Understanding Banking Supervisory Priorities and Capacities in ASEAN+3 Economies*

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* This Thematic Study is approved by Dr Yoichi Nemoto (Director). A team of economists at AMRO was involved in the preparation of this study: Dr Reza Yamora Siregar (Lead Economist and Group Head), Ms Ng Chuin Hwei (Senior Specialist), Mr Akkharaphol Chabchitrchaidol (Economist), Dr Chan Narith (Economist), Dr Thi Kim Cuc Nguyen (Economist), and Mr Shunsuke Endo (Economist). The analysis in this Thematic Study is based on information available up to 18 August 2014. AMRO expresses its gratitude to the ASEAN+3 authorities for providing valuable and comprehensive responses to the survey that forms part of this study.

Acronyms and Abbreviations

BIS	Bank of International Settlements
DI	Deposit Insurance
FSA	Financial Supervisory Agency
FSI	Financial Soundness Indicators
FSB	Financial Stability Board
GFC	Global Financial Crisis
G-SIFIs	Global Systemically Important Financial Institutions
IMF	International Monetary Fund
IFS	International Financial System
LORS	Lender of Last Resort
NBFIs	Non-Bank Financial Institutions
NIEs	Newly Industrialized Economies
SIFIs	Systemically Important Financial Institutions
U.K.	The United Kingdom
U.S.	The United State of Americas
WEO	World Economic Outlook
y-o-y	year-on-year
ASEAN	Association of Southeast Asian Nations
Plus 3	China, Japan, Hong Kong SAR, and Korea
ASEAN+3	ASEAN plus China, Japan, Hong Kong SAR, and Korea
ASEAN-4	Indonesia, Malaysia, the Philippines, and Thailand
ASEAN-5	Indonesia, Malaysia, the Philippines, Thailand and Vietnam
ASEAN-6	Brunei, Indonesia, Malaysia, the Philippines, Singapore, and Thailand
BCL	Brunei, Cambodia, and Lao PDR
BCLM	Brunei, Cambodia, Lao PDR, and Myanmar
BCLMV	Brunei, Cambodia, Lao PDR, Myanmar, and Vietnam
BN	Brunei Darussalam
CN	People’s Republic of China
HK, Hong Kong SAR	Hong Kong, China
ID	Indonesia
JP	Japan
KH	Cambodia
KR	Korea
LA, Lao PDR	Lao People's Democratic Republic
MM	Myanmar
MY	Malaysia
PH	Philippines
SG	Singapore
TH	Thailand
VN	Vietnam

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Executive Summary

Study Motivation and Research Design

The objectives of this thematic study are to identify the supervisory priorities of ASEAN+3 banking supervisors, and the issues they face in building sufficient capacity in the context of increased financial deepening and integration. While it is important to consider quantitative indicators, such as ratios of capital adequacy and non-performing loans, this analysis needs to be complemented by a qualitative understanding of financial supervisory priorities, risk assessment process and supervisory capacity. In so doing, AMRO has conducted **a survey on banking supervisory priorities and capacities in ASEAN+3**, focusing on the following areas: (i) supervisory priorities – assessment of risks in the banking sector and supervisory response; (ii) supervisory framework and capacity; and (iii) home-host supervisory relationships and foreign bank supervision.

ASEAN+3 Banking Sector Landscape: Stylized Facts

Available data indicate a steady process of deepening in ASEAN+3 banking sectors after the 2008-2009 Global Financial Crisis, regardless of their different stages of development, to support growth recovery in the region. Domestic credit expanded rapidly in most of regional economies until recently and AMRO survey results confirm that banking assets in the ASEAN+3 economies have grown significantly from the pre-GFC period. Banks have also continued to diversify their products in the region. The relatively elevated household leverage, particularly in higher income ASEAN economies and rapid proliferation of both banks and non-bank financial institutions in some less financially developed ASEAN, may pose challenges to existing supervisory capacity.

ASEAN+3 banking sectors have also become increasingly integrated. As a number of regional authorities eased their regulations on foreign bank entry during the past decade or so, both global and regional banks have strengthened their presence in the region, particularly in emerging ASEAN economies. Coupled with the use of unconventional monetary easing by advanced economies, this development has contributed to recent increases in foreign claims, particularly the more volatile cross-border claims, vis-à-vis ASEAN+3 economies from both global and regional banks.

ASEAN+3 Banking Supervisory Priorities and Capacities: Main Findings

In the survey, most ASEAN+3 authorities identified credit risk as the most significant risk in their banking sectors over the next six months. Important credit risk drivers are a risk of a correction in asset markets leading to deterioration in collateral values and borrowers' credit worthiness, and a possible deterioration in the macroeconomic environment leading to increased obligor defaults. **ASEAN+3 authorities generally viewed liquidity and market risks in their banking sectors remaining stable, except one ASEAN+3 authority that assessed both risks as likely to increase over the next six months**. Important risk drivers for these two risks is possible volatility in capital flows, resulting in banks' funding mismatches and in volatility or expected rises in interest rates. **Operational risk are viewed as remaining stable, with two ASEAN+3 authorities responding that operational risk is likely to increase in the next six months.** Important operational risk drivers are banks' increasing use of complex information technology systems and the rapid expansion of banks' operations locally and overseas. **ASEAN+3 authorities said in the survey that they have taken measures to mitigate these risks, with most measures concentrated on dealing with credit risk.** These are regulatory and administrative measures including macroprudential ones, and strengthening both offsite supervision and onsite inspections.

In terms of supervisory framework, most ASEAN+3 bank supervisors have a methodology to identify systemic banks and inspect these more frequently; use many supervisory tools for offsite and onsite inspection; have a wide range of corrective and sanctioning powers; and engage in home-host supervisor cooperation. Some supervisors in economies with less developed banking sectors have not required banks to conduct stress tests. The ASEAN+3 bank supervisors require banks to submit regulatory reports, though not all require reports for items such as off-balance sheet items, large exposures, related party transactions, or market risk. Although banks and their subsidiaries in almost all ASEAN+3 economies are allowed to engage in non-banking activities such as securities, insurance and to a lesser extent in real estate, not all ASEAN+3 bank supervisors require banks to produce consolidated accounts or submit information covering these activities.

The experience level of bank supervisors, and the number of supervisors per bank, varied considerably in ASEAN+3. **To meet supervisory challenges, 11 respondents said they plan to increase headcount for bank supervisors,** with hiring specialist supervisory skills such as accounting and quantitative modelling expertise as a priority.

Policy Discussions

Although only one respondent expected liquidity risk or market risk as a whole to increase in its banking sector over the next six months, it is important for other respondents to remain vigilant, and to consider applying similar microprudential supervisory tools on credit risk to potential liquidity and market risks where appropriate. Tools such as collecting more supervisory information, stress testing and thematic inspections are some that should be usefully applied to liquidity and market risks.

Given the importance of cross-border banking in most ASEAN+3 banking sectors, most ASEAN+3 supervisory authorities have participated in supervisory colleges in order to enhance information-sharing among supervisory authorities. This information sharing, especially where it helps develop a common understanding of risks in cross-border financial groups, could be further enhanced. One example is host supervisors sharing inspection reports on foreign banks in their jurisdictions with home supervisors, which slightly more than half of ASEAN+3 host supervisors currently do.

The survey results have also suggested that banks in the region face incentives to reach outside traditional deposit-taking and lending into non-bank activities, such as securities, insurance and real estate. There are pros and cons to allow banks to involve in non-bank activities. What seems clear, however, is that there has to be sufficient capacity for bank supervisors to supervise bank activities, whether these are limited to deposit-taking and lending, or are extended to non-bank activities if these should pose a risk to banking stability. **Bank supervisors in the region could enhance consolidated supervision by requiring banks and banking groups to produce consolidated accounts covering both**

bank and non-bank activities, or by acquiring powers to request material information on non-banking activities and entities within a banking group.

1. Introduction and Motivation

The staggering scope of the 2008-2009 global financial/banking crisis coupled with strong evidence on the beneficial effects of well-functioning banking systems for economic growth underscore current efforts to reform bank regulation and supervision globally. As with their counterparts in other parts of the world, the financial supervisors and regulators of the ASEAN+3 economies face a multiple set of challenges in implementing new laws and reforms in response to the global financial crisis and to enhance financial sector development and stability. At the same time, additional obstacles arising from the continued reliance on highly accommodative and unconventional monetary policies in the advanced economies have made managing financial stability more complex for countries around the world, including the emerging markets of the ASEAN+3.

A further opening up and deepening of the domestic banking sector in recent years, coupled with relatively sustained economic growth, has attracted new foreign banks and contributed to the surge of bank lending among the emerging markets of ASEAN, such as the CLMV economies. At the same time, the more integrated banking sectors in ASEAN+3 have seen a rise in cross-border banking activities. **On the back of this recent development and the uncertainty in global and regional financial markets, the role of the banking supervisor is increasingly becoming more complex, yet more vital in the overall attainment of financial stability within countries and the region as a whole.**

The objectives of this thematic study are to identify the supervisory priorities of ASEAN+3 banking supervisors, and the issues they face in building sufficient capacity. Financial sector soundness and supervision is a key area that the ASEAN+3 Macroeconomic Research Office (AMRO) will increasingly focus on as part of its surveillance mandate. While it is important to consider quantitative indicators, such as ratios of capital adequacy and non-performing loans, this analysis needs to be complemented by a qualitative understanding of an economy's financial supervisory priorities, risk assessment process and supervisory capacity.

An important part of this study will be based on a survey of supervisory capacities and frameworks, primarily in the banking sector given that banks play a dominant role in the financial sectors of the ASEAN+3 economies. The survey comprises three major interest areas:

1. Supervisory Priorities – Assessment of Risks in the Banking Sector and Supervisory Response

2. Supervisory Framework and Capacity

3. Home-host Supervisory Relationships and Foreign Bank Supervision

In particular, the survey will pose the following sets of questions to supervisory authorities across the ASEAN+3 economies. The first focuses on the types of risk facing the domestic banking sector and which risks will be the most important in the next six months. The second aims at understanding the banking sector supervisory framework and capacity. The last set of questions looks at cross-border supervisory capacity, primarily to assess the capacity of the relevant authorities to supervise foreign bank branches and subsidiaries.

The above sets of questions were drawn up with regard to the *Basel Core Principles for Effective Banking Supervision*, in particular Core Principles 8 to 13 on supervisory approach, techniques and tools and supervisory reporting, the corrective and sanctioning powers of supervisors, consolidated supervision, and home-host relationships. Additional reference was taken from the questionnaires in the World Bank's 2011 *Bank Regulation and Supervision Survey* and the Financial Stability Board's 2012 *Thematic Review on Deposit Insurance Systems*. The survey received responses from China, Japan, Korea, Hong Kong SAR, Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam.

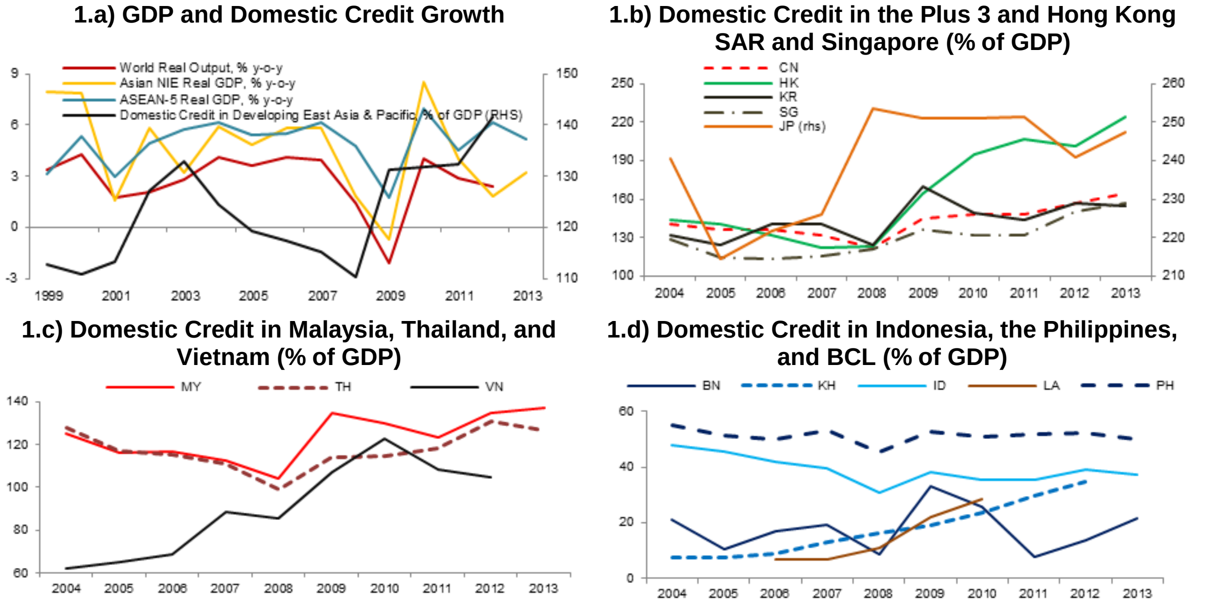
This thematic study is organized as follows. The next section will summarize the stylized facts on the stages of banking sector development and the supervisory framework in the ASEAN+3 economies. Section 3 will then discuss the outcomes of the survey. Section 4 is on policy analysis, and Section 5 concludes.

