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SECTOR IN-DEPTH
20 November 2017

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Banking - Global

Possible house price drop poses some risk for Canadian, Swedish, Australian banks

House prices and household debt have risen to unprecedented levels in Canada, Sweden and Australia. This increases the risk that adverse economic developments could trigger a house price drop, leading to higher loan losses for banks. We have recently taken rating actions on banks in these systems to reflect this risk[1,2,3], although they remain among our most highly rated banks globally[4]. While our base case is that house price growth will slow in Canada and Australia, the market may already be turning in Sweden. We believe that a more substantial correction would lead only to limited losses on mortgages, as the banks benefit from a range of safeguards. However, the banks would be exposed to second order effects, as falling house prices would likely weigh on consumer sentiment, amplifying the economic slowdown and pushing up losses on corporate and consumer loans.

House price rise increases sensitivity to downturn. Between 2000 and 2016, house prices rose by 144% in Sweden, by 115% in Canada, and by 113% in Australia. Household indebtedness has risen sharply over the same period. Mortgages account for 63% of the banking system's total loans in Australia, 48% in Sweden and 39% in Canada.

Mortgage losses likely to be limited. In all three systems, protective features built into the mortgage market and banks' underwriting practices, along with full recourse loans, would limit mortgage losses in the event of a house price correction (similar to the 2008 house price decline in Denmark).

Banks exposed to second order effects. The material economic slowdown that would likely accompany any substantial house price correction would lead to higher losses on consumer loans, commercial real estate loans, and loans to consumer-exposed corporates. Consumer loans are a particular vulnerability for banks in Canada, where 30% of household loans are unsecured.

Profits would likely be sufficient to absorb loan losses. We expect banks in these systems to absorb loan losses through earnings in most scenarios. Any impact on their capital levels, which we currently assess as strong to adequate, would likely be limited. In Canada, loan losses could increase to 2.2% of gross loans from 0.4% in 2016, to 1.8% from 0.2% in Australia, and to 1.4% from 0.1% in Sweden, before banks' capital were affected.

Wholesale funding potentially vulnerable. Reliance on confidence-sensitive wholesale funding is greatest for banks in Sweden and Australia. We expect covered bond funding, which ranks higher in insolvency proceedings and is collateralised, to be more resilient than unsecured wholesale funding.

House price rise increases sensitivity to downturn

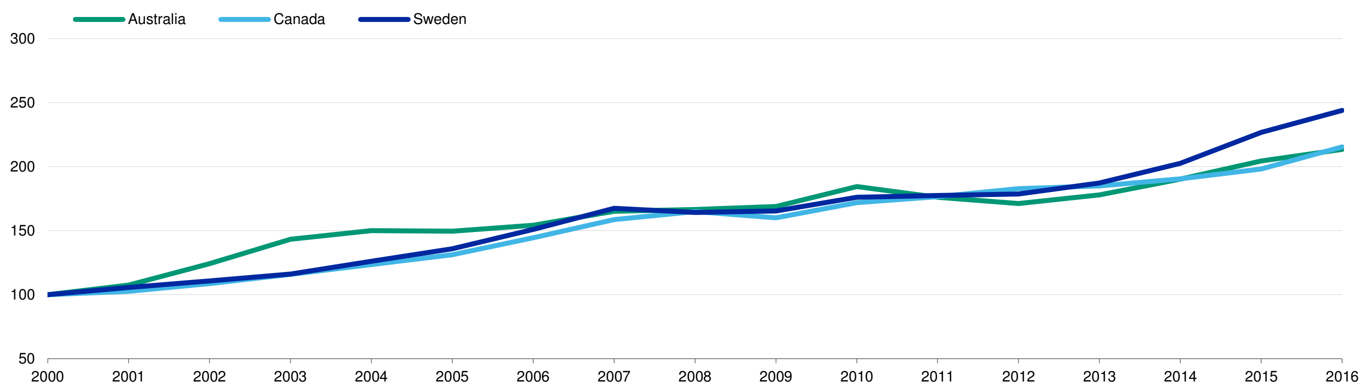
House prices and household indebtedness have risen sharply in Canada, Sweden and Australia since 2000, making these countries' banks more sensitive to adverse economic developments. Housing market corrections are often triggered by an economic slowdown, but even when they occur without any economic trigger, the attendant uncertainty can weigh on consumer confidence. This can in turn contribute to a slowdown in economic growth, which if severe enough can increase losses across the full range of banks' loan portfolios. Between May and September 2017, we took rating actions in all three banking systems to reflect this risk, although lenders in these countries remain among our most highly rated globally (see highlight box).

Between 2000 and 2016, house prices rose by 144% in Sweden, by 115% in Canada, and by 113% in Australia, with major cities typically reporting even greater increases (see Exhibit 1). Mortgages account for about 63% of total banking system loans in Australia, 48% in Sweden and 39% in Canada.

