

# Asia-Pacific Banks: Rising Exposure to Property Risks

Risks Managed Actively; Exposure to Stress Remains

## Special Report

### APAC Banks' Exposure to Property Risks

Developed		
Markets	Exposure <sup>a</sup>	Buffers <sup>b</sup>
Australia	High	Medium/High
Hong Kong	Medium/Low	High
Japan	Medium	Medium
Korea	Medium	Medium
Macau	Medium	Medium
New Zealand	High	Medium/High
Singapore	Medium	Medium/High
Taiwan	Medium	Medium

Emerging		
Markets	Exposure	Buffers
China	Medium	Medium/Low
India	Medium	Medium/Low
Indonesia	Low	Medium
Malaysia	Medium	Medium
Mongolia	Medium	Low
Philippines	Medium/Low	Medium
Sri Lanka	Medium	Low
Thailand	Medium/Low	Medium
Vietnam	Medium	Low

<sup>a</sup> Based on banks' direct and indirect property-sector exposure

<sup>b</sup> Considers macro-prudential measures (first line of defence), credit-risk mitigation and loss-absorption buffers

Source: Fitch Ratings

**Rising Property-Related Exposure:** Fitch Ratings sees Australia and New Zealand as most exposed to property stress, while Sri Lanka, Mongolia and Vietnam face elevated risk due to low loss-absorption buffers. Accommodative monetary and economic policies should support the sector, but can also aggravate leverage. We believe regulatory oversight alongside macro-prudential policies should contain the direct effect of a residential property downturn on banks, especially in developed markets where loss-absorption buffers tend to be higher.

**Regulatory Intervention Curbs Banks' Risk Appetite:** Regulators in most of the developed-Asia markets have introduced macro-prudential measures to stem property-sector risks and to strengthen banking-sector resilience to potential property stress. Regulatory intervention has broadly targeted purchases of investment property and tightened lending criteria.

We believe policymakers will remain focused on measures that support stability and prevent risks of overheating, despite some macro-prudential settings having recently been loosened in Australia, New Zealand and Taiwan to support their economies. Hong Kong, Singapore and South Korea, meanwhile, are more likely to maintain a tighter bias in their policy settings.

**Rising Challenges in China:** China's real estate exposure has increased significantly over the past decade, to 15% of banking system assets at end-March 2019. China's household leverage jumped to 53% of GDP by end-2018 from 30% in 2012. The risks may be mitigated in part by macro-prudential and other measures, while the Chinese authorities frequently intervene in the property market to stabilise the country's housing prices. However, rising household debt will add to medium- to long-term challenges for domestic consumption and the financial sector.

**Rising Risk in India, Sri Lanka:** Property sector-related risks in India and Sri Lanka could be understated due to indirect exposures and limited data transparency. Both countries, especially Sri Lanka, have exhibited strong property loan growth in recent years. This, coupled with their low loss-absorption buffers, makes these banks susceptible to a property market downturn.

**Household Leverage Risks in Malaysia, Thailand:** Household leverage in both countries is high but should continue to moderate on weaker property-loan momentum and regulatory curbs. Malaysia's property exposure is the highest among emerging Asia. Banks in both markets hold buffers sufficient to absorb considerable property-related stress, but such an event – not our base case – could still lead to negative rating action.

**Vietnam Banks Susceptible:** Vietnam, where the household debt-to-GDP ratio is 58%, faces higher risk – given rapid consumer loan growth, large legacy bad-debt issues and thin capital buffers. Banks' exposure to property is also understated, as real estate is used as key loan collateral. Near-term risk of property fallout seems remote, in light of a benign environment.

**Implications for Bank Ratings:** Rising household debt or reliance on property to support the economy increases banks' risks as borrowers become more sensitive to changes in economic factors such as interest rates and employment or external shocks. Risks can be amplified when credit standards are loosened, be it due to regulations or competition. This will limit upside to the Viability Ratings of banks most exposed despite the existence of macro-prudential policies.

Downside risk hinges on the severity of any economic fallout and banks' loss-absorption buffers, which in most markets are broadly adequate. That said, the risk of large impairments in property lending appears to be low in the near term, with the broadly stable outlook for growth.

### Related Research

[Household Debt in China \(July 2019\)](#)

[Consumer Lending in Vietnam \(July 2019\)](#)

['AAA' rated Banking Jurisdictions Facing Household Sector Risks – Australia, Canada, Norway, Sweden \(April 2019\)](#)

[Global Bank Regulatory Outlook \(March 2019\)](#)

[Australian Major Banks Mortgage Stress Test \(April 2018\)](#)

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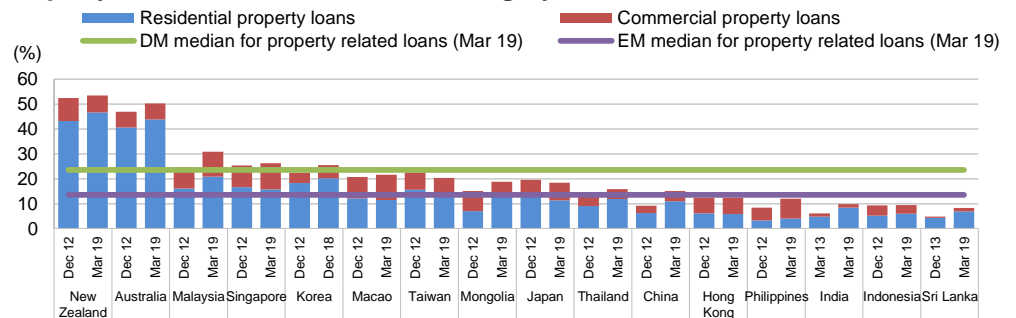
### Increasing Exposure to Property Loans; Residential Dominates

The real estate sector is a key risk for Asia-Pacific (APAC) banking systems and economies in light of its concentration on banks' balance sheets and contribution to domestic GDP. A persistently low-interest-rate environment after the 2008 global financial crisis has stoked debt accumulation throughout much of APAC. Increased concentration in real estate loans and rising household debt-to-GDP is evident across almost all APAC banking systems rated by Fitch. This renders household borrowers more sensitive to changes in economic factors, and APAC banking systems more exposed to financial and macroeconomic instability and/or shocks. The risk would be higher for countries where loss-absorption buffers are lowest such as Sri Lanka, Mongolia and Vietnam.

The size of residential property loans outweighs commercial property loans across APAC, other than the Philippines and Hong Kong. On average, residential property loans account for around 72% of total property loans in APAC, with developed markets averaging 71% compared with 73% in emerging markets. This reflects most banking sectors having pivoted toward higher growth in retail lending due to the sector's appealing risk-adjusted returns, with housing NPL ratios typically lower than for the system across all markets – Sri Lanka and the Philippines being notable exceptions.

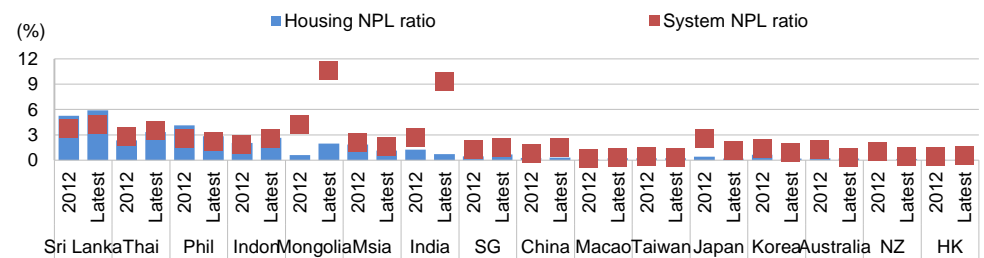
Malaysia has one of the highest exposures to commercial real estate, accounting for roughly 10% of system assets. We see some risks owing to pockets of overbuilding, but we expect a soft landing and market participants have decent financial buffers. The Philippines has relatively high commercial property exposure, which has been rapidly growing, but we expect the market to be well supported as domestic demand remains fairly robust and corporate leverage is generally not excessive. China's commercial property lending has been strong in recent years, but it accounted for 4% of system banking system assets at end-March 2019.