2. ASEAN+3 Banking Landscape: Stylized Facts

2.1 Banking Sector Deepening

Available data indicate a steady process of deepening in ASEAN+3 banking sectors after the Global Financial Crisis, regardless of their different stages of development, to support growth recovery in the region. Although the impact of the Global Financial Crisis (GFC) on the region was less severe than on the U.S. and the European economies, aggregate real GDP growth for the region declined significantly during the 2008-2009 period (Figure 1.a). As the national authorities in most of the ASEAN+3 economies subsequently loosened their monetary and fiscal policy to accommodate domestic demand, thus shielding their economies from any further adverse effects from the GFC, domestic credit in the region has recovered and expanded from 2009. While the trend is evident among the Plus 3 and in regional financial centres (Hong Kong SAR and Singapore), expansion in domestic credit has also been observed in most of the ASEAN countries (Figures 1.b-d).

Figure 1: Output and Domestic Credit* in ASEAN+3



Note: */ Domestic credit includes banks' claims on both public and private sectors in the economy. Data are on a yearly basis. Data for Lao PDR are up to 2010, for Cambodia and Vietnam are up to 2012 whereas data for the rest are up to 2013.
Source: IMF (WEO and IFS databases), national authorities, and CEIC

AMRO survey results confirm that banking assets in the ASEAN+3 economies have grown significantly from the pre-GFC period. In eight survey responses, total banking assets in local currency terms were 1.5 times to four times higher as at end-2013 compared to end-2007. In other regional economies, although the increase in total bank assets was less pronounced, bank assets were in average still about 20 percent to 35 percent higher as at end-2013 compared to end-2007 (Table 1, column 1). An even faster expansion was observed with total non-bank loans during the same period for all reporting regional economies apart from Japan and Brunei (Table 1, columns 2).

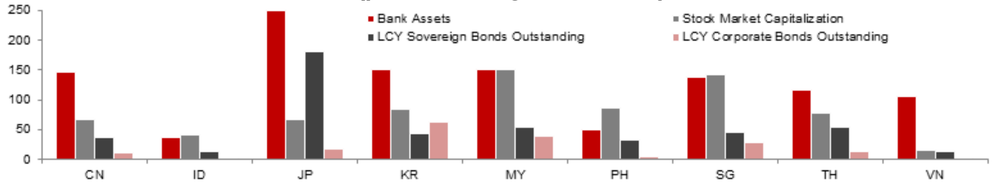
Table 1: Bank Assets in Selected ASEAN+3 Economies: 2007-2013
(total bank assets measured in local currency,
point-to-point % growth comparing end-2013 to end-2007)

Member Economies	Total Bank Assets	Total Bank Loans to Non-Bank Customers**
Plus 3 and Financial Centres	*(1)*	*(2)*
China	+185%	n.a.
Japan	+21%	+12%
Korea	+34%	+43%
Hong Kong SAR	+64%	+118%
Singapore	+29%	+108%
ASEAN (excl. Singapore)		
Brunei	+26%	-1%
Cambodia	+296%	+364%
Indonesia	+150%	+229%
Lao PDR*	n.a.	+155%
Malaysia	+71%	+90%
Philippines* **	+94%	+113%
Thailand	+86%	+86%
Vietnam*	+73%	+51%

Notes: Information on Myanmar is not yet available.
*/Due to unavailable data for 2007, data for Vietnam and Lao PDR is for the 2010-2013 period.
**/ Non-bank customers include both corporates and households.
***/ Total bank loans to non-bank customers in the Philippines is defined as total loan portfolio, gross (net of amortization and interbank loans).
Source: AMRO Banking Supervision Survey (2014)

As well as a steady expansion in assets, banks have also remained the dominant players in the financial sectors of most regional economies. As illustrated in Figure 3, bank assets continued to account for the largest share in total financial assets in Plus-3 economies, except for Hong Kong SAR, and in a number of ASEAN countries such as Thailand and Vietnam until recently (Figure 2). In Malaysia and Singapore, bank assets and stock market capitalization values contributed equally to total financial assets, followed by bonds outstanding. In Indonesia and the Philippines, however, stock market capitalization seems to lead bank assets in recent years. As non-bank capital markets in BCLM are still in their infancy, banks have inevitably been the key player in these economies.

Figure 2: Size of Financial Markets in Selected ASEAN+3 Economies: 2008-present*
(period average, % of GDP)



Note:*/ Data on bank assets are as of 2013 for all economies except for BCLV whose data are up to 2012 only; data on stock market capitalization are up to 2013 for all economies except for China, Singapore, and Vietnam whose data are up to 2012 only. Data on CLY bonds outstanding (sovereign and corporate) are up to 2013 for all economies. Bank assets are measured by domestic credit extended to all economic sectors in the economy, including the public sector.
Sources: IMF (IFS database), World Bank, Asian Bonds Online (ADB), and CEIC

Banks have continued to diversify their products in the region. Given the relatively supportive regulatory environment, banks have increasingly engaged in activities in non-bank sectors, including insurance, securities, and real estate. The regulatory frameworks in most regional economies have so far allowed banks to engage in insurance, securities and in real estate activities, albeit to different extents and in certain economies, these non-bank activities are required to be housed in subsidiaries rather than being part of the bank (Table 2). As such, the emergence of financial conglomerates that have participated in financial markets and offered a diversified range of financial products has recently become visible not only in the major ASEAN economies but also in the CLMV members. In particular, bancassurance, a form of selling of insurance products via banks, has been observed not only in Singapore, Malaysia, and Indonesia, but also in less-developed markets such as Vietnam and Cambodia.[1]

Table 2: Permissible Non-Bank Activities for Banks and Subsidiaries in ASEAN Economies*

Economies	Securities	Insurance	Real Estate
Brunei	No	Yes, with restrictions	No
Cambodia	Yes, with restrictions	Yes, with restrictions	Yes, with restrictions
Indonesia	No	No	No
Lao PDR	Yes	Yes	Yes
Malaysia	Yes	Yes	Yes, with restrictions
Philippines	Yes	Yes	Yes
Singapore	Yes	Yes	No
Thailand	Yes	Yes	No
Vietnam	Yes	Yes	No

Notes: Information on Myanmar is not yet available.
*/ For the purpose of this table, securities activities include underwriting, dealing and brokering all kinds of securities and all aspects of the mutual funds business; insurance activities include underwriting and selling insurance as principal and as agent; real estate activities include real estate investment, development and management.
Sources: Siregar and James (2004), AMRO Banking Supervision Survey (2014), and financial institutions laws and regulations from member economies.

2.2 Rising Banking Interconnectedness

ASEAN+3 banking sectors are generally open to foreign bank entry, albeit with variation in modes of entry, maximum foreign ownership limits, and associated business scope restrictions. To attract greenfield investment in the banking sector, regional economies have allowed foreign banks flexibility to establish their presence in the local economy in the form of either a branch or a subsidiary (Table 3).[2] Myanmar is also in the process of allowing foreign bank entry.[3] As such, in addition to global banks that have long established their presence in the region including in the major ASEAN economies,

[1] In addition to banks, non-financial corporates might be involved in the conduct of bancassurance business.
[2] For a detailed discussion of the issue of subsidiarisation versus branching, see the AMRO thematic study on banking interconnectedness in September 2012. From the perspective of banking supervision and regulation, an assessment of both the pros and cons of a subsidiary or branch for financial stability depends on a number of factors, for instance whether economic and financial turbulence originates from the home or the host country. Also, it seems unclear that the market differentiated between branches and subsidiaries of a bank group that was in trouble during the recent global financial crisis and based on their balance sheets of a number of major foreign banks in the ASEAN+3 region, both subsidiaries and branches apparently weathered the crisis equally well. As such, in-depth research using more comprehensive data on the banking system of the region could be useful in generating a more conclusive finding on this issue.
[3] The Central Bank of Myanmar in October 2014 announced that it will grant licenses to nine foreign banks, which are the ANZ from Australia; Bangkok Bank from Thailand' Bank of Tokyo-Mitsubishi UFJ, Mizuho Bank and Sumitomo Mitsui Banking Corporation from Japan; Industrial and Commercial Bank of China; Maybank from Malaysia; and the Overseas Chinese Banking Corporation and United Overseas Bank from Singapore. At first, foreign banks are expected to operate as branches, although they may also operate as locally incorporated subsidiaries with 100% foreign ownership or as a joint venture with a local bank.

regional banks, especially from Korea, Malaysia, and Singapore, have since expanded in each other's markets and set up in other ASEAN economies, usually by setting up a branch or subsidiary (Appendix 1). Regional authorities have also eased their foreign ownership limits over the past decade or so, allowing both global and regional banks to strengthen their presence in the region through active acquisition of existing domestic banks in these economies (Box A). AMRO survey results show that the share of foreign-controlled banks' assets in total bank assets either remained relatively stable or increased slightly during the 2007-2013 period in a number of regional economies (Appendix 2), indicating that foreign-controlled banks managed to expand their assets as fast as their domestic peers.

Table 3: Modes of Foreign Bank Entry in ASEAN+3

Economy	Acquire shareholding in local bank	Set up a bank subsidiary	Set up a bank branch
Plus 3 and Financial Centers			
China	Yes	Yes	Yes
Japan	Yes	Yes	Yes
Korea	Yes	Yes	Yes
Hong Kong SAR	Yes	Yes	Yes
Singapore	Yes	Yes	Yes
ASEAN (excl. Singapore)*			
Brunei	Yes	Yes	Yes
Cambodia	Yes	Yes	Yes
Indonesia	Yes	Yes	Yes
Lao PDR	Yes	Yes	Yes
Malaysia	Yes	Yes	No
Philippines	Yes	Yes	Yes
Thailand	Yes	Yes	Yes
Vietnam	Yes	Yes	Yes

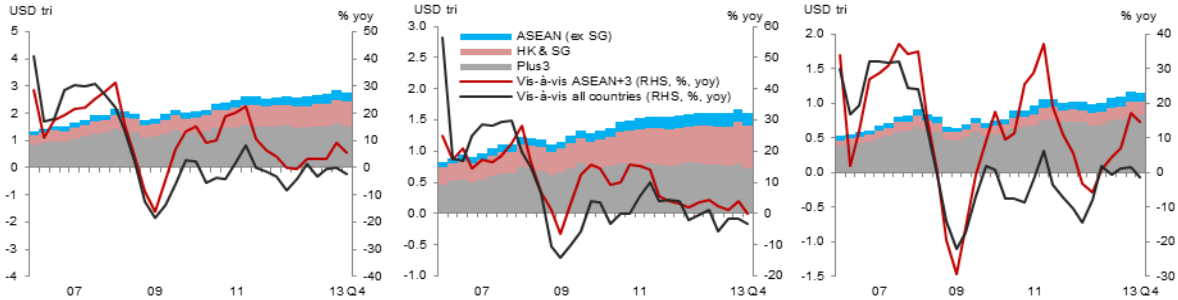
Note: Information on Myanmar is not yet available.
Sources: AMRO Banking Supervision Survey (2014)

Recent available data on foreign claims vis-à-vis ASEAN+3 suggest growing integration with the banking system outside the region. As illustrated in Figure 3, foreign claims vis-à-vis ASEAN+3 economies, after a brief period of contraction in 2008-2009, have since picked up, outpacing overall foreign claims vis-à-vis all countries. Growth in foreign claims vis-à-vis the region, however, slowed somewhat during the 2011-2012 period, bouncing back only since late 2012 (Figure 3.a). As far as the composition of foreign claims vis-à-vis ASEAN+3 is concerned, local claims rose from slightly above USD1 trillion in late 2009 to about USD1.6 trillion as of the fourth quarter of 2013, but growth moderated after 2011 and has recently stabilized at below five percent year-on-year, as global banks have expanded operations via their local subsidiaries and branches in the region (Figure 3.b). More volatile cross-border claims, meanwhile, picked up from late 2012 to reach USD1.2 trillion by the end of 2013, expanding at more than 10 percent year-on-year until recently, indicating that financial integration has also advanced via global banks' cross-border channels including securities investment in the headquarters and cross-border lending (Figure 3.c).

