 percent is lower than peers' 48 percent.

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[15] These incentives are likely to be sizable. For instance, for an issue size of RM 300–500 million, the tax incentive may be equivalent to 0.16–0.25 percent of the issue value.

[16] Investors' holdings show a stable value; but for regulatory purposes mark-to-market information has to be provided to the SC.

44. **Banks are liquid at present, with sufficient liquid assets to cover short-term liabilities.** Deposits comprise 85 percent of total funding, of which around one third is retail deposits. Deposits from businesses enterprises, including GLCs, account for 37 percent of deposits, and financial institutions for 16 percent. Deposits are predominantly at call, though in practice they appear to be stable—this reflects confidence in the banking system, including regulation and deposit protection. The preference by institutional and retail depositors for ringgit-denominated deposits also supports this—residual capital controls mean ringgit cannot be held offshore.

45. **There has been a significant growth in lending to the household sector, supported by economic growth and government policies which promote home ownership.** Personal loans have been growing rapidly, alongside mortgages. Lending to households currently accounts for 55 percent of bank lending (most of this is at floating rates, and denominated in ringgit); household debt reached 74 percent of GDP in 2011. While this may not be an immediate concern, potential risks could arise if a global economic downturn adversely affected the labor market and led to strains in household balance sheets. BNM noted that household financial buffers in aggregate are at comfortable levels as there has been a corresponding expansion in household financial assets.[17] That said, the asset and liability positions may not match across all categories of households.

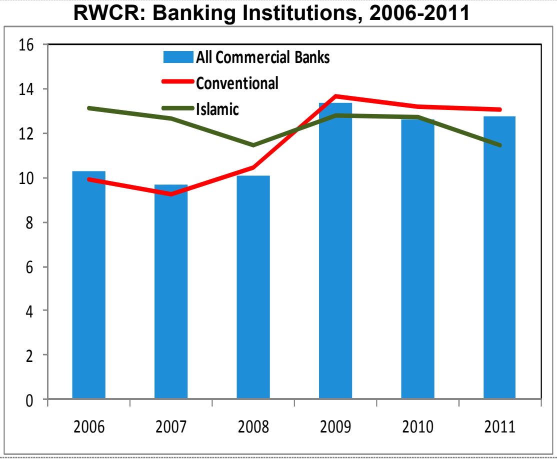
46. **The gross NPL ratio appears to be slightly higher than the average among peers, but the collateral cover is currently at a comfortable level.** The banking sector gross NPL ratio and provision coverage were reported at 2.7 percent and 99.6 percent respectively as at end-2011. This compares with the region's average of 2.0 percent and 114.7 percent, respectively. An assessment by BNM indicated that banks have collateral to cover over NPLs, at 1.4 times the amount of NPLs.

[17] Households' current financial asset-to-debt ratio is 2.3 times.

Figure 6. Malaysia: Banking Soundness and Performance Indicators

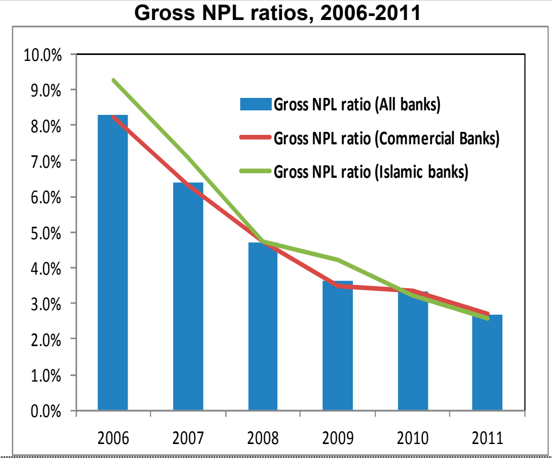
Banks are presently well capitalized…

RWCR: Banking Institutions, 2006-2011



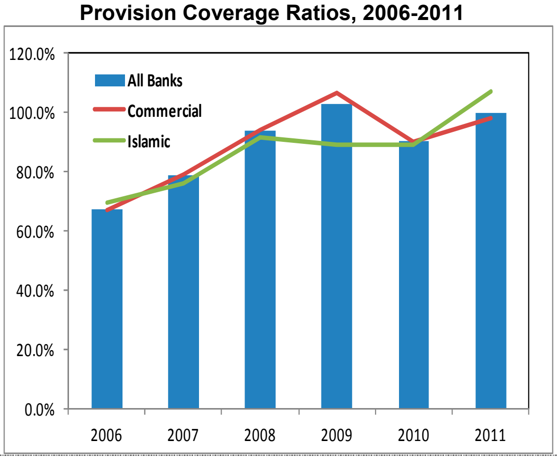
Asset quality has improved significantly over the last 5 years …

Gross NPL ratios, 2006-2011



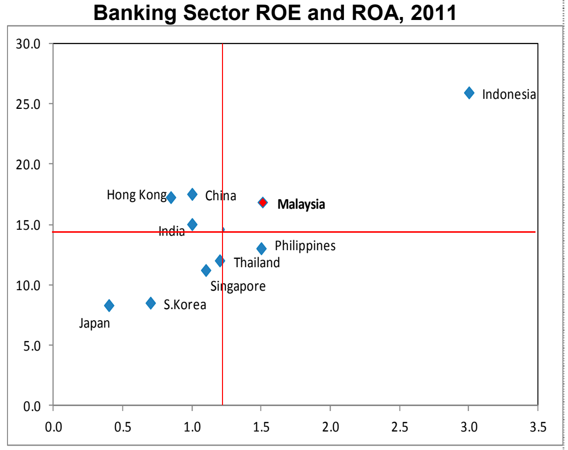
Provision coverage has also been increasing…

Provision Coverage Ratios, 2006-2011



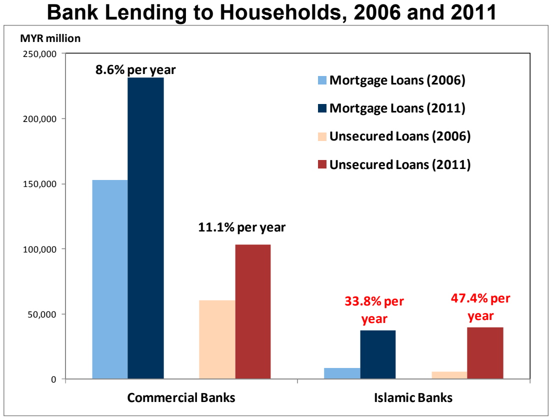
…and banks are profitable with returns above regional averages …

Banking Sector ROE and ROA, 2011



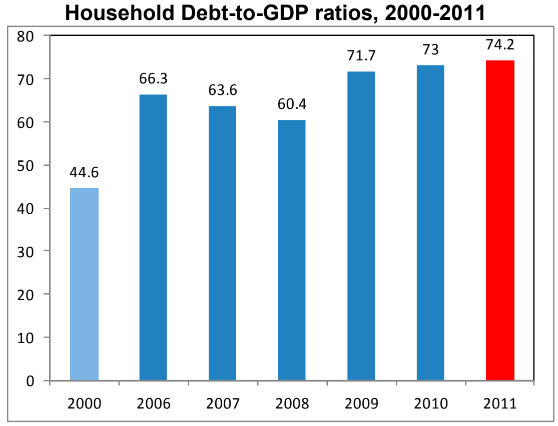
Lending to households has been increasing …

Bank Lending to Households, 2006 and 2011



… household debt has been rising.

Household Debt-to-GDP ratios, 2000-2011



Sources: GSFR, BNM, and Bankscope.

Stress Testing

47. **Both Top-Down (TD) and Bottom-Up (BU) stress tests were carried out.** They used a forecast period to 2016, covering credit, market (interest rate, exchange rate and equity price moves), and liquidity risk. They indicate the banking system is well capitalized and resilient to stress, while highlighting a relative weakness in some smaller banks to credit losses. Exposure to market risk is limited, while liquidity risk indicates potential vulnerabilities arising from the high level of at-call deposits. An interbank contagion stress test was also undertaken.

48. **Three macroeconomic scenarios were used**.[18] Under the baseline—consistent with the latest IMF WEO forecast for Malaysia—Malaysian real GDP growth remains around 5 percent. Adverse scenario S1 assumes a sharp recession in 2013 before slow recovery over the next two years, while adverse scenario S2 sees prolonged low growth. Under both adverse scenarios, banks are negatively impacted by higher unemployment and lower house and asset prices (Appendix 4).

49. **Credit loss is the largest driver of capital deterioration in the TD results, followed by lower bank income in adverse scenarios.** In the baseline scenario the FSAP uses loss rates for loan types as provided by BNM. But higher loss rates and lower bank income levels were assumed in the adverse scenarios, consistent with the loss levels used in stress tests for comparable Emerging Market countries.[19] Adverse scenarios are hypothetical but plausible scenarios: in such circumstances loss rates, credit risk parameters, and income reduction could be larger than in recent years. Under the adverse scenario S2, capitalization needs are significant (Figure 7).[20]

50. **Analysis of the system-wide capital ratios which are simple averages of the 36 banks in the sample—indicate the system as a whole remains above the regulatory minimum levels.** The chart in Figure 7 on system-wide capital needs shows the aggregate capital needs of individual banks below 8 percent capital adequacy ratio. Analysis of the distribution of Tier 1 capital (Figure 7) indicates how many banks fall into certain bands of capital adequacy. It is only smaller Islamic banks (rather than the larger domestic commercial banks) with lower capital starting positions and higher loss rates that dip below the 4 percent capital threshold in the three scenarios over the stress test horizon.

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[18] A Stress Testing Matrix (STeM) describes the main tests and methodology (Appendix 4). These scenarios are not forecasts, but are hypothetical, devised to test the financial system's ability to cope with severe shocks.

[19] This is a neutral assumption used for the FSAP, not a predictor of expected outcomes.

[20] The need arises mainly in smaller domestic and foreign commercial banks, and some smaller Islamic banks.