### Property-Related Loans as % of Banking System Assets



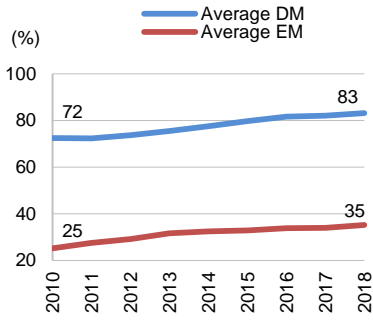
Note: Based on Fitch's estimates for each market  
Source: Fitch Ratings, banks, Central banks

### APAC: Housing NPL Ratio versus System NPL Ratio



Housing NPL ratios for HK and Macao refer to loans overdue by more than 3 months. Thailand 2012 housing NPL ratio is 1Q13. India's housing NPLs are Fitch's estimates. No official 2012 housing NPLs for NZ. Latest data for India, Philippines, Taiwan, Australia is at end-March 2019, Mongolia (end-July 2019), China (end-2017), Japan (November 2018). The rest is at end-June 2019.  
Source: Fitch Ratings, banks, central banks

**Household Debt-to-GDP Ratio**

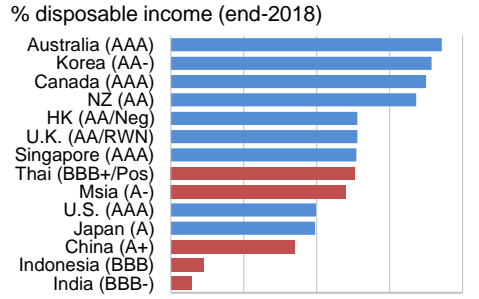


Source: Fitch Ratings, CEIC

**High Household Leverage Amplifies Risks**

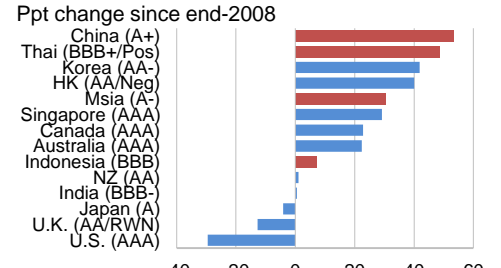
Higher household leverage is likely to increase banks' vulnerability to a deteriorating environment and to amplify the risks for those banking systems and economies most exposed. Household debt-to-GDP has clearly increased in most APAC economies since 2010 – except Singapore and Japan. The increase is evident in both developed- and emerging-market economies (see chart below). Using the household debt-to-disposable income ratio as another benchmark, household leverage is high for certain APAC economies such as Australia, South Korea and New Zealand relative to some of the advanced global economies.

**Household Debt**



Sovereign ratings are in brackets. All Outlooks are Stable except that of HK, U.K. (rating watch negative) and Thai. Source: Fitch Ratings, BIS, Oxford Economics, Haver

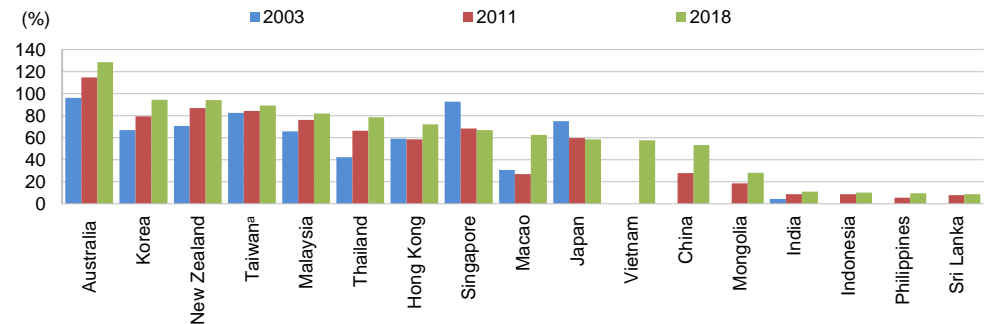
**Household Debt % Disposable Income**



Sovereign ratings are in brackets. All Outlooks are Stable except that of HK, U.K. (rating watch negative) and Thai. Source: Fitch Ratings, BIS, Oxford Economics, Haver

The average household debt for 2018 reached 83% of GDP in developed economies in APAC, well above the average 35% in emerging-market economies. The household debt-to-GDP ratio varies widely among developed-market economies, from 58% (Japan) to more than 120% (Australia) – reflecting savings and investment consumption patterns, government policies, economic growth trends and the contribution of household spending to growth, among other factors.

**Household Debt-to-GDP Ratio**



<sup>a</sup> The latest period is based on 2017 data. Source: Fitch Ratings, CEIC

Singapore's household leverage fell to 67% by 2018 from 75% in 2014 as household debt growth slowed to 2.7% CAGR over this period, after accelerating at 8.6% over 2010-2014. This can be attributed to various rounds of regulatory tightening by the authorities and an economy supported by the strength of trade over that period.

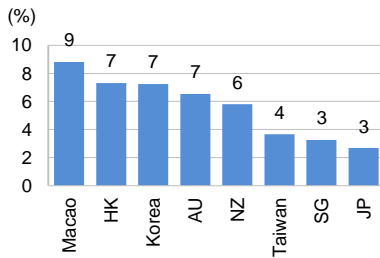
Household debt remains low in some emerging markets – around 10% of GDP in Sri Lanka (estimated), India, Indonesia and the Philippines – but mortgage growth has been fairly strong in recent years. On the other hand, mortgage growth has slowed in the last few years in Malaysia and Thailand where household debt/GDP exceeds 70% of GDP and partly constrains domestic consumption (mainly in Thailand, which has also implemented tougher mortgage rules recently).

**Related Criteria**

- [Bank Rating Criteria \(October 2018\)](#)
- [Short-Term Ratings Criteria \(May 2019\)](#)

**Residential Loan CAGR (APAC DM)**

2014-1Q19 CAGR



Note: End-2014 to end-18 CAGR for Korea. End-16 to 1Q19 CAGR for New Zealand  
Source: Fitch Ratings, Banks, Central Banks

**Developed Markets in APAC**

Developed-market banks generally have higher property exposure and more indebted household sectors than emerging-market banks. This is particularly true in the case of Australia and New Zealand. However, developed-market banking systems' generally more extensive experience in managing property cycles; stronger loss-absorption buffers; and the authorities' proactive macro-prudential policy settings and supervisory scrutiny, should cushion the impact on Fitch-rated banks in the event of a deteriorating real estate sector. That said, negative rating action could ensue were deterioration to exceed Fitch's expectations.

Regulators in most APAC developed markets have introduced various prudential and macro-prudential measures since 2008, in order to strengthen banking-sector resilience to potential property sector risks, especially property-price growth. Such regulations have contributed to softer property prices in Australia over the last 12 months.

Commercial property lending was strong in some of these markets, such as Korea and Macao, and less so for Australia, but the pace has slowed in the past two years. The growth in Macao was driven largely by the gaming tourism sector which constitutes a substantial part of the local economy – to which banks in China and Hong Kong are exposed (albeit modestly). A downturn in this sector could pervade other parts of Macao's economy, impacting the commercial property loan quality in light of its narrow economic base and concentration on mainland Chinese gaming tourism.

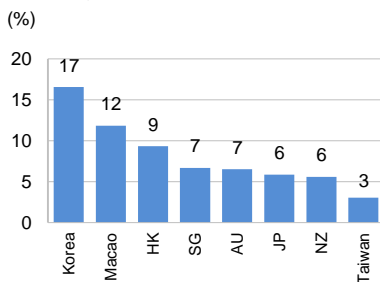
Commercial property lending in South Korea – driven largely by strong demand for small offices or shopping arcades by self-employed individuals – slowed to 7% in 2018 from 12% in 2017, on the back of tighter lending criteria.

