

BANKING SECTOR ANALYSIS

# ASEAN | Deciphering the region's banking sector

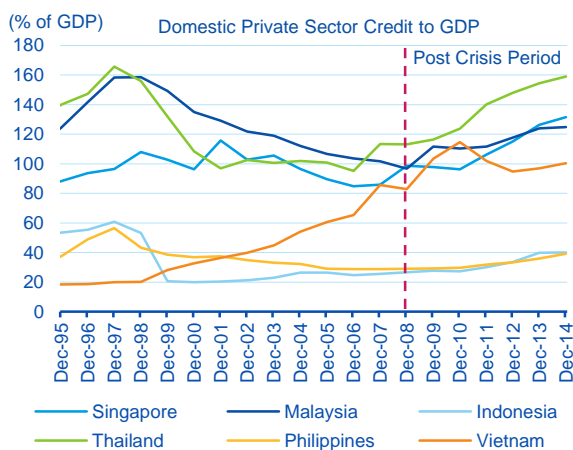
Sumedh Deorukhkar / Le Xia

The operating environment for ASEAN banks has got increasingly tougher over the past two years owing to spikes in global financial market volatility, sharp depreciation in domestic currencies, significant rise in interest rates during 2013-14, and a protracted slowdown in consumption and investment demand. Looking ahead, the spill-over effects on ASEAN economies and in turn on their banking systems from global growth woes, particularly the slowdown in China, US monetary policy tightening, and commodity-currency interplay are expected to persist. Against this backdrop we examine 41 major banks<sup>1</sup> across ASEAN<sup>2</sup>, comprising the bulk of banking assets in each economy, to decipher the recent trends for ASEAN banks, including funding condition, creditworthiness, asset quality, and profitability. Moreover, we gauge the ability of ASEAN banks to withstand tail risks emanating from external financial shocks, depreciating pressure on exchange rates and a challenging domestic real economic environment.

## Post crisis period saw a broad-based rise in leverage across ASEAN

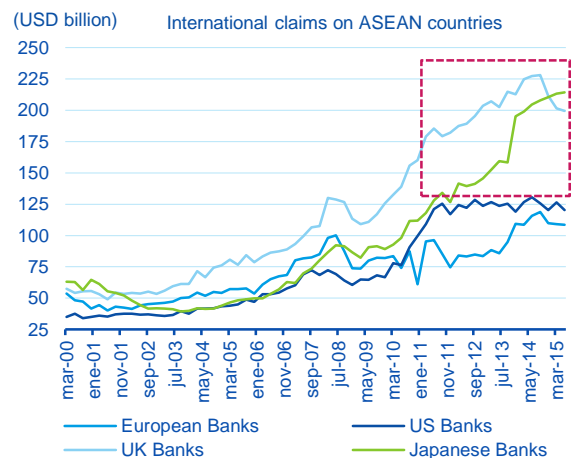
Since the 2008 credit crisis, ASEAN economies have experienced a secular rise in debt levels relative to their national incomes. Banks' loan-to-GDP ratios have risen most rapidly across Thailand, Singapore and Malaysia and less so for the rest of ASEAN (See Figure – 1). Most ASEAN economies saw exceptionally high credit growth during 2011, particularly Vietnam (34% Y/Y) and Indonesia (30%). Philippines, meanwhile, experienced a late pick up in the credit cycle which averaged 32% y/y in 2014. While Vietnam's economy did experience deleveraging between 2010 and 2012, debt levels have been on a rise over the past three years. This protracted uptrend in domestic credit supply across ASEAN despite massive deleveraging by European and US banks since mid-2011 can be attributed to three main offsetting factors – 1) Re-leveraging by

Figure 1  
**Domestic credit as % of GDP has risen across most ASEAN economies since the 2008 crisis...**



Source: BBVA Research, Bloomberg Data

Figure 2  
**...As deleveraging by European and US banks was offset by higher lending from the UK & Japan**



Source: BBVA Research, BIS Data

1: See Appendix for list of all Banks analyzed. Wherever suitable, central bank data on banking systems in the country has been used.  
 2: ASEAN economies examined include Singapore, Malaysia, Indonesia, Thailand, Philippines and Vietnam.

Japanese and UK banks during the period (See Figure – 2), 2) a spate of liquidity stimulus measures including lending foreign exchange, bank capital injections, sector specific incentives and swap lines with other central banks, announced by ASEAN Central banks in the aftermath of the credit crisis (See Table – 1), and 3) the role of quantitative easing measures adopted by advanced economy central banks in aiding overall liquidity situation across Asia.

Table 1

**Robust policy response to the 2009 crisis by ASEAN economies also helped contain the impact of foreign deleveraging on domestic credit supply**

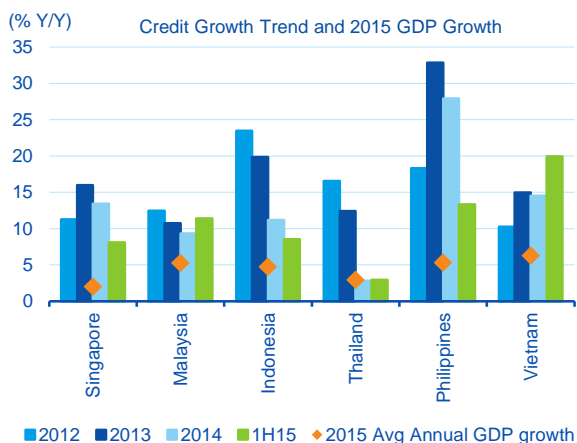
Policy actions taken in the aftermath of the 2009 Global Financial Crisis						
	Singapore	Malaysia	Indonesia	Philippines	Thailand	Vietnam
Liquidity assistance in local currency			♦	♦		
Lend foreign exchange	♦		♦	♦		♦
Expand deposit insurance	♦	♦	♦	♦	♦	♦
Prepare bank capital injection					♦	♦
Create demand for assets		♦	♦			
Impose short sell restrictions	♦		♦			
Relax mark to market rules			♦			
Institute SME programs	♦	♦	♦	♦	♦	♦
Support trade finance		♦	♦		♦	♦
Secure Fed swap lines	♦			♦		