ASEAN+3 banks have increasingly become oriented towards the region, which, together with larger claims from U.S. and U.K. banks, have more than offset the impact of euro area banks' deleveraging from the region after the GFC. As illustrated in Figure 4.a, after a dip in late 2008 and early 2009, foreign claims vis-à-vis ASEAN+3 by the U.S., U.K., and Japanese banks as regional banks, rebounded in 2009-2010 and exceeded pre-GFC levels from 2011 onwards. Claims from euro area banks, however, continued to contract until the second half of 2013 and remained below the pre-GFC levels as of end-2013 (Figure 4.a). A further look into the Bank of International Settlements (BIS) database of external claims by nationality of reporting banks shows that intra-regional expansion of regional banks has gained momentum after the GFC. In particular, growth in claims of regional banks, especially from Malaysia, Singapore and Hong Kong SAR, has outpaced growth in the BIS reporting countries' banking claims after the GFC (Figure 4.b). BIS (2014) concurrently points out that these regional banks have played an increasing role in funding regional borrowers in Asia after the 2008-2009 crisis.[4]

Figure 3: Foreign Claims vis-à-vis ASEAN+3 by Components*

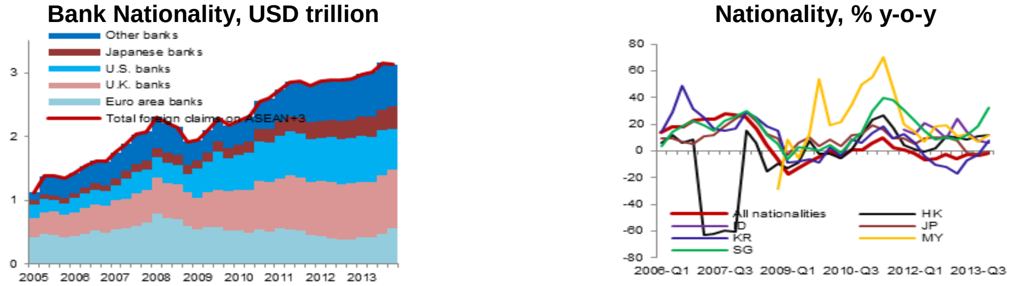
3.a) Foreign Claims **3.b) o/w Local Claims** **3.c) o/w Cross-border Claims**



* Foreign claims here are from the BIS reporting countries excluding Japan vis-à-vis ASEAN+3 economies including Japan.
Source: BIS Consolidated Banking Statistics, Bank of Japan Consolidated Banking Statistics in Japan.

Figure 4: Claims by Nationality of Reporting Banks*, % y-o-y

4.a) Foreign Claims vis-à-vis ASEAN+3 by Reporting Bank Nationality, USD trillion **4.b) External Claims* by Reporting Bank Nationality, % y-o-y**



Note: */ data refer to banks' claims vis-à-vis non-residents in all currencies and residents in foreign currencies only.
Source: BIS consolidated and locational banking statistics

[4] BIS Committee on the Global Financial System (2014).

Box A: Foreign Ownership in ASEAN Domestic Banks

Regional authorities have eased their foreign ownership limits (FOL) in domestic/locally-incorporated banks during the past decade or so, particularly after the Asian Financial Crisis in 1997-1998 and the Global Financial Crisis in 2008-2009 (Table A.1). Increased participation by foreign banks is expected to improve the corporate governance and competitiveness of the domestic banking system and help domestic banks stay resilient during periods of crisis.[5] Notably, the Indonesian central bank, Bank Indonesia, passed regulations after the AFC to allow foreign investors to acquire up to 99 percent of issued share capital of a locally incorporated bank.[6] Cambodia, Lao PDR and Singapore have imposed no limit on foreign ownership in the banking sector, allowing foreign banks to own up to 100 percent of the stake in any domestic bank. Thailand has also removed some restrictions on foreign ownership of domestic financial institutions during the 2000s. The Financial Institution Act passed in 2007 gave the Bank of Thailand the power to raise foreign participation in a local bank from 25 percent to 49 percent on a case-by-case basis and the Ministry of Finance to approve cases of above 49 percent. The Philippines has liberalized foreign bank entry since 1994, recently raising the FOL from 60 percent of the voting stock of an existing domestic bank to 100 percent, effective since late July 2014.[7] Malaysia's FOL could be also up to 100 percent, subject to prudential and the "best interest of Malaysia" criteria as stipulated in the Financial Services Act (FSA) and Islamic Financial Services Act (IFSA), both dated in 2013. Last, but not least, in compliance with its WTO obligations, Vietnam has liberalized its financial sector to foreign investors since 2007. More recently, as a move to restructure the ailing domestic banking system ridden with large non-performing loans and weak corporate governance, Vietnam has allowed more foreign participation in domestic banks, officially raising the cap for a single institutional foreign investor from 10-15 percent to 15-20 percent of stake in an existing commercial bank in normal cases, and granted the Prime Minister the authority to determine FOL in special cases of bank restructuring.

Table A.1: Current Foreign Ownership Limits (FOL) in Selected ASEAN Economies

Member Economies	Current Statutory FOL
Indonesia	99% of the issued share capital in an Indonesian bank (see also footnote 4); thresholds for a single shareholder are 40% of paid-in capital for shareholders that are financial institutions and 20% of paid-in capital for individual shareholders
Cambodia	No restrictions, foreign investors can own a 100% stake in a domestic bank
Lao PDR	No restrictions, foreign investors can own a 100% stake in a domestic bank
Malaysia	No restrictions, foreign investors can own up to 100% stake in a domestic bank, subject to prudential and 'best interest of Malaysia' criteria as stipulated in the Financial Services Act 2013 and Islamic Financial Services Act 2013
Philippines	No restrictions, foreign investors can own up to 100% of the voting stock of an existing domestic bank
Singapore	No restrictions, foreign investors can own a 100% stake in a domestic bank
Thailand	Up to 25% without BOT approval; up to 49%, subject to BOT approval; and above 49%, subject to MOF approval
Vietnam	20% for a single foreign institutional investor with SBV approval [total foreign ownership limit of 30%]; above 20% on case-by-case basis, subject to the Prime Minister's approval

Source: AMRO Banking Supervision (2014), financial institutions laws and regulations in member economies

As illustrated in Table A.2, both global and regional banks have increased their presence significantly in the region, particularly in emerging and frontier ASEAN economies. As of end-2012, about 40 commercial

[5] For a full discussion of the benefits and costs of foreign bank entry from the host country perspective, see Claesens and Van Horen (2013).
[6] However, Bank Indonesia in July 2012, issued Regulation No. 14/8/PBI/2012 which limits the ownership by a single shareholder or corporate group of Indonesian banks. While foreign investors could still own up to 99 percent of issued share capital in a domestic bank, they now need to do it in a few tranches provided that the Indonesian bank has maintained its level of financial strength and good governance required under Indonesian law for at least three consecutive six month periods within a five year review period.
[7] According to the Philippines' Amended Foreign Banks Law [Republic Act No. 10641] effective since late July 2014, the foreign ownership limit in the Philippines has been raised from 60 percent of voting stocks in existing domestic banks to 100 percent. However, the Monetary Board shall adopt such measures as may be necessary to ensure that the control of at least 60 percent of the resources or assets of the entire banking system is held by domestic banks which are majority-owned by Filipinos.

Box A: Foreign Ownership in ASEAN Domestic Banks

banks in Indonesia, out of a total of 120, have some foreign participation and notably, 10 out of the 15 largest banks in Indonesia have significant foreign ownership. Similarly, the Cambodian banking sector has been dominated by foreign banks. Increased foreign participation in the Thai banking system has also been observed after the authorities' liberalization efforts in 2007. For example, in 2009, the Ministry of Finance of Thailand approved Malaysia's CIMB Group of up to a 93 percent of stake in BankThai, the country's ninth largest commercial bank. Other regional and global banks, such as Singapore's UOB, China's ICBC, and the U.K.'s Standard Chartered, were also allowed to own more than 90 percent of stakes in a number of locally incorporated commercial banks in 2010. At end-2013, Japan's BTMU bought more than 70 percent of Bank of Ayudhya, Thailand's fifth largest commercial bank, at USD5.6 billion, marking the largest purchase of a Thai bank in history. Foreign banks have also set foot in the domestic banking system in Vietnam: 10 domestic banks, out of a total of about 40 banks, now have some foreign participation. BTMU purchased about 20 percent of Vietnam Industrial and Commercial Bank (VietInBank), one of the big four State-owned commercial banks, in 3013, following SMBC's purchase of a 15 percent stake in Vietnam Export-Import Commercial Bank (Eximbank) in 2008 and Mizuho's in Vietnam Bank of Foreign Trade (VietComBank) in 2011. Regional banks such as Singapore's UOB and Malaysia's Maybank also became strategic investor in a number of Vietnam's domestic banks.

Table A.2: Domestic Bank Acquisition by Global and Regional Banks in Selected ASEAN Economies

Member Economies	Selected Locally Incorporated Banks	Foreign Stakeholders and Shares (% of total equity)
Indonesia	Bank CIMB Niaga	CIMB Group Sdn Bhd, Malaysia (96.92%)
	Bank Danamon Indonesia	Temasek Holding, Singapore (67.37%)
	Bank Internasional Indonesia (BII)	Maybank, Malaysia (97.4%)
	Bank OCBC-NISP	OCBC, Singapore (75%)
	Bank UOB Indonesia	UOB, Singapore (99%)
	Halim International	ICBC, China (90%)
	PT Bank Tabungan Pensiunan Nasional	SMBC, Japan (40%)
Malaysia	AMMB Holdings	ANZ, Australia (23.8%)
	Affin Holdings	Bank of East Asia, Hong Kong (23.5%)
Thailand	BankThai/CIMB Thai Bank	CIMB Group Sdn Bhd, Malaysia (~93%)
	ACL Bank/ICBC (Thai)	ICBC, China (97.24%)
	Nakornthon Bank/Standard Chartered Bank (Thai)	Standard Chartered, England (99.87%)
	Bank of Asia/UOB (Thai)	UOB, Singapore (99.66%)
	Bank of Ayudhya	BTMU, Japan (72.01%)
Cambodia	SCB Bank/CUB (Cambodia)	Cathay United Bank Ltd., Taiwan (100%)
	OSK Indochina Bank/RHB Indochina Bank	RHB Capital Group, Malaysia (100%)
	ACLEDA Bank	SMBC, Japan (12.25%)
Vietnam	VietComBank	Mizuho, Japan (15%)
	VietInBank	BTMU, Japan (19.73%), IFC (8.03%)
	EximBank	SMBC, Japan (15%)
	TechComBank	HSBC, U.K. (19.41%)
	AnBinhBank	Maybank, Malaysia (20.04%)
	PhuongNamBank	UOB, Singapore (20%)

Source: Financial institutions laws and regulations in member economies, annual reports of central banks and commercial banks

2.3 Varied Supervisory Frameworks and Safety Nets

ASEAN+3 authorities have pursued different approaches to supervising financial markets (Figure 5 and Appendix 3).[8] This may be due to synergies arising from different economic circumstances, or differing historical experience. On the one hand, Korea, Brunei, Singapore and Indonesia, have followed an integrated approach, assigning a single supervisory agency for all financial markets. In these economies, a financial supervisory agency (FSA) has eventually been set up to take over the supervisory responsibilities for all financial industries, including banking, insurance, and securities, which used to be dispersed among different government agencies and ministries. Most recently, Indonesia moved away from a multiple-agency structure of financial regulation and supervision toward an integrated system, in which the Financial Services Supervisory Authority (OJK) has assumed the central bank's supervisory role over commercial banks from early 2014, after replacing the Capital Market and Financial Institution Supervisory Board in overseeing the capital markets and non-banking institutions in early 2013. On the other hand, China, Hong Kong SAR, and most ASEAN countries, have pursued a multiple-agency structure, in which different agencies are involved in the supervisory process. From an institutional perspective, different institutions in China, namely China Banking Regulatory Commission (CBRC), China Securities Regulatory Commission (CSRC), and China Insurance Regulatory Commission (CIRC), have been set up to oversee banks, securities firms, and insurance companies separately. From a functional angle, the Bank of Thailand and Ministry of Finance of Thailand have been involved in regulating and supervising different legal entities under different functional areas. Elsewhere in the region, there are hybrid approaches. For example, in Malaysia, the central bank, Bank Negara Malaysia (BNM), has been in charge of supervising banks and insurance firms, but a different agency, the Securities Commission Malaysia, supervises securities firms and stock markets. For economies pursuing multiple-agency and hybrid approaches to financial supervision, there is often a formal mechanism or policy forum coordinating different government agencies involved in monitoring financial stability (Appendix 3).

[8] For an overview of different approaches/frameworks to financial regulation and supervision, see Siregar and James (2006), or Stefano (2010). These studies analyse financial regulatory and supervisory structures mainly using the dichotomy of integrated versus multiple-agency frameworks. The Group 30 Regulatory Systems Working Group (2008), deepens the classification into four main categories: institutional, functional, integrated, and twin-peak. For the purpose of the discussion in this section, we follow Siregar and James (2006) and Stefano (2010) in classifying financial regulatory and supervisory frameworks into three main categories: (i) integrated approach, (ii) multiple-agency approach, and (iii) hybrid/semi-integrated approach.

Figure 5: Financial Supervisory Approaches in the Region*

Multiple-Agency Approach	Semi-Integrated/Hybrid Approach	Integrated Approach
• Multiple agencies are involved in financial supervision. • Examples: (Plus-3) China, Hong Kong SAR; (ASEAN) Cambodia, Lao PDR, Myanmar, Philippines, Thailand, and Vietnam.	• One agency oversees more than one industry/sector. • Example: Malaysia.	• A single agency supervises all financial markets/industries. • Examples: (Plus-3) Japan, Korea; (ASEAN) Brunei, Indonesia, Singapore.

