11 December 2017

Financial Institutions

Swedish Banks and the Property Market: Well Positioned Against A Downturn

In this report Scope examines trends in Sweden's housing market, and some of the factors underlying the boom which has lasted for over two decades, sparking concerns over the possible effects of a market correction. We also look at the exposures of the country's four largest banks to the property sector, namely Swedbank (issuer rating A, stable outlook), Svenska Handelsbanken (issuer rating A+, stable outlook), Nordea (issuer rating AA-, stable outlook) and SEB (not publicly rated). By applying our own stress tests, we examine their potential levels of resilience in the event of a severe downturn in Sweden's property market.

A benign economic backdrop and a long period of low default rates coupled with a large proportion of inexpensive covered bond funding has encouraged Swedish banks in extending mortgage credit, which so far has proved very profitable for them, generating minimal credit losses by historical standards. Yet, following a bull market lasting more than two decades and with real estate prices rising much faster than inflation for much of the recent past, Sweden's housing market has been looking vulnerable to potential correction for some time.

The structure of the Swedish banking sector makes it vulnerable to shocks, given its size, interconnectedness and reliance on wholesale funding. The top four Swedish banks are responsible for about 70% of loans and deposits. The major banks have significant exposures to each other, including covered bond holdings.

A drop in house prices, depending on its severity and households' ability to cope with the pressures, could not only affect banks' asset quality, but also market confidence. A loss of market confidence, although not property-related, occurred as recently as 2009 during the financial crisis, when the Riksbank stepped in to help the banking sector in containing funding pressures. Swedbank (after suffering losses in its loan portfolios in the Baltic countries) found itself using government guarantees to back unsecured debt issuance.

We consider property-related exposure to be by far the biggest asset risk of the four Swedish banks, although in Nordea's case a high proportion of this is outside Sweden in its other Nordic home markets. The importance of developments in the property market to the banks' wellbeing – and that of the open economy they largely support – is therefore difficult to overstate.

The total assets of Swedish banks, savings banks and mortgage banks stood at 650% of GDP at the end of 2016 (see Figure 1). This is high by international standards, although a sizeable proportion of the assets are located outside Sweden. The proportion has remained fairly steady in recent years. Nordea's domicile may be switched to Finland in 2018, which we expect will decrease the size of the banking sector relative to GDP, as assets booked in branches of foreign banks are excluded from the calculation.

Figure 1: Swedish banking system evolution (2007-2016) of total assets (SEK bns) vs. total assets as % of GDP



Note: Banking system assets includes assets of local banks, mortgage banks, savings banks, and subsidiaries of foreign banks, but excludes foreign banks' branches Source: Statistics Sweden, Scope Ratings



Analyst

Jennifer Ray j.ray@scoperatings.com

Associate

Alvaro Dominguez Alcalde a.dominguez@scoperatings.com

Investor Outreach

Michael Pinkus m.pinkus@scopegroup.com

Scope Ratings AG

Suite 301 2 Angel Square London EC1V 1NY Phone +44 20 3457 04524

Headquarters

Lennéstraße 5 10785 Berlin

Phone +49 30 27891 0 Fax +49 30 27891 100

info@scoperatings.com www.scoperatings.com





At the same time, residential mortgage lending has been rising faster than GDP, and now forms a higher proportion of the banking sector's assets. The stock of residential mortgage lending In Sweden rose by 79% between 2007 and 2016, a period in which GDP rose by 34% (see Figures 2 and 3).

One source of possible concern for many observers – or at least, a development that makes Swedish banks' capital strength difficult to compare directly to that of international peers – is that the banks' internal models' estimated inputs for calculating capital requirements have declined over time. Swedish banks' headline capital ratios are high versus those of international peers, due to the country-specific requirements imposed on them by the Finansinspektionen (FSA), but asset risk intensity and leverage ratios are lower. Looking ahead, if Swedish banks become subject to capital floors limiting the differences between risk weights used under internal models and those imposed under the standardized approach, as the Basel Committee proposes, some negative impact on CET1 ratios looks likely, although in 2014 the FSA increased the minimum level of CET1 capital to be held against mortgage exposures from 15% to 25%, through Pillar 2 requirements.