Source: BIS, Economic Intelligence Unit (2010); Admundson and Others, BBVA Research

High loan to GDP ratios translate into high debt servicing burdens when interest rates rise. This, in particular, is a pressing concern for Thailand and Malaysia where loan-to-GDP ratios have hit 160% and 125% respectively. However, we believe that Singapore, despite its high leverage, is less concerning in terms of credit risks that banks face as bulk of the debt in Singapore represents cross-border activities including short term trade finance given its status as Asia’s financial hub.

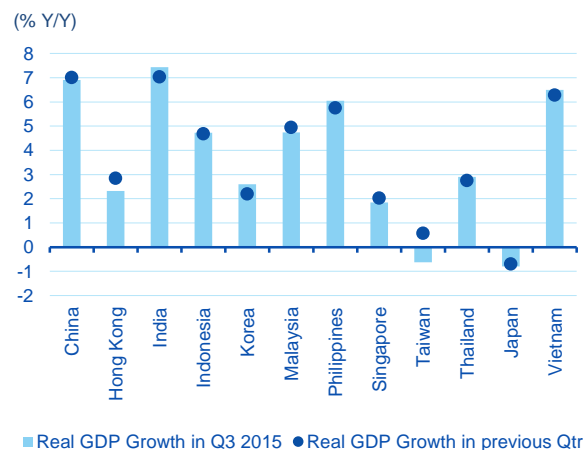
While credit growth slowed sharply post 2011 for most ASEAN nations, the recent trends in credit cycle across the region are more diverse. Credit growth continues to decelerate in Singapore, Indonesia, Thailand and Philippines, while it seems to have stabilized and gradually improving from the bottom in Malaysia; and is in fact accelerating in Vietnam (See Figure – 3). The later has been a clear exception within the region with credit growth aided by strong private consumption demand. For the bulk of ASEAN, significant growth headwinds have weighed on domestic demand for credit. In this context, the slump in commodity prices, slowing Chinese economy, concerns over spill over effects from expected rise in US interest rates and domestic structural constraints have all played a role (See Figure – 4). From a country-specific perspective, the divergence in credit cycle across the region is largely determined by the quality of countercyclical structural adjustments undertaken by local authorities and the space available for monetary and fiscal accommodation.

Figure 3  
**Notwithstanding domestic liquidity efforts, credit growth has slowed in ASEAN except Vietnam...**



Source: BBVA Research, Haver Analytics

Figure 4  
**... As significant growth headwinds in the region weigh on domestic demand for credit**

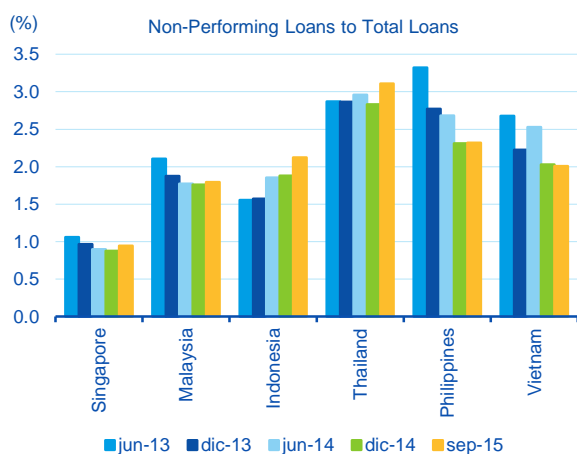


Source: BBVA Research, CEIC

## Asset quality deterioration underway, but expected to be manageable

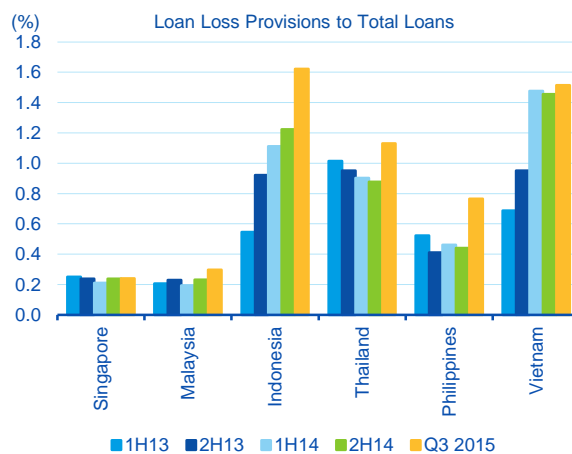
A sharp slowdown in the credit cycle can adversely impact banks if economies have previously experienced high credit growth rates, which tend to raise questions over the quality of credit underwriting, ultimately manifesting itself into an asset quality issue with implications on overall health of the banking system. Recent asset quality trends of banks' suggest a modest deterioration across ASEAN with the exception of Philippines, where NPL ratios have been stable at 2.3% this year after falling from a peak of 3.4% in March 2013 (See Figure – 5). The concoction of a pullback in Chinese demand, a firming interest rate environment, the sharp depreciation of domestic currencies and growth woes is affecting corporate and retail loan books