Australian banks' loan impairments and loan losses on commercial real estate exposures have historically been much higher than for residential mortgages. The risk is limited, however, as banks' exposure to this segment is modest and development-loan concentration has been declining.

Commercial property lending has picked up since 2014 in Japan, driven largely by the 2020 Tokyo Olympics, but we see the risks for Japanese banks as being overshadowed by other challenges such as the prevailing interest-rate environment, subdued operating environment, and rising exposure to riskier assets (including emerging markets).

**CRE Loan CAGR (APAC DM)**

2014-1Q19 CAGR

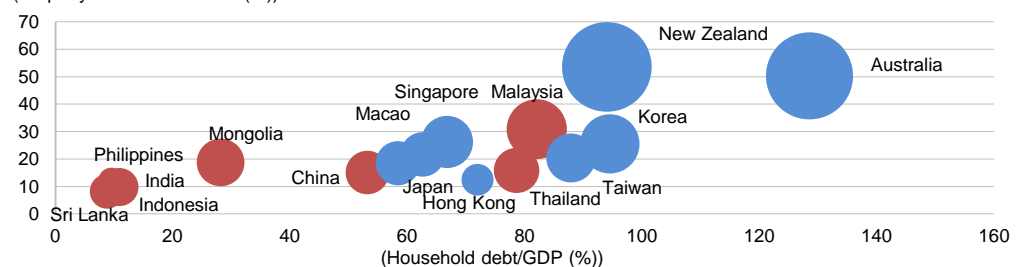


Note: End-2014 to end-18 CAGR for Korea. End-16 to 1Q19 CAGR for New Zealand  
Source: Fitch Ratings, Banks, Central Banks

**Property Loans/Total Assets vs. Household Debt/GDP (%)**

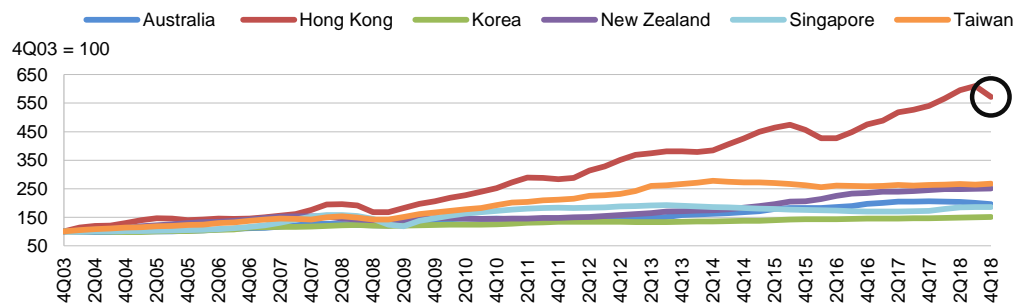
March 2019 figures; bubble size reflects residential property loans as % of total assets

(Property loans/total assets (%))



Note: Red bubbles reflect Emerging Markets, Blue bubbles reflect Developed Markets  
Note: Based on Fitch's estimates for each market. December 2018 for Korea.  
Source: Fitch Ratings, CEIC, Banks, Central Banks

Developed Countries' Property Price Changes Since End-2003



Use 4Q03 as a base year in order to make all indices comparable  
 Japan has been excluded as the national home price index has remained relatively flat during this period  
 Source: Fitch Ratings, CEIC

Developed Markets: Regulatory Limits for LTV and DSR<sup>a</sup>

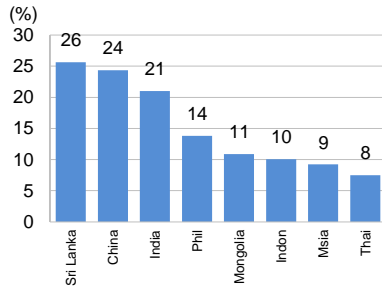
	Australia <sup>b</sup>	New Zealand	Hong Kong	South Korea	Singapore	Macao	Taiwan
<b>Maximum LTV</b>	No restrictions	Banks are only allowed to write a maximum of 20% of new owner-occupier loans at an LTV >80%, while for investor loans it is a maximum of 5% with an LTV above 70%	60% for owner-occupied properties. 50% for investment property	1st home: 40% in overheated areas such as most of Seoul, else: 70%  2nd home: 0% in overheated areas	1st home: 75%  2nd home: 45%  3rd home onwards: 35%	1st home: 80%-90% depending on the property price and the applicant's details	60% for luxury home <sup>1</sup> . LTV limits for other property types
<b>Maximum debt-service ratio (DSR)</b>	No regulatory limits	No regulatory limits	30-60%. It is a multi-tier structure depending on loan size, income source (HK or outside HK) and whether the applicant has any outstanding mortgages	Targeting 40% DSR for major commercial banks by end-2021	60%. Banks are required to calculate monthly mortgage instalments using a normalised interest rate of 3.5% for residential properties	50%	No regulatory limits
<b>Other regulations</b>	Foreigners can only buy new properties, and are subject to additional stamp duty. A heavy focus on serviceability testing, borrower's financial position, ensuring products are suitable for borrowers, among other things	Foreigners can only buy new properties.	Foreigners are subject to additional stamp duty. Risk-weight floor raised to 25% for all new mortgages under the IRB approach	Heavy capital gains tax for multiple property owners	Additional seller's stamp duty for properties sold in first three years of purchase. Foreigners are subject to additional higher buyer's stamp duty	Stamp duty for sales. Foreigners subject to additional stamp duty. Investors are subject to higher buyer's stamp duty	Applies higher risk weights than other developed markets

<sup>a</sup> Regulations tabulated above relate to residential property only  
<sup>b</sup> No specific requirement to use mortgage insurance for mortgages with LTV in excess of 80% – although standardised banks get a capital benefit if they do so. Some banks will 'self-insure' a portion of such mortgages, usually in the 80%-85% LTV range and for existing customers that they believe they understand reasonably well  
 Source: Fitch Ratings, Central Banks

<sup>1</sup> Houses with appraisal/transaction value equal to – or above – TWD70 million (USD2.3 million) in Taipei, TWD60 million (USD1.9 million) in New Taipei City and TWD40 million (USD1.3 million) in other parts of Taiwan.

**Residential Loan CAGR (APAC EM)**

2014-1Q19 CAGR



Source: Fitch Ratings, Banks, Central Banks

**Emerging Markets in APAC**

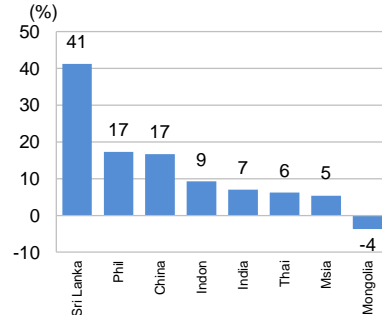
Emerging markets – except Malaysia – have a much lower property-related exposure than in developed markets. Risks are nonetheless rising in some markets – given their strong property lending in recent years, due in part to governments relying increasingly on property to support their economies. Rapid credit growth often masks asset-quality issues, and higher exposure to real estate would also make banks more vulnerable to a property downturn – particularly where loss-absorption buffers and Viability Ratings are lowest (i.e. Mongolia, Sri Lanka and Vietnam, as well as parts of China and India). Nevertheless, Fitch is more likely to take negative rating action in any market that exhibits deterioration which exceeds our expectations.

Like their developed market counterparts, regulators in emerging Asia (except Sri Lanka and India) have, to varying degrees, also introduced macro-prudential measures. However, enforcement may be less effective in some of these markets than for developed markets. These gaps could be taken advantage of by certain groups of borrowers, suggesting pockets of vulnerability that could be tested in less benign environments.