Note: */ For the purpose of the discussion in this section, we follow Siregar and James (2004) and Stefano (2010) in classifying financial regulatory and supervisory frameworks into three main approaches: (i) multiple-agency approach; (ii) hybrid/semi-integrated approach; and (iii) integrated approach. A member is said to follow the multiple-agency approach when at least one agency is assigned with supervision for one financial market/industry, whereas those who follow the integrated approach assign only one single agency to supervise all financial markets and industries. Semi-integrated or hybrid approach is used if one agency could oversees more than one financial market/industry but more than one agency are still involved in overall financial supervision.
Source: National Authorities, SEACEN, and AMRO Banking Supervision Survey (2014)

Safety net arrangements such as lender of last resort and deposit insurance, and bank resolution responsibilities vary among respondents. In most ASEAN+3 economies, the central bank provides the lender of last resort facility to banks. A deposit insurance scheme has been in place in most of regional economies (except China and Cambodia), and these schemes are at least partially pre-funded through banks' premium contributions and other means. In Japan, Brunei, Indonesia, Lao PDR, Malaysia, the Philippines, and Singapore, DI schemes are allowed to borrow from either the Government or the central bank (with DI schemes in Lao PDR and Singapore being allowed to borrow from both) in case of shortfalls in funds during payout situations. In terms of the type of financial institutions covered, DI schemes in most member economies cover deposits in foreign bank branches and subsidiaries in addition to the local banks headquartered in their economies. In Singapore, DI schemes cover deposits not only in banks, but also in non-bank financial institutions (finance companies in the case of Singapore). In terms of types of deposits covered, DI schemes in all respondents except the Philippines exclude interbank deposits. DI schemes in Japan, Lao PDR, Singapore, and Thailand cover only local currency non-bank deposits, while those in Hong Kong SAR, Brunei, Indonesia, Malaysia, and the Philippines cover non-bank deposits in both local and foreign currencies. In terms of deposits covered by DI schemes as a proportion of total domestic banking sector deposits, these range from less than 20 percent in Hong Kong SAR[9] and the Philippines[10] to above 68 percent in Thailand. In most ASEAN+3 economies, the bank supervisor has the primary responsibility for bank resolution, although other government agencies such as DI corporations may also be involved.

[9] The number of depositors whose eligible deposits are fully covered by the DI scheme exceeds 90 percent in Hong Kong SAR.
[10] The number of deposit accounts covered by DI in the Philippines, meanwhile, exceeds 90 percent.

2.4 Selected Recent Issues

Key financial soundness indicators for most ASEAN+3 economies have generally improved recently. Banking systems have been relatively well-capitalised, with the regulatory Tier 1 capital ratio to risk-weighted assets (CAR) staying above the minimum regulatory standard and is improving over the 2008-2010 period (Table 4, columns 1&2). Significant declines in the ratio of non-performing loans (NPL) to total gross loans have also been observed in the IMF Financial Soundness Indicators (FSIs), particularly for Indonesia, Malaysia, and the Philippines. NPL ratios in the Plus-3 and the regional financial centers, meanwhile, have stayed relatively low (Table 4, columns 3&4). In terms of profitability, the picture is mixed with return on assets and return on equity ratios (ROA and ROE) improving in Japan, Malaysia, and the Philippines, but deteriorating in Korea and Brunei, since 2010. Hong Kong SAR and Indonesia showed some improvement in the ROA but deterioration in the ROE over the 2008-2010 period (Table 4, columns 5-8). Vietnam is an exception with a broad-based deterioration in recent officially-reported FSIs. In particular, the official NPL ratio increased from three percent at end-2011 to 4.7 percent by the third quarter of 2013.

Table 4: Financial Soundness Indicators for Selected ASEAN+3 Banking Systems* (%)

Member Economy	Regulatory Tier 1 CAR		NPL		ROA		ROE	
	2008-10 *(1)*	Latest *(2)*	2008-10 *(3)*	Latest *(4)*	2008-10 *(5)*	Latest *(6)*	2008-10 *(7)*	Latest *(8)*
CN	10.08	9.95	1.13	1.00	1.13	1.27	19.22	19.17
JP	10.14	12.09	2.47	1.93	0.29	0.36	6.83	8.36
KR	10.35	11.43	0.58	0.57	0.65	0.33	8.78	4.00
HK	12.39	13.61	1.34	0.53	0.77	1.03	16.05	13.21
BN	19.73	19.60	8.52	4.53	1.79	1.53	17.35	13.13
ID	15.49	17.69	3.00	2.09	2.58	2.91	25.98	22.59
MY	12.60	12.92	4.36	1.78	0.89	1.55	10.09	16.11
PH	12.08	13.48	3.75	2.40	1.46	1.54	15.39	15.60
SG	13.72	13.51	1.75	0.78	1.35	1.47	15.56	17.45

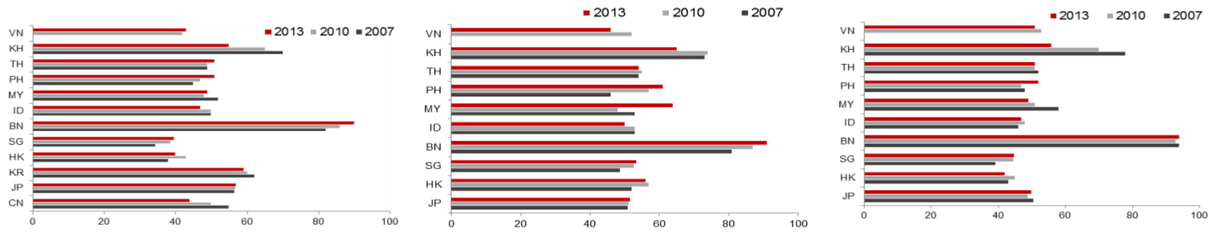
Note: */ Data definitions might differ across member economies. FSI data sourced from the IMF (FSI database) cover deposit taking institutions. For example, FSI data reported by Brunei to the IMF includes banks and finance companies, i.e. deposit taking institutions. Data are on a quarterly basis for all member economies, except China which is on a yearly basis. Data for 2008-2010 are a simple average of the whole period. "Latest" means latest available data. In particular, data for China are up to end-2013, data for Brunei; Hong Kong, China; and Singapore are up to Q3 2014; data for Indonesia, Malaysia and the Philippines are up to Q2 2014; whereas data for Korea and Japan are up to Q4 2013 and Q1 2014, respectively.
Sources: IMF (FSI database)

Available concentration indicators suggest some divergence among regional banking systems (Figure 6 and Appendix 2). AMRO survey results show that the share of the five largest banks of total bank assets in China and Cambodia, and to a lesser extent, in Malaysia, declined in 2013 compared to 2007 (Figure 6.a). Bank concentration, meanwhile, increased in most of the remaining economies. The share of the five largest banks in total bank assets increased the most in Brunei, the Philippines, and Singapore between 2007 and

2013 and, to a lesser extent, in Japan, Hong Kong SAR, Thailand, and Vietnam. A similar pattern was also observed if concentration is measured by the share of the five largest banks in total non-bank deposits except in Malaysia where the level increased significantly, contrasting with the decline of the five largest banks' in the share in total bank assets (Figure 6.b). Concentration measured in terms of the five largest banks' share in total non-bank loans, however, appeared stable for most countries during 2007-2013 apart from Cambodia and Malaysia where the level declined (Figure 6.c). For Vietnam, while the share of five largest banks in total bank assets increased slightly in 2013 from 2010, their share in total non-bank deposits and loans declined.

Figure 6: Share of the Five Largest Banks in the Economy (%)

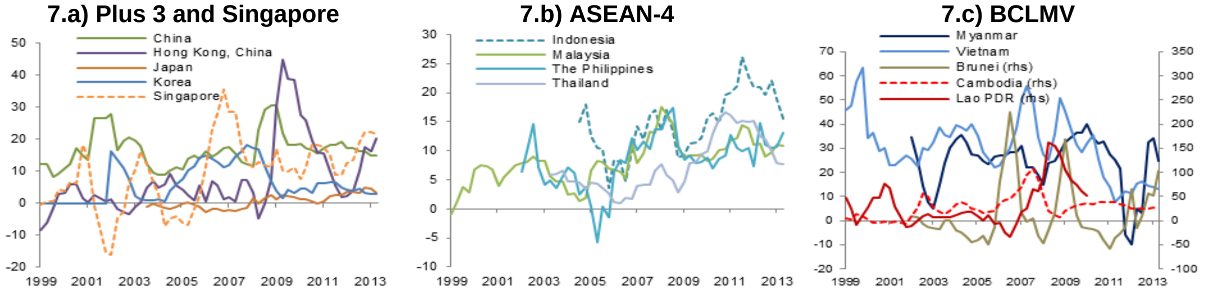
6.a) of Total Bank Assets **6.b) of Total Non-Bank Deposits** **6.c) of Total Non-Bank Loans**



Source: AMRO Banking Supervision Survey (2014)

Domestic credit expanded rapidly in most regional economies until recently. Among the Plus 3 and financial centers in the region, China, Singapore, and to a lesser extent, Hong Kong SAR, have seen domestic credit grow by two-digit levels after the GFC (Figure 7a). In ASEAN countries such as Malaysia and Thailand, with more advanced financial systems, credit growth also picked up between 2010 and 2012, staying at above 10 percent year-on-year in average, before moderating in 2013. Even in Indonesia and the Philippines, where domestic credit as a percentage of GDP remained comparatively low, credit growth has been relatively robust at about 10 to 20 percent year-on-year since 2009 (Figure 7.b). ASEAN members with less developed financial systems also experienced rapid credit expansion, which softened briefly during the GFC period but recovered strongly afterwards to above 30 percent year-on-year between 2009 and 2011. Credit growth in Vietnam subsequently declined within the range of 10-15 percent year-on-year on the back of tightening measures since 2011 to restore macroeconomic stability and contain inflation. Credit growth in Cambodia and Lao PDR also moderated, but to a much lesser extent and remained relatively robust until end-2013 (Figure 7.c).

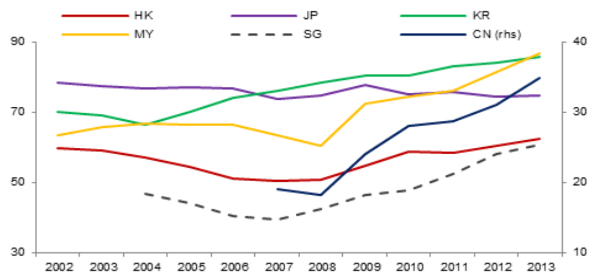
Figure 7: Domestic Credit Growth in ASEAN+3, % y-o-y



Note: Domestic credit includes banks' claims on both public and private sectors in the economy. Data are up to the first quarter of 2014 with the only exception of Lao PDR where the data are up to 2010 only.
Source: IMF (IFS database), national authorities, and CEIC

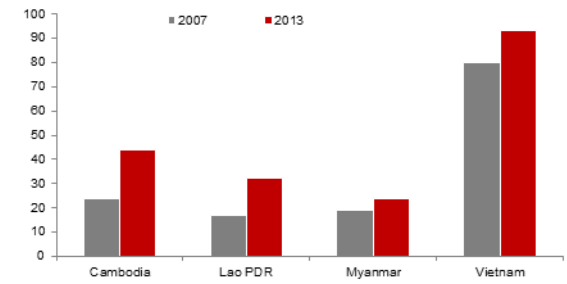
Closely related to the expansion in domestic credit in regional economies during the post-GFC period is relatively elevated household leverage, particularly in higher-income ASEAN economies (Figure 8)**.** In these economies, banks have lent extensively to households not only for housing loans, which traditionally accounted for the largest share of total household lending by the banking system, but also for car loans, unsecured loans for personal use, and 'others'. According to AMRO's assessment in the March 2014 AREM report, while the current household debt situation in most regional economies does not pose an immediate systemic risk to overall financial stability, possible interest rate hikes going forward could directly affect household debt repayment burdens especially since most household borrowings are on variable rate terms, which could, in turn**,** undermine the asset quality and financial soundness of the banking system in the region. It is, therefore, encouraging that the authorities in a number of member economies have taken pre-emptive measures to address the emerging risks associated with household debt.

Figure 8: Household Debt, Selected ASEAN+3 Economies (% of GDP)



Source: CEIC

Figure 9: Number of Banks in CLMV*



Note: */ Includes state-owned commercial banks, foreign bank branches, specialized banks and private banks
Source: AMRO Banking Supervision Survey (2014)

Rapid expansion of the banking system in some less financially developed ASEAN economies might pose challenges to existing supervisory capacity. In particular, the number of banks, including state-owned commercial banks, foreign bank branches, specialised banks, and private commercial banks, almost doubled during the 2007-2013 period in Cambodia and Lao PDR (Figure 9). A similar story may take place in Myanmar in the coming years. This highlights the need for the authorities in these countries to boost their supervisory capacity to maintain supervisory standards over a larger number of legal entities. **The recent proliferation of non-bank financial institutions (NBFIs), including microfinance institutions, would also put additional burden on the supervisory authorities in these economies.**

3. Survey Findings

3.1 Brief Overview of Survey Structure

The analysis presented in this section is based largely on the results of the survey questionnaires sent to all ASEAN+3 supervisory authorities. The questionnaire comprises 36 questions in four parts, three of which pertain to the primary interest areas of the study and one to the supervisory perimeters of the banking sectors in ASEAN+3 economies.