Figure 5  
**Asset quality deteriorating modestly across ASEAN but largely comfortable in level terms...**



Source: BBVA Research, Bloomberg Data, BI, BSP, BoT

Figure 6  
**... But the tide of problem loans is set to rise as reflected by a pick-up in loan loss provisions**



Source: BBVA Research, Bloomberg Data, BI, BSP, BoT

of ASEAN banks. Within the region, NPL ratios are highest for Thailand banks at slightly above 3% while Singapore banks have very low NPL ratios, below 1%. In level terms, asset quality is still not a pressing concern for ASEAN banks. However, rising loan loss reserves of banks – a leading indicator of asset quality – suggests that asset quality will deteriorate further, albeit moderately, over the next year across bulk of ASEAN (See Figure – 6). Loan loss provisioning has picked up rapidly in Indonesia, Vietnam, Thailand and the Philippines. We expect asset quality deterioration to be concentrated mostly across mid-sized corporate segments, which have seen rapid investment related loan growth and the energy and mining sectors, particularly across Malaysia and Indonesia, which are hit by the global commodity price slump and slowing Chinese demand. 2014 NPL ratios of Indonesian banks were highest in the wholesale trade and transportation sector at 3.2% (comprise 25% of total loans), followed by the mining sector at 2.5%.

Meanwhile, risk to asset quality of loans to households for ASEAN banks is comparatively lower but cannot be discounted given high household debt exposure to a contraction in property prices in Singapore, and slowing residential price growth in Malaysia and Thailand (See Figures 7 & 8). The protracted and sharp property price contraction in Singapore warrants special attention in this regard. Driven by concerted cooling measures by authorities, Singapore’s residential property prices have declined 8% since hitting a peak in Q3 2013. The regulatory curbs were necessary given that property prices in Singapore had jumped 62% between 2009 to 2014 with property affordability (house price to income ratio) hitting 12 times, which is amongst the most expensive in the world. We expect property prices in Singapore to contract further with policy curbs still intact. However, affordable interest rates and full employment has helped markets like Singapore keep mortgage delinquency low (NPL ratio 0.5%). The SIBOR is still below pre-crisis levels despite having seen significant upward pressure (pre-crisis level at around 3%). Nevertheless, households would feel the pinch of higher mortgage rates as it hurts their disposable income, but it depends on the pace of increase in rates. Lower disposable income of households, would also in turn affect Singapore banks, whose banking sector household exposure is heavy at around 35% of total loans.

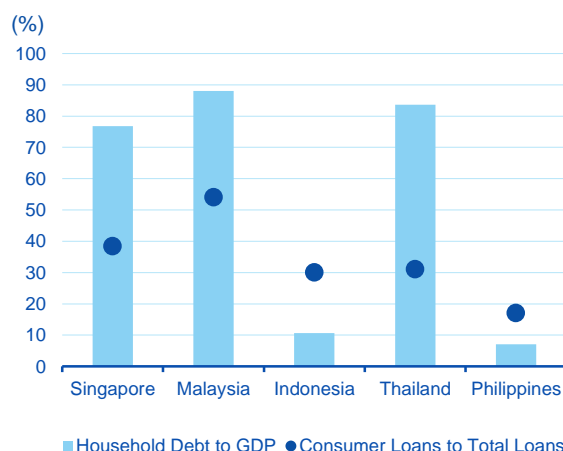
Besides Singapore, Malaysian and Thailand’s banks too have relatively higher exposure to household asset quality from sharper than expected US monetary policy response given its elevated levels of household debt to GDP, high share of consumer loans exposure by banks (especially for Malaysia) and sharply slowing

Figure 7  
**Property prices to contract further in Singapore, prices moderate in other key ASEAN economies...**



Source: BBVA Research, Bloomberg Data, BI, BSP, BoT

Figure 8  
**... Easing property prices poses risks to ASEAN banks having high exposure to household debt**



Source: BBVA Research, Bloomberg Data, BI, BSP, BoT

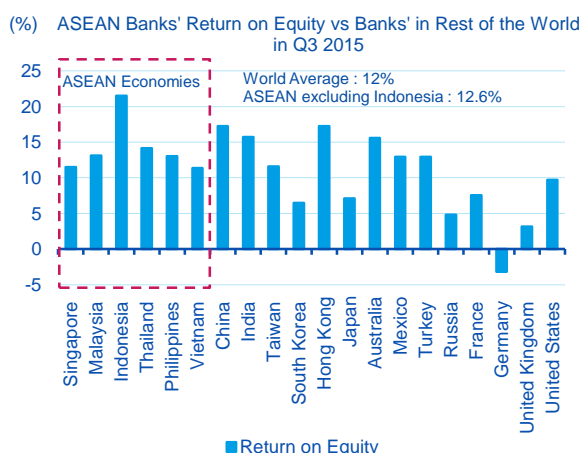
property price growth. In Thailand, the debt pile-up is much higher than what the banks finance, given that non-banking financial institutions (finance and securities companies) account for a significant 75% of household loans. In Malaysia, the surge in debt has been mainly fueled by rising property prices, while in Thailand retail lending by banks and non-banks and profligate fiscal policies such as subsidies for first car purchases are responsible for the debt overhang.