Exposure to property for India, Sri Lanka and Vietnam (potentially also the Philippines and Indonesia) could be understated owing to indirect exposure and/or limited data transparency. For example, Indian banks have some exposure to non-bank financial institutions, which have expanded their property-development loans rapidly. Meanwhile, conglomerate group structures in the Philippines raise contagion risks from property arms to their affiliate companies. This adds to the banking sectors’ indirect exposure to a property-market downturn. Regulators in some of these markets have cut policy rates in recent months as a pre-emptive move to support economic growth as US-China trade tensions heightened. We see this risking a further stoking of demand in the property market, and exacerbating leverage.

**CRE Loan CAGR (APAC EM)**

2014-1Q19 CAGR



Source: Fitch Ratings, Banks, Central Banks

**Emerging Markets: Regulatory Limits for LTV and DSR<sup>a</sup>**

	China	India	Indonesia	Malaysia	Philippines	Thailand	Vietnam
<b>Maximum LTV</b>	1st home: 70%	75-90% depending on the property price (30% for tier 1 cities)	1st home: no cap 2nd home: 80% 3rd home onwards: 80%	1st home: no cap 2nd home: no cap 3rd home onwards: 70%	No cap	1st contract: 80% (if mortgage >THB10m), else 100% 2nd contract: 80% (or 90% if mortgage < THB10m and 1st home had been paid >3 years) 3rd onwards: 70%	Not available

Maximum ----- No regulatory limits -----

	China	India	Indonesia	Malaysia	Philippines	Thailand	Vietnam
<b>DSR Other regulations</b>	Purchase restrictions on most high-tier cities (residency criteria)	Foreign purchase restrictions (residency criteria)	Foreigners can only buy leasehold properties, but subject to price restrictions	Foreign purchase restrictions depending on zones	Foreigners cannot buy land. Under real estate stress test, banks must maintain 6% CET1 and 10% total capital after assuming a 25% write-down of property exposures/holdings	Foreigners are not allowed to purchase land	Foreigners allowed to buy freehold properties

<sup>a</sup> Regulations tabulated above relate to residential property only

Sri Lanka has not been included as it has not introduced any regulatory measures in recent years

Source: Fitch Ratings, Central Banks

## Implications for the Banking System

The risk of significant impairments in the property exposure of APAC banks appears to be low over the next 12-18 months – given broadly stable growth, with policymakers' efforts to prop up growth through relatively low interest rates and steady employment. Nevertheless, most markets remain exposed to varying degrees of property-sector stress – which could come from external shocks (eg trade frictions and related-market risks) – although that is not our base case. However, in the event of a sharp property downturn, we feel banks will be less vulnerable to losses in those markets where most macro-prudential measures have been implemented and tighter underwriting standards have been maintained.

Macro-prudential measures have targeted foreign purchases, domestic investor demand and tightening lending criteria. Regulators in China, Hong Kong, Singapore and South Korea may have more room to manoeuvre such as reversing some of the macro-prudential policies, if needed, to stabilise the property market. We believe banking systems generally hold sufficient loss-absorption buffers to weather considerable stress in the property market – except certain emerging markets such as Sri Lanka, Mongolia and Vietnam. Buffers have also weakened in segments of the Chinese and Indian banking sectors.

The intrinsic credit profiles of Fitch-rated APAC banks (as reflected in their Viability Ratings) take into consideration their resilience to cycles through base-case assessments, but do not assume significant stress which is likely to lead to a review of the operating environment and bank ratings. However, any stress in the sector and economy which leads to an erosion of the banks' loss-absorption buffers would increase the prospects of negative rating action. It also means that a higher risk appetite (whether through rapid lending to certain borrower segments – especially to borrowers with weak credit profiles – intense competition eroding risk premiums, and/or looser underwriting standards) can also increase the prospects of negative rating action if, in Fitch's view, it is not adequately mitigated by higher loss-absorption capacity.

## Appendix 1: Developed-Asia Markets

### Australia and New Zealand

Australian and New Zealand banks have the highest exposure to real estate within APAC, while household leverage is also high relative to most global peers. Australia’s household debt-to-GDP of 129% far exceeds the ‘AAA’ median of 100% while debt to disposable income is around 180%. Home loans constituted 44% of Australian bank assets at end-March 2019 (2012: 41%), while in New Zealand the share increased to 47% from 43%.

In our view, households in Australia and New Zealand are increasingly susceptible to changes in macroeconomic conditions, including interest-rate rises and unemployment, given their high debt burdens. Interest rates are likely to remain low for the foreseeable future, but both economies face challenges and are exposed to external pressures, including a slowdown in China. This could feed back into higher unemployment which would be likely to have an impact on mortgage asset quality, although Australia’s banks have considerable buffers to absorb stresses<sup>2</sup>.

Risk to the banking sector should be somewhat mitigated by lending criteria that has been progressively tightened since 2014 with a heavy focus on serviceability testing (i.e. interest-rate buffers and floors), a borrower’s financial position and product suitability, among others. This ensures that banks apply a normalised interest rate and factor in a certain level of buffers when assessing borrowers’ debt-repayment capacity. This has bled over into New Zealand, as the major banks are all owned by the large Australian banks.

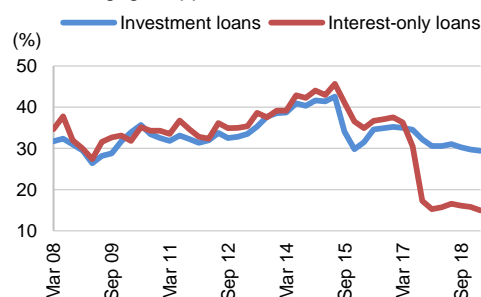
Restrictions on riskier mortgage types – investor and interest-only loans – were lifted in 2019, but we believe such loans are unlikely to pick up significantly due to the major banks’<sup>3</sup> tightened underwriting standards, and increased focus on responsible lending obligations, as well as conservative risk weights and higher D-SIB buffers relative to many other developed-market banking systems.

We believe commercial real estate, particularly residential development exposures, remains the most likely initial source of property-related losses for the Australian and New Zealand banking sectors. This reflects the more concentrated nature of the exposures, as well as the risk that developers may fail before completing construction, leaving the bank with unfinished security.

Loan impairments and loan losses on commercial real estate exposures have historically been much larger for Australian banks than residential mortgages, with impaired exposures peaking at above 6% in 2010. We believe the Australian banks have improved their commercial real estate exposures since that time and have reduced their exposure as a proportion of total lending. In addition, development loan concentration has declined, and these loans typically make up less than 2% of total exposure at default for the larger domestic banks.

#### Australian Mortgages Improved

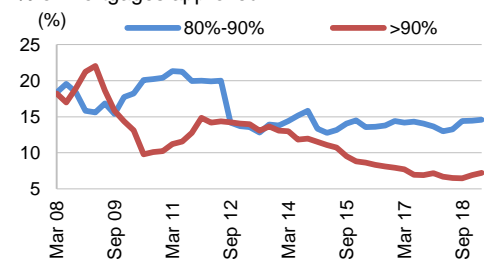
% of mortgages approved



Source: Fitch Ratings, Australian Prudential Regulation Authority

#### Australia: Riskier Mortgage Types Reduced

% of mortgages approved



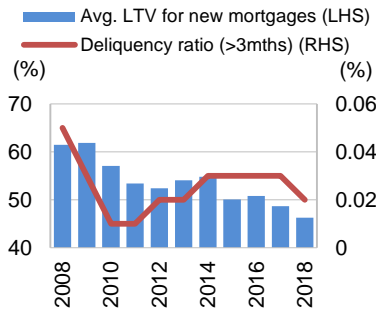
Source: Fitch Ratings, Australian Prudential Regulation Authority

<sup>2</sup> For details, please refer to [Australian Major Banks Mortgage Stress Test](#).

<sup>3</sup> Account for around 80% of system-wide property loans.