Chart 2: Evolution of Swedish banks' residential lending, 2007-2016 (SEK bn)

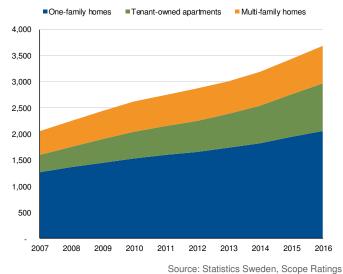
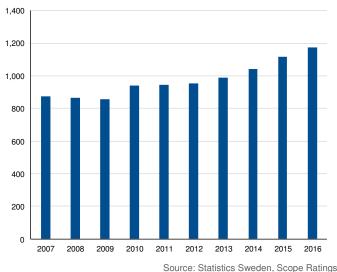


Chart 3: Evolution 2007-2016 of Sweden GDP (SEK bn)



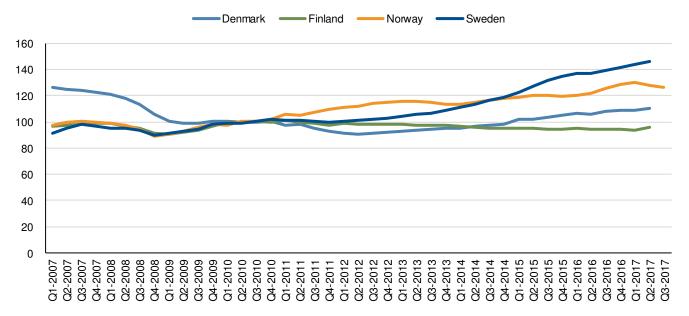
Current trends in Sweden's housing market

According to the BIS¹ as of end-2016 average real residential property prices in Sweden had risen by 55% since end-2007. This compares to the euro area (EA) where the BIS calculates that prices are still 10% below their 2007 level. Unlike some other European markets, Sweden property prices were not severely affected by the financial crisis. Prices continued to rise into 2017, having risen 8% across the country year-on-year as of 3Q17², and 6% in Stockholm. Figures 4 and 5 demonstrate the seemingly inexorable rise in Swedish house prices since early 2007, compared to those in other Nordic markets, and EA and OECD countries. While we focus on house prices in these charts, we note that apartment prices have risen faster than house prices, especially in the main cities, driven by an increasing trend towards urban living in Sweden.

¹ Global developments in residential real estate prices – fourth quarter of 2016, author Robert Szemere of the BIS's Monetary and Economic Department ² Statistics Sweden

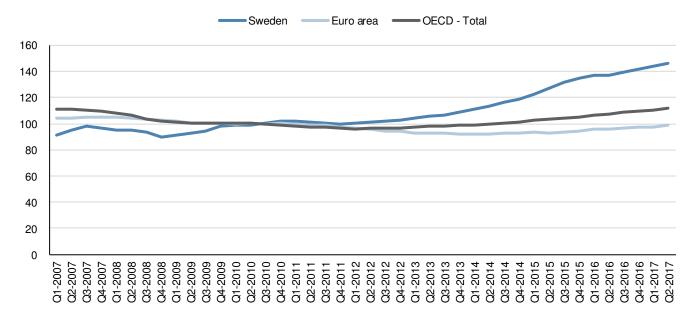


Figure 4. Real House Prices versus other Nordic countries 2007-2017



Note: Index base year = 2010. Source: OECD

Figure 5. Real House Prices versus averages for other EU and other OECD countries 2007-2017

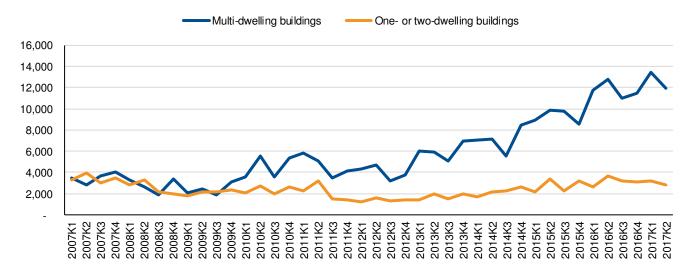


Note: Index base year = 2010. Source: OECD

However, although it is too soon say that a long-term trend has developed, there have been numerous signs in recent months (particularly since September) that many properties are taking longer to change hands, especially in Stockholm, and that the property market is flattening out, or beginning to fall, with Stockholm apartment prices under most pressure. Prices may at last be reacting to noticeable increases in the construction of new dwellings (see Figure 6).