In this context, it is important to note that the string of banking related macro-prudential measures introduced by authorities across ASEAN over the past two years has improved credit underwriting standards and helped temper household loan growth, which should be supportive of asset quality related to the household sector across the region. We believe that high levels of household debt still poses limited risk to domestic macro stability in Malaysia and Thailand. Household income growth has lagged behind growth in property prices, but not much in a relative sense. Property affordability (house prices to income ratio) is 5 times in Thailand and 4 times in Malaysia, which is much lower than 12 times in Singapore, 16 times in Hong Kong and 8 times in China. In this context, potential increase in interest rates, in light of imminent Fed rate normalization, is expected to have a limited impact on disposable income of households, especially so, given that Malaysia and Thailand have relatively high per capita GDP levels of USD 10792 and USD 5863 respectively.

### ASEAN banks' profitability is trending lower, but remains relatively high

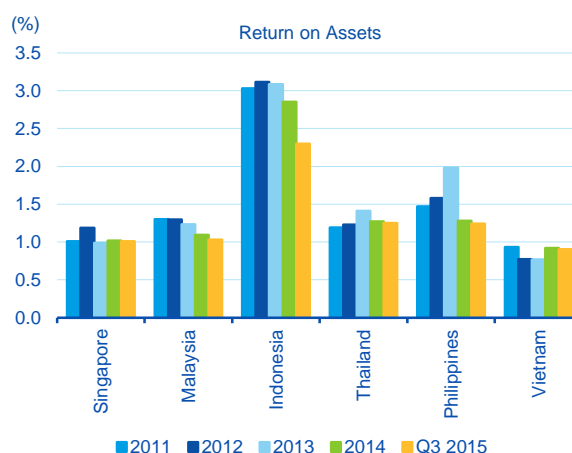
Return on Equity of Indonesian banks tops the world at a remarkable 21.5%, with Chinese banks coming a distant second at 17% (See Figure – 9). Even excluding Indonesia, ASEAN banks average ROEs is above the world average (12.6% vs. 12%). Such high profitability levels bode well for ASEAN banks, and in particular for Indonesia, in absorbing credit losses over and above what they have already provisioned for. Although still high in level terms, profitability of the bulk of ASEAN banks' has been dampened by slowing credit growth, elevated operating costs and moderate deterioration in asset quality over the past three years (See Figure – 10). Return on Assets ratios have declined most significantly for Indonesian banks' from 3.1% in 2013 to 2.3% in Q3 2015, followed by the Philippines, Malaysia and Thailand, while remaining stable in Singapore and in fact picking up in Vietnam. In level terms, ROA's of Vietnamese banks are lowest in the region at just 0.9%, while Indonesian banks have significantly high ROAs at around 2.3%.

Figure 9  
**On a relative scale, profitability of ASEAN banks' is still fairly high, with Indonesia at the top...**



Source: BBVA Research, Bloomberg Data, BI, BSP, BoT

Figure 10  
**... But slowing credit, elevated operating costs and weakening asset quality weighing on ROAs**

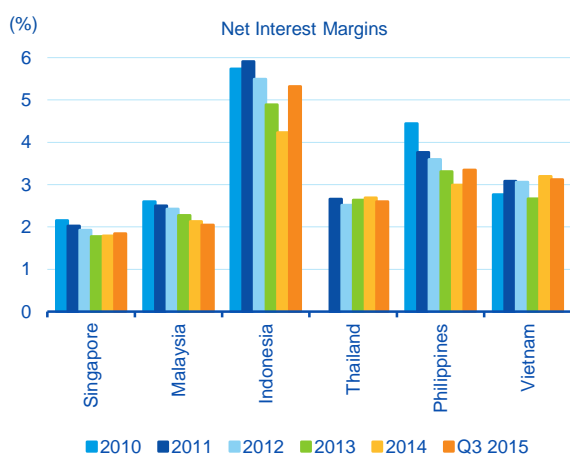


Source: BBVA Research, Bloomberg Data, BI, BSP, BoT

Reassuringly, with the exception of Malaysian banks, the sharp decline in net interest margins (NIMs) as seen across ASEAN banks since 2010 saw a modest reversal over Q3 2015 (See Figure – 11). NIMs have rebounded sharply for Indonesian banks (5.3% in 3Q15 vs. 4.2% in 2014), followed by the Philippines, Vietnam and Singapore. Malaysia banks are suffering from a secular decline in NIMs, from 2.6% in 2010 to 2.0% in 3Q15, while Thai banks' NIMs have been largely flat at 2.6% over the past three years. The recent pick-up in NIMS across ASEAN banks' can, in part, be attributed to the rise in short term inter-bank interest rates over 2015 across Singapore, Indonesia, Philippines and marginally for Vietnam as concerns over the impact of imminent Fed rate lift-off weighed on banking system liquidity (See Figure – 12).