Figure 7. Top-Down Banking System and Bank Solvency Stress Test Results

Source: IMF Staff Calculations, BNM data;

Results calculated on the basis of a simple average of banks in the sample.

51. **Some smaller Islamic banks are more vulnerable in the adverse scenarios, in part due to their lower starting capital.** Islamic banks have a less diversified business—specifically, a greater credit concentration in retail lending activities. Lower starting capital and solvency deterioration of some smaller Islamic banks could manifest itself in reputational risks to the group in adverse scenarios.

52. **The BU stress test results indicate, similar to the TD results, that the major banks are resilient to distress in all scenarios.** However, the variation in solvency deterioration across the scenarios is much smaller than the TD exercise. This reflects the BU use of credit risk parameters (PDs, LGDs) determined by the individual banks, which are lower in the adverse scenarios than the TD assumptions and lower bank income. The BU results are also more optimistic than recently-published BNM sensitivity and scenario analysis under extreme or tail-risk conditions.

53. **Credit risk shocks had the greatest impact on both system-wide and individual capital ratios.**[21] Losses on housing loans resulted in the largest impact. Some banks saw capital decreases in their Basel II and Basel III ratios ranging from 200–560bps.[22] The majority of investment banks were not impacted in median terms, reflecting different business models and minimal retail lending.

54. **Market risk shocks are much less significant than credit risk shocks except for some investment banks.** Most commercial and Islamic banks have small net open foreign exchange positions; and the banking sector's direct exposure to the government is limited. Most banks hold some government securities for collateral and liquidity reasons. But for the system as a whole, an increase in the risk weight of government securities from zero to 20 percent in median terms results in only a 25bp decline in capital ratios. However, investment and some commercial banks suffer a substantial credit risk shock in this scenario.

55. **In terms of liquidity risk, the BU tests by the banking system indicated resilience towards adverse multi-factor ringgit liquidity shocks over a one month horizon, but recorded a manageable net cumulative shortfall in U.S. dollars.** For ringgit denominated assets and liabilities, banks on aggregate recorded a post-shock net surplus of RM 24 billion (approx. US$8 billion) in available cumulative mismatch to accommodate further liquidity stress over the one-month horizon, while in terms of U.S. dollar denominated assets and liabilities, the banking system recorded a shortfall of US$6.4 billion.[23] In the context of a worsening of the eurozone/GFC crisis, Malaysian banks' access to U.S. dollar liquidity could

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[21] The credit risk shocks look at increasing PDs and LGDs (see Appendix 6).

[22] Credit, market and multifactor liquidity shock (bottom-up) impacts were assessed on both Basel II and Basel III equivalent capital metrics for Malaysian banks.

[23] Around 76 percent of the banking system recorded a U.S. dollar liquidity shortfall.

be severely impacted. Nevertheless, the BNM appears well placed to provide both ringgit and foreign exchange liquidity, should the need arise.

56. **The short-term daily liquidity TD ST suggests that majority of banks are able to survive through the week to make it into the weekend.**[24] The TD ST uses a dynamic approach, rather than the one-off sensitivity approach of the BU ST, and makes different assumptions on run-off rates. In the mild stress scenario, nearly all Malaysian banks were able to survive. In a medium stress scenario (half Lehman) type event, six banks—predominantly small domestic commercial banks—would fail after day five (Table 2).

Table 2. Five-day Implied Cash-flow Test under Medium Liquidity Stress

Minimum number of days of survival	Number of Bank failures	Survival Rate of Banks (Percent)	Survival of Assets (Percent)
0	0	100.0	100.0
1	0	100.0	100.0
2	0	100.0	100.0
3	0	100.0	100.0
4	2	94.4	83.8
5	6	83.3	70.4

Source: BNM, IMF Staff Calculations

57. **Contagion risk is contained and has a severe impact only in a situation of extreme distress of simultaneous defaults of large domestic commercial banks.** Using a gross interbank exposures model, comprising both ringgit and foreign currency transactions, BNM traced out contagion paths and assessed the degree of joint credit and funding shocks arising from various types of defaults such as single defaults, simultaneous defaults, and defaults of different types of bank, including domestic and foreign subsidiaries.

58. **The FSAP team was unable to assess the credit risk and risk profile for Labuan entities given the lack of granular data.** LFSA should as a matter of priority improve data reporting requirements of Labuan-based entities in line with onshore bank data reporting standards.

[24] An important standard liquidity stress test utilizes a time horizon of five days (a business week) for a bank to survive liquidity stress (including a bank run). This assumes that the central bank is then able to resolve the crisis including closing of banks during the weekend. Run-off rates for deposits were in line with half the run-off rates (medium stress) seen for global banks at the time of the Lehman crisis. Run-off rates for short-term funding are in line with rates observed for EM banks in past crises, and have been used in recent FSAPs.

B. Other Financial Intermediaries

Insurance

59. **While the insurance sector is fairly sophisticated, offering a wide range of life, non-life, and Takaful insurance products, there is scope for further growth and consolidation.** BNM has identified a number of key challenges facing the industry which include asset-liability matching in a low interest-rate environment, rising claims costs especially relating to certain business segments, and increased volatility in global markets.

60. **Foreign presence in the insurance industry is sizeable, but entry to the Malaysian insurance market is restricted, in particular by limits on the number of insurer licenses granted.** No direct conventional insurance license has been issued since the 1970s. New reinsurance, takaful, and retakaful licenses have been issued from time to time since 1995 to meet specific objectives. There are some restrictions in terms of equity ownership: a foreign equity limit above 70 percent will be considered on a case-by-case basis, particularly for players that can facilitate consolidation and rationalization of the general insurance industry. The foreign equity limit for reinsurers is 70 percent; there is no foreign equity limit for retakaful operators.

61. **While industry and premium growth dropped in 2011, capital adequacy continued to remain strong.** Persistent low yields and some investment losses have been a drag on profitability particularly for the life insurers. Despite weaker profits, the combined capitalization level of the general and life insurance industry remained strong with the aggregate capital adequacy ratio well above the supervisory minimum.

Pensions

62. **The mandatory private pension arrangements already in place in Malaysia are substantial:** 23 percent of salaries of private sector employees go to the Employees Provident Fund (EPF). However, as in other countries, the pension system also has important gaps. Coverage of the potentially eligible population is around 50 percent. There is a strong accumulation phase but a severely underdeveloped pay-out phase. Most people use up their pension assets within 10 years, often in a lump sum. Voluntary occupational schemes and individual voluntary saving through insurance companies do not currently add up to a well-formed part of a coherent pension system that will deliver secure, adequate and sustainable pensions. The new PRS reforms and other changes to retirement ages and potentially to state pensions are a positive development.

III. Strengthening Financial Sector Oversight

A. Sectoral Oversight and Supervisory Effectiveness

63. **BNM and SC practice effective risk-based supervision for the range of banks, insurance companies, and securities firms operating in Malaysia.** BNM and SC have adopted appropriate supervisory techniques that reflect emerging best practices. These include risk-based capital requirements, stress testing, peer group comparisons and horizontal reviews. Certain areas where there is scope for improvement include: assessment of systemic importance of financial entities, articulation of supervisory expectations for development of recovery and resolution plans and assessment of model risk.

64. **The effectiveness of supervision could be enhanced by addressing existing gaps in enabling legislation and regulatory policy**. First, BNM does not have explicit legal authority to supervise financial holding companies and shortcomings exist in the coverage of the MOU with the SC.[25] Second, there are legal gaps in the oversight of large pension funds and certain specialized financial companies (the EPF is governed by separate legislation and supervised by the MoF but there does not appear to be any real on-site inspection); BNM recently started a reporting requirement and monitoring process for six of these large unsupervised financial companies, with the expectation of having stronger powers under the new law to address financial stability concerns. Third, GLICs have substantial interests in major banking groups, without either being treated as financial holding companies or explicitly defined as connected parties for purposes of prudential lending limitations.

Banking

65. **The regulatory and supervisory regime for banking is well developed and employs a risk-focused approach, supported by a comprehensive program of onsite supervision and extensive off-site macro and micro surveillance.** Individual firm supervision is complemented by horizontal and thematic reviews. Ratings and supervisory recommendations/remediation requirements are conveyed effectively to banking institutions both in writing and through extensive interaction with the Board and senior management and necessary remediation is followed through effectively. Supervision is supported by a well-articulated framework of prudential requirements, risk management expectations, and information-sharing arrangements with overseas supervisors.

66. **The current regime does not extend appropriately to the supervision and regulation of FHCs.** Six of the eight large domestic banking groups have parent FHCs, and the current legislative framework does not apply to those firms on a parent-only or

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[25] The new Financial Services Act and the Islamic Financial Services Act (both December 2012), and the updated MoU between BNM and SC (October 2012) address the weaknesses in supervision of FHCs.

consolidated basis. The BNM has been creative by imposing conditions on the FHCs incident to approval of their investments in their banks, and through these means has been able to significantly reduce the existing gap, but not to completely eliminate it. In addition to the gaps regarding consolidated capital and liquidity requirements, stress testing expectations are not generally applied on a consolidated basis. Going forward, for all FHCs there should be a formally designated primary regulator.

67. **Guidance on certain individual risk areas could be improved.** IRRBB and operational risk management requirements are generally in place and adhered to, but the release of more detailed regulation and supervisory expectations is currently underway. Plans are also underway to strengthen the regime for credit concentrations. Although all of the domestic banking groups currently have independent risk units, there is no regulatory requirement to have these in place.

68. **Provisions in the legal framework could potentially compromise the BNM's independence.** Section 70 in BAFIA allows the Minister at any time to direct the Bank to make an examination of any licensed institution if he has certain suspicions with regard to a banking institution. Section 73 of BAFIA authorizes BNM to direct institutions to take corrective actions, but it can remove and/or appoint new officers and directors only with the concurrence of the Minister. While BNM is widely perceived to be operationally independent, these residual provisions have the potential to undermine this.