The first part of the survey, comprising four questions, asks supervisory authorities which risks in their banking sectors will be their supervisory priorities in the next six months. Authorities were asked to assess the direction of risks in their banking sectors (credit, liquidity, market and operational risk) and the drivers behind those risks; which risk will become the most significant risk in the banking sector; and how the supervisory authority (and other authorities, if applicable) have responded to supervise and mitigate these risks.

The second part, comprising 11 questions, looks at supervisory framework and capacity. On supervisory framework, there are questions on which government agencies are responsible for bank supervision and regulation, supervision of non-bank financial institutions, deposit insurance (if any), the lender of last resort function, bank resolution and financial stability monitoring. The questions then go on to the supervisory authorities' framework (if any) for determining which banks are systemic and the implications on the frequency of onsite inspections; tools and information sources used for offsite supervision of banks; content and frequency of regulatory reporting by banks to the supervisory authority; and the corrective and sanctioning powers available to the supervisory authority. On supervisory capacity, the survey asks about supervisory staff strength and experience level, and which specialist skill-sets are hiring priorities for the supervision function.

The third part, comprising four questions, asks about home-host supervisory cooperation and the foreign bank supervision framework. It starts with questions on the possible modes of entry (subsidiary or branch) for foreign banks, and then on whether any foreign banks are assessed to be systemic to financial stability, and finally on various methods of cooperation between home and host supervisors of foreign banks operating in the ASEAN+3 economies.

The fourth and the final part, comprising 17 questions, ask for aggregate banking sector information, supervisory perimeters and on safety nets including deposit insurance. Aggregate information includes the number of banks and key components of the overall banking sector balance sheet, such as deposits and loans, and the share of government-controlled and foreign-controlled banks in total banking assets. To understand further the activities and the exposures of the banking sector, some questions ask whether banks are allowed to engage in non-bank activities such as insurance, security and real estate. On supervisory perimeter, the survey asks whether there are specific banks, or non-bank institutions taking deposits or lending to the public that are not supervised by the banking supervisory authority, and the authorities' assessment of any risks posed by these institutions to financial stability. This section also asks about the availability, coverage and structure of deposit insurance scheme (if any) in each economy. Some of the findings in this part of the survey have already been presented in Section 2 in the stylized facts section.

3.2 Survey Results

3.2.1 Short-Run Risk Outlook

Just as an individual bank has to manage different types of risks in its operations, such as credit risk, liquidity risk, market risk and operational risk, these risks have to be managed at an aggregate level in the whole banking sector to maintain banking stability. Our survey asks ASEAN+3 supervisory authorities for their assessment of drivers of risks (credit, liquidity, market and operational risk) in their banking sectors and the direction of risk over a short-term horizon of six months.

The results show that ASEAN+3 authorities envisage their banking sectors facing multiple types of risks, but **credit risk is most frequently identified as the most significant risk (i.e. the risk weighted the most heavily) compared to other types of risk such as liquidity, market or operational risk (Table 5)**. **This is not a surprising result for banking sectors in ASEAN+3 that engage mainly in "traditional" commercial banking based on taking deposits and intermediating these deposits into loans**, compared to other banking sectors that have a preponderance of investment banking activities where market risk is seen to be the most important risk. All those who responded to this question, except three economies, identified credit risk as the most significant risk in their economies in the next six months. One economy highlighted operational risk as the most significant risk facing its banking sector in the next six months, due to the rapid advancement of information technology in the banking sector and limited supervisory capacity available at present. Another highlighted liquidity risk as the most significant risk in its banking sector in the next six months, while the third economy highlighted market risk.

As to whether their economies are in the credit cycle, four economies assess that their credit cycles are "at or nearing the peak", while four other economies assess that their credit cycles are moving towards expansion. Two economies assess that their credit cycles are after the peak, moving towards contraction.

Table 5: Most Important Banking Sector Risk and Current State of Credit Cycle

Assesed to be Most Significant Risk in Economy's Banking Sector	Number of Respondents*
Credit Risk	8
Liquidity Risk	1
Market Risk	1
Operational Risk	1
Current State of Credit Cycle	**Number of Respondents***
At or nearing the peak	4
After the peak, moving towards contraction	2
At or nearing the trough	0
After the trough, moving towards expansion	4

*Note: In this table and in subsequent tables, total number of respondents may vary as not all respondents provided answers to all questions.
Source: AMRO Banking Supervision Survey (2014)

After asking ASEAN+3 authorities how they weighted the various types of risks in their banking sectors, the survey drills down into how authorities assess the **direction of various risks**. It is conceivable that the most important or highly-weighted risk – credit risk – could remain stable over the next six months while another risk, for example liquidity risk, could increase. To facilitate responses, the survey presents several potential "drivers" for each type of risk for authorities to choose from, and to indicate whether the direction of that risk driver is decreasing, stable or increasing; or if that risk driver does not exist in that economy. The detailed survey results for credit, liquidity, market and operational risk are shown in Tables 6 to 9.

Table 6 shows the respondents' assessment of **risk drivers** for **credit risk, and the direction of these risk drivers in the next six months.** Four risk drivers were identified by various respondents as **drivers of increasing credit risk (Table 6 last column)**: excessive rapid credit expansion relative to economic growth; risk of a correction in asset markets leading to deterioration in collateral values; non-performing loans; and increasing obligor defaults due to deterioration in the macroeconomic environment. Taking all these risk drivers into consideration, three economies assess overall credit risk in their banking sectors to increase in the coming six months, with a need for close supervisory monitoring as a result.

Table 6: Credit Risk

Credit Risk in the Banking Sector, due to:	Risk does not exist	Direction of Risk Going Forward		
		Risk is Decreasing	Risk is Stable	Risk is Increasing
a. "Excessive" rapid credit growth relative to economic growth / demand	2	2	8	1
b. Increasing risk of a correction in asset markets (property, equities) leading to a deterioration in collateral values and obligors' creditworthiness	-	-	10	3
c. Excessive competition among banks or with non-bank financial institutions (regulatory arbitrage) leading to banks taking on riskier assets	1	3	9	-
d. Non-performing loans (NPLs) in banks, that have yet to be resolved	-	3	8	2
e. Increasing risk of obligor default due to a deteriorating macroeconomic environment (downturn in growth or in certain key economic sectors, such as commodities)	2	2	7	2
Credit Risk (Overall)	**-**	**2**	**7**	**3**
Other sources of credit risk *(mentioned by respondents)*	• "Unavailability of reliable financial information on corporate borrowers" • "Further rationalisation exercise on government subsidy, higher inflation rate" • "Increasing concentration of exposure to real estate industry and to the country's top business conglomerates" • "The quality of bank loans extended to industries vulnerable to business cycles (e.g. construction, shipbuilding etc)"			

*Note: In this table and in subsequent tables, total number of respondents may vary as not all respondents provided answers to all questions.
Source: AMRO Banking Supervision Survey (2014)

The list of drivers seen to drive credit risk is indeed consistent with the stylized facts in the domestic economies, discussed in Section 2 of the Study. The ASEAN economies recorded a range of 10-30 percent annual credit growth between 2009 and 2012, before moderating slightly in 2013. Significant exposure to the property market and a concentration of credit allocation to a narrow number of sectors or a small number of large domestic conglomerates have also been identified as risks by a number of the regional authorities.

Moving on to liquidity risk in the banking sector, all five **drivers of liquidity risk** suggested in the survey (see Table 7 below) were selected as relevant by the respondents, with three risk drivers being most frequently selected. These pertain to the **sources and composition of banks' funding**: an increasing share of banks' funding from short-term liabilities; an increasing share of banks' funding obtained from foreign exchange liabilities; and increasing risk premiums paid by banks for interbank funding. This is consistent with the stylized facts spelled out in Section 2, with the relatively high share of foreign bank claims and more volatile cross-border claims in the local banks, particularly in ASEAN+3 economies with more liberalized banking sectors, being predominantly responsible for liquidity risk[11].

[11] This fact has also been highlighted in the 2012 thematic study of AMRO on the banking sector.

Table 7: Liquidity Risk

Liquidity Risk in the Banking Sector, due to:	Risk does not exist	Direction of Risk Going Forward		
		Risk is Decreasing	Risk is Stable	Risk is Increasing
a. Increasing share of funding banks' funding obtained from short-term liabilities	-	2	10	1
b. Increasing share of banks' funding obtained from foreign exchange liabilities	1	1	11	-
c. Increasing share of banks' funding obtained from non-deposit liabilities	1	2	9	1
d. Increasing risk premiums paid by banks for interbank funding (due to sovereign rating downgrades, deteriorating macroeconomic outlook, possible capital flow reversals etc.)	3	2	7	1
e. Increasing interbank funding concentration / asymmetry – only larger banks able to tap interbank market effectively, leading to incasing liquidity concerns in smaller banks	5	1	7	-
Liquidity Risk (Overall)		**2**	**9**	**1**
Other sources of liquidity risk *(mentioned by respondents)*	"Domicile of liquidity offshore rather than onshore within control of Authority" • "Reversal of capital flows" • "Intraday (liquidity risk)" • "Potential outflow of foreign funds due to tapering of advanced economies' economic stimulus programs" • "Increasing amount of overseas loans, leading to necessity for foreign branches and subsidiaries to manage their own liquidity risk" • "Uncertainty in political economy and social condition may lead to capital flow reversal"			

Source: AMRO Banking Supervision Survey (2014)

Economies where foreign banks account for a lower share of banking assets may also have domestic drivers of liquidity risk. One economy identified the increasing share of banks' funding obtained from non-deposit liabilities as a risk driver, while another identified the increasing share of banks' funding obtained from short-term liabilities and increasing risk premiums paid by banks for interbank funding as risk drivers (Table 7 last column). **Overall, only one economy assessed overall liquidity risk in its banking sector to increase in the coming six months, with the other respondents assessing liquidity risk to remain stable.** This assessment possibly reflects most respondents' views that global liquidity conditions are not expected to be particularly disruptive in the next six months, and could also reflect respondents' views that liquidity risk would remain contained given the relatively stable funding structures in their banking sectors.

Likewise, all respondents except one assessed overall market risk to be relatively stable in the coming six months (Table 8). All four possible drivers of market risk in the survey were selected as relevant by respondents and were evenly distributed among respondents. Two drivers were associated with the increasing risk of volatility in key financial indicators, namely exchange rates and interest rates. The other two factors were an expansion in banks' portfolio trading activities (as part of expanding bank activities) and banks' large holdings of government bonds, which may be subject to volatility in yields as global interest rates eventually rise. Four economies see increasing market risk due to possible volatility or expected rises in interest rates, while two economies see volatility in the exchange rate as a driver of increasing market risk (Table 8 last column).

Table 8: Market Risk

Market Risk in the Banking Sector, due to:	Risk does not exist	Direction of Risk Going Forward		
		Risk is Decreasing	Risk is Stable	Risk is Increasing
a. Banks expanding trading portfolios as part of their business strategy	2	2	9	-
b. Volatility in or pressures on exchange rate	1	1	9	2
c. Interest rate volatility or expected rises in interest rates	1	1	7	4
d. Banks' large holding of government bonds, that are subject to interest rate risk	2	3	8	-
Market Risk (Overall)		**2**	**9**	**1**
Other sources of market risk *(mentioned by respondents)*	• "Volatility in foreign fund flows may exert pressure on interest and foreign exchange rates as well as prices of debt and equity securities."			

Source: AMRO Banking Supervision Survey (2014)

The rise in the volatility of cross-border flows across bank, bond and equity markets, as reported in previous AREM reports by AMRO, has inevitably put pressure on local currencies in the region, especially following the news about possible U.S. Federal Reserve QE-tapering in May 2013. In some economies, policy interest rates have also been adjusted multiple times to help calm the market and induce confidence. Bank's expanding trading activities and the associated risks, including holdings of government bonds by foreign banks, have also been highlighted in a number of ASEAN+3 economies. However, these market risks seem to have stabilized since the end of first quarter of 2014, and this may explain the overall stable outlook shared by the supervisory authorities regarding market risk in their banking sectors in the coming six months.

For overall operational risk, two economies assess this would increase in their banking sectors in the next six months, while the other respondents assess that overall operational risk would remain stable (Table 9 last column). Increasing use of complex information technology systems and the rapid expansion of banks' operations locally and overseas, are two drivers of operational risk selected by the respondents. Growing cross-border lending and banking activities, including e-banking activities, may elevate operational risk in some ASEAN+3 economies. Respondents mentioned accordingly a variety of trends in their banking sectors that are potential risk drivers, such as outsourcing, mobile technology and the spread of e-banking.