**Hong Kong Mortgage Statistics**



Source: Fitch Ratings, HKMA

**Hong Kong**

Residential property prices in Hong Kong have soared almost six-fold since end-2003. This has helped inflate household wealth, banks' reserves and collateral valuations. A collapse in the housing market would hurt sentiment and expose vulnerabilities, though we believe Hong Kong banks are well-positioned to withstand an unexpected sharp property-market downturn. This is due to various factors:

*Strong Household Balance Sheets*

Hong Kong's high household net worth-to-liabilities<sup>4</sup> ratio of 13x and high deposits-to-liabilities ratio of 3x (as of 2016) means its households, on aggregate, have sufficient assets to cover outstanding liabilities in a severe downturn<sup>5</sup>. These metrics compare well against Singapore<sup>6</sup>.

*Stringent Housing Loan Criteria*

Hong Kong has one of the lowest LTV ratios in APAC, with maximum LTV limit fixed at 60% for homes purchased for owner occupation, while the capacity to borrow is capped at 50% total debt-servicing ratio. This encourages financial prudence and provides stability to the system.

*Track Record*

Residential property prices bottomed out in 2003, as much as 70% below their prior peak. However, losses incurred by Hong Kong's banking system were relatively manageable in spite of the high percentage of negative equity loans and impaired loans.

The raft of macro-prudential policies rolled out since October 2009 appear to put the system in a better position than in the early 2000s, and should provide the banks with a reasonable buffer against potential downside risks.

However, there are pockets of risks – given the rapid growth of housing loans offered by property developers, which typically have LTVs of 70%-90% and lend to more marginal borrowers than banks. Risk to the banking system is mitigated by tighter caps on ratios for construction financing and the percentage of mortgages provided by developers being low. Banks are also required to set aside an adequate amount of capital with reference to the level of mortgage exposures of property developers. These measures – introduced in May 2017 – should ensure lending discipline when granting loans to property developers. In any case, such loans have remained small, accounting for 2.6% of mortgages at end-2017.

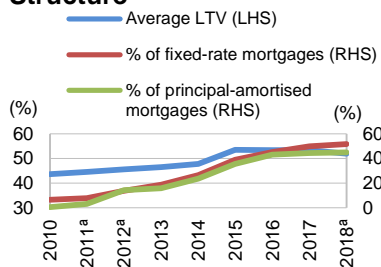
Hong Kong's loan exposure to commercial property is larger than to residential property, unlike other developed-Asia economies in APAC. Commercial property loans constitute close to 7% of banking system assets, which is comparable to that of its developed peers. We believe the broad market trends should remain stable, but headwinds are building amid ongoing US-China trade tensions, and after months of persistent unrest. We see the latter as having a meaningful impact on the retail segment if it persists for a prolonged period. That said, downside risk to the commercial real estate sector should be mitigated by limited supply, conservative LTVs, and the dominance of established domestic and international players in this space.

<sup>4</sup> Net worth is the difference between assets and liabilities.

<sup>5</sup> Official household balance-sheet data for Hong Kong is not available. The above data points were obtained from a research paper published by the Hong Kong Monetary Authority on 14 September 2018.

<sup>6</sup> Singapore's ratios of household net worth-to-liabilities and deposits-to-liabilities were 5.8x and 1.4x, respectively, at end-March 2019.

**Korea: Mortgage LTV and Structure**



<sup>a</sup> The average LTV is estimated by Fitch Ratings  
 Source: Fitch Ratings, FSS and Bank of Korea

**South Korea**

South Korea’s property-related lending, including mortgages, has been a key driver of total loan growth since 2013, and which has kept household leverage stubbornly high. This, coupled with a rapidly aging population, is more likely to constrain domestic consumption, but the short-term economic headwinds should be somewhat cushioned by a low-interest-rate environment. We anticipate another cut in the policy rate in the near future to support the economy.

Similar to other developed markets with high household leverage, the regulator has moved to mitigate South Korea’s property-related risk by implementing macro-prudential measures while the banking sector has also improved its risk-control framework.

Regulators acted swiftly in curbing budding property market froth within certain micro-markets, including Seoul, that have attracted speculative activity by capping a maximum LTV ratio at 40% for first-time home buyers and by shutting off access to mortgage financing for multiple home owners. We expect South Korea’s household debt-to-GDP ratio to level off as the impact from the recent slew of macro-prudential measures works through the system. Debt-serviceability requirements such as the debt-to-income ratio, debt-service ratio and rent-to-interest ratio (applies to commercial property loans) have also been tightened in order to curb property lending.

Commercial property lending has also been strong in recent years – accelerating by close to 17% over 2014-2018 – driven primarily by strong demand from self-employed individuals for small offices or shopping arcades. We anticipate commercial property lending to slow down further (2018: 7%, 2017: 12%) due to regulatory-initiated tightening in lending criteria and softening economy. Korean banks’ exposure to this segment accounted for about 5% of total banking system assets at end-2018.

**Singapore**

Singapore has one of the lowest household leverage ratios among APAC developed countries, and the trend has improved in recent years. A slew of macro-prudential measures – rolled out since 2009 – have instilled greater financial prudence among borrowers, and enhanced banks’ buffers against losses in the event of a cyclical downturn.

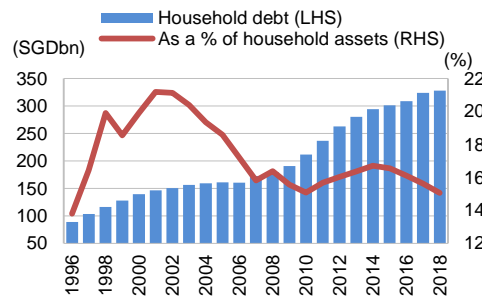
The Singapore authorities have also targeted other consumer loans (car and credit card loans) to enhance households’ management of their overall finances. This has helped keep household indebtedness – whether compared with GDP or household assets – well below the historical average.

We expect Singapore’s household leverage to moderate further as a recent round of property-cooling measures – implemented in July 2018<sup>7</sup> – has dampened sentiment, which has led to a contraction in system housing loans in the first half of 2019.

Singapore’s diversified household assets – with a high proportion of liquid assets such as deposits, shares and securities – should provide some cushion in times of need. We believe any potential price correction should be contained, barring an external shock, with household income growth outpacing home-price growth since 2010. The authorities have room to lean against price declines by reversing macro-prudential tightening, if needed.

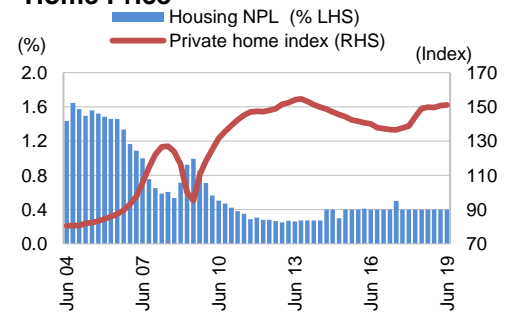
<sup>7</sup> For individuals with an existing housing loan, the maximum LTV ratio for the second home is fixed at 45% (50% from January 2013-July 2018), and falls to 35% on third and subsequent loans. The LTV limit for first-time home buyer was reduced by 5pp in July 2018 to 75%.

**Singapore: Household Debt As % of Household Assets**



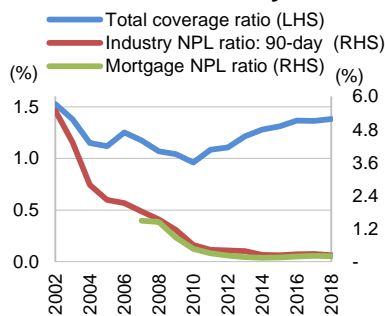
Source: Fitch Ratings, SingStats

**Singapore Housing NPLs vs. Private Home Price**



Note: 1Q09 = 100 for Private Home Index  
Source: Fitch Ratings, MAS, URA

**Taiwan: Asset Quality**



Total coverage is cumulative provisions as a proportion of gross loans  
Source: Fitch Ratings, Central Bank

**Taiwan**

The loan quality of most Taiwanese banks, particularly small private banks, is highly correlated with the performance of the domestic property market. This is due to a combination of their exposures to the property sector and real estate properties form the majority of their collateral. However, we believe the Taiwanese banks possess adequate buffers to withstand property-related asset-quality challenges. This is due in part to disciplined underwriting standards, with an average LTV of 60% and general provisions of 1.5% for property-related lending.