69. **Making the BNM's supervisory expectations more transparent and improving domestic coordination and information sharing arrangements would aid in enhancing the effectiveness of supervision.** The criteria applied for considering new licenses and for acquisitions should be made transparent. Wider public consultation on proposed policy measures in accordance with the Policy Development Framework would add to their credibility.

70. **The authorities have already initiated legal and administrative measures to address several of the identified gaps.** Enhanced legal authority has been sought under new financial services legislation to enable full application of supervision and regulation of FHCs (including the capital framework). The proposed FSA will, at such time as it is enacted, further define the specific objectives of financial regulation and supervision by BNM as the supervisory authority for the banking sector. In addition to the existing power to initiate criminal processes, the proposed FSA will empower BNM to impose civil and administrative penalties in the event of non compliance with legal provisions. Gaps in the regulatory framework are also being addressed through revised guidance on supervisory expectations.

71. **The regulatory framework specific to Islamic banking was not formally assessed, as separate assessment standards for Islamic banking have not yet been developed**. There are some areas where legal and regulatory requirements, as well as powers for the

BNM, are not firmly grounded in legislation.[26] Similar to the conventional banking system, it is intended to address these issues in proposed new legislation for Islamic finance.

Securities

72. **The Securities Commission Malaysia (SC), exhibits high levels of implementation of the IOSCO Principles for Securities Regulation.** The regimes governing the regulation of issuers, auditors, collective investment schemes, market intermediaries and secondary markets, and with respect to enforcement, cooperation and information sharing, are extensive and effective, with no intermediary failure recorded during the recent global financial crisis.

73. **There are, however, some areas where enhancements are advisable.** The SC operational independence would be buttressed by some changes to the legal provisions on removal of commission members and to protections given to the members of the Commission and to its staff. The disclosure deadlines for issuers and their substantial shareholders should be adjusted to reflect international best practices. The new frameworks for oversight of credit rating agencies and the Federation of Investment Managers Malaysia have now been implemented through on-site inspections, addressing gaps pointed out in the assessment.

74. **The SC's relatively prescriptive regulatory approach in the post Asian crisis period is now transitioning towards greater adoption of a disclosure-based regulation.** Post crisis, the SC took an intrusive approach in the execution of its mandates with respect to regulating and developing the capital markets, in order to support stable market development. But it is now moving to a more disclosure based approach to regulation in order to promote innovation and facilitate the Malaysian markets' ability to respond to competition in the region, both for capital and market share.

Insurance

75. **The insurance sector does not appear to pose any potential sources of significant risk to financial stability.** The sector is relatively small and fragmented, without any major risk accumulations apparent that could impact system stability. While small at this juncture, any substantial growth in risk accumulations in Danajamin should be closely monitored,

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[26] The accompanying ROSC (Report on the Observance of Standards and Codes, Box 1) details some areas where the Islamic Banking Act 1983 provides the BNM with less legislative authority than the more recent Banking and Financial Institutions Act (1989) which governs commercial banks. An analysis of market development issues in Islamic Finance will be covered in the World Bank's Financial Sector Assessment report based on the FSAP.

given the nature of its business risks and the still developing regulatory framework for financial guarantee insurance.

76. **The regime for insurance supervision is robust and effective albeit there are some shortcomings in compliance with the Insurance Core Principles.** Regulatory guidance is comprehensive and supervision is effective and appropriately focused on relevant activities of the insurance industry. Shortcomings relate to matters of formalizing expectations into current guidelines, clarifying approaches in certain areas, enhancing transparency, and expanding the tool kit. The proposed financial institutions legislation will address concerns with BNM's powers for group-wide supervision and will ensure that client monies with intermediaries are properly protected. The implementation of ICAAP, and new risk governance guidance, will close current gaps in BNM's formal expectations for better insurer risk management practices.

Development finance institutions

77. **The 2002 Development Finance Institutions Act (DFIA) authorizes the BNM to regulate and supervise six DFIs under the standards applicable to commercial banks.** The other DFIs are supervised by ministries or government agencies. In addition to weaker expertise, conflicts of interest may arise, and in the event of financial problems the supervising institution may delay prompt corrective action. The authorities should rationalize the DFI sector based on re-evaluation of market gaps, and exit from those that have fulfilled their policy mandates, or which to a large extent now serve markets also served by commercial banks. The exit strategy should include the DFIs partially-owned by BNM, where the dual role of supervisor and shareholder may give rise to conflicts of interest.

B. Financial Sector Infrastructure

Financial markets infrastructure

78. **The national financial markets infrastructure (FMI, including RENTAS, the wholesale payment system) is well-developed.** BNM is responsible for the oversight of the payment systems, and settlement systems for unlisted government, BNM and private debt securities; SC is responsible for the regulation, supervision and oversight of the FMIs for the corporate securities and derivatives markets. While the system is generally compliant with applicable core principles, a number of areas for improvement exist, including: (i) strengthening legal rights of BNM over collateral placed to obtain liquidity in RENTAS and also enforcement of repo contracts; (ii) recognizing netting and novation arrangements in the securities and derivatives FMIs in legislation; (iii) strengthening the stress-testing

methodology for the securities and derivatives FMIs; and (iv) strengthening credit risk management at the securities market FMI.[27]

Corporate governance

79. **The SC, Companies Commission of Malaysia (CCM), BNM, and the Bursa have all been active in enforcing laws and regulations and building their capacities and resources to do so.** Basic shareholder rights are well established, insider trading is prohibited and other types of self-dealing and conflicts of interest are regulated. However, the Companies Act is decades old, and has gaps and lacks clarity in key areas. Minority shareholders do not have explicit rights to equitable treatment, have limited influence on board choice and some other key decisions, and do not always receive key information.

Accounting and audit

80. **Accounting and audit arrangements in place for public interest entities (including banks) are good, while those for other entities exhibit some weaknesses.[28]** Good progress has been achieved over the last 10 years in improving the quality and consistency of corporate financial reporting and corporate governance, particularly for public interest entities. Accounting and auditing standards are in line with international standards.

Restructuring and insolvency

81. **There is a developed framework for informal and semi-informal debt restructuring in Malaysia, though the insolvency framework should be upgraded.** There is a hybrid debt restructuring procedure, with informal elements and limited intervention of the courts. Given the lack of a formal reorganization process, this scheme offers virtually the only possibility for the reorganization of a company in distress. A unified insolvency law would help rationalize the existing framework, and eliminate contradictions and overlaps.

Anti-Money Laundering, and Combating the Financing of Terrorism[29]

82. **The authorities have made good progress in strengthening and implementing Malaysia's AML/CFT framework since it was last assessed by the Asia/Pacific Group on Money laundering (APG) in 2007.** They have addressed most of the deficiencies

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[27] According to the authorities, the securities and derivatives FMIs have introduced more robust stress testing from August 2012.

[28] Detailed assessment against international good practice is provided in the Malaysia Accounting and Auditing ROSC, prepared by the World Bank.

[29] The review was conducted in parallel with the FSAP by the IMF's Legal Department and included the AML/CFT framework for Malaysia's offshore sector, the Labuan International Business and Finance Centre (LIBFC).

identified with respect to the Financial Action Task Force (FATF) Recommendations reviewed in the context of this FSAP.[30]

IV. Labuan International Business and Financial Center (IBFC)

83. **The main business of the IBFC is currently bank lending, reinsurance, leasing and trust company business; capital markets activity is minimal.** Most of the larger banks are Malaysian owned, and are mainly engaged in foreign-currency lending to Malaysian and foreign (often Malaysian-linked) corporations. In 2011, about 75 percent of insurance business was written by reinsurers/retakaful operators and more than 40 percent of the premiums were for domestic Malaysian risk. For some time now, the Labuan IBFC has planned to change the business model, focusing on more traditional offshore business (private wealth management, offshore companies and captive insurance), Islamic Finance and services for high net-worth individuals.

84. **The legislative framework for regulation needs a substantial review.** New legislation enacted in 2010 gives stronger enforcement powers and enhances the ability of the LFSA to cooperate with foreign authorities. However, the new laws should be revised to further meet international standards, including strengthening the governance of the LFSA. Some key aspects of the regulatory reforms in 2010 should also be revised in order to meet international standards.

85. **Supervisory practices follow the form of a risk-based framework but could be enhanced to make supervision more effective.** The LFSA has introduced a risk-based supervision framework (RBSF) but it is not fully embedded in supervisory practices and is not being effectively implemented. A new Financial Stability Committee, with representatives from the BNM and SC, has been established by the LFSA to strengthen risk management and surveillance practices.

86. **The supervisory system relies on home supervisors and auditors but this requires more proactive engagement and effective communication.** Most LFIs are branches or subsidiaries of Malaysian or foreign financial institutions. The LFSA ensures that home supervisors are aware of an institution's presence in Labuan but does not confirm that consolidated supervision takes account of LFIs' operations adequately. It is important that the LFSA takes proactive steps to better leverage the work of auditors and home supervisors.

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[30] The review was limited to recommendations that appeared most relevant in terms of risk: the criminalization of money laundering, financial institution secrecy laws, identification of beneficial owners and politically-exposed persons requirements for financial institutions related to the identification and verification of the identity of the beneficial owner, reporting of suspicious transactions, transparency of legal persons and arrangements, and cash couriers.

87. **Although the prudential and systemic risk may be modest because of the current size of the IBFC, there remains a reputational risk from the inadequate regulatory regime.** It is critical to address the reputational risk both to the mainland and to the IBFC, particularly if it is going to have an enhanced role and a sustainable future as is contemplated by the Blueprint.[31]

88. **The authorities have initiated a number of steps designed to strengthen the regulatory regime in Labuan.** These include enhancing the regulatory guidelines for insurance and banking by adapting the relevant guidelines issued by the BNM. Cross-institutional collaboration will be enhanced.