Exhibit 1

Swedish house prices have grown fastest since 2000

Inflation-adjusted house prices (Index, 2000=100)

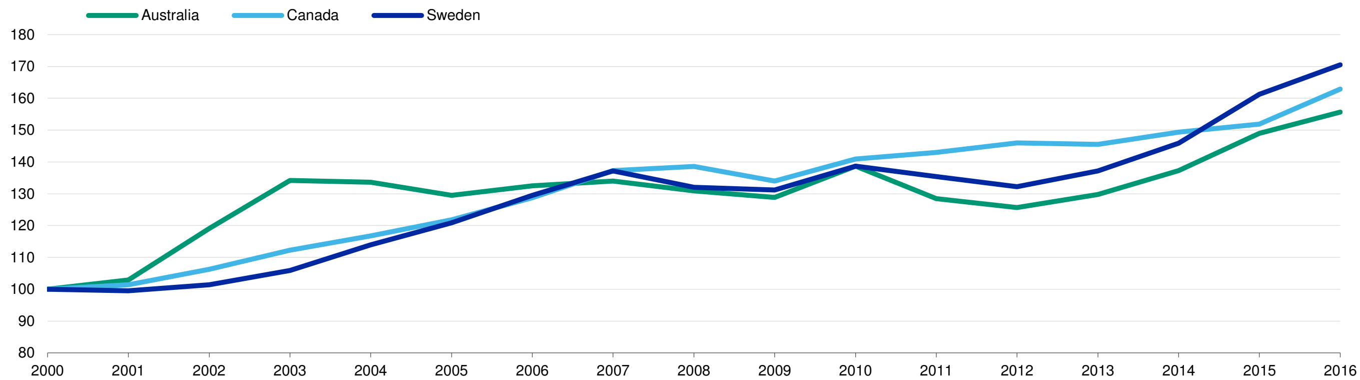


Source: OECD

For Canada, our base case scenario is that house prices will continue to grow, although at a slower pace, over the next 12-18 months, supported by housing shortages, population growth and low interest rates. While the same factors are present in Sweden, preliminary data suggest that house prices have fallen over the past two months. This could indicate that the market is already turning, particularly in larger cities where price rises have been strongest. In Australia, macroprudential measures recently announced by the regulator will likely constrain credit growth, particularly growth in loans to property investors, who account for around 35% of all new mortgages. These measures, along with more stringent underwriting criteria, are likely to reduce customers' borrowing capacity. Overall, we expect the rate of house price appreciation over the next 12 months to slow.

Rising house prices have led to a sharp decline in housing affordability in all three countries (see Exhibit 2). The deterioration has been greatest in Sweden, where the average price-to-income ratio rose to 1.7x in 2016 relative to 2000. The increase has been almost as steep in Canada and Australia, where average price to income has risen to 1.6x.

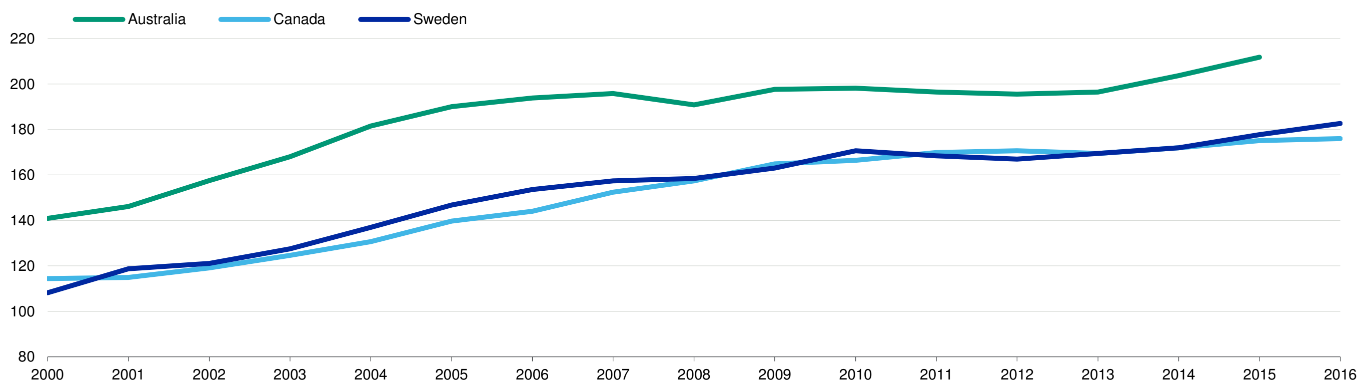
Exhibit 2
Housing prices are rising faster than incomes
Nominal house prices in relation to disposable income



Note: 2000 = 100
Source: OECD

Canadian, Swedish and Australian household debt has also risen strongly (see Exhibit 3). Household leverage is highest in Australia, where it reached 212% of net disposable income in 2015, and has risen further since. This compares with 183% in Sweden and 176% in Canada (2016 data).