Table 9: Operational Risk

Operational Risk in the Banking Sector, due to:	Risk does not exist	Direction of Risk Going Forward		
		Risk is Decreasing	Risk is Stable	Risk is Increasing
a. Increasing use of complex information technology systems within bank	-	-	10	3
b. Banks rapidly expanding their operations locally and overseas	1	-	9	2
Operational Risk (Overall)		**-**	**9**	**2**
Other sources of operational risk *(mentioned by respondents)*	• "Outsourcing, online banking, mobile technology and social media" • "Losses from natural and man-made calamities and geopolitical tensions" • "Other sources of operational risk: 1) business direction: operating overseas expansion, e-banking activities; and 2) market conditions: economic slowdown"			

Source: AMRO Banking Supervision Survey (2014)

The survey then asks respondents on the types of measures they have taken to mitigate the risks they see in their economies, and their ratings of the measures' effectiveness. The responses are summarized in Table 10. The first measure taken was regulatory or administrative, including macro-prudential. The second was the strengthening of both offsite supervision and onsite inspection. Consistent with most respondents' assessment of credit risk being the most significant risk in their economies, most respondents have adopted these measures to deal with credit risk, and these were generally rated as "somewhat effective" (rating of "2") or "very effective" (rating of "3"). For instance, the ASEAN+3 authorities employed both prudential and supervisory measures to address the credit risk facing the banking sector, including "traditional" micro-prudential instruments such as capital and liquidity requirements; macro-prudential measures; stress-testing; and thematic onsite inspections of banks. Economies with less developed financial markets tended to rely less on stress-testing. In the next section, we will elaborate on these policy measures and the supervisory capacities needed to implement them effectively.

Table 10: Policy Measures to Mitigate Risks and Their Effectiveness

Mitigating Measures	Risk Addressed	Number of Respondents implementing these measures	Effectiveness (Average Score) 1= not so effective 2= somewhat effective 3= very effective
Regulatory or Administrative Measures			
a. Setting or tightening prudential limits, such as capital and liquidity ratios	Credit	8	2.5
	Liquidity	3	3.0
	Market	1	3.0
	Operational	2	2.5
b. Setting or tightening macro prudential measures, such as on capital flows into the banking sector	Credit	5	2.6
	Liquidity	3	2.7
	Market	3	3.0
	Operational	2	3.0
c. Restricting the entry of new banks or prohibiting banks from entering certain business activities related to the identified risk	Credit	4	2.5
	Liquidity	2	3.0
	Market	1	3.0
	Operational	2	2.5
Enhanced Offsite Supervision and Monitoring			
a. Collecting more types of data or more frequent data from banks to monitor the identified risk	Credit	11	2.6 *(1 respondent did not rate effectiveness)*
	Liquidity	6	2.8 *(1 respondent did not rate*

Mitigating Measures	Risk Addressed	Number of Respondents implementing these measures		Effectiveness (Average Score) 1= not so effective 2= somewhat effective 3= very effective
				effectiveness)
	Market	5		2.8 *(1 respondent did not rate effectiveness)*
	Operational	5		2.8 *(1 respondent did not rate effectiveness)*
b. Conducting stress tests on banks for the identified risk	Credit	8		2.6
	Liquidity	5		2.8
	Market	3		2.7
	Operational	2		2.5
c. Setting up or enhancing specialist supervisory teams to monitor the identified risk such as hiring specialist expertise	Credit	6		2.5
	Liquidity	4		2.8
	Market	5		2.8
	Operational	4		2.8
Enhanced Onsite Inspections				
a. Conducting more frequent inspections on banks, especially those identified as higher-risk	Credit	9		2.6 *(1 respondent did not rate effectiveness)*
	Liquidity	3		3.0
	Market	3		3.0
	Operational	4		2.8
b. Conducting thematic inspections on banks to focus specifically on the identified risk, such as on property loan portfolios	Credit	11		2.7 *(1 respondent did not rate effectiveness)*
	Liquidity	3		3.0
	Market	3		3.0
	Operational	3		3.0

Source: AMRO Banking Supervision Survey (2014)

3.2.2 Supervisory Framework and Capacity

The previous section introduced and discussed some regulatory and supervisory measures that the authorities have taken in response to the risks they have identified in their banking sectors over the next six months. This section further analyzes these measures by focusing on the supervisory framework that bank supervisors operate in, which enables them to take appropriate and timely measures in response to identified banking sector risks.

Studies have stressed the advantages of granting broad powers to supervisors. The reasons are as follows. First, banks are costly and difficult to monitor. This leads to too little monitoring of banks, which implies sub-optimal performance and stability. Official supervision can ameliorate this market failure. Second, because of informational asymmetries, banks are prone to contagious and socially costly bank runs. Supervision in such a situation serves a socially efficient role.[12]

To further examine the issues above, the survey asked respondents about several key aspects of an effective supervisory framework, namely whether they had a system of identifying systemic banks as a means of targeting supervisory resources, their usage of

[12] Some researchers suggest a less benign view of supervision where powerful supervisors exert a negative influence by using their powers to benefit favoured constituents, attract campaign donations, and extract bribes (Shleifer and Vishny, 1998; Djankov, et. al., 2002; and Quintyn and Taylor, 2002). Powerful supervision under these circumstances is expected to be positively related to corruption and will not improve bank development, performance and stability. This is not the view taken in this thematic study.

common tools for offsite review and onsite supervision of banks, and the powers available to bank supervisors to correct inappropriate behavior by banks. The section concludes with survey responses pertaining to staff resources and experience in banking supervision and the hiring priorities for skills to supervise emerging risks in banking systems.

These areas in the survey are consistent with those in the internationally accepted Basel Core Principles for Effective Banking Supervision, which sets out standards for sound prudential regulation and supervision of banks, with the primary objective of promoting the safety and soundness of banks. It is noted that these Core Principles were set out explicitly as a globally applicable standard that can accommodate a diverse range of banking systems, from relatively closed banking systems with largely domestic banks, to open banking systems with internationally active banks. As such, these international standards are relevant for preparing the survey questions in this section on supervisory frameworks in ASEAN+3 economies.

Identifying Systemic Banks and Onsite Inspection Frequency

The Financial Stability Board (FSB) has undertaken an international initiative to identify global systemically important financial institutions (G-SIFIs), and to recommend a policy framework for addressing the systemic and moral hazard risks associated with these G-SIFIs. Due to their size, complexity and systemic interconnectedness, failure of these G-SIFIs can cause significant disruption to the financial system and wider economic activity.

These international efforts have been complemented by ongoing initiatives within individual economies to identify and effectively supervise banks that are systemic in that economy. Identifying systemically important banks can help bank supervisors focus their supervisory resources on these banks, and also take pro-active measures, from a financial stability point of view, to prepare for how any failure of a systemic bank in times of crisis can impact the domestic banking system. For example, a bank may be deemed systemic because it takes a significant proportion of retail deposits in an economy or because it is a major provider of funds in the interbank market, and its failure could lead to a widespread loss of retail depositor confidence or disruption to the interbank market respectively. Supervisory priorities can then focus on ensuring those risks are mitigated and robust contingency plans are put in place for times of crisis.

The survey asks respondents whether their bank supervisors had a methodology for determining, on an ongoing basis, which banks are systemic to financial stability. Eight respondents have such a methodology, while six respondents do not (with two

of the six currently working on a methodology) (Table 11). After identifying which banks are systemic in the economy, the next step would be to focus supervisory resources on those banks. This enhanced supervision is usually reflected in **more frequent onsite inspections for systemic banks compared to non-systemic banks**. Of the eight respondents that identify systemic banks in their economy, six go on to supervise them differently from the non-systemic ones with more frequent inspections on systemic banks, while two respondents have the same inspection frequency on systemic and non-systemic banks (Table 11).

Table 11: Identifying Systemic Banks

	Is there a methodology for determining which banks are systemic?	Supervise systemic banks differently from non-systemic banks?
Number of respondents	Yes – 8 No – 6 (2 of the 6 are currently working on a methodology)	(Of those eight respondents with methodology for determining systemic banks) Yes – 6 No – 2

Source: AMRO Banking Supervision Survey (2014)

<u>Offsite Bank Supervision and Regulatory Returns</u>

Due to limitations of supervisory resources, it is often not possible to plan onsite bank inspections – even on systemically important banks – more frequently than once or twice a year. Bank supervisors are also mindful of the supervisory burdens placed on banks of overly frequent onsite inspections. Given these limitations, it is critical that there is an effective offsite supervision framework where supervisors rely on regulatory returns obtained from the bank and other financial and qualitative information. This offsite bank supervision process complements onsite inspections, among other ways, in identifying which risks in the bank that the next onsite inspection should focus on. The survey asks respondents whether their supervisory authorities use a number of common tools and information sources in their bank supervision work (listed in Table 12).

Based on survey results, bank supervisors in all respondent economies routinely analyse banks' financial statements and accounts. This would be the minimum for supervising risks in individual banks. Fewer supervisors in ASEAN+3 economies review the outcomes of stress tests undertaken by the banks, for example, bank supervisors in economies with less developed banking sectors do not do so. This could be due to the level of financial development where banks may not be required to undertake regular stress tests. As banks develop, however, stress tests are an important tool of testing how banks' financials would respond to stress scenarios, and the results help bank supervisors better identify and supervise latent risks in these banks. In order to integrate supervisory assessments of individual banks into a broader picture of risks for financial stability, it is necessary to compare banks against their peers. Most of the respondents said that they also perform horizontal peer reviews of banks.

Table 12: Supervisory Tools and Information Sources

	Supervisory Tools and Information Sources	Number of respondents not using the tool or information source
a.	Analysis of bank's financial statements and accounts	-
b.	Analysis of bank's business model	1
c.	Horizontal peer reviews (comparing the bank with peer banks)	1
d.	Review of outcome of stress tests undertaken by the bank	4
e.	Analysis of corporate governance, including risk management and internal control systems	1
f.	Review of external audit reports on the bank	-
g.	Review of the bank's internal audit reports	2
h.	Review of the bank's home supervisor's inspection reports on the bank (for foreign banks)	3

Source: AMRO Banking Supervision Survey (2014)

Besides financials, it is also essential to form a supervisory assessment of the risk management and controls in the banks. Most respondents indicated that they do analyse corporate governance structures and risk management and internal control systems in banks as part of the offsite supervision process. However, an accurate assessment needs to rely on **information from sources independent of business lines at the bank, such as the internal and external auditors, and the bank's home supervisor.** Most respondents, with a few exceptions, review banks' internal audit reports and review banks' home supervisors' reports as part of the offsite supervisory process.

Regulatory returns obtained from banks are an important complement to a bank's financial statements. The survey asks respondents whether their supervisory authorities require banks to submit regulatory returns on common items of risk (listed below in Table 13). Whereas financial statements report on profitability and costs, among other things, to a bank's shareholder and investors, regulatory returns can obtain more granular information that is necessary for bank supervisors to gauge the level of risk in the bank. Important items in regulatory returns that may not be reported as part of financial statements (depending on each economy's accounting framework) include risk concentrations in the bank's assets (by economic sector, geographical distribution of customers and currency), large exposures, and related party transactions. Even if these items are reported as part of financial statements, regulatory returns enable bank supervisors to obtain such information on a more frequent basis and in more detail. At the same time**, bank supervisors have to strike a balance between regulatory reporting and the compliance burden on the banks**, i.e. it is not necessarily the case that "more is better". In the extreme case, overly onerous regulatory reporting may lead to banks being unable to compile accurate data in time and giving inaccurate or even "made-up" data just to meet the regulatory deadline.

Table 13: Regulatory Reporting

Regulatory Reporting		Number of respondents where banks are not required to report on the item in regulatory returns
a.	On-balance sheet assets and liabilities	-
b.	Off-balance sheet assets and liabilities	1
c.	Profit and loss	-
d.	Capital adequacy	-
e.	Liquidity	-
f.	Large exposures	2
g.	Risk concentrations (including by economic sector, geography, currency)	-
h.	Asset quality	-
i.	Loan loss provisioning	-
j.	Related party transactions	3
k.	Interest rate risk	4
l.	Market risk	3

Source: AMRO Banking Supervision Survey (2014)

In ASEAN+3 economies, bank supervisors obtain reports on on-balance sheet assets and liabilities, off-balance sheet assets and liabilities, asset quality and loan loss provisioning with the highest frequency of at least one month, or even daily. In comparison, bank reports obtained quarterly or more infrequently include large exposures, related party transactions, and interest rate and market risks. Some respondents obtain banks' reports on a more frequent basis, at least monthly, for profit and loss and capital adequacy and daily for liquidity. Most of the remaining respondents obtain these reports on a quarterly basis.

Consolidated Supervision

Section 2 noted that in almost all respondent economies, banks and their subsidiaries are allowed to engage in non-bank activities such as securities, insurance and real estate, albeit to varying extents. There are many elements in effective consolidated supervision of financial groups with banking and non-banking activities, such as the authorities' powers to apply industry-wide prudential standards and to review key control functions of such groups. The survey focuses on whether the authorities have some key powers for consolidated supervision, namely:

a) Whether banks are required to produce consolidated accounts covering all bank and any non-bank subsidiaries, including affiliates of common holding companies (all respondents except two require this); and
b) For purposes of consolidated supervision, whether bank supervisors have powers to request and receive any relevant information from the bank, including on any entities in the banking group, including those engaged in non-banking activities, where such information is believed to be material to the condition of the bank or the banking group (this power is not available to three respondents).