Figure 6: Sweden housing starts for newly constructed buildings



Source: Statistics Sweden, Scope Ratings

Factors underlying the property market bubble and rising household debt levels

Both the Swedish Finansinspektionen (FSA) and the Riksbank have also grown increasingly cautious about excessive credit growth and levels of household debt in Sweden, linked to the growth in house and apartment prices. According to the Riksbank's latest Financial Stability report, "the current high valuation of housing is only sustainable in the long term if households' housing costs remain low in relation to their income". As a percentage of disposable income, household indebtedness has doubled since 1995, standing at 183% of net disposable income in 2016, according to OECD figures. This is higher than in many countries – and compares to 290% in Denmark,230% in Norway, 270% in the Netherlands, 134% in Finland and 152% in the UK.

House prices have also doubled in real terms since 1995. The average debt to income ratio for Swedish households with a mortgage stood at 343% in 2016, compared to 324% in 2010^3 Household debt is equivalent to nearly 86% of GDP, among the highest in the EU.

Some of the long-term increase in property prices has undoubtedly been driven by speculation – i.e. the expectation that prices will continue rising. This has included inflows of excess money from overseas, at a time when many investors have seen Sweden and the rest of the Nordic region as relatively safe compared to other European countries undergoing economic distress.

A number of secular and structural factors also underlie developments in the property market:

³ Source: Sveriges Riksbank.



- The Swedish economy is in a favourable situation, experiencing very low real interest rates (the Riksbank's repo rate is set at a negative 0.5%) combined with strong economic growth (the IMF predicts real GDP growth of 3.1% for 2017). In a more normal economic scenario, higher interest rates could be used to cool growth, but with Sweden following the lead of the eurozone, the Riksbank has signalled that any rate rise probably won't happen before mid-2018, and even then is unlikely to exceed zero before 1H19. Low rates over the past few years have spurred Swedes' propensity to borrow. One measure of affordability is interest as a percentage of net disposable income, which according to Statistics Sweden and the Riksbank is now about 2.25% on average, compared to c.10% in 1990.
- The prevalence of interest-only mortgages, i.e. the proportion not subject to amortisation, and the willingness of both banks and borrowers to release equity gained through house price rises, and to translate it into higher levels of debt. Households have become more willing to borrow against property for unrelated purposes, such as buying a new car or investing in the stock market. For these borrowers, there is no automatic decrease in absolute levels of household debt. Furthermore, a typical Swedish mortgage contract has a contractual maturity of 30–50 years, with even longer maturities not unusual. In 2016 the permitted maximum mortgage term was cut to 105 years, versus what was then the average of about 140 years. This remains very long compared to most countries.
- On average Swedes have seen a substantial increase in disposable incomes (+2.6% in 2016 according to the OECD), Combined with record low mortgage interest costs, this has meant that despite rising property prices the cost of living and of accommodation has grown more slowly than incomes.
- Due in large part to the low level of mortgage amortisation, households have accumulated a higher level of wealth, in part related to rising stock markets, and on average, even disregarding property and pension savings, these exceed the level of household debt. The household savings rate was 6.1% in 2016, behind only Switzerland, having risen from 4.3% in 2000.
- Strong social security and generous unemployment benefits, which help to limit defaults in the event of households experiencing a cut in income due to unemployment.
- Controlled and falling levels of unemployment, with a seasonally adjusted rate of 6.7% in Sept 2017, versus 7.5% for the EU28, according to Eurostat. There is a significantly higher level of unemployment amongst recent immigrants, compared to native Swedes.
- A higher level of home ownership has led to more mortgages being taken out, thus higher average levels of debt. The proportion of households in Sweden who own their own home increased from 59.2 per cent in 1990, to 65.2 per cent in 2016 (see Figure 7). Of these a large proportion have mortgages. This has contributed to increasing households' aggregate debt-to-income ratio.