Exhibit 3
Australian households are more heavily indebted than their Swedish and Canadian peers
Household debt as % of net disposable income



Source: OECD

Our assessment of the potential impact of a significant house price correction and simultaneous economic downturn in these countries is based on a qualitative analysis of their macroeconomic, regulatory and structural characteristics. We also take into account the likely behaviour of housing and mortgage market participants.

Rating actions reflect elevated risks

On 10 May 2017, we took negative rating actions on six Canadian banks and their affiliates. This reflected our view that rising household indebtedness, due in part to house price inflation, could lead to a deterioration in the banks' asset quality, and increase their sensitivity to external shocks.

On 19 June 2017, we took negative rating actions on 12 Australian banks and their affiliates, reflecting elevated risks in the household sector which make the banks' credit profiles more sensitive to an adverse shock.

On 1 September 2017, we affirmed five Swedish banks' ratings as we expect the banks to be broadly resilient to elevated risks in the residential housing market and household sector. We assessed asset quality, capital and profitability to be strong enough to weather the heightened risks in the operating environment (as reflected by our action on the Macro Profile for Swedish banks).

We acknowledged the elevated risks in the residential housing market and household sector by lowering the Macro Profile for these banking systems to 'Strong+' from 'Very Strong-'. The Macro Profile is a rating input used to determine the banks' baseline credit assessments.

Precautionary measures:

Regulators in all three systems have recently taken macroprudential measures to try to dampen house price rises and the associated systemic risks:

The Australian Prudential Regulation Authority (APRA) has introduced a number of measures to reduce mortage-related risk. In 2014, APRA introduced a 10% cap on investor lending growth to slow down the investor housing market. In 2017, the regulator announced measures to curb interest-only loans, including limiting new interest-only mortgages to 30% of total new residential mortgage loans. To promote broader financial stability, the Australian government also plans to give the regulator greater oversight over non-bank mortgage lenders.

In Canada, regulators have since the financial crisis launched over a dozen macroprudential initiatives intended to slow the rapid pace of house price growth, particularly in the large urban markets of Toronto and Vancouver. Recent actions include higher capital requirements for mortgages in markets where house prices have risen fastest, and consumer affordability stress testing to ensure that both insured and uninsured borrowers could withstand interest rate increases. Foreign buyer taxes intended to curb speculative activity have been imposed as well, first in Vancouver, and more recently in Toronto.

In Sweden, the regulator has implemented various measures, including a risk-weight floor for mortgages set initially at 15% (in 2013), and thereafter raised to 25% (2014). In 2016, it also introduced mandatory amortisation requirements for new mortgages with loan to value (LTV) ratios above 50%. The regulator has proposed additional amortisation requirements for high debt-to-income borrowers, which may come into force in March 2018. In addition, banks' systemic risk and countercyclical buffers have been increased gradually to 2% each (in 2014 and 2017, respectively).

Mortgage losses likely to be limited

Structural features limit potential mortgage loan losses in all three countries. Canadian banks permit loan to value (LTV) limits of up to 95% for first-time buyers and 90% for others, while Australian lenders apply LTV ceilings of 95% or 90%, depending on the loan type. In Canada, losses on loans with LTV ratios in excess of 80% must be covered by government insurance. In addition, a significant segment of lower LTV ratio loans are insured in order to facilitate securitization. As a result, approximately 48% of mortgage portfolios are backstopped by the Government of Canada. In Australia, private mortgage insurance protects banks against losses on loans at LTV ratios above 80%, although such losses may not be entirely recoverable[5]. Swedish banks are bound by a regulatory LTV cap of 85%, but do not benefit from mortgage insurance or guarantees. They generally grant mortgages only to households that can withstand an interest rate increase of 5 percentage points or more from current levels[6]. A house price downturn would not necessarily be accompanied by higher interest rates, unless the hike in borrowing costs was itself the trigger for the housing market correction. This seems unlikely, however, as we expect a slow and gradual rise in central bank steering rates. Overall, we expect that a significant house price decline, accompanied by a broader economic slowdown, would cause limited direct mortgage losses in all three countries. The characteristics of the three countries' mortgage markets are summarised in Exhibit 4.

Australian banks appear slightly less protected. We regard Australian banks as slightly less insulated against mortgage loan losses. This is because the private insurers that protect them against losses on loans at LTVs above 80% would be less able to pay out during a systemic crisis, when many banks would be making claims simultaneously. We view the loan loss insurance provided to banks by the Canadian government (Aaa stable) as more robust.