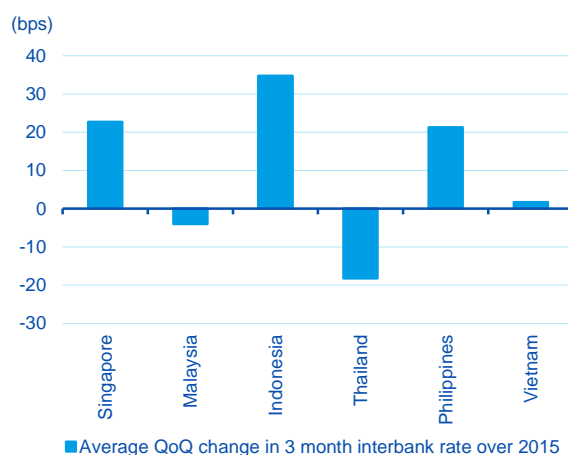
Another key factor aiding NIMs of ASEAN banks', particularly major banks in Indonesia, Philippines and Vietnam has been the relatively high share of current and savings (CASA) deposits in their overall funding mix. In Indonesia for instance, the five large banks<sup>3</sup> have average CASA ratio of 62%. Interest rates on CASA deposits are low and less sensitive to the rise in interest rates as compared to that on term deposits. The high CASA deposits helped keep overall deposit costs low even as interest rates on term deposits went up sharply over the past year. Looking ahead, even as ASEAN banks' profitability may trend lower over the next year, dragged by a tighter operating environment, the moderate deterioration in asset quality and domestic growth headwinds, we expect the high CASA deposits to serve as an important buffer for overall NIMs of major ASEAN banks against contraction.

Figure 11  
Post-crisis squeeze on NIMs is reversing for ASEAN banks except in Malaysia ...



Source: BBVA Research, Bloomberg Data, BI, BSP, BoT

Figure 12  
...Led by a recent pick up in short term interest rates in Singapore, Indonesia and Philippines



Source: BBVA Research, Bloomberg Data, BI, BSP, BoT

## Funding costs have improved while operating expenses remain elevated

Over the past two years, banks' cost of funds have visibly fallen in Thailand and Vietnam, while less so for the Philippines; and remained broadly stable for Singapore and Malaysia. Meanwhile, for Indonesian banks, cost of funds are visibly high when compared to 2013 (See Figure – 13), although having declined marginally in recent months. Softening funding cost for the bulk of ASEAN banks can be attributed to 1) healthy levels of domestic liquidity, 2) higher reliance on retail deposit funding rather than on confidence sensitive market funding (wholesale funding), and 3) stable/declining deposit costs. In contrast, funding cost for Indonesian banks has increased on the back of intense deposit competition. The Indonesian rupiah deposit rates have

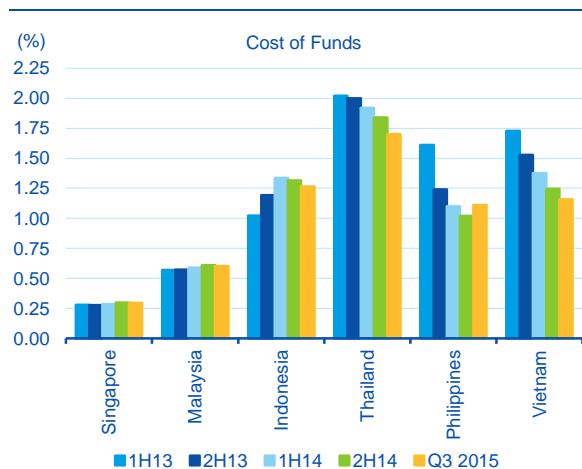
3: These include BCA (75% CASA), BNI (66% CASA), Bank Mandiri (62% CASA), BRI (53% CASA) and Panin (52%).

risen in excess of 200 bps since late 2012 while lending rates have seen only half as much rise. Deposit competition amongst banks has moderated since last year after the Financial Services Authority (FSA) of Indonesia capped fixed deposit rate offered by large banks at 9.75% in October 2014. Furthermore, the slowdown in loan growth has alleviated additional funding requirements, which should bode well for Indonesian banks' net interest margins.

While funding costs have moderated, operating expenses remain elevated across most ASEAN banks, driven in part by poor cost control, particularly amongst the smaller banks, and also due to a step up in expansion efforts undertaken by large banks, especially in Indonesia. Banks in Philippines face significantly high cost to income ratios in the region at around 60%, followed by Indonesia and Singapore, while Vietnamese banks have benefitted from a marked decline in cost-to-income ratios since end-2013 (See Figure – 14). Reassuringly, tighter prudential regulations coupled with a removal of the 60% cap on foreign ownership in end 2014 have aided on-going consolidation efforts by encouraging foreign bank participation in the Philippines banking sector. However, the sector needs to consolidate much further for efficiency ratios to improve.

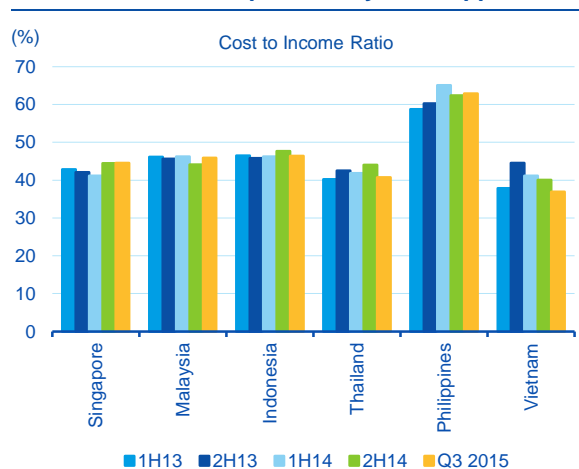
The Philippines banking system still has 638 banks (although down from 879 in 2005), with the bulk of them small and inefficiently managed; and only a handful of local conglomerate owned large groups dominating the entire sector. Philippines banking system has the highest efficiency ratios across ASEAN at 60% (lower ratio signifies higher efficiency) followed by Indonesia at 52% while Thailand banks have the lowest at 44% (See Figure - 15). Financial consolidation is also being pursued by authorities in Indonesia, which has a highly fragmented banking sector, involving 118 commercial banks with the top 10 banks accounting for 65% of total system assets. The Indonesian Financial Services Authority (FSA) has in this regard 1) pushed small Indonesian lenders to merge or seek strategic investors, 2) increased oversight by tightening NPL levels and 3) more recently eased norms on foreign ownership of domestic banks by allowing foreign bidders to become a controlling shareholder of domestic banks if they buy and merge two local banks. Foreign ownership of one bank is limited to 40% in Indonesia.