Well Positioned Against a Downturn

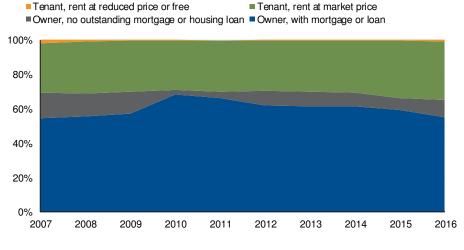
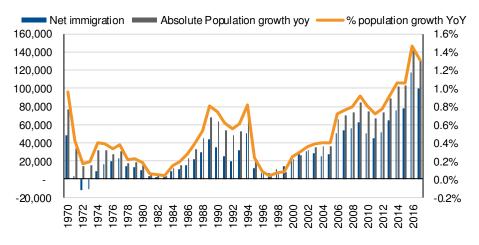


Figure 7: Evolution of Home ownership and tenancy rates, Sweden 2007-2016 (%)

• Demographic factors have played a significant part, mostly due to population growth, boosted by immigration (see Figure 8). In 2016 Sweden's population grew by over 144,000, or 1.5%, with 81% of the growth coming from net immigration⁴, which has been a significant driver of population growth over a long period. Most recently this has been due to the influx of asylum-seekers from Africa and Asia. For example, from 2000 until 3Q17⁵, the population grew by over 1.2 mn or 14%, topping 10 mn for the first time earlier this year, and of this growth net immigration accounted for 77%. By comparison the EU-28's overall population grew 5% from 1 Jan 2000 to 1 Jan 2017⁶. New immigrants generally don't have an impact on the higher end of the housing market, but increase demand for affordable housing, including rental properties.





Note: We have estimated 2017 population growth by annualising data up to 3Q17 Source: Statistics Sweden, Scope Ratings

• At the same time as the population has been rising, there has been an increasing proportion of single person households, in part because of increasing levels of urbanisation related to employment.

Source: Eurostat

⁴ Source: Statistics Sweden, Scope Ratings

⁵ Source: Preliminary data, Statistics Sweden

⁶ Source: Eurostat, Scope Ratings



- Sweden has a poorly functioning housing market, subject to supply constraints and a tightly regulated rental sector, with property prices rising faster than rents. The Swedish rental market is not a liberal market system. Prices are not set based on the laws of supply and demand, but instead according to rental regulations (Hyresregulering). The central association of landlords and tenants agree on fair rents, based on usability value (bruksvärde), which aim to keep renting affordable for the poorer parts of the population. As such, these agreed rental values are typically below economic values and limit supply of regulated rental in the market.
- Many years of limited construction along with lower state subsidies for new-builds have led to a shortage of suitable housing, especially in the major cities. Housing starts rose in the late 1980s during the period when bank lending was deregulated, but fell during Sweden's financial crisis of the early 1990s, only recently recovering towards levels seen in the 1980s. Yet, according to the 2016 Housing Market Survey, 240 out of 290 Swedish municipalities consider that there is a housing deficit, 57 more than in the previous years' survey7. While some pressure may be alleviated by the more recent rise in housing starts, there is still considerable need for new construction in the coming years.
- Further, the ongoing conversion of rental housing to tenant-owned cooperatives has led many households to borrow when acquiring their homes.
- Demand for housing and households' willingness to take on large mortgages are also affected by the design of the tax system. Out of total mortgage interest expense up to SEK 100K per annum, 30% is deductible from income for tax purposes. Above SEK100K, 21% can be deducted. This has remained unchanged for a long time, but property transaction tax has been cut, wealth tax and inheritance tax have been abolished, and tax deductions for home repairs, maintenance and improvement have been extended.
- A further barrier to a smoothly functioning market is the 22% capital gains tax on home sales, which has proved to be a strong disincentive to older sellers who might otherwise consider downsizing.

Macro-prudential measures related to the housing market

The FSA has implemented some macro-prudential measures designed to put a brake on excess lending growth. These include a mortgage cap limiting the LTV ratio on new loans to 85% from 2010 onwards, and raising the risk weight on Swedish mortgages to 25%, applied through a Pillar 2 requirement. Given the traditional Swedish reliance on maintaining long-maturity mortgages, in June 2016 the FSA also introduced an amortisation requirement, forcing households with a mortgage LTV ratio between 50% and 70% to amortise at least 1% of the mortgage's original value every year, rising to 2% for an LTV ratio over 70%. Such measures have helped to decelerate house price growth, yet are not comprehensive, as they only affect new mortgages.

Recently the FSA has put forward an additional mortgage amortisation requirement for new mortgage loans with a value exceeding 4.5x household gross income. These would be amortised 1% faster than would otherwise have been the case. Thus, where the income cap is exceeded, loans with an LTV below 50% would amortise at least 1% annually, with the percentage rising to 2% for mortgages with LTVs between 50% and 70% and to 3% for mortgages with LTVs in excess of 70%. According to the regulator this could affect about 15% of new mortgages and, pending government legislation, is likely to take effect in 2018.