Exhibit 4

The mortgage markets of Australia, Canada and Sweden all have a protective features

Mortgage features heatmap

		Australia	Canada	Sweden
ECONOMIC IMBALANCES				
Economic imbalances	3-year growth in real house prices	**20%**	**16%**	**30%**
	Households debt-to - disposable income	**212%**	**176%**	**183%**
EXPOSURE TO REAL ESTATE				
Real estate: share of total loan book*	Mortgages	**63%**	**39%**	**48%**
	CRE	**13%**	**NA**	**16%**
MORTGAGES				
Purpose	Owner-occupied vs investment property	65% owner-occupied vs 35% investment.	Around 70% owner-occupied vs 30% investment.	Almost exclusively owner-occupied.
	Prime vs sub-prime	Only prime.	Sub-prime accounts for between 5-15%	Only prime.
Underwriting	Maximum LTV requirements	Banks apply maximum LTVs of 90% or 95%, depending on the product. LTV > 90% accounts for around 9% of loans at origination, and LTV 80%-90% around 14%.	95% for first-time homebuyers, 90% for others.	85% required by law.
	Debt-servicing tests	Banks generally test borrowers' ability to withstand a 2.25 percentage points higher rates (with a floor of 7.25%).	Borrowers must qualify at the prevailing 5-year fixed rate regardless of the term they apply for. New rules require borrowers to pass a stress test at the contractual mortgage rate plus 2%.	Borrowers generally must qualify at the prevailing 5-year fixed rate + 2-3 percentage points, subject to a floor of 7.0-8.0% (i.e. >5 p.p. higher than current short-term rates).
Creditor default insurance	Private vs government-guaranteed	Private mortgage insurance typically required for new loans with LTV >80%.	Government-supported mortgage default insurance required for LTV >80%; 48% of book guaranteed.	Generally not included, but borrowers can purchase insurance separately.
Loan structure	Loan duration	25 - 30 years.	25 years.	More than 40 years. Amortization is only required for new loans, and not below 50% LTV.
	Interest-only or teaser-rate loans	39% of loans are interest only. Discounted (teaser-rate) offered around 75 bps below headline mortgage rate (no data on % of loans).	No interest only or teaser-rate loans	28% of loans are interest only. No teaser-rates.
Payment culture and legal mechanisms	Payment culture	Very strong payment culture.	Very strong payment culture.	Very strong payment culture.
	Recourse vs non-recourse	Full recourse.	Full recourse except in Alberta and Saskatchewan (about 10-15% of the market).	Full recourse.
	Priority against other debts	Mortgages have first priority.	Mortgages have first priority.	Mortgages have first priority.
BANK BUFFERS				
Bank buffers**	Capital (Tangible common equity / RWAs)	11.7%	11.3%	26.1%
	Profitability (Net income / Tangible assets)	0.68%***	0.85%	0.73%

* Total banking sector for Australia and Canada; Moody's rated banks for Sweden, ** Data as of year-end 2016, *** Affected by one major bank's restructuring.

Color coding:

Dark green	Significant credit positive
Light green	Credit positive
Yellow	Credit neutral
Orange	Credit negative
Red	Significant credit negative

Source: Moody's Investors Service

Interest-only loans are common in Australia and Sweden. Interest-only loans, which we view as more risky, are common in Australia (39% of loans) and Sweden (28%). In Sweden, amortization rates are generally low for mortgages originated before mid-2016. Nevertheless, we believe higher interest rates would result in only limited losses in Sweden as banks typically test affordability at interest rates of 7-8%, compared with the current floating mortgage rates of around 1.5%. Banks in Australia apply an affordability test at a minimum rate of 7.25%, compared with current rates below 4.00%. In both countries, interest-only loans are generally only granted if borrowers can cope with the debt service requirements, including amortization. In Canada, interest-only loans are limited to a portion of home equity lines of credit, which are approximately 14% of total real-estate secured loans.

Substantial financial buffers make households resilient. While household debt has risen significantly since 2000 in Canada, Australia and Sweden alike, it remains below the level of household liquid assets in all three countries[7]. At year-end 2016, households in Canada held liquid assets equivalent to 1.8x their debt, compared with 1.2x in Sweden and 1.1x in Australia. However, the distribution of household financial assets and household debt is likely to be uneven. During a period of financial stress, the value of these assets can also fall quickly.

A strong payment culture provides additional protection. The banks also benefit from a very strong payment culture, with delinquency rates on residential mortgages at very low levels in all three countries. Mortgages typically take formal priority over other debt, and are full recourse, with the exception of two provinces in Canada (Alberta and Saskatchewan, about 10-15% of the market). Hence, households in these countries have strong incentives to repay their mortgages, even if in negative equity. In a global context, social protection remains supportive in Sweden and would somewhat mitigate risks if households became unemployed. The virtual absence of subprime lending in most of these countries (Canada has a limited subprime market share of between 5-15%) also helps to limit potential loan losses.