Figure 13  
Funding costs have fallen visibly for banks in Thailand and Vietnam but less so for others...



Source: BBVA Research, Bloomberg Data, BI, BSP, BoT

Figure 14  
... also operating expenses remain high across most ASEAN banks, particularly in Philippines



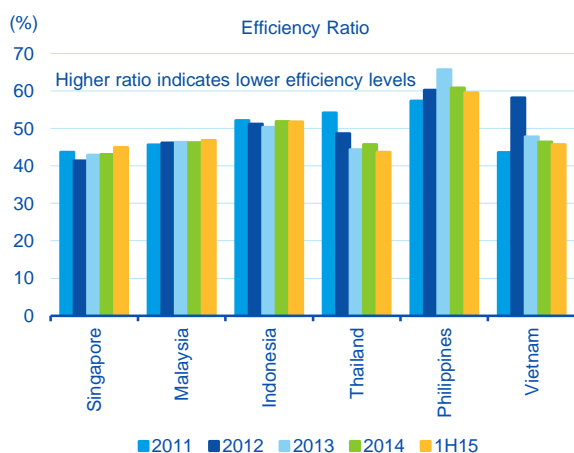
Source: BBVA Research, Bloomberg Data, BI, BSP, BoT



## Push for banking sector consolidation has become more pronounced in the wake of stiffer competition under ASEAN banking integration framework

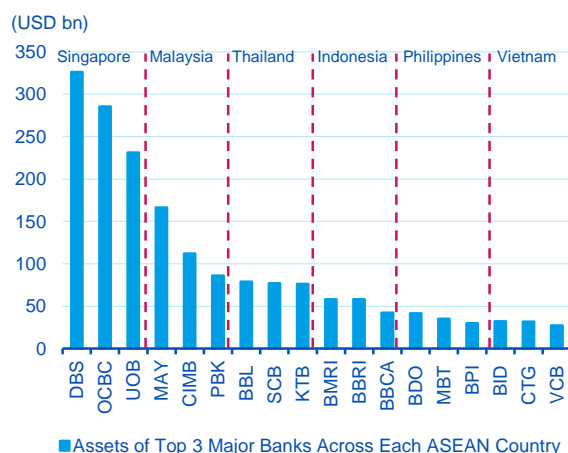
Broadly speaking, banking sector consolidation efforts have become more pronounced amongst the emerging ASEAN economies as they prepare themselves to face stiffer competition from larger banks in more developed ASEAN economies such as Singapore and Malaysia over the next 10 years with the establishment of ASEAN Economic Community (AEC) starting 2016. The AEC aims to allow free movement of goods, services and skilled labor across ASEAN as part of a European Union-style integration plan, without a common currency. The ASEAN banking integration framework, a part of the AEC agenda, would ease cross border financial investments, which would significantly increase competition from heavy weight banks in the region. The ASEAN Economic Community Initiative opens high growth opportunities for banks within the region to tap a combined population of 600 million with an aggregate GDP of USD 2.4 trillion. Against this backdrop, consolidation efforts are imperative for major banks in Indonesia, Philippines, Thailand and Vietnam going ahead given their relatively small size and the lack of lending clout compared to their counterparts in Singapore and Malaysia (See Figure - 16).

Figure 15  
**Efficiency ratios have deteriorated for Singapore, Malaysia, Indonesia and is elevated for Thailand**



Source: BBVA Research, Bloomberg Data, BI, BSP, BoT

Figure 16  
**Major banks in emerging ASEAN are relatively very small vis-à-vis Singapore and Malaysia**



Source: BBVA Research, Bloomberg Data, BI, BSP, BoT

## ASEAN in early stage of deleveraging cycle, are banks' well prepared?

Even as credit growth is slowing, elevated and still rising debt to income levels across ASEAN suggests that the region's deleveraging cycle is still in its nascent stage. Nevertheless, banks' in the region need to be well prepared for the hard and bumpy road ahead, particularly so, as bond markets in the region have generally been tracking the recent hardening of US yields given imminent Fed rate lift-off. A close look at banks' total loans to deposits ratio (LDR), a telling gauge of banks' exposure to higher interest rates, paints a broadly positive picture for ASEAN, although not without exceptions. LDR's of most major ASEAN banks, with the exception of Thailand and Malaysian banks, stand at comfortable levels compared to rest of the world (See Figure - 17). Thailand banks top the region with LDR levels near or above 100% while Philippines banks' have the lowest LDR levels at 69%. The broad picture is more encouraging with ASEAN banks average LDR levels at 84% compared to 98% for the rest of the world and 90% for the developed world.