Corrective and Sanctioning Powers

Corrective and sanctioning powers are essential to enable bank supervisors to act at an early stage to address unsafe and unsound practices in banks that could pose risks. These powers should ideally encompass a range of severity, where minor transgressions are corrected through less severe supervisory action, with an option to step up to more severe actions if the bank does not take timely or complete action to resolve the issue. In order to align the incentives of bank managers, directors and shareholders with appropriate action, bank supervisors should also have powers to impose corrective actions, not only on the bank as a legal entity, but also on individuals such as bank managers or directors in relation to their role at the bank, such as barring individuals who are found guilty of serious financial fraud. The survey asks respondents whether certain key corrective and sanctioning powers are available to their Supervisory Authorities (listed in Table 14).

Table 14: Corrective and Sanctioning Powers of Supervisors

Corrective and Sanctioning Powers of Supervisors		Number of respondents in which Supervisory Authority does not have this power
a.	Restricting the current activities of the bank	-
b.	Imposing more stringent prudential limits and requirements	1
c.	Withholding approval of new activities or acquisitions	1
d.	Restricting or suspending payments to shareholders or share repurchases	2
e.	Restricting asset transfers	1
f.	Barring individuals from the banking sector	1
g.	Replacing or restricting the powers of bank managers, Board members or controlling owners	2
h.	Facilitating a takeover by or merger with another bank	4
i.	Providing for the interim management of the bank	4
j.	Revoking the banking license	1
k.	Applying the sanctions not only to the bank, but to bank management and or the bank's Board of Directors, or individuals therein	-
l.	Ring-fencing the bank from actions of parent companies, subsidiaries and other related entities in matters that could impair the safety and soundness of the bank.	2

Source: AMRO Banking Supervision Survey (2014)

Bank supervisors in respondent economies generally have a wide range of corrective and sanctioning powers. Bank supervisors in all respondent economies have power to restrict the current activities of the bank, and also have the power to apply sanctions, not only to the bank, but to bank management and/or the bank's Board of Directors, or individuals therein.

The corrective and sanctioning powers that are available to some supervisors in ASEAN+3 economies include restricting or suspending payments to shareholders or share purchases (available to all except two respondents), replacing or restricting the powers of bank managers, board members or controlling owners (except in two respondents), facilitating a takeover by, or merger with, another bank (except in four respondents), providing for the interim management of the bank (except in four respondents) and ring-fencing the bank from parent companies and related entities (except in two respondents).

Supervisory Staff Resources

With the risks and risk drivers identified in Section 2 and the supervisory challenges identified in this Section, the role of banking supervisors is becoming more complex yet, at the same time, more vital in maintaining financial stability. Adequate resourcing for banking supervision, both in terms of numbers and skill-sets, is critical to meet these challenges. Table 15 shows the average supervisors per bank in ASEAN+3 economies (this is only a rough measure of resourcing because the size and complexity of banks can vary greatly.) **Among those who responded to this question in the survey, 11 respondents said that they are considering expanding the headcount for bank supervisors.**

Table 15: Average Number of Supervisors Per Bank

Average Number of Supervisors Per Bank	Number of respondents
More than 2 supervisors per bank	5
Between 1 to 2 supervisors per bank	6
Less than 1 supervisor per bank	2

Source: AMRO Banking Supervision Survey (2014)

Our survey finds that the experience level among existing bank supervision staff in ASEAN+3 varies considerably. In all respondents, more than 20 percent of their bank supervision staff had more than five years of experience in bank supervision. In particular, five economies have more than half of their staff with more than five years of experience in bank supervision. The proportion of bank supervision staff with more than 10 years of experience is understandably smaller (see Table 16). The common challenges cited by respondents in hiring and retaining qualified bank supervisors include competition from the private sector. Providing opportunities for career development for bank supervisors is also cited as a challenge for retaining qualified personnel in this field.

Table 16: Experience Level of Bank Supervisors

% of Bank Supervisors with > 5 years of experience in bank supervision	Number of respondents		% of Bank Supervisors with > 10 years of experience in bank supervision	Number of respondents
>50%	5		>30%	3
30% to 50%	5		20 % to 30%	5
<30%	1		<20%	3

Source: AMRO Banking Supervision Survey (2014)

Apart from general banking supervision skills, the increasing complexity of banking systems requires more specialists. Table 17 below shows respondents' assessments of specific supervisory skill sets which are most urgently needed. Accounting expertise and specialist supervisory expertise are most commonly cited by respondents as urgently needed.

Table 17: Hiring Priorities for Bank Supervisors in ASEAN+3

Skill sets most urgently needed for bank supervisors	*Category of Member Economies*	NUMBER OF RESPONDENTS PER CATEGORY		
		Skill set is very important and is a key priority when hiring new bank supervisors	Skill set is a consideration but not a key priority when hiring new bank supervisors	Skill set is sufficiently embodied in bank supervisors currently, there is no need to hire more
a. Knowledge of market practices, such as hiring ex-market practitioners	*Plus 3, HK and SG: -* *ASEAN-6 (excl. SG):-* *ASEAN-CLMV: -*	3 1 2	2 3 1	- 1 -
b. Knowledge of international regulatory standards, including Basel capital standards	*Plus 3, HK and SG: -* *ASEAN-6 (excl. SG):-* *ASEAN-CLMV: -*	1 2 2	4 1 1	- 2 -
c. Specialist supervisory expertise, such as supervision of commodities trading and information technology	*Plus 3, HK and SG: -* *ASEAN-6 (excl. SG):-* *ASEAN-CLMV: -*	4 2 1	1 2 2	- 1 -
d. Legal expertise	*Plus 3, HK and SG: -* *ASEAN-6 (excl. SG):-* *ASEAN-CLMV: -*	2 1 2	3 2 1	- 2 -
e. Accounting expertise	*Plus 3, HK and SG: -* *ASEAN-6 (excl. SG):-* *ASEAN-CLMV: -*	2 3 3	3 - -	- 2 -
f. Quantitative modeling expertise for stress testing models etc.	*Plus 3, HK and SG: -* *ASEAN-6 (excl. SG):-* *ASEAN-CLMV: -*	2 2 3	3 2 -	- 1 -

Source: AMRO Banking Supervision Survey (2014)

To summarize, respondents in the survey appear keenly aware of the need to maintain a robust banking supervision function to effectively supervise emerging risks in their banking sectors. There is a general trend towards hiring more bank supervisors and identifying certain specialist skill sets as hiring priorities. Banking supervisors in ASEAN+3 economies are also generally supported by a supervisory framework that makes available to them many onsite and offsite supervision tools and key corrective and sanctioning powers, although testing the effectiveness of these tools within economies is not within the scope of this survey.

3.2.3 Home-Host Supervisory Relationships and Foreign Bank Supervision

One of the most significant changes, and one that has greatly complicated banking regulation and supervision, is the dramatic increase in the share of total bank assets and lending by foreign-owned banks. This change in the landscape, as already illustrated in Section 2, emphasizes the importance of cross-country coordination in the supervision of major/systemic banks that operate globally. As reported in the 2012 AMRO thematic study on the interconnectedness of the ASEAN+3 banking sector, the composition of total foreign claims of global banks flowing into the ASEAN+3 region reveals a significant share (around 40 percent) in the form of cross-border lending. This is in sharp contrast to the situation in Latin American countries where local lending of international banks is proportionally larger than their cross-border lending. For Indonesia, China, Philippines and the CLMV economies (Cambodia, Lao PDR, Myanmar and Vietnam), the share of cross-border lending in total foreign claims is well above 50 percent. This is considerably higher than the 17 to 27 percent of cross-border lending activities for Eurozone claims in major Latin American economies, such as Argentina, Brazil and Mexico. Furthermore, the thematic study also indicates that after the Lehman Brothers crisis, the total cross-border lending to ASEAN+3 plummeted by more than 15 percent in the second quarter of 2009 from the same quarter a year earlier, while the local claims of these banks in the region continued to expand robustly at more than 33 percent over the same period.

Given the significant role of international banks and the magnitude of cross-border flows in the region, understanding the provision and readiness of regional cross-border supervision activities are vital in assessing the overall supervisory framework and capacity in the region. Six survey respondents said that there are foreign banks that they assess to be systemic to financial stability in their banking sectors.[13] The regular supervision of domestic activities will not be sufficient to assess overall risk exposures. Accordingly, many authorities have strengthened their capacity to monitor international banks by working closely with their counterparts overseas. The majority of the ASEAN+3 supervisors have signed Memoranda of Understanding on supervisory cooperation and information sharing with other supervisors (Table 18).

Table 18: Home-Host Cooperation

Areas of Cooperation	Number of respondents
As a home supervisor, establishing bank-specific supervisory colleges for host supervisors for banks headquartered in your economy with material cross-border operations	6
As a host supervisor, participating in bank-specific supervisory colleges for foreign banks operating in your economy	11
As a home or host supervisor, entering in MOUs on supervisory cooperation and information sharing with other home/host supervisors	10
As a host supervisor, sharing inspection reports and other material supervisory information on the foreign bank operating in your economy with the home supervisor, as a matter of course	8
As a host supervisor, giving the home supervisor onsite access to local offices and subsidiaries of the foreign bank operating in your economy	12
As a host supervisor, checking with the home supervisor for comments on proposed senior Management appointees in foreign banks operating in your economy as a matter of course	11

Source: AMRO Banking Supervision Survey (2014)

[13] Five respondents said that there were no foreign banks they assess to be systemic to financial stability in their banking sectors.

Sharing of data and access to inspection by other supervisors regionally and globally is becoming standard practice in the region. As host supervisors of the regional and global banks, the ASEAN+3 authorities extend to home supervisors of these banks onsite access to the local offices and subsidiaries of the foreign bank operating in the ASEAN+3 economies. Slightly more than half of the supervisory authorities in the region, in their capacity as host supervisors, share their inspection reports and other material supervisory information on the foreign bank operating in their domestic economy with the bank's home supervisors.

Most ASEAN+3 supervisors already participate in the supervisory colleges of the regional and global banks. Supervisory colleges are an important component of effective supervisory oversight of an international banking group. In its report (BCBS (2010)), the Basel Committee on Banking Supervision spells out a number of detailed aspects of supervisory colleges. The overarching objective of a supervisory college is to assist its members in developing a better understanding of the risk profile of the banking group. Supervisory colleges are, effectively, working groups of supervisors of an international banking group. As host supervisory authorities, three-quarters of them are members of the supervisory colleges of foreign banks operating in their domestic economies. In addition, those ASEAN+3 supervisors coming from the home economies of the international/regional banks have also established bank-specific colleges for host supervisors.

Lastly, as host supervisors, the ASEAN+3 authorities consult with the home supervisors of the foreign banks on the appointments of senior bank management. Three-quarters of the respondents confirm that they seek feedback and background information on the candidates from the banks' home supervisors.

4. Policy Analysis

The study so far has presented recent developments in banking in the ASEAN+3 economies and also data on some aspects of the supervisory frameworks and capacity in these economies. In this section, we review and analyze selected key policy issues, which have been at the center of policy debates regionally and globally.

Supervising Credit Risk, and Remaining Vigilant Against Liquidity and Market Risk

Section 2 has highlighted the steady process of deepening in ASEAN+3 banking, and the significant growth in banking sector assets in recent years. ASEAN+3 authorities have affirmed through their survey responses that credit risk remains the most significant risk in their banking sectors[14], reflecting the dominance of banks as financial intermediaries in their financial sector, and the role of these banks in the "traditional" banking business of taking deposits and making loans. ASEAN+3 authorities have accordingly taken the most number of policy measures to mitigate credit risk: eight respondents have set or tightened prudential limits, such as capital ratios, 11 respondents have collected more supervisory data on credit risk and conducted thematic inspections on credit risk.

Managing credit risk through robust micro prudential supervision, and monitoring overall credit growth as part of macro prudential surveillance, is critical to maintaining financial stability in our economies. However, in the current uncertain global environment, continued capital inflows into emerging economies, including those in ASEAN+3, cannot be taken for granted. Three respondents to the survey highlighted specifically the liquidity risk that may result from sudden reversal of capital flows, and four respondents highlighted increasing market risk due to volatility or expected rises in interest rates, resulting from the U.S.'s quantitative easing (QE) tapering. **Although only one respondent expected liquidity risk and market risk as a whole to increase in its banking sector over the next six months, it is important for other respondents to remain vigilant**. Some economies, though not the majority, have applied, or are considering applying, similar microprudential supervisory tools on credit risk to potential liquidity and market risks where appropriate. For example, while 11 respondents have collected more data or more frequent data from banks to monitor credit risk in their offsite bank supervision, only six have done so for liquidity risk and five for market risk. Compared to eight respondents conducting credit stress tests, five respondents conducted liquidity stress tests and three conducted market risk stress tests. Similarly, while 11 respondents conducted thematic onsite inspections on credit risk, only three said that they have done so for liquidity risk and for market risk. Tools such as collecting more supervisory information, stress testing and thematic inspections are some of the tools that could also be usefully applied to liquidity and market risks.