Banks more exposed to second order effects

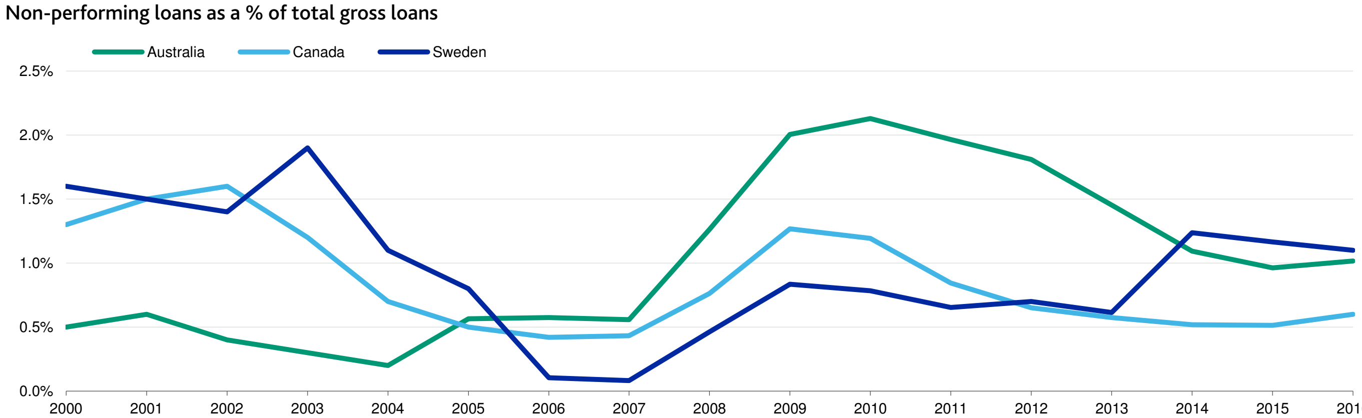
A house price decline would likely be triggered or accompanied by a broad economic slowdown. A prolonged period of very low economic growth, or an outright recession, would lead to weaker confidence, household spending, investment (including construction) and an uptick in unemployment. This would affect companies and households' repayment ability. This would also likely impact the commercial real estate (CRE) segment, which tends to be negatively affected by price declines on the residential housing market, and consumer-sensitive corporations. We expect banks to generate higher loss rates on CRE and other corporates than banks would incur on their mortgage books, as loss given defaults generally are higher on corporate exposures.

Unsecured consumer lending is a particular vulnerability for Canadian banks. Unsecured consumer loans, which would be vulnerable in a downside scenario, are limited in Australia and Sweden, accounting for about 5% of total lending. However, in Canada, about 30% of total household loans are unsecured. We see this as a potential weakness for Canadian banks, as loss given default is much higher on unsecured loans.

Exhibit 5

Non-performing loans are at low levels in all three countries as % of total gross loans

Non-performing loans as a % of total gross loans



Source: World Bank

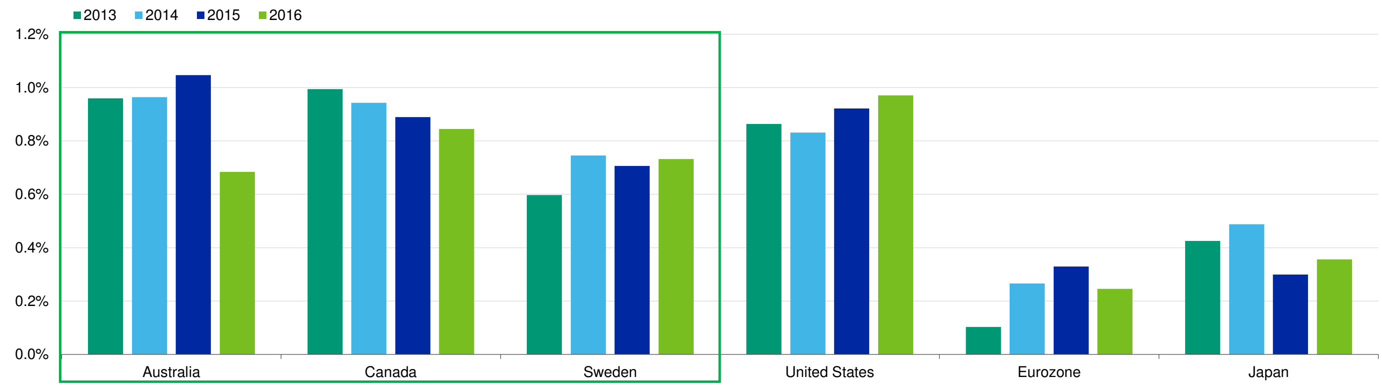
Profits would likely be sufficient to absorb loan losses

All three banking systems currently demonstrate strong profitability. The banking sectors in all three countries are highly concentrated, dominated by four to six large players with a high degree of pricing power. Despite rising regulatory costs and low interest rates, the banks have generally managed to protect their earnings. In 2016, the three banking sectors had net income to tangible asset ratios of 0.7%-0.8% (see Exhibit 6). Australian banks' profitability was negatively affected in 2016 by a goodwill writedown at one major bank, and, to a lesser extent, by four large corporate defaults, which have now largely been resolved.