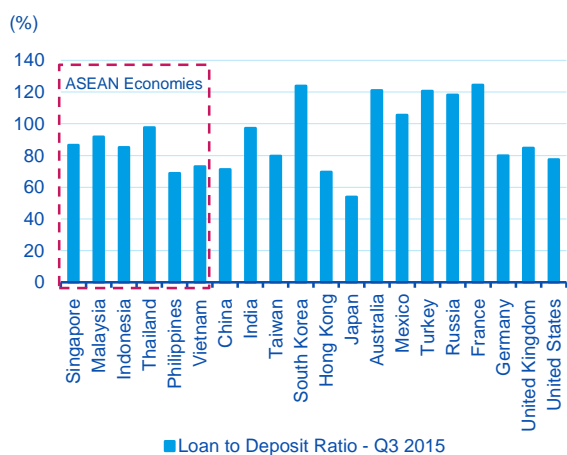
From a historical perspective, while LDR levels have been stable or declining for most of ASEAN, Malaysian banks have seen a rather discouraging trend with LDR's rising from 84% in 2012 to 94% in 2015. Of



particular concern is the fact that Malaysian banks have been borrowing heavily in foreign currency (mostly short term debt) over recent months, which undermines their foreign-currency loan to deposit ratios. Foreign currency liabilities of Malaysian banks account for almost half of the economy's USD 98 billion overseas borrowings. Foreign currency deposits at Malaysian banks have increased by USD 5.7 bn so far this year with USD 3 bn in Q3 2015 alone. Even though these foreign currency deposits are offset by matching dollar lending, it exposes the Malaysian banking system to credit shocks triggered primarily by currency volatility, especially at a time when the Ringgit is the worst performing currency in the region this year, having fallen 19% against the US dollar.

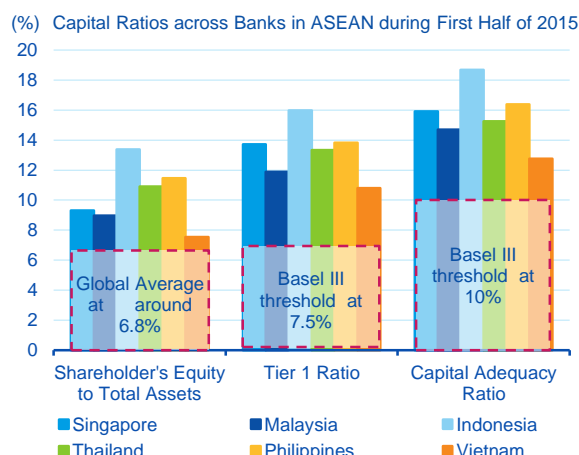
Reassuringly for Malaysia's banking system, conditions for domestic-currency funding are generally stable with retail deposits still growing at a stable pace, which bodes well for overall funding conditions. In addition, Malaysian as well as other ASEAN banking systems benefit from good capital buffers and sound liquidity position, which surpass Basel III threshold levels (See Figure – 18). In this context, the on-going slowdown in credit growth coupled with stable deposit growth bodes well for capitalization levels across the ASEAN region. Vietnam, however, is an exception, as its accelerating credit growth does not bode well for its relatively weak capitalization levels going forward. Vietnamese banks' have the weakest capital buffers amongst ASEAN economies with Tier-1 Ratio around 11%, although higher than the 7.5% threshold required under Basel III. On the other extreme are Indonesian banks', which have strongest capitalization levels across ASEAN, not just in terms of high Tier-1 (16%) and Capital Adequacy Ratios (18%) but also shareholder's equity to total assets (13.4%), which implies robust solvency levels.

Figure 17  
**Funding constraints, except in Philippines and Vietnam, also weighing on loan growth in ASEAN**



Source: BBVA Research, Bloomberg Data, BI, BSP, BoT

Figure 18  
**Good capital buffers should cushion ASEAN banks against potential liquidity shocks**



Source: BBVA Research, Bloomberg Data, BI, BSP, BoT

## ASEAN banks' are capable of managing tail risks, but disproportionately so

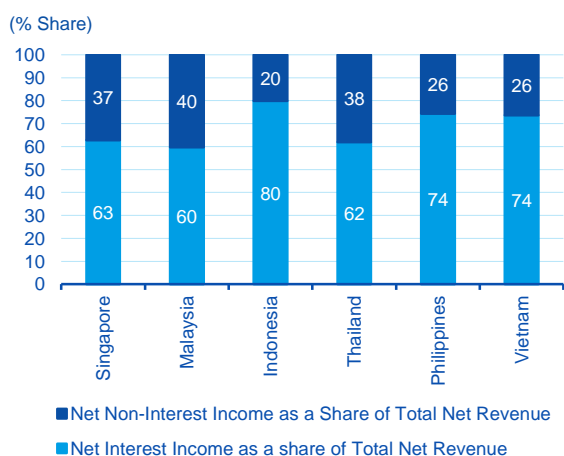
The operating environment for ASEAN banks has got increasingly tougher over the past two years owing to spikes in global financial market volatility, sharp depreciation in domestic currencies, significant rise in interest rates during 2013-14, and a protracted slowdown in consumption and investment demand. Looking ahead, the spill-over effects of China's economic transformation, US monetary tightening, lingering geopolitical risks and commodity currency interplay on East Asia are expected to persist. The challenging outlook has raised doubts over the ability of ASEAN banking systems to effectively manage tail risks arising chiefly from 1) banks' exposure to foreign currency debt and 2) the presence of weak banks in the system

that can trigger a contagion. We believe that the impact of these risks across banking systems in the region is very much manageable but expected to be disparate, depending on a variety of factors – 1) respective state of real economic fundamentals, 2) the debt and nature of external linkages of domestic corporates and their ability to service their foreign currency debt, 3) the share of FX debt owned by banks, 4) sensitivity of banks funding profile to wholesale borrowers, 5) the quality of bank regulations for currency risk and underwriting standards, 6) the financial health matrix of smaller banks, and 7) the systemic support provided by regulators to avoid or effectively resolve bank failure.