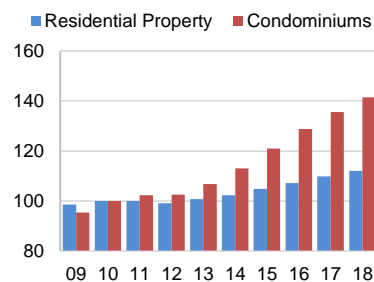
Taiwan's regulator uses the standardised approach and imposes relatively high risk weights on mortgages – Taiwanese banks' average risk-weights on mortgages were 53%<sup>8</sup> at end-2018, higher than the 10%-30% for banks in much of developed Asia. Taiwan's exposure to both the residential and commercial property sectors (as a proportion of banking system assets) has declined over the years owing to more rapid growth in loans to offshore banking units and other consumer loan segments. The exposure of 20% of total banking system assets at end-March 2019 is lower than that of most developed markets in APAC.

**Japan**

We believe Japanese banks face lower property-sector risks than other APAC peers, in light of the country's slow housing loan CAGR of 2.7% over the past six years and its modest household debt-to-GDP ratio of 58%. We foresee a lower risk of a major property-price correction in Japan compared with other markets in APAC. The country's residential property price index has increased gradually since 2012, driven mainly by condominium prices in major urban centres.

Commercial real estate loans have picked up in recent years in preparation for the Tokyo Olympics in 2020. Office vacancies remain very low, at around 1% in Tokyo, so new office supply is likely to be well absorbed.

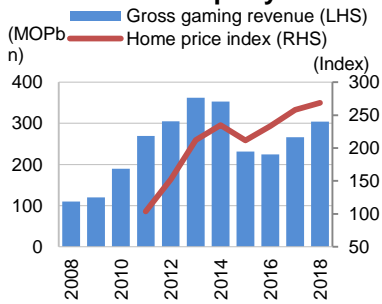
**Japan: Property Price Index (average of 2010=100)**



Source: Fitch Ratings, Ministry of Land, Infrastructure, Transport and Tourism

<sup>8</sup> Risk-weights on owner-occupied mortgages were lowered to 35% from 45%, while that for non-owner occupied was lowered to 75% from 100%. This took effect from end-2017.

**Macao: Gross Gaming Revenue vs. Property Price**



Gaming revenue excluding gratuities  
Source: Fitch Ratings, DSEC, AMCM

**Macao**

Macao’s household leverage has increased by more than other developed markets in APAC, from 27% in 2010 to 63% in 2018. This is due to the gaming sector having flourished, and has been fuelled further by a prolonged low-interest-rate environment coupled with economic growth (albeit volatile), which spurred domestic and foreign demand for investment property. However, Macao is not immune to property fluctuations, with the health of the housing sector tied closely to the gaming sector, which is a dominant engine of growth for the economy. The buoyant property market could come under pressure if demand dynamics shift due to lower economic growth (such as stemming from China), rising interest rates, increased financial market volatility or weak sentiment. In our view, the country’s macro-prudential settings remain accommodative even after two rounds of measures since end-2012.

## Appendix 2: Emerging-Asia Markets

### China

Concentration on real estate loans in China reached 15% of banking system assets by end-March 2019, up from 9% at end-2012. This was driven primarily by residential-property loans whose share of system assets jumped by 4pp to 11%. This has manifested in household leverage that tripled within a decade to 53% of GDP by end-2018. Moreover, exposure to property is magnified by an often-high reliance on property to collateralise borrowings, including for corporate loans.

A portion of the rise in mortgages can be attributed to financial-sector deepening (including less concentration of loans among the leveraged corporate sector) and rapid urbanisation as a fast-growing middle-class stokes demand for housing. However, the country's closed capital-account system and limited investment alternatives domestically can also lead to speculative buying among investors, which has attracted scrutiny from the Chinese authorities. Cities in China have varying levels of home-purchase restrictions to curb speculative demand, especially in tier 1 cities, and mortgage pricing is monitored closely by the regulator.

China's household debt stock compares well with the majority of developed markets and some emerging Asian economies despite recent years of rapid growth. However, as debt levels rise it will render the financial sector and economy increasingly vulnerable to medium- to long-term risks, particularly in the event of a faster-than-expected slowdown in the economy.

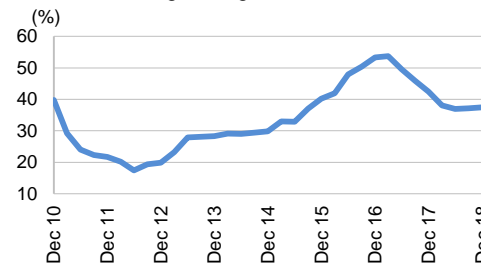
Regulations on mortgages appear reasonable, aided by various market-cooling measures, including a maximum LTV ratio of 70% for first-time home buyers and restricting purchases by non-resident households. However, regulatory enforcement may be hard and transparency can be lacking at times, despite the authorities having implemented rules to enhance this. For example, buyers may leverage-up through consumer loans by using the proceeds as down-payments for property purchases.

The left-hand chart below shows that the implied LTV ratio for new mortgages has fallen to below 40% in light of the steady rise in property rises. However, low LTV ratios may not be sufficient in some micro-markets in China, due to rapid price appreciation over the past decade, and where mortgagors have higher leverage through other non-property-related debt.

There is no experience of a prolonged downturn in China's real estate sector, as the authorities have been inclined to manage growth in the housing sector with a view to maintaining social order. Stability in the sector may also support domestic consumption. The authorities have in the past loosened certain home-purchase restrictions or relaxed mortgage underwriting selectively to stimulate growth.

#### China: Implied Housing LTV

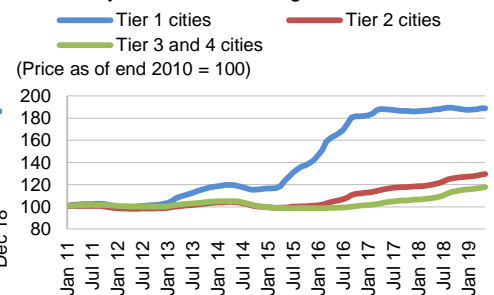
12-month moving average



Implied LTV = home mortgage origination as % of total residential property sold over the past year  
Source: Fitch Ratings, CEIC

#### China: Property Price Index<sup>a</sup>

Secondary residential housing



<sup>a</sup> 70-city average

Source: Fitch Ratings, National Bureau of Statistics, CEIC

Malaysia

Malaysia banks have the highest exposure to real-estate loans among emerging markets in APAC. These loans constituted 31% of banking system assets at end-March 2019, up from 25% at end-2012, amid a buoyant property market. Signs of oversupply have emerged particularly in the condominium/serviced apartment, retail and office sub-segments in the past few years. Roughly two-thirds of real estate loans are home mortgages, and the rise in property exposure is mirrored by Malaysia’s high household debt-to-GDP ratio (end-2018: 83%) – which remains one of the highest in APAC despite levelling off in recent years.

The authorities are alert to rising sector risks in our view, introducing multiple counter-cyclical measures since 2010 which have had some impact. This is reflected in moderating home-price inflation and property-sector loan growth since 2012. However, prudential limits, while acceptable, are not particularly tight. A 70% LTV cap applies only from the third home loan onwards, and 28% of outstanding mortgages have LTV ratios above 80%. Household debt-service ratios can also be fairly high, a function of high household loan growth in the earlier part of this decade (2010-2015 CAGR: 13%; 2018: 5%).

Oversupplied property segments and related industries (construction, building materials) are likely to show further weakness as the market continues to digest upcoming completions.