Exhibit 6

Profitability is relatively strong for rated banks in Australia, Canada and Sweden

Net Income to Tangible Assets



Source: Moody's Investors Service

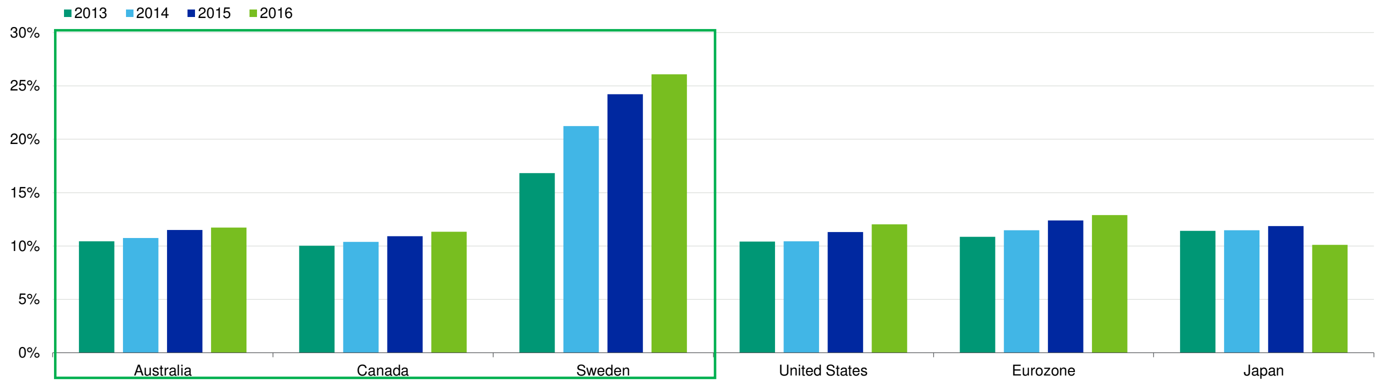
Current profitability levels would likely cover overall loan losses. We expect mortgage loss rates to be limited in the event of an economic downturn accompanied by a house price correction, but anticipate higher loss rates on CRE loans, loans to consumer-sensitive corporate sectors, and on unsecured consumer lending. We expect banks in these systems to be able to absorb total loan losses through their earnings in most scenarios. Assuming unchanged earnings (although these would likely be negatively affected in a stressed scenario), loan losses could increase to 2.2% of gross loans in Canada from 0.4% (in 2016), to 1.8% from 0.2% in Australia, and to 1.4% from 0.1% in Sweden, before eroding capital. Loan losses generally peaked at 0.8% of gross loans in Australia and Canada, and 0.7% in Sweden in 2009, following the financial crisis.

Impact on bank capitalisation would likely be limited. Swedish banks have solid capital ratios, with tangible common equity (TCE) to risk-weighted assets (RWAs) of 26.1% at year-end 2016 (see Exhibit 7). Swedish banks' capital ratios are inflated because the Swedish regulator adds most additional capital requirements and guidance to Pillar II, which increases capital but not risk-weights. In contrast, Australian banks' capitalization (TCE to RWAs of 11.7%) is stronger than the figures indicate because APRA applies capital ratios that both reduce capital and, more importantly, increase risk-weights compared to other systems. Australian banks separately report internationally harmonised CET1 ratios that exclude these country-specific adjustments. These ratios are typically 4-5 percentage points higher than the regulatory ratios. Canadian banks, with TCE to RWAs of 11.3%, have adequate capital ratios.

Exhibit 7

Rated banks' capitalisation compared with peers

Tangible Common Equity To Risk-Weighted Assets



These capital ratios are not directly comparable across systems as explained above.