89. **LIBFC would also benefit from more clearly defining its business model and focusing on building on its comparative advantages.** The original economic drivers for Labuan as an offshore centre are fading and it has recognized the need to seek more international business from the region. Going forward it is essential that it identifies an area of business in which it can specialize and which derives from its comparative advantages. For instance, Labuan could focus on serving as a back office center for financial services business carried out in Kuala Lumpur (such as wealth and fund management for those wishing to use Islamic products) and trust company business using the network of double taxation treaties and location as strategic advantages.

V. Managing Systemic Risks

A. Systemic Liquidity Management

90. **The BNM's monetary policy framework is based on a typical corridor system, where the overnight interbank interest rate is kept close to the policy rate.**[32] Open Market Operations are mainly conducted through direct deposits with BNM and issuance of BNM bills, but a variety of instruments is available. A wide range of collateral is eligible for the standing facilities. The BNM recently signed MOUs with Singapore and Thailand to guarantee reciprocity in collateral acceptance, thus facilitating Malaysian banks' operations in those countries.

91. **Throughout the GFC the BNM has been able to maintain a stable provision of liquidity to the banking sector.** This was mainly done by allowing existing liquidity-draining operations to roll off, and by a temporary reduction in the required reserves ratio.

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[31] The Financial Sector Blueprint points to the importance for Labuan IBFC of "a robust regulatory framework that safeguards stability and integrity."

[32] In a typical corridor system, the central bank makes available standing facilities (for overnight credit and deposits) at a symmetric margin around its policy rate, and conducts open market operations at or close to its policy rate in order to guide short-term interbank rates.

Notwithstanding the challenging environment, the Malaysian financial sector did not experience any major disruption.[33]

92. **During 2009 and part of 2010, foreign exchange reserves were vigorously used to manage exchange rate volatility, following asset liquidations by foreign investors.** Phases of capital outflows (2008 and 2011), were alternated with waves of inflows (2010). A stable core of domestic investors, notably the EPF and PNB, acted as a buffer against fluctuations in domestic asset demand by non-residents. The BNM communicated to the market that extraordinary measures, such as provision of foreign exchange to banks, would be activated if necessary; in the event, none of these measures had to be implemented.

93. **The downside risk of sharp and unpredictable portfolio flow reversals remains but should be manageable.** The high share of foreign holdings of government and BNM securities (some 40–45 percent at end-August 2012) indicates a vulnerability to capital outflows, which could be driven by changes in the external environment or domestic shocks. However, past experience suggests that the combination of ample reserves and a strong domestic investor base means such pressures could be managed relatively comfortably.

B. Macro-prudential Measures

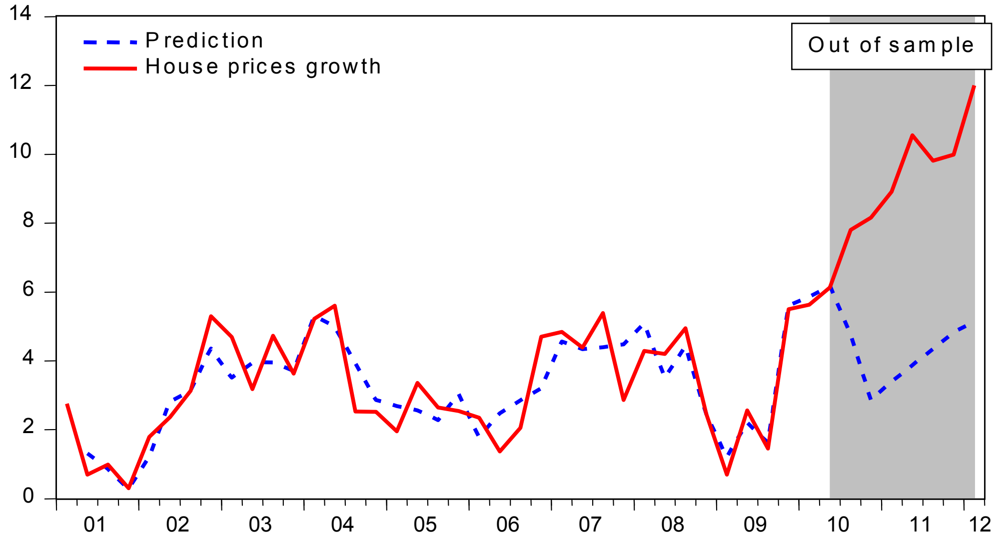
94. **Since 2010, Malaysia has adopted a series of macro-prudential and fiscal measures with the main goal of curbing the rise in household debt and house prices.** In March 2011 eligibility requirements for credit cards were revised. The BNM tightened lending conditions, based on the loan-to-value (LTV) ratios on mortgages, in November 2010 and in January and December 2011. The federal government also introduced measures, reintroducing in January 2010 the Real Property Gains Tax (RPGT) for housing disposals within five years of purchase. The RPGT was further raised in January 2011, and additional increases are contained in the 2013 Budget. Finally, in January 2012 the minimum price for house purchases by foreigners was doubled.

95. **The measures on credit cards appear to have had some success, though it is too early to fully assess their effectiveness; but house price growth remains at historical highs (figure 8).** Thus far the measures appear to have had limited impact on the overall volume of residential lending, but to have been effective in altering lending composition. Analysis indicates that macroeconomic factors such as income growth, interest rates and population growth are important drivers of house prices. Potential factors underlying recent increases beyond those predicted by macroeconomic factors include the impact of the 2009 elimination of the RPGT and demand by foreigners and by Malaysians living abroad. The

[33] The BNM has not needed to extend any ELA since the Asian financial crisis. It is nonetheless reviewing its guidelines with the goal of strengthening its ELA framework.

authorities should continue monitoring the development of housing loans with LTV ratio above 90 percent, which are concentrated mainly in two banks.

Figure 8. House Price Growth—Divergence between Predicted and Actual Path (in percent)



Source: IMF calculations: the prediction is constructed using CPI, GDP (as a proxy for incomes) and interest rates as regressors.

C. Crisis Management and Resolution

96. **Formalizing an apex monitoring and coordination committee could enhance inter-agency communications and risk identification.** The building blocks for a comprehensive crisis management framework are in place, including deposit insurance and ELA arrangements and powers to resolve financial institutions.[34] The Financial Stability Executive Committee (FSEC), set up in 2010, enables the BNM to address risks to financial stability arising from entities outside its regulatory sphere, but is not intended to act as a 'peace-time' oversight group. Inclusion of all financial sector supervisory agencies with significant oversight roles (notably, bringing in the SC) as regular members would strengthen its effectiveness.

97. **The bank resolution framework provides a comprehensive range of options but could be improved to address resolution of SIFIs, financial groups, conglomerates and FMIs.** While the powers vested in the resolution authorities are comprehensive to address threats to financial stability, provisions in law require court approvals or allow judicial appeal

[34] The system has relevant experience from the Asian Financial Crisis.

of revocation of banking licenses which could lead to their reversal or modification and thus undermine their effectiveness.

98. **The framework for inter-agency cooperation, particularly the cross-border elements, can be improved.** Current arrangements broadly cover information exchange in normal times and upon request, but can be enhanced in the context of crisis situations.

D. Deposit Insurance

99. **Deposit insurance is compulsory for all deposit-taking conventional and Islamic banks.**[35] The deposit insurance framework, managed by PIDM, broadly conforms to the Core Principles for Effective Deposit Insurance Systems. Overall, PIDM is a strong institution, with a culture of cooperation with other safety-net players, a strong performance in its exit from the blanket deposit guarantee adopted in response to the GFC, a robust public awareness program, and ongoing planning for potential financial institution resolutions. However, there are several areas for improvement, most importantly the need for MoF to execute a back-up funding agreement[36] and to give PIDM authority to approve operational matters currently approved by the Minister of Finance, in order to enhance PIDM's operational independence and effectiveness. Additionally, the payout period should be shortened substantially.[37]

VI. Islamic Finance

100. **The authorities currently have two interrelated Islamic finance agendas**. One is to continue to support the growth of Islamic finance domestically while ensuring the proper classification and treatment of different products. The latter may involve greater risk-sharing. The second is to become a global Islamic financial hub and promote the development of global Islamic finance in collaboration with other jurisdictions.

101. **As regards the former, the authorities face several key challenges.**

- Deposits in Islamic banks are covered by PIDM and most customer liabilities of Islamic banks are perceived to be guaranteed, so there is little differentiation among conventional deposits, Islamic deposits, and Islamic 'investments.' Current efforts to reclassify liabilities according to their underlying legal characteristics should provide a sound basis for future development; but the transition phase, which may last some years, involves market, regulatory and supervisory challenges. The authorities are

[35] It covers all depositors up to RM 250,000 per depositor per member institution.

[36] The current reserve level for conventional deposits is 0.14 percent of total insured deposits.

[37] PIDM is legally mandated to reimburse depositors promptly, no later than 3 months after a winding up order.

addressing these in order to ensure that user perceptions are in line with the legal reality.

- It is important to transparently segregate institutions that are considered deposit-taking from “investment” firms. If hybrid institutions are allowed, the authorities must consider the implications, including the moral hazard of any perception of insuring Islamic ‘investments;’ regulatory arbitrage; and competitive distortions. With a move toward higher-risk products, the SC must be involved to ensure compliance with capital-markets activity best practices.