In this regard, the international standards provided by the Basel Committee on Banking Supervision (BCBS), the Financial Stability Board (FSB) and other standard-setting bodies provide a reference for supervisory practices, and capital and liquidity standards. Indeed, several ASEAN+3 economies are members of these standard-setting bodies.[15] The Basel capital standards specifically have a longer history of dealing with credit, market and

[14] There is a view that Asian economies, including ASEAN+3, are high-growth economies compared to developed economies such as US and Europe, and hence credit growth in Asia would necessarily be higher in order to support economic growth and development. There is merit to this argument but, at the same time, it may be difficult for policymakers to determine with precision at a macro level what a "safe" level of credit growth is for financial stability and what is not. Aggregate financial soundness indicators, such as non-performing loan ratios, provide some indication of credit defaults but are lagging indicators for financial stability purposes. Therefore, **assessing the quality of credit growth will have to rely on robust micro prudential supervision,** whereby banking supervisors deploy all the onsite and offsite supervisory tools available to them.

[15] China, Hong Kong SAR, Indonesia, Japan, Korea and Singapore are members of the BCBS and the FSB.

operational risk, and most recently with liquidity risk in Basel III. Although useful, Basel III capital standards incorporate a long transition timeframe, with liquidity standards[16] coming into effect fully only in 2019. Therefore besides adherence to international standards, it is critical to rely on constant supervisory monitoring of liquidity and other risks in the banking sector to deal with potential immediate short-run risks.

Supervising Risks from Cross-Border Banking Activities, Including Operational Risk

Section 2 has highlighted the significant increase in the share of total bank assets and lending by foreign-owned banks in some ASEAN+3 economies, and that these banks have in many cases led the increase in cross-border credit flows. Recent literature looked at how cross-border credit contributed to the build-up in vulnerabilities before the 2008-9 global banking crisis, and exacerbated the bust once the crisis spread to reach the emerging markets (Hills and Hoggarth (2013), AMRO (2012) and Aiyar and Chandra (2012)). This characteristic of banking flows means that policymakers need to carefully monitor them, both from the point of view of recipient countries and the global system as a whole. As highlighted in the survey results, on the asset side, increased foreign exposure amplified the vulnerability to credit risk, while on the liability side, increased reliance on borrowing from abroad made banks more vulnerable to funding risks. The maturity risk faced by banks was also exacerbated by foreign currency risk.

In the survey, six respondents said that there are foreign banks that they consider to be systemic to financial stability in their banking sectors. Two of these six economies further highlighted increasing operational risk arising from banks rapidly expanding bank operations locally and overseas. This spread in cross-border activities has been supported by technology, including e-banking and outsourcing. It is noted that the respondents highlighting this increasing operational risk comprise both home and host supervisors. Cross-border banking places a supervisory responsibility on home supervisors to effectively monitor their banks' activities overseas; and host supervisors similarly have a responsibility to supervise foreign banks' operations in their jurisdiction, as well as share relevant information with the home supervisors. The survey found that **most ASEAN+3 supervisory authorities already participate in supervisory colleges and engage in other forms of home-host supervisory cooperation, although cooperation could be enhanced** (for example, host supervisors sharing inspection reports on foreign banks in their jurisdictions with home supervisors).

[16] The Liquidity Coverage Ratio and the Net Stable Funding Ratio.

Supervising Potential Regulatory Arbitrage in the Financial Sector

In Asian economies with generally higher growth potential than more developed markets, the banks and other players in the financial sector have opportunities and strong incentives to engage in profitable activities, regardless of whether these activities are within their prescribed scope of business. For example, **banks face incentives to reach outside traditional deposit-taking and lending into non-bank activities, such as securities, insurance and real estate. At the same time, non-bank financial institutions (NBFI) such as microfinance institutions or cooperatives may face incentives to go beyond lending activities to "banking" activities such as deposit-taking**, which can lead to financial stability implications if the NBFI sector becomes sufficiently large.

From the survey, almost all respondents allow banks in their economies to engage in securities and insurance activities, and almost half of all respondents allow banks to engage in real estate activities, although subject to restrictions. The literature offers pros and cons whether to restrict banks from non-bank activities. The arguments for tighter regulation on banking activities stress that (i) neither private nor official entities can effectively monitor such complex banks due to informational asymmetries and (ii) both the market and political power enjoyed by such banks can impede competition and adversely influence government policies. Others however argue the opposite, stressing that fewer restrictions allow banks to exploit economies of scale and thereby provide services more efficiently. What seems clear is that there has to be sufficient capacity for bank supervisors to supervise bank activities, whether these are limited to deposit-taking and lending, or are extended to non-bank activities if these should pose a risk to banking stability. **From the survey, some bank supervisors in the region could enhance consolidated supervision by requiring banks and banking groups to produce consolidated accounts covering both bank and non-bank activities, or by acquiring powers to request material information on non-banking activities and entities within a banking group.**

5. Brief Closing Remarks

The trends of deepening banking sectors, expanding cross-border banking activities, and the potential for regulatory arbitrage place great demands on the skills and capacity of bank supervisors in ASEAN+3. **From their responses to the survey, ASEAN+3 authorities appear well-aware of this need to improve banking supervision capacity.** 11 respondents said that they were considering expanding the headcount for bank supervisors, and many are actively hiring for specialist skill sets such as supervisory skills on information technology or commodities trading, accounting and quantitative modelling.

At the same time, banking sectors among ASEAN+3 economies vary significantly in their levels of size, development and complexity. In particular, host supervisors located in economies with less-developed banking sectors may face daunting challenges to effectively supervise foreign banks entering their markets with complex products and services. In this regard, continued home-host supervisory cooperation would be critical to support home supervisors in effectively supervising cross-border banking operations on a consolidated basis. For host supervisors, such supervisory cooperation is also important in providing a more complete assessment of risks presented by local subsidiaries or branches, including contagion risks. This cooperation also forms part of international and regional policy coordination to respond to the vulnerabilities that may be result from increasing cross-border bank credit flows, which is also the policy objective of bilateral and ASEAN+3 swap facilities.

Amid the rapid change in the banking sector landscape and the importance of managing financial stability in the region, close monitoring of recent developments in the sector and the challenges posed to the supervisory authorities is getting more emphasis in AMRO surveillance reports. The key indicators in the banking sector, such as indicators from the banks' balance sheets, are often lagging or not publicly available at all in some ASEAN+3 economies, making it difficult for a comprehensive assessment on the soundness of this key sector of the financial market. This study and the survey are an attempt to circumvent this constraint. AMRO remains guided by ASEAN+3 authorities on the usefulness of periodic surveys such as this one, and the resulting analysis, which would be instrumental in enhancing AMRO's efforts to continually sharpen its surveillance of the macroeconomics of ASEAN+3 in general and the banking sector in particular.

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Appendices

Appendix 1: Presence of Selected Global and Regional Banks in ASEAN+3 [1&2/]

Member Economies		CN	ID	MY	PH	SG	TH	BN	KH	LA	MM	VN
Global Banks	HSBC	s	b	s	b	b	b	b				s
	Standard Chartered	s	s	s	s	s	s	b	r	r		s
	Citibank	s	b	s	s	s	s	b				b
China	Bank of China		b	s	b	b	b		b			b
	ICBC		s	s		b	s		b	b	r	b
	China Construction Bank					b						b
Japan	Mizuho	s	s	s	b	b	b		r		r	b
	BTMU	s	b	s	b	b	s&b		r		r	b
	SMBC	s	s	s	r	b	b		r		r	b
Korea	Korea Development Bank	b				b	r				r	r
	Woori	s	s	r		b					r	b
	Shinhan	s				b			s		r	b
Malaysia	Maybank	b	s		b	b	b	b	s	b	r	b
	Public Bank								s	b		j
	CIMB		s			s	s	b	s		r	
Singapore	DBS	b	s	s&o	s		r				r	b
	UOB	s	s	s	s		s	b			r	b
	OCBC	s	s	s	r		b	o				b
Thailand	SCB	r				b			s	b	r	j
	Bangkok Bank	s	b	s	b	b				b	r	b
Vietnam	AgriBank								b			
	BIDV								s&r	j	r	
	Sacombank								s	b		

Note: 1/ Adapted and expanded from Lee and Takagi (2013), Table 7, p. 21. 2/ b stands for branch, s for subsidiary, r for representative office, j for joint venture, and o for offshore international banks. Data are as of early 2014.
Source: Lee and Takagi (2013), annual reports of central banks and commercial banks

Appendix 2: Concentration Shares in ASEAN+3 Banking Sectors

Member Economies	Share of Five Largest Banks in Economy (%)								
	Of Total Bank Assets			Of Total Non-Bank Deposits			Of Total Non-Bank Loans		
	2007	2010	2013	2007	2010	2013	2007	2010	2013
CN	55	50	44	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
JP	56.5	56.8	56.7	51	51.2	51.9	50.6	48.8	50.4
KR	62	60	59	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
BN	82	86	90	81	87	91	94	93	94
ID	50	50	47	53	53	50	46	48	47
KH	70	65	55	73	74	65	78	70	56
MY	52	48	49	53	48	64	58	51	49
PH	45	47	51	46	57	61	48	47	52
SG	34.3	38.6	39.6	48.8	52.7	53.3	39.3	44.5	44.9
TH	49	49	51	54	55	54	52	51	51
VN	n.a.	42	43	n.a.	52	46	n.a.	53	51

Share of Government-Controlled Banks (% of Total Bank Assets)			
Member Economies	2007	2010	2013
KR	35	35	37
BN	0	0	0
ID	37	37	36
KH	0	0	0
MY	43	43	36
PH	13	13	13
SG	6.3	7.2	8.7
TH	19	22	22
VN	n.a.	39	41

Share of Foreign Banks (% of Total Bank Assets)			
Member Economies	2007	2010	2013
KR	7	8	6
BN	52	52	49
ID	8	7	7.88
KH	49	44	52
MY	22	21	26
PH	13	13	10
SG	76.1	70.9	67.8
TH	15	16	15
VN	n.a.	11	12.2

Note: n.a. means data are not available.
Source: AMRO Banking Supervision Survey (2014)

Appendix 3: Regulatory and Supervisory Arrangements in ASEAN+3

Economy	Bank Supervision	Bank Regulation	Supervision & Regulation of NBFIs	Deposit Insurance	Lender of Last Resort	Bank Resolution	Financial Stability Monitoring
CN	CBRC	CBRC	CSRC and CIRC	n.a.	PBC	CBRC and PBC	Jointly by PBC, CBRC, CSRC and CIRC
JP	FSA	FSA	FSA	FSA, MOF	BOJ	FSA, MOF	FSA
KR	FSC and FSS	FSC and FSS	FSC and FSS	Korea Deposit Insurance Corporation	BOK	Korea Deposit Insurance Corporation	FSC, FSS, BOK, Korea Deposit Insurance, Ministry of Strategy and Finance
HK	HKMA	HKMA	SFC, OCI, Mandatory Provident Fund Schemes Authority (MPFA)	Deposit Protection Board	HKMA	HKMA	Financial Secretary of the HK SAR, Financial Services and the Treasury Bureau, and financial authorities such as HKMA, SFC, OCI and MPFA
BN	AMBD	AMBD	AMBD	Brunei Darussalam Deposit Protection Corporation	AMBD	AMBD	AMBD
ID	OJK	OJK	OJK	Indonesian Deposit Insurance Corporation	Bank Indonesia	OJK, Bank Indonesia, Indonesian Deposit Insurance Corporation	Bank Indonesia
KH	NBC	NBC	MOF and SEC	n.a.	NBC		
LA	BOL	BOL	BOL, MOF and SEC	BOL	BOL	BOL	BOL
MY	Central Bank of Malaysia	Central Bank of Malaysia	Central Bank of Malaysia, SC and Bursa Malaysia	Malaysian Deposit Insurance Corporation	Central Bank of Malaysia	Central Bank of Malaysia and Malaysian Deposit Insurance Corporation	Central Bank of Malaysia
MM	CBM	CBM	MOF	MOF	CBM	CBM	CBM
PH	BSP	BSP	SEC and IC	PDIC	BSP	BSP, PDIC, SEC	FSCC
SG	MAS	MAS	MAS	MAS and Singapore Deposit Insurance Corporation (SDIC), a private agency	MAS	MAS	MAS, MOF and other relevant sector agencies, e.g. URA and HDB for the property sector

Economy	Bank Supervision	Bank Regulation	Supervision & Regulation of NBFIs	Deposit Insurance	Lender of Last Resort	Bank Resolution	Financial Stability Monitoring
TH	BOT	BOT	SEC, OIC (Office of Insurance Commission), and MOF	DPA (Deposit Protection Agency)	BOT	BOT, FIPC, Cabinet, Financial Institution Develop-ment Fund (FIDF), and DPA	Joint Meeting between Monetary Policy Committee (MPC) and Financial Institutions Policy Committee (FIPC)
VN	Banking Supervisory Agency (SBV)	Banking Supervisory Agency (SBV)	MOF	Deposit Insurance of Vietnam (SBV)	SBV	SBV	SBV and MOF

Source: AMRO Banking Supervision Survey (2014)