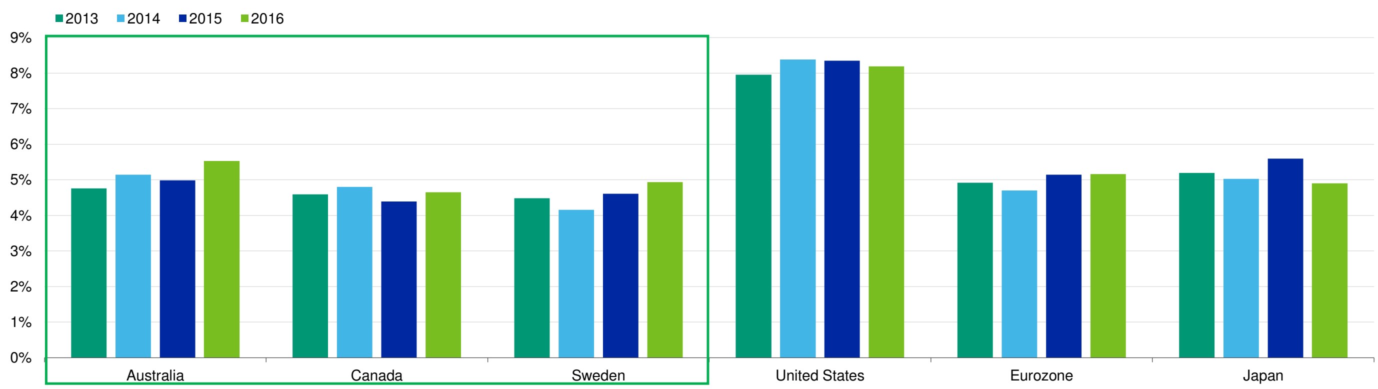
Source: Moody's Investors Service

Leverage ratios are strongest in Australia at 5.5%, and slightly lower in Sweden and Canada at 4.9% and 4.6% respectively (see Exhibit 8). While comparing simple leverage ratios is useful to complement risk-based measures, particularly where there are regulatory differences, the relative risks of the banking sectors' respective loan books are not taken into account.

Exhibit 8

Rated banks' leverage compared with peers

Tangible Common Equity To Total Assets



Source: Moody's Investors Service

Wholesale funding potentially vulnerable

Swedish and Australian banks have high dependence on wholesale funding, which is sensitive to investor confidence. The impact of a house price drop and accompanying economic downturn on wholesale funding availability will depend on how investors expect the banks to be affected. Canadian banks are also active on the wholesale markets, but their dependence on wholesale funding is mitigated by their sizeable liquid assets (see Exhibit 9).

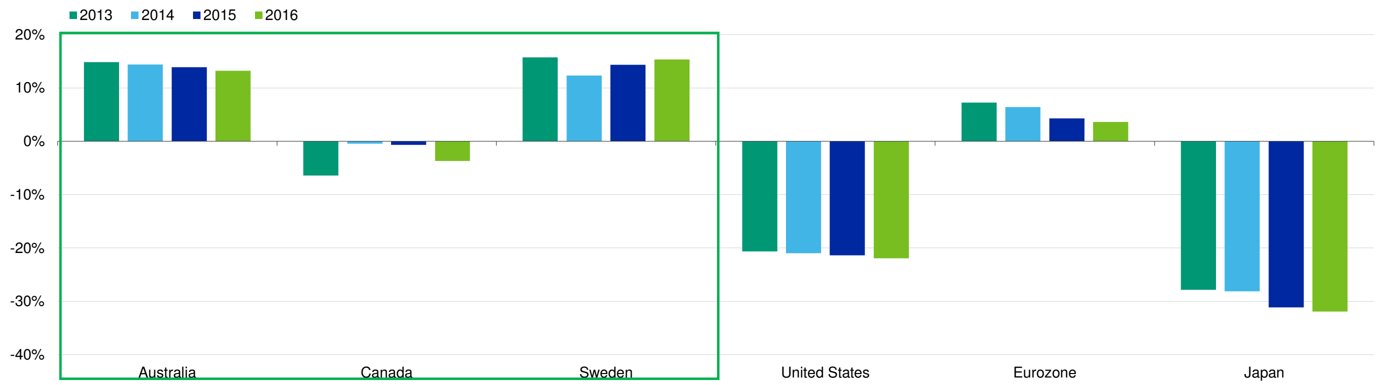
However, the banking sector's liquidity and funding data may overstate the differences between them. For instance, Australian banks have significantly stronger liquidity than their actual ratios indicate. This is because they are required to repackage their residential home loans into residential mortgage-backed securities (RMBS) and transfer them to the central bank (Reserve Bank of Australia) to create a source of contingent liquidity, but are not allowed to count them as liquid assets.

Canadian banks also rely on wholesale funding. However they maintain high levels of liquidity, with current Basel III Liquidity Coverage Ratios (LCRs) ranging from 121% to 135%, well above the 100% requirement mandated by Canada's Office of the Superintendent of Financial Institutions (OSFI) in normal market conditions. On a net basis, we see Canada's liquidity structure as sustainable.

Covered bond funding is more resilient. Swedish banks' wholesale funding includes covered bond financing. We see this as more resilient than unsecured funding, especially in Sweden, where the market is long-established, and where there is a large pool of domestic covered bond investors. Australian banks have also established covered bond programs. These programs hold significant untapped capacity, and the banks have a proven track record of finding reliable investor demand when unsecured debt markets have been dislocated. In times of stress, we believe that deposits and covered bonds will be relatively stable, while unsecured and short-term funding, particularly from foreign investors, will be subject to greater refinancing risk.