Appendix 1. Malaysia: Risk Assessment Matrix

Nature/Source of Main Threats	Likelihood of Realization of Threat (in the next 1–3 years) (high, medium, or low)	Expected Impact on Financial Stability if Threat is Realized (high, medium, or low)
Slowdown in economic growth	*Staff assessment:* ***Medium*** Domestic demand continues to be resilient supported by both public (government) expenditures and robust private consumption and sound investment. The prospect of elections (they must be held by mid 2013) will mean that in reality fiscal policy will remain supportive. Together with accommodative monetary policies (low interest rates) given the benign inflation outlook, macroeconomic policies should help mitigate the effects of lower external demand (see next risk). Weaker US growth, recession in the eurozone and slower growth in China and rest of Asia, remains a real threat. Strong trade and financial linkages with Europe, U.S., and China and rest of Asia, imply that Malaysia would remain vulnerable to a drop in demand for its exports, including commodities. The real economy trade impacts would be most significant given domestic banks benefit currently from robust domestic growth.	*Staff assessment:* ***Medium/ Low*** A weaker economy would dampen corporate and small business profits and employment, and undermine credit quality. House and asset prices could also be impacted by slowdown in real GDP growth, further impacting household, and bank and non-bank corporate balance sheets. The key to household financial stress will be the employment situation. Given the seeming low level of non EPF financial asset buffers of many households, a prolonged period of unemployment could lead to a substantial increase in NPLs. The expectation is that policymakers would be able to mitigate financial economy impacts through more favorable liquidity provision by BNM and accommodative monetary policy.
Sharp reversal of capital inflows	*Staff assessment:* ***Medium*** The downside risk of sharp and unpredictable reversals remains and this reversal could be driven by a range of changes in the external environment (see above), particularly a rise in risk aversion, or domestic shocks, such as election uncertainty.	*Staff assessment:* ***Medium/Low*** A reversal of capital flows is likely to impact the net external balance adversely with possible negative impacts on asset prices. Cross-border bank lending would also be reduced by Malaysian banks, though given robust domestic credit; total credit may remain well anchored. With ample reserves, downside risks could be mitigated by authorities' use of exchange rate policies and/or foreign exchange intervention The experience in 2008–09 and more recently indicates such pressures can be managed.
Decline in real estate and CRE prices	*Staff assessment:* ***Medium*** Gross household debt has risen notably (74 percent of GDP); most of this debt is in the form of mortgages (50 percent of	*Staff assessment:* ***Medium*** Loans to households and nonfinancial corporates form a significant part of domestic banks' loan portfolios. The

	total) and car (auto) loans (17 percent of total). Much has been made of household debt being offset by higher financial assets, though recent evidence suggest that the distribution of assets/liabilities and wealth is highly skewed, with majority held by the top 20 percent. In the face of unexpected shocks (domestic or external) causing a protracted recession, the ability of households to meet payments on mortgages will be negatively constrained. Given current and foreseeable low unemployment, robust earnings growth and credit expansion, the domestic conditions currently mitigate against sudden house price falls. Having said this some sectors of the property market may be starting to overheat and macroprudential and microprudential action has been used to address this.	concern arises whether a housing or CRE property bubble has emerged. BNM has applied a 70 percent LTV on third mortgages/ property only, this may not be sufficient. Additional direct action may be needed to reduce property price pressures (through taxes, and prudent restrictions on first and second mortgages). Rising unemployment or prospects for rising interest rates could impact housing and CRE prices adversely, impacting banks' balance sheets through lower valuations of real estate assets under foreclosure, higher NPLs and higher provisioning due to defaults by households and corporates on their debt. The financial spillovers from falls in house prices could adversely impact the real sector both through bank's balance sheets (deleveraging and lower credit provision) and reduction in consumption as wealth effects take hold from a fall in house prices.
Sovereign distress - MTM reductions in sovereign and GLC linked securities.	*Staff assessment:* ***Low*** Malaysia's Federal Government debt - around 52 percent - remains a concern. Inaction or lack of medium-to-longer term fiscal consolidation plans may significantly raise sovereign bond yields and CDS spreads. The market consensus currently is that fiscal consolidation plans remain inadequate to put public debt on a sustained downward trajectory. On the other hand, asset holdings by Petronas and Khazanah are substantial.	*Staff assessment:* ***Medium*** While banks are not substantially exposed to Malaysian government debt, holdings of GLC securities by Malaysian banks both in terms of their banking and trading book holdings, as well as EPF holdings, are not easy to estimate, in part because GLCs are included within 'private sector' for most data purposes. Substantial interlinkages could in the event of severe budgetary problems result in an adverse sovereign-banking loop, which would have significant negative real economy (growth) impacts.

Appendix 2. Additional Tables

Appendix Table A2.1. Malaysia: Structure of the Financial System

As at end-2009 and 2011

Types of Institutions	No.of Institutions		Total Assets					
			in MYR million		As percent of Total		As percent of GDP	
	2009	2011	2009	2011	2009	2011	2009	2011
Banking Institutions :	**54**	**54**	**1,426,206**	**1,781,863**	**50.6**	**50.6**	**200.1**	**202.2**
Commercial banks	22	23	1,139,726	1,386,980	40.4	39.4	159.9	157.4
of which: Foreign	13	17	273,480	353,323	9.7	10.0	38.4	40.1
Islamic banks	17	16	224,938	326,841	8.0	9.3	31.6	37.1
of which: Foreign	6	6	34,695	42,768	1.2	1.2	4.9	4.9
Investment banks	15	15	61,542	68,042	2.2	1.9	8.6	7.7
Development Financial Institutions (DFI):	**13**	**13**	**165,915**	**204,727**	**5.9**	**5.8**	**23.3**	**23.2**
of which: Regulated under DFI Act 2002 1/	6	6	124,714	159,264	4.4	4.5	17.5	18.1
*of which: Not r*egulated under DFI Act 2002 2/	7	7	41,202	45,462	1.5	1.3	5.8	5.2
Labuan International Business and Financial Centre:	**384**	**517**	**221,239**	**252,577**	**7.8**	**7.2**	**31.0**	**28.7**
Commercial Banks:	42	43	102,062	121,058	3.6	3.4	14.3	13.7
of which: Conventional	36	37	100,736	120,188	3.6	3.4	14.1	13.6
of which: Islamic	6	6	1,326	870	0.0	0.0	0.2	0.1
					0.0	0.0	0.0	0.0
Investment Banks	17	17	1,503	1,595	0.1	0.0	0.2	0.2
Insurance Companies	149	181	8,422	11,610	0.3	0.3	1.2	1.3
Leasing Companies	136	229	75,653	87,910	2.7	2.5	10.6	10.0
Private Funds	38	45	33,149	29,989	1.2	0.9	4.7	3.4
Public Funds	2	2	449	416	0.0	0.0	0.1	0.0
Insurance Companies:	**48**	**53**	**162,825**	**197,884**	**5.8**	**5.6**	**22.8**	**22.5**
of which: Conventional Life	9	9	70,881	79,771	2.5	2.3	9.9	9.1
of which: Conventional General	24	22	21,285	25,406	0.8	0.7	3.0	2.9
of which: Takaful Life	-	4	-	-	0.0	0.0	0.0	0.0
*of which: C*omposite (Conventional)	7	6	58,213	75,759	2.1	2.1	8.2	8.6
*of which: C*omposite (Takaful)	8	12	12,446	16,948	0.4	0.5	1.7	1.9
Pensions & Provident Fund:	**3**	**3**	**443,558**	**563,428**	**15.7**	**16.0**	**62.2**	**63.9**
of which: Employees Provident Fund (EPF)	1	1	374,543	476,526	13.3	13.5	52.5	54.1
of which: Government Pension Fund	2	2	69,015	86,902	2.4	2.5	9.7	9.9
Fund Management 3/	**85**	**82**	**315,023**	**423,576**	**11.2**	**12.0**	**44.2**	**48.1**
Other Non-Bank Financial Institutions:	**7,243**	**9,101**	**85,938**	**99,704**	**3.0**	**2.8**	**12.1**	**11.3**
Cooperatives industry 4/	7215	9073	14,362	20,322	0.5	0.6	2.0	2.3
Leasing and factoring companies	23	23	5,010	5,006	0.2	0.1	0.7	0.6
Building Housing Credit Institutions	3	3	32,662	40,840	1.2	1.2	4.6	4.6
Cagamas	1	1	32,894	32,138	1.2	0.9	4.6	3.6
Danajamin Nasional Berhad 5/	1	1	1,010	1,398	0.0	0.0	0.1	0.2
Total Financial System Assets			**2,820,704**	**3,523,759**	**100.0**	**100.0**	**395.7**	**399.9**

Source: Bank Negara Malaysia, Companies' Annual Reports

1/ Refers to Bank Pembangunan Malaysia Berhad, Bank Kerjasama Rakyat Malaysia Berhad, Bank Simpanan Nasional, Export-Import Bank of Malaysia Berhad, Bank Pertanian Malaysia Berhad (Agrobank) and Bank Perusahaan Kecil & Sederhana Malaysia Berhad (SME Bank).

2/ Comprise Malaysian Industrial Development Finance Berhad, Sabah Development Bank Berhad, Borneo Development Corporation (Sabah) Sendirian Berhad,

3/ Refers to Asset Under Management (AUM).

4/ Excludes Bank Kerjasama Rakyat which is classified under "DFIs regulated under DFI Act 2002".

5/ A financial guarantee insurer.