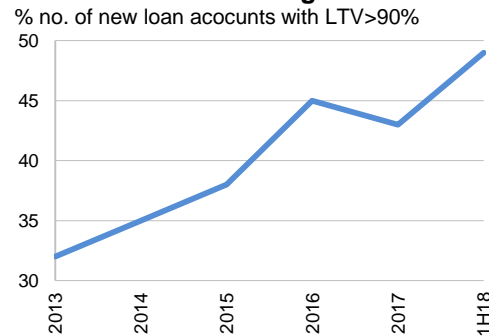
Against this backdrop, banks have shown greater vigilance against sector risks in the past few years, and the over-supplied property sub-segments accounted for 8% of banking system loans. We expect GDP growth to remain resilient at around 4.5%. All this should continue to support asset quality (end-June 2019 impaired-loan ratios: households: 1.0%; property-related: 1.5%), although the property sector remains an area of potential vulnerability for the banking sector in the event of any significant deterioration in the operating environment – including external risks.

Thailand

We expect Thailand’s household leverage to remain stable or to decline slightly, amid slower growth in household lending due to decelerating auto sales and the Bank of Thailand’s (BoT) tightening of LTV measures on mortgages that became effective in April 2019. The BoT implemented macro-prudential measures for mortgage lending – targeting borrowers with more than one mortgage loan – in April 2019, in response to aggressive lending practices by some banks.

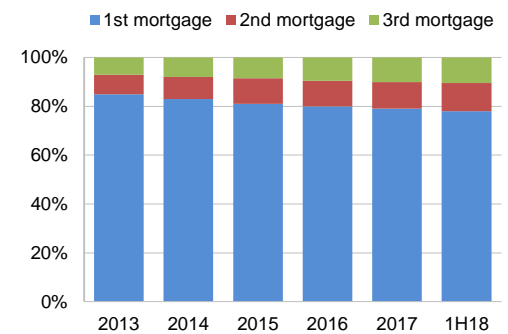
In our view, the most likely trigger for a property fallout would be in the event of a significant increase in unemployment or sharp hikes in interest rates, neither of which are our base-case expectation.

Thailand: New Housing Loans' LTV



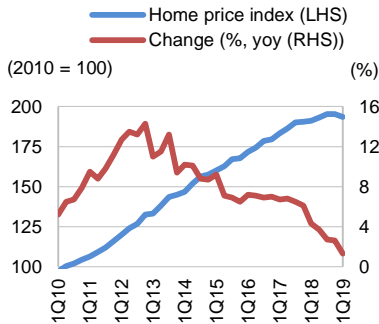
Source: Fitch Ratings, Bank of Thailand

Thailand: New mortgages



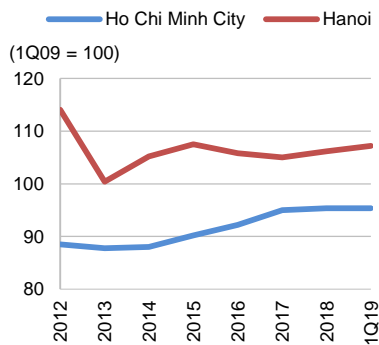
Source: Fitch Ratings, Bank of Thailand

Malaysian House Price Index



Source: Fitch Ratings, Malaysia National Property Information Centre

## Vietnam: Home Price Index



Source: Fitch Ratings, Savills

## Vietnam

Recent rapid consumer-loan growth<sup>9</sup> in Vietnam makes the banking system increasingly susceptible to financial and/or economic shocks. This is also evident among non-bank financial institutions that have aggressively expanded into the micro-consumer lending sector. Micro-consumer loans are inherently of higher risk relative to traditional mortgages or household personal-business loans in light of the unsecured nature of these loans and the borrowers' profiles.

Risk is rising, with household leverage likely to increase further from a level that is already high – 58% at end-2018 – driven by strong consumer loan momentum. Prolonged and rapid credit expansion heightens the risk of potential capital impairments at a time when the country's banking system remains saddled with large legacy bad-debt issues and thin capital buffers. The banking system's exposure to property is compounded by high reliance on property as loan collateral especially for corporate loans.

Prior to the most recent property-market bust in 2011-2012, bank loans grew at an average 38% per year over 2007-2010. The spike in impaired loans was spurred by authorities raising lending rates aggressively to combat an overheating economy (which dented the real-estate market and raised borrowers' debt burden) along with a sharp depreciation in the Vietnamese dong. Growth in consumer debt has since outpaced that of national wage levels, which suggests erosion in borrowers' loan-servicing capability. To put it in perspective, consumer debt per labour force jumped to 83% of the national mean annual income of workers by end-2018, from 42% at end-2013, based on Fitch estimates.

Fitch believes the near-term risk of a property fallout seems remote, in light of strong economic growth and a benign environment, characterised by a tight employment market (unemployment rate stands at 2%) and subdued inflationary pressure (an average 2.6% year-on-year in 1H19). Furthermore, Savills' house price index for major Vietnamese cities shows that property-price increases have been modest, suggesting that current demand is likely to be more fundamentally driven than in previous cycles.

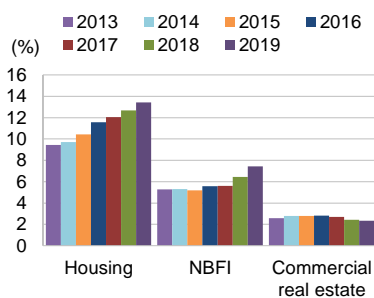
The regulator has also demonstrated some level of readiness to ensure the real-estate sector remains healthy, introducing several measures such as higher risk weightings over 2016-2019 to discourage banks from over-lending to the sector. It also imposed lending caps on the micro-consumer loan sector, which should help ease the build-up in systemic risks.

A significant deterioration in asset quality in the event of a sharp deterioration in the property sector – not our base case – would be likely to exert negative pressure on the banks' Viability Ratings. We have, to a certain extent, factored these risks into the Viability Ratings of the Fitch-rated banks, but we view them as among the strongest in the system. The rating impact would hinge on the severity of the fallout – whether it pervades other parts of the economy, denting consumer and business confidence – and the extent to which it becomes a binding constraint on the banks.

<sup>9</sup> The top 11 Vietnamese banks – constituting 70% of system loans – recorded a 28% consumer loan CAGR over 2014-2018.

**India: Banks' Exposure**

(As % of total loans)



Source: Fitch Ratings, Reserve Bank of India

**India**

The rapid growth in India's residential property loans – 21.0% per year over the last four years – was driven primarily by the need for Indian banks to diversify away from the troubled corporate sector, and government initiatives to provide more affordable housing. Fitch remains cautious about the rapid build-up of housing loans in recent years, particularly in the high-end luxury segment to which banks and non-bank financial institutions are mainly exposed.

It is likely that underwriting standards have been loosened gradually, owing to competition and regulatory reduction in housing risk weights over the last 10 years. Fitch believes the risk is not being adequately priced in, with the quality of these loans largely untested. The impact on banks could be significant in the event of system-wide deterioration in housing loan quality – not our base case – with mortgages constituting 8% of banking system assets. Banks are also exposed indirectly to the real estate sector through non-bank financial institutions which receive part of their funding needs from the banks. Banks have increased lending to non-bank financial institutions in recent years, as illustrated in the chart on the left.

**Sri Lanka**

Sri Lanka experienced sharp increases in commercial and residential property loan growth of 41% and 26%, respectively, from end-2014 to March 2019. Yet the country has not introduced macro-prudential measures to limit banking sector exposure to property. Exposure is still small, though, compared with other banking systems in APAC. Nevertheless, a prolonged and significant weakness in the construction and property sector could have an adverse impact on banks, given their low loss-absorption buffers.

There has been an increase in NPLs, restructured and rescheduled loans at Fitch-rated banks. This is not unexpected in light of the weak operating conditions, reflecting a challenging macroeconomic environment.