Exhibit 9

Rated banks' net market funding compared with peers
(Market funds minus liquid assets to total assets)

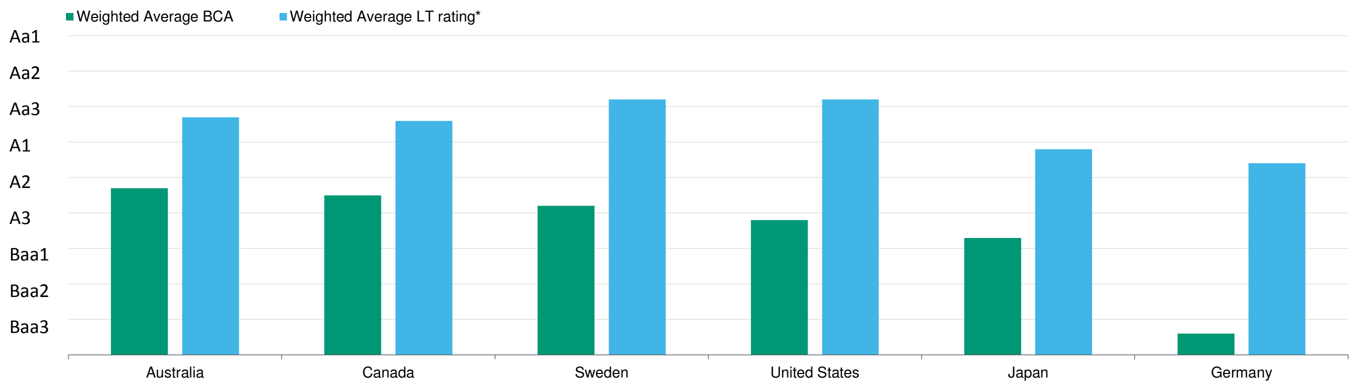


Note: Moody's adjusted figures, which exclude 50% of the covered bond funding from market funds.
Source: Moody's Investors Service

Appendix

The banking systems covered in this report (Australia, Canada and Sweden) are among the highest rated globally (see Exhibit 10) and have also seen a significant rise in house prices. Household debt has risen in tandem, albeit to a varying degrees.

Exhibit 10
Average rating of the covered banking systems and peers
Ratings as of 28 September 2017



Note: BCA: Baseline Credit Assessment, LT: Long-Term
Because all rated banks do not necessarily have the same rating class outstanding, ratings included in 'Long-Term Rating' are determined based on the following algorithm of ratings depending on availability: 1) Deposit rating, 2) Senior debt rating, 3) Issuer rating, and foreign currency rating take priority over local currency ratings.
Source: Moody's Investors Service

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Sector Comment:

» Stress Tests Show Banks' Resilience to Potential Risk of House Price Correction, 2 March 2017

» Canada Reinforces Mortgage Underwriting Guideline, a Credit Positive for Banks, 18 October 2017

Rating Actions:

» Moody's Downgrades Canadian Banks, 10 May 2017

» Moody's Takes Action on Australian Banks, 19 June 2017

» Moody's Moody's affirms ratings on Nordea Bank AB, Svenska Handelsbanken AB, SEB, Swedbank AB and Länsförsäkringar Bank AB (publ); places SEB AG on review for upgrade, 1 September 2017

Banking System Outlooks:

» Canada - Impending Bail-in Regime Makes Support Less Likely, Driving Negative Outlook, 20 September 2017

» Sweden - Sustained GDP Growth and Resilience Against High House Prices Drive Stable Outlook, 28 September 2017

» Australia - Increasing Capital Buffer and Stable Profitability Offset Risks, 23 October 2017

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Endnotes

1 On 10 May 2017, Moody's downgraded six Canadian banks because rising house prices and household leverage may erode their asset quality in future. See press release here.

2 On 19 June 2017, Moody's downgraded 12 Australian banks reflecting elevated risks in the household sector which heighten the sensitivity of the banks' credit profiles to an adverse shock. See press release here.

3 On 1 September 2017, we affirmed 5 Swedish banks as we expect the banks to be broadly resilient to the elevated risks in the residential housing market and household sector; see press release here

4 See Appendix.

5 Australian mortgage insurance covers principal and interest losses and reasonable expenses. As reasonable expenses are not defined, potential losses are not necessarily 100% recoverable.

6 Swedish banks typically use the 5-year fixed rate plus an add-on of 2-3 percentage points, subject to a floor of 7.0-8.0%. Compared to current floating rates, this is at least 5 percentage points higher.

7 Liquid financial assets exclude pension, insurance and real estate-related assets.

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