Appendix Table A2.2. Malaysia: Indicators of Financial System Soundness 2006–2011

	2006	2007	2008	2009	2010	2011
Banking Sector						
Risk-Weighted Capital Ratio	13.5	13.2	12.6	15.4	14.8	15.1
Core Capital Ratio	10.7	10.2	10.6	13.8	13.0	13.2
Leverage Ratio *(Total Shareholders' Funds-to-Assets)*	7.8	7.7	8.3	9.2	9.3	8.9
Return on Assets	1.3	1.5	1.5	1.2	1.5	1.6
Return on Equity	16.2	19.8	18.6	14.0	16.6	17.4
Liquid Assets-to-Total Assets	8.0	9.3	10.3	11.5	12.8	16.0
Liquid Assets-to-Short-term Liabilities		38.5	41.9	42.9	48.1	45.5
Net Non-performing Loans Ratio[1]	4.8	3.2	2.2	1.8	2.3	1.8
Gross Non-performing Loans Ratio	8.5	6.5	4.8	3.6	3.4	2.7
Provisions-to-Non-performing Loans	50.7	62.9	74.2	82.4	89.6	99.6
Duration Weighted Net Position to Capital Base	7.5	4.4	3.8	5.0	4.9	4.9
Net Open Positions in FX to Capital Base[2]	4.7	5.1	10.5	12.6	8.9	7.2
Net Open Positions in Equities to Capital Base	2.5	2.5	0.9	0.9	1.2	0.9
Development Financial Institutions[3]						
Lending to Targeted Sectors (% change)	17.5	18.7	16.3	18.5	13.0	7.1
Deposits Mobilized (% change)	11.1	12.4	18.5	14.4	20.5	16.1
Non-performing Loans Ratio	10.0	8.8	6.6	6.8	9.0	7.2
Provisions-to-Non-performing Loans				98.5	78.2	79.0
Return on Assets	1.5	1.9	2.9	2.3	2.2	2.7
Leverage Ratio *(Total Shareholders' Funds-to-Assets)*	13.3	13.8	16.0	14.8	13.7	13.7
Insurance Sector[2]						
Capital Adequacy Ratio (Conventional Only)	139.6	158.4	187.6	225.7	224.6	222.5
Life Insurance & Family Takaful						
Excess Income over Outgo (MYR billion)	12.2	14.6	8.7	12.6	14.1	12.7
New Business Premiums / Contributions (MYR billion)	8.6	9.3	9.4	10.0	11.2	10.9
Capital Adequacy Ratio (conventional only)	146.1	151.8	200.0	254.4	253.2	248.5
General Insurance & General Takaful						
Underwriting Profit (MYR billion)	0.5	-0.1	0.2	0.9	0.9	0.6
Operating Profi t (MYR billion)	1.5	1.3	0.8	2.1	2.1	1.8
Gross Direct Premiums / Contributions (MYR billion)	10.5	11.0	12.0	12.8	14.1	15.4
Claims Ratio	60.0	65.0	61.2	60.3	62.1	66.0
Capital Adequacy Ratio (conventional only)	182.8	182.1	181.1	184.9	204.4	222.9
Household Sector						
Household Debt (MYR billion)	395.5	422.9	465.2	510.8	580.6	653.1
Household Financial Asset (MYR billion)	978.3	1160.0	1068.2	1225.8	1383.3	1499.8
Household Debt-to-GDP Ratio	68.8	65.9	62.7	75.1	75.8	76.6
Household Financial Assets-to-Total Household Debt Ratio	247.4	274.3	229.6	240.0	238.3	229.6
Household Liquid Financial Assets-to-Total Household Debt Ratio	151.7	175.3	141.5	152.6	154.1	148.1
Debt Service Ratio	39.1	41.1	39.5	49.0	47.8	48.1
Non-performing Loans Ratio of Household Sector	7.1	5.3	4.1	3.1	2.3	1.8
Corporate Sector						
Return on Assets	5.1	5.8	3.7	4.3	4.8	4.8
Return on Equity	10.0	11.5	7.3	8.0	8.9	8.4
Debt-to-Equity Ratio	50.3	47.9	52.7	44.7	46.7	44.8
Interest Coverage Ratio (times)	4.6	5.5	4.3	4.9	7.5	6.3
Operating Margin	10.9	10.9	9.0	10.7	10.7	11.4
Non-performing Loans Ratio of Business Sector	10.2	8.0	6.0	4.7	5.2	4.1

Source: BNM

1. Beginning January 2010, non-performing loans include impaired loans for banks that have adopted the Financial Reporting Standards (FRS) 139.
2. Beginning January 2008, the computation of net open position to capital base is based on Basel II Standardised Approach for Market Risk for foreign exchange risk.
3. Refers to development financial institutions under the Development Financial Institutions Act 2002.

Appendix Table A2.3. Malaysia: Selected Economic Indicators and Financial Indicators, 2008–2013

Nominal GDP (2011): US$288 billion
Main export (percent of total): electrical & electronic products (39%), commodities (23%)
GDP per capita (2011): US$10,085
Population (2011): 28.6 million
Unemployment rate (2011): 3.1 percent

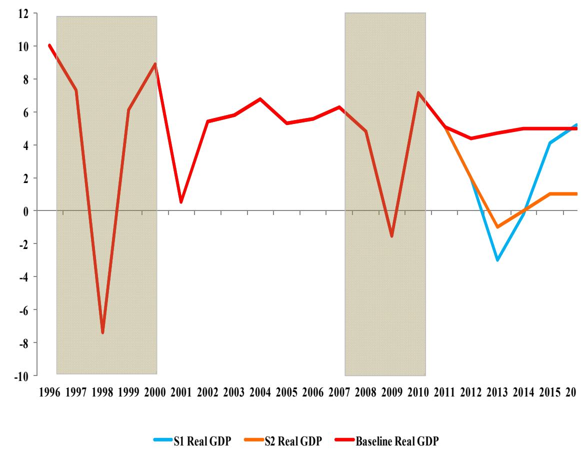
	2008	2009	2010	2011	Proj. 2012	Proj. 2013
Real GDP (percent change)	4.8	-1.5	7.2	5.1	5.1	5.0
Total domestic demand	6.4	-1.6	10.4	7.3	11.6	6.9
Consumption	8.4	1.4	5.8	8.9	7.4	6.4
Private consumption	8.7	0.6	6.6	7.1	7.3	7.8
Gross capital formation	1.8	-9.4	23.8	3.2	22.5	8.2
GDP deflator	10.4	-6.0	4.1	5.5	1.5	3.0
Saving and investment (in percent of GDP)						
Gross domestic investment	21.5	17.8	23.1	23.6	28.0	29.4
Gross national saving	38.5	33.4	34.2	34.6	34.0	35.3
Fiscal sector (in percent of GDP)						
Federal government overall balance	-4.6	-6.7	-5.4	-4.8	-4.5	-3.9
Revenue	20.8	22.3	20.1	21.0	22.0	20.9
Expenditure and net lending	25.4	28.9	25.5	25.9	26.6	24.9
Federal government non-oil primary balance	-11.2	-13.6	-10.6	-10.3	-9.6	-8.5
Consolidated public sector overall balance 1/	-5.4	-7.2	-2.5	-3.3	-5.1	-6.4
General government debt	41.2	52.8	53.7	54.5	55.4	55.1
Inflation and unemployment (period average, in percent)						
CPI inflation	5.4	0.6	1.7	3.2	1.8	2.2
Unemployment rate	3.3	3.7	3.3	3.1	3.0	3.0
Money and credit (end of period, percentage change)						
Total liquidity (M3)	11.9	9.2	6.8	14.3	…	…
Credit to private sector	12.9	6.2	9.7	12.1	…	…
Three-month interbank rate (in percent)	3.4	2.2	3.0	3.2	3.2	…
Balance of payments (in billions of U.S. dollars)						
Current account balance	39.4	31.4	27.3	31.7	18.2	19.9
(In percent of GDP)	17.1	15.5	11.1	11.0	6.0	5.9
Trade balance	51.6	39.9	41.8	48.4	39.7	36.9
Services and income account balance	-6.9	-3.0	-7.7	-9.8	-15.0	-9.5
Capital and financial account balance	-35.6	-22.8	-6.2	7.2	-4.0	-19.7
Errors and omissions	-9.4	-4.7	-22.0	-8.0	-8.2	0.0
Overall balance	-5.5	3.9	-0.8	30.9	6.0	0.2
Gross official reserves (US$ billions)	91.5	96.7	106.5	133.6	139.7	139.9
(In months of following year's imports)	7.6	6.1	5.9	6.9	6.7	6.3
(In percent of short-term debt) 2/	274.4	250.4	207.3	256.2	251.0	234.1
Total external debt (US$ billions)	68.5	68.0	74.1	81.1	85.5	90.0
(In percent of GDP)	29.6	33.6	30.0	28.2	28.1	26.6
Of which: short-term (in percent of total) 2/	48.7	56.8	69.3	64.3	65.1	66.4
Debt service ratio						
(In percent of exports of goods and services)	2.8	6.6	7.7	10.2	8.2	7.6
(In percent of exports of goods and nonfactor services)	2.9	7.0	8.1	10.8	8.8	8.1
Memorandum items:						
Nominal GDP (in billions of US$)	231	202	247	288	304	339
Nominal GDP (in billions of ringgit)	770	713	795	881	939	1,016

Sources: CEIC; Data provided by the authorities; and Fund staff estimates.

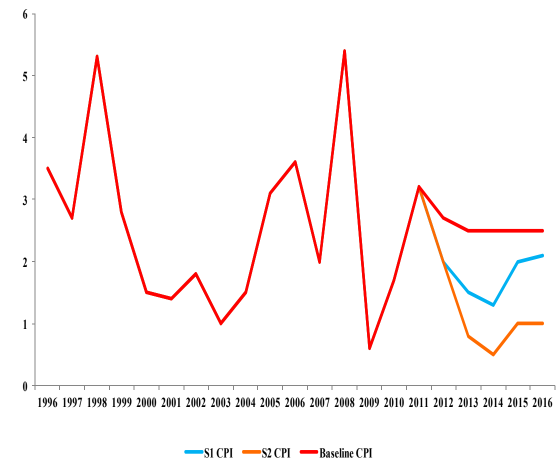
1/ Capital expenditure in the budget includes foreign fixed assets and other items, such as purchase of shares and land, which are excluded from public investment in the national accounts.
2/ By remaining maturity.