**Indonesia**

Indonesia has one of the lowest loan concentrations in the real estate sector among APAC emerging markets; the exposure has remained relatively stable, at around 9% of system assets since 2012. Nevertheless, the sector is not immune to volatility. For instance, real estate loans grew at a 26% CAGR over 2011-2013 (coinciding with the commodity boom), which saw national property price-growth peak at close to 14% year-on-year in 3Q13. In response, the government introduced the regulatory maximum LTV ratios in June 2013<sup>10</sup>, which led to a tapering-off in property demand – with property loan CAGR decelerating to 8% over 2013-1Q19.

However, the government has since relaxed property measures in light of the slowing economy in recent years. The abolition of an 85% maximum LTV for first-time home buyers<sup>11</sup> from August 2018 could encourage more risk taking (especially among small and mid-sized banks as they jostle for market share), although we have yet to see any material change. We do not expect a sharp increase in very high LTV housing loans by large banks, as they appear more disciplined in their lending criteria.

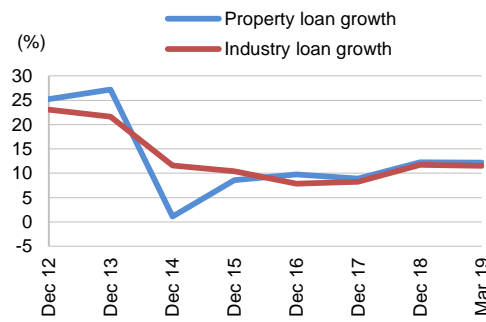
The household debt-to-GDP ratio of about 10% of GDP at end-2018 reflects low credit penetration in the household sector, but the true extent of household indebtedness is likely to be understated due to Indonesia's large unbanked population. In our view, the Indonesian banking sector is likely to be less susceptible to direct risks from a property-market downturn compared with those emanating from wider external vulnerabilities owing to currency and/or commodity-price volatility.

<sup>10</sup> Bank Indonesia introduced maximum LTV of 70% for first homes, 60% on second houses and 50% on third and subsequent houses

<sup>11</sup> Maximum LTV ratios for second and subsequent homes are fixed at 80%.

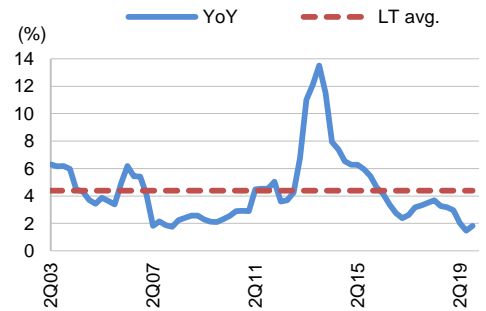


**Indonesia: Loan Growth**



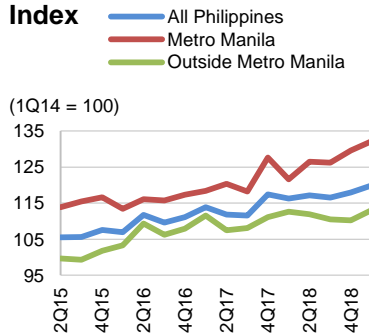
Source: Fitch Ratings, OJK

**Indonesia: Home Price Growth**



Source: Fitch Ratings, Bank Indonesia

**Philippines: Home Price Index**



Source: Fitch Ratings, BSP

**Philippines**

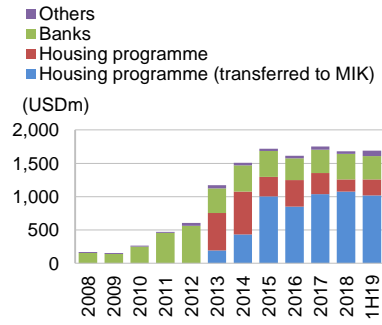
Real estate loans in the Philippines have expanded rapidly since 2014, driven by both housing and commercial-property loans (2014-1Q19 CAGR: 14% and 17%, respectively, including construction sector loans). Property-sector demand has been backed partly by strong GDP growth (2014-2018 nominal average: 8.4%) and favourable demographics, but also lower borrowing rates amid competition for market share among banks and some level of speculation in the property market.

Banks' modest property-sector exposures (about 12% of banking system assets at end-1Q19; end-2012: 8%) help to limit direct risks, although the sector still produced some financial pain in the early 2000s. Mortgages account for only 4% of system assets, and underwriting standards for Fitch-rated banks remain acceptable on the whole – taking into account bank-specific minimum income, debt servicing, LTV and loan tenor criteria. Data seen by Fitch suggest that commercial property lending is similarly backed by satisfactory LTV ratios in most cases. This is despite what we perceive to be a gradual loosening of industry standards at the margin. A regulator-initiated real estate stress test should also ensure that banks' loss-absorption buffers broadly keep pace with their exposure to the sector. Banks are required to hold CET1 and total capital ratios of 6% and 10%, respectively, after writing off 25% of their real estate exposures and property holdings.

However, limited industry-wide data inhibits more comprehensive analysis of demand-supply dynamics and underwriting standards across the system. Banks and developers have been growing in areas where they may be less experienced (outside Metro Manila, SME lending for banks), and some property sub-markets have developed a concentration in industries exposed to policy risk (business-process outsourcing, replaced by Chinese online gaming companies which now occupy about 9% of Metro Manila office space by some accounts).

Domestic leverage has risen over the past few years, and credit quality is likely to be tested in the event of more challenging operating conditions. This could include slowing demand or higher borrowing rates – local policy rates appear more likely to fall in the near term, but they remain 125bp higher at the time of writing than at the start of 2018. In a property downturn, the conglomerate group structure popular in the Philippines can be a double-edged sword – providing diversification for those exposed to multiple lowly-correlated industries, but carrying contagion risks from property arms to their broader conglomerate groups.

**Mongolia: Mortgages by Sources**



Source: Fitch Ratings, BOM

**Mongolia**

Lending to the property sector is likely to rise, given the improving economic environment and strong demand in its capital city. Mongolia is a small market and is undergoing a construction up-cycle on the back of urbanisation and a growing mining industry. Demand for housing loans in recent years is driven by the affordable housing programme which grants subsidised mortgage loans at interest rates below the market. We expect the banks' lending to the construction sector to remain focused on the construction of eligible housing and/or apartments under the subsidised programme.

## Appendix 3

## Bank Systemic Risk Indicators

	OE Mid-Points	OE Outlook	BSI	MPI
<b>Developed Market (DM)</b>				
Australia	aa-	Stable	aa	1
Hong Kong	a	Stable	a	3
Japan	a	Stable	a	3
Korea	a+	Stable	a	1
Macao	bbb-	Stable	n.a.	2 <sup>a</sup>
New Zealand	a	Stable	a	1
Singapore	aa-	Negative	aa	2
Taiwan	a	Stable	bbb	2
<b>Emerging Market (EM)</b>				
China	bb+	Negative	bb	1
India	bb+	Stable	bb	1
Indonesia	bbb-	Stable	bb	1
Malaysia	bbb+	Stable	bbb	1
Mongolia	b	Stable	b	1
Philippines	bbb-	Stable	bb	1
Sri Lanka	b	Stable	b	2
Thailand	bbb+	Stable	bbb	1
Vietnam	b+	Stable	b	2

OE stands for operating environment

Macro-Prudential Indicator (MPI) 1 indicates low vulnerability to potential systemic stress, meaning credit data is below trigger thresholds

MPI 2 indicates moderate vulnerability, trigger by excessive real credit growth (for EMs) or credit/GDP levels (for DMs) alone

MPI 3 indicates high vulnerability, trigger by excessive real credit growth (for EMs) or credit/GDP levels (for DMs)

For MPI 2<sup>a</sup>, the asterisk indicates that the assessment is based on real lending growth and just one other indicator, and therefore may be biased towards a lower risk score

Banking System Indicator (BSI) is a summary measure of intrinsic banking system quality, or strength

BSI is derived based on the system average standalone credit profiles or Viability Ratings

Source: Fitch Ratings

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