From a real economic perspective, external vulnerability indicators such as public debt to GDP ratio (Fiscal sustainability), Current account balance (external sustainability) and short term external debt to reserves ratio (liquidity management) have improved for most ASEAN economies over the past two years. This alongside adequate systemic support from regulators, tighter bank lending standards and greater regulatory oversight should augur well for ASEAN banking sector. ASEAN governments have been highly supportive of their banking system in general with bank bail-out still considered as an acceptable solution by most. At the bank level, ASEAN banks are predominantly deposit funded, particularly in Indonesia, Philippines and Vietnam (See Figure 19). The low dependence on wholesale borrowing makes their banking systems less exposed to financial market volatility and bouts of illiquidity. Also, FX loan exposure of ASEAN banks has declined since the 1997 crisis (See Figure – 20). The significantly high share of FX loans to total loans for Singapore banks is not a concern given Singapore’s status as a global financial hub for Asia and the overall robust financial health of Singapore banking system in general.

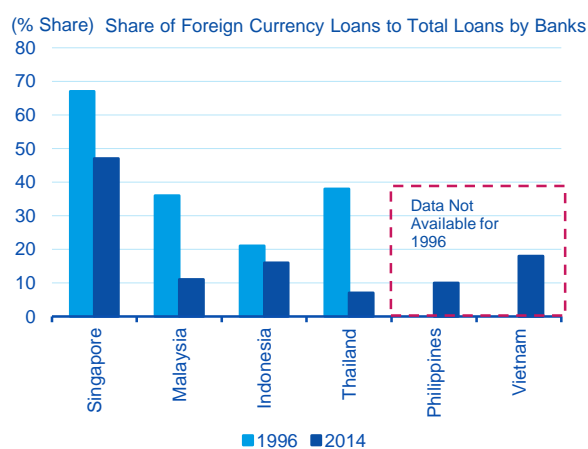
However, we would warrant caution over the tail risks faced by Indonesian banks given the rapid rise in private sector external debt, which has grown from just USD 84 billion in 2010 to USD 170 billion in June 2015. With the bulk of this debt accumulated in sectors that do not have a natural hedge against currency volatility (do not have a foreign currency revenue stream), corporate asset quality issues are expected to aggravate for the Indonesian banking system going ahead. Reassuringly, strong capital buffers of Indonesian banks as also those of rest of ASEAN banks makes the prospective asset quality deterioration manageable. Finally, we believe that contagion risks from relatively weaker banks’ in emerging ASEAN are also manageable given their very low share in the total banking system, and the strong contingency reserve

Figure 19  
**Banks in Indonesia, Philippines and Vietnam banking sector are mostly deposit funded**



Source: BBVA Research, Bloomberg Data, BI, BSP, BoT

Figure 20  
**FX loan exposure of ASEAN banks’ has declined since 1996 crisis, though modestly for Indonesia**



Source: BBVA Research, RBI, Haver Analytics

funds set up by regulators in the region. In Indonesia, for instance such weak banks – with NPL levels higher than 2% and capital adequacy ratios less than 14% - account for just 1.2% of total banking system assets as of June 30th 2015. High reserve accumulation by Lembaga Penjamin Simpanan (LPS), Indonesia's deposit insurance agency, to the tune of USD 3.7 billion (equivalent to 54 combined deposit insurance of smallest banks as of October 2014) adds further credibility to the strength of Indonesia's banking system. All in all, the general backdrop of low levels of NPLs, sound liquidity, prudent banking supervision, high compliance enforcement, and largely conservative financial policies lends credence to the credit quality of ASEAN banks in the current challenging environment.

## Appendix

Our study involves a market capitalization weighted analysis of 41 banks across major ASEAN economies. The list of banks includes:

### **Singapore:**

- DBS group Holdings
- United overseas Bank
- Oversea-Chinese Banking Corp

### **Malaysia**

- Public Bank Berhad
- AMMB Holdings
- CIMB Group Holdings
- Hong Leong Bank
- Malayan Banking Berhad
- RHB Capital

### **Indonesia**

- Bank Mandiri
- Bank Rakyat Indonesia
- Bank Negara Indonesia
- Bank Central Asia
- Bank Danamon Indonesia
- Bank CIMB Niaga Tbk
- Bank OCBC NISP Tbk
- Bank International Indonesia
- Bank Pan Indonesia
- Bank Permata Tbk

### **Thailand**

- KASIKORNBANKS
- Krung Thai Bank
- Bangkok Bank
- Siam Commercial bank
- Bank of Ayudhyay
- Kiatnakin Bank
- Thanachart Capital

- Tisco Financial Group
- TMB bank

**Philippines**

- BDO Unibank
- Metropolitan Bank and Trus Co
- Bank of the Philippine Islands
- Security Bank Corp
- East West banking Corp
- China Banking Corp Philippines

**Vietnam**

- Vietnam Joint Stock Commercial Bank for Industry and Trade
- Bank for Investment and Development of Vietnam
- Bank for Foreign Trade of Vietnam
- Military Commercial Joint Stock bank
- Asia Commercial Bank Vietnam

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