Appendix 3. Macroeconomic and Asset Price Variables 2012–2016

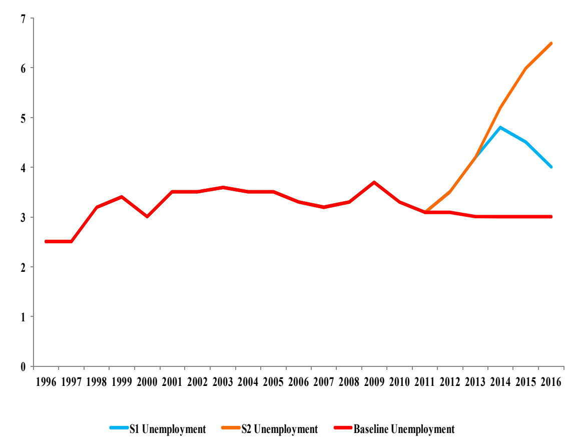
Real GDP Growth (percent)



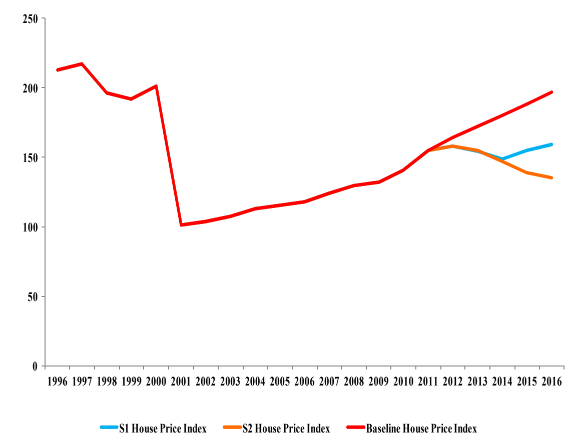
Inflation (CPI) (percent)



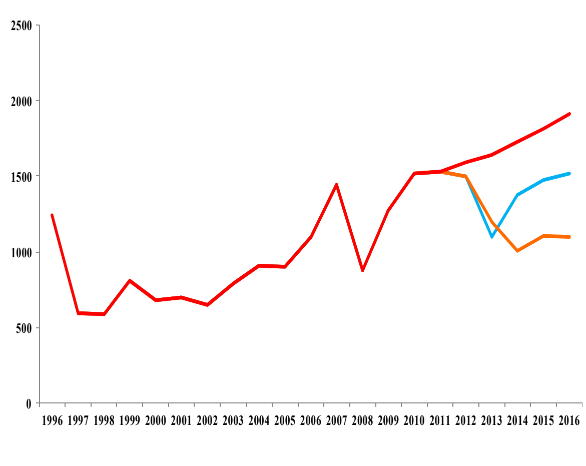
Unemployment (percent)



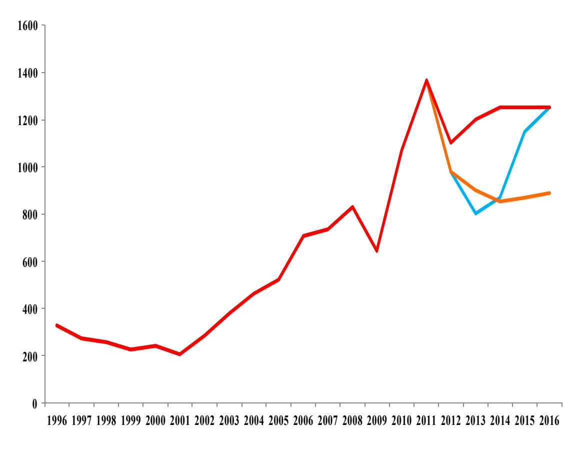
House Prices (index)



Stock Prices (KLCI) (Index)



Rubber Prices (Sen/kg)



Source: IMF Staff

Appendix 4. Stress Test Matrix (STeM) for the Banking Sector: Solvency Risk[38]

Domain	Assumptions	
	Bottom-Up (BU) by Banks	Top-Down (TD) by FSAP Team

Type of tests	• Macro-scenario analysis
	• Sensitivity analysis
	    ○ 5 single-factor credit shocks
	    ○ 7 single-factor market risk shocks
	(see Appendix 6 for more details)
		• Macro-scenario analysis

Institutions involved and market share	• 36 banks (commercial, Islamic and investment banks) including exposures of Labuan branches • 83% of banking system assets	
Data source and reference date	• Supervisory data as at end-2011 • Unconsolidated solo basis - to separate commercial, Islamic, investment, Labuan and material overseas subsidiaries	• Supervisory data as at end-2011 • Unconsolidated solo basis - to separate commercial, Islamic and investment subsidiaries
Horizon	• Macro-scenario analysis (5-year i.e. 2012-2016) • Sensitivity analysis (1-year)	• Macro-scenario analysis (5-year) • Contagion risk analysis (instantaneous contagion impact on solvency)
Methodology	• Macro-scenario analysis – Using consistent macroeconomic assumptions (harmonized by IMF/BNM for stress test purposes only), banks adopted internal models for (i) balance sheet and income projections, and (ii) calibration of credit and market shock parameters • Sensitivity analysis – shocks calibrated by BNM and IMF	• Macro-scenario analysis – TD solvency test based on Schmeider et al (2012), using macro assumptions consistent with BU (harmonized by IMF/BNM for stress test purposes only)

Macro assumptions	• Macro-scenario analysis
	    ○ Baseline :Latest WEO forecasts; taking into account conflagration of Europe sovereign debt crisis and GFC
	    ○ Adverse S1: V-shaped recession and slow recovery (peak to trough decline of 2.6SD with respect to average real GDP growth over the previous 12 years)
	    ○ Adverse S2: L-Shaped recession and prolonged low growth peak to trough decline of 1.3SD with respect to average real GDP growth over the previous 12 years, but low growth is persistent).
	
	• Macroeconomic conditions/variables: GDP, inflation, interest rates, exchange rates,	

[38] Conventional Banks (commercial and investment banks) form approximately 77 percent of banking system assets, Islamic banks form 23 percent. There are 25 commercial banks, 15 investment banks, 16 Islamic banks, 5 international Islamic banks, and 2 other financial institutions.

	unemployment, property prices, and various asset prices (CPO, crude oil, rubber) ○ Including GDP, exchange rates and inflation rates for 8 major countries • Financial market indicator conditions/variables (harmonized by BNM/IMF): KLIBOR and KLIRR rates, KLCI index and volatility, yields on public and private debt securities (MGS, GII and PDS), average financing/mortgage rates ○ Magnitudes of shocks determined by past (large) historical events, domestic or external.	
Risks/ factors assessed and Behavioral adjustment	• Balance sheet projections (y-o-y) based on business strategy/ portfolio adjustments and risk appetite settings, consistent with common stress test scenarios ○ Loan growth (by business sectors and retail segments) ○ Growth in trading and investment securities portfolios ○ Overall RWA growth ○ Growth in deposits and other main funding sources • Revenue growth and shocks ○ Net interest income, trading and investment income, fee income and other income • Profit and retained earnings ○ Tax rates and dividend payout rates based on current practices ○ No planned capital raising activities are included • Credit risk shocks ○ PD and LGD shocks (by loan segments) ○ Increase in impaired loans and shocks on collateral value • Market risk shocks ○ MTM losses/gains based on net of interest rate, FX, equity and exposures • Shocks on off-balance sheet exposures ○ Higher drawdowns on credit facilities	• Satellite models linking to macro variables ○ BNM provided satellite model estimations linking system-wide credit growth, impaired loans and gross operating income, according to stress test scenarios • Shocks on impaired loans and stressed credit loss rates (by business sectors and retail segments) ○ BNM provided estimations of credit loss rates (baseline scenario), based on satellite models linking PDs and LGDs (by business sectors and retail segments) ○ Credit loss rates (by business sectors and retail segments) for adverse scenarios adjusted by FSAP Team based on benchmark EME FSAPs and expert judgment • Higher RWAs on sovereign exposures • Consistent industry-wide dividend payout and tax rates applied • Only organic capital growth is imputed
Calibration of risk/shock parameters	• Revenue shocks (modeled based on actual downturn experience, and calibrated y-o-y shocks based on scenarios and balance sheet projections)	• Point in time credit risk parameters • Point in time loss rates • Including stressed and adverse credit risk parameters and loss rates

	• Credit risk shocks (modeled based on actual downturn experience, and calibrated y-o-y shocks based on scenarios) o PD and LGD shocks (by loan segments); or o Stressed impaired loans flow rates o Shocks on collateral value • Market risk shocks o MTM losses/gains based on net of interest rate, FX, equity and exposures	
Regulatory standards	• Hurdle rate, e.g., Basel II CAR (RWCR) 8%, Tier 1 (CCR) 4% • Capital definition based on Basel II and III (both with local regulatory finishes) • StA and F-IRB, A-IRB	
Results	Sensitivity analysis • Median/aggregate impact on CAR/Tier1/RWA and CET1 ratio (bank by bank, by industry and system-wide) • Losses as percentage of capital base, CET1 and RWA Macro-scenario analysis • Median/aggregate impact on CAR/Tier1/RWA and CET1 ratio (bank by bank, by industry and system-wide) • Losses as percentage of capital base, CET1 and RWA • Stressed capital distribution by banks	Macro-scenario analysis • Aggregate impact on CAR/Tier1 and CET1 ratio (bank by bank, by industry and system-wide) • CAR/Tier1 shortfall (system wide) • Stressed capital distribution by banks

Appendix Table A4.1. Stress Test Matrix (STeM) for the Banking Sector: Liquidity Risk

Domain	Assumptions	
	Bottom-Up (BU) by Banks	**Top-Down (TD) by FSAP Team**
Type of tests	• Multi-factor liquidity risk shocks (on ringgit and US dollar denominated assets and liabilities)	• Liquidity test o Implied and or fully funded cash-flow tests o maturity mismatch test/ rollover risk test o liquidity-solvency link test
Institutions involved and market share	• 36 banks (commercial, Islamic and investment banks) including exposures of Labuan branches • 83% of banking system assets	
Data source and reference date	• Supervisory data as at end-2011 • Unconsolidated solo basis - to separate commercial, Islamic, investment, Labuan and material overseas subsidiaries	• Supervisory data as at end-2011 • Unconsolidated solo basis - to separate commercial, Islamic, investment
Horizon	• 1-year	• 5 days, 30 days, up to 1 year
Methodology	• Simultaneous liquidity shocks due to o deposit withdrawals o crystallization of commitment and contingencies, higher drawdown of undrawn credit facilities o no rollovers of interbank funding and FX swaps o haircuts on liquefiable assets • Scenario-based multi-factor liquidity risk shocks, applied to MYR and USD exposures, are calibrated by BNM (and agreed by IMF), and driven by institution-specific and market wide distress events e.g. o Market-wide risk aversion o Dry-up of interbank or wholesale funding markets o Fire sale of assets o Counterparty risk concerns o Capital deterioration o Credit rating downgrades	• Use of IMF Liquidity Testing approach – see Schmeider et al (2012) IMF WP/12/3
Risks and shock parameters	<u>For RM denominated items based on BNM Liquidity Framework</u> ▪ Bank-specific liquidity shocks on different types of instruments/ customers, *subject to cap and floor, as specified below*: ***1)*** *Retail deposit withdrawals* o Largest 30-day horizon run-off rates observed in the past 5 years for each type of deposit: - Fixed deposit - Savings deposit	• Scenario-based Liquidity Analysis • Applied to RM and Foreign currency exposures, with on- and off-balance sheet linkages • Liquidity shock parameters (bank runs): o Run-off rates (baseline and adverse) varied for retail, corporate, interbank deposits, stressed run-off rates for non-resident deposits. o Dry-up of interbank or wholesale

	- Current account deposit - Call money - General investment deposit - Specific investment deposit ○ Floor: 5% ○ Capped at 30% ***2)*** *Corporate deposit and NIDs withdrawals* ○ Largest 30-day horizon run-off rates observed in the past 5 years for each type of deposit: • Floor: 30% • Capped at 75% for the following: - Fixed deposit - Savings deposit - Current account deposit - General investment deposit - Specific investment deposit • Capped at 100% for the following: - Call money - Short term deposit - NIDs ***3)*** *Drawdown on commitments and guarantees* ○ Largest drawdown rates observed in the past 5 years over 30-day horizon ○ Floor: 5% ○ Capped at: - 20% for credit facilities - 100% for liquidity facilities ▪ Common shocks for all banks on the following: ***1)*** *No rollover of interbank and FX swaps maturing within 30 days* ***2)*** *Haircuts on Class 1 liquefiable assets: 10%* ***3)*** *Haircuts on Class 2 liquefiable assets: 30%* <u>For USD denominated items based on BNM Liquidity Framework</u> ▪ Bank-specific liquidity shocks on different types of instruments/ customers: ○ *Largest 30-day horizon run-off rates observed in the past 5 years for each type of deposits* ○ *Largest drawdown rates observed over 30-day horizon for commitments and guarantees* • *No rollover of interbank and FX swap for amounts maturing within 30 days*	funding (secured and unsecured). ○ Liquidity shock due to realization of commitment and contingencies, higher drawdown of undrawn credit facilities, crystallization of guarantees (asset encumbrance). ○ Liquidity shocks due to failure of rollover of maturity assets. ○ Valuation reduction in liquefiable assets, stressed haircuts, discounted cash flows (lower PV), due to higher risk-premium, fire-sales. ○ Liquidity losses due to forbearance—lower principal and coupon repayments. • Calibrated based on advanced economies Lehman-type (market-wide) events
Regulatory standards	• Net available cumulative mismatches to accommodate liquidity shocks (up to 1 month) - as per BNM Liquidity Framework	• Hurdle metrics, e.g., how long (days, weeks, months) can banks withstand shocks, how many banks show a shortfall

Results	For ringgit:
	• Net available cumulative mismatch to accommodate liquidity shocks (up to 1 month)
	  ○ Surplus as a percentage of remaining ringgit deposits (fixed, savings and current)
	  ○ Shortfall as a percentage of discounted value of Class-1 and Class 2 liquefiable assets
	
	For US dollars:
	• Net available cumulative mismatch to accommodate liquidity shocks (up to 1 month)
	  ○ Surplus as a percentage of remaining US dollars deposits (fixed, savings and current)
		• Time taken by banks to withstand liquidity shocks (days, weeks, months)
		• How many banks fall short; as a percentage of liquid assets?
		• Liquid assets divided by short-term liabilities due in 30 days

Appendix Table A4.2. Stress Test Matrix (STeM) for the Banking Sector: Other Systemic Tests [1/]

(e.g., Contagion/Spillover Risk)

Domain	Assumptions
	Top-down Contagion Risk Analysis by BNM
Institutions included and market share	• 53 banks (commercial, Islamic investment banks), excluding 3 newly-established banks • 99.8% of banking system assets
Data and baseline date	• Supervisory data as at end-2011 • Unconsolidated solo basis - to separate commercial, Islamic, investment banks

Methodology	• Use BNM Interbank contagion risk model
	  • Based on gross interbank lending and borrowing relationships among all banks
	  • Seeks to measure the extent of domino effects from simulated bank failure(s) in the interbank market, track the contagion path and quantify potential capital losses due to cumulative credit and funding shocks
	  • Identify potential systemic super-spreaders and less systemic counterparties
	• Initialization of this model involves simulating a particular bank failure or a set of bank failure(s) (defined as trigger bank(s)) which defaults on its interbank borrowing and resort to cutting back funding to all other interbank players (excluding BNM as an interbank counterparty). Post-initialization, the model simulates two forms of contagion shocks on all other banks, disregarding any policy responses by BNM:
	  1. Credit shocks:
	    ▪ Trigger bank(s) default on outstanding interbank borrowing from all other banks (across all remaining maturity); and
	    ▪ Other banks are compelled to absorb 100% loss from default on all interbank loans to trigger bank(s).
	  2. Funding shocks:
	    ▪ Trigger bank(s) stop providing interbank funding in the market (assume no-rollover of all outstanding interbank funding across all remaining maturity provided to all other banks) causing liquidity shocks on banks funded by trigger bank(s); and

Domain	Assumptions
	Top-down Contagion Risk Analysis by BNM
	▪ Other banks will need to replace the 'lost' funding (assume 50% of funding needs through interbank market is not replaceable) through fire sale of assets (with a haircut of 50%) to restore respective balance sheet. The high haircut applied represents an important source of systemic risk, where the forced sale of assets may trigger decline in market value of other banks' portfolio. • The simultaneous credit and funding contagion shocks is simulated in an iterative manner until no additional bank has a resultant RWCR of <8%.
Shocks assumptions	• Solvency hurdle rate or failure threshold = RWCR < 8% • Risk-weight for interbank loans = 20% • Loss given default (LGD) of interbank loans = 100% • % of funding not refinanced upon each failure = 50% • Haircut on fire sale of assets = 50%
Type of tests and scenario design	• Single default (simulating one-at-a-time hypothetical failures) to determine the (i) degree of contagion effects, and (ii) vulnerability to joint credit and funding shocks, of each bank via the interbank market • Scenario-based simultaneous defaults (simulating two- or more-at-a-time failures) based on common themes of systemic linkages and impact: o Scenario 1: Four largest domestic and foreign banks (by asset size)—to assess interbank contagion impact from "too-big-to-fail" banks o Scenario 2: Four most connected banks (by interbank borrowing counterparty)—to assess interbank contagion from "too-interconnected-to-fail" banks o Scenario 3: Four most connected Islamic banks and investment banks (by interbank borrowing counterparty)—to assess contagion effects from Islamic and investment banks which borrows from a wide range of counterparties o Scenario 4: Seven locally incorporated European Banks (LIEBs)—to assess potential interbank shocks from LIEBs should deleveraging pressures intensify amid a worsened European debt crisis scenario
Results	Single default simulations • Degree of contagion effect by each bank o As measured by (i) contagion path, (ii) no. of contagion rounds, (iii) total banking system capital erosion and (iv) resultant system RWCR • Degree of vulnerability of each bank to shocks in interbank market o As measured by (i) hazard rate and (ii) absolute hazard Scenario-bases simulations • Degree of contagion effect by a group of banks o As measured by (i) contagion path, (ii) no. of contagion rounds, (iii) total banking system capital erosion and (iv) resultant system RWCR

Appendix 5. Types and Parameters for Sensitivity Analysis Shocks

Risk Area	Type of Sensitivity Shock Parameters	Remarks of Magnitude of Shock Parameters
Credit Risk	**CRS 1.** Defaults of PDS/sukuk and other corporate debt securities by rating	• Different default rates applied to corporate debt securities issued in Malaysia/EMEs and advance economies
	CRS 2. Credit rating migration shock for PDS/sukuk and other corporate debt securities by rating	• Different migration rates applied to corporate debt securities issued in Malaysia/EMEs and advance economies
	CRS 3. Shock on risk weight for MGS and GII	• Increase in risk weights for MGS and GII from 0% to 20%
	CRS 4. PD and LGD shocks on Housing Loans	• PD=7%, LGD=20%
	CRS 5. PD and LGD shocks on Housing Loans	• PD=10%, LGD=30%
Market Risk	**MRS 1.** Interest Rate Risk Shock: Parallel upward shift in yield curve	• +300 bps
	MRS 2. Interest Rate Risk Shock: Parallel downward shift in yield curve	• -250 bps
	MRS 3. Interest Rate Risk Shock: Steepening of yield curve	• Short Term (<1 year): 46 bps • Medium Term (1 year to 5 years): 252 bps • Long Term (>5 years): 268 bps
	MRS 4. Interest Rate Risk Shock: Widening of credit spreads	• Short Term (<1 year): 142 bps • Medium Term (1 year to 5 years): 228 bps • Long Term (>5 years): 256 bps
	MRS 5. Foreign Exchange Risk Shock	• USD +20% • SGD +17% • HKD +15% • JPY +20% • EUR -20% • GBP +15% • AUD +20% • IDR +10%
	MRS 6. Equity Risk Shock	• FBM KLCI decline (-67.3%) to 500 pts
	MRS 7. Equity Risk Shock	• FBM KLCI decline (-47.7%) to 800 pts