⁷ Boverket (Sweden's National Board of Housing, Building and Planning



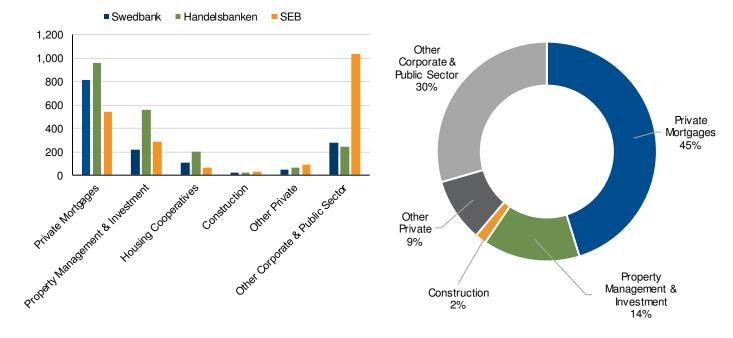
There is evidence that the amortisation measures are having some impact. For example, the FSA's mortgage survey showed that the debt-to-income ratio for new mortgage borrowers fell to 402% in 2016 from 406% in 2015, after the amortisation requirement was introduced.

Banks exposures to the property market

As noted above, the largest sector lending exposure for Swedish banks constitutes household mortgages, followed by other forms of property -related lending (see Figures 9 and 10). We have opted to show Nordea's portfolio split separately to that of the other three Swedish-based banks. Not only does it intend to redomicile in Finland, setting it apart from the other three competitors, but its disclosures are less detailed with respect to exposures in Sweden, while the loan book, although sizeable, is considerably less concentrated in Sweden (see Figure 11). In addition, Nordea reports in EUR as opposed to SEK, which makes direct comparison less meaningful.

Svenska Handelsbanken, Swedbank and SEB each have the bulk of their loans in Sweden. Of these three, Svenska Handelsbanken has the largest absolute level of property-related lending, including a relatively large concentration in loans to property management companies (see Figure 11). SEB's loanbook is more heavily weighted towards corporates, as is also the case for Nordea.

Figure 9: Swedbank, Handelsbanken, SEB, Split of net loans Figure 10: Nordea, Split of Net loans 3Q17 (EUR bns) 3Q17 (SEK bns)



Source: Company data, Scope Ratings

Source: Company data, Scope Ratings

Well Positioned Against a Downturn

Figure 11. Top Four Swedish Banks: Property Exposure Comparison 3Q17

	Swedbank	Svenska Handelsbanken	SEB	Nordea
Net Loans (SEK bn)	1,488	2,040	2,037	2,868 (EUR 298)
Loans in Sweden %	76%	63%	73%	31%
Mortgages as % of loans	54%	47%	25%	45%
Property Management as % of loans	15%	27%	14%	14%
Housing co-ops as % of loans	7%	10%	3%	1% estimate*.
Property as % of loans	78%	63%	44%	61%
Property loans as % of CET1 capital	1,164%	1,453%	775%	738%
2011-2016 loan growth	+25%	+23%	+26%	-6%
2011-2016 property loan growth	+32%	+39%	+28%	+6%
2011-2016 Swedish loan growth	+25%	+10%	+40%	+8%
2011-2016 Swedish property loan growth	+20%	+30%	+40%	+17%
2011-2016 Swedish household mortgage total growth	+30%	+34%	+34%	+33%

Source: Company Reports, Scope Ratings estimates

The housing-related loans provided by Swedish banks primarily relate to forms of ownership of houses or apartments, as follows:

- Outright ownership can cover private homes or (since a change in the law in May 2009) newly built or converted 'ownership apartments'. Only a small percentage of apartments are directly owned.
- Most apartments are owned through tenant associations or housing cooperatives. The tenant owners have the right to occupation of their allocated apartment, and are members of the tenant-owner association, which owns the property. The association will rent or lease the land and owns the building. Tenants pay mortgages to lenders and a monthly fee to the association. To sell a tenant-owned apartment the buyer must be approved by the association.
- Finally, co-operative tenants rent their apartments from an association which owns or rents the property. Such apartments cannot be sold, but are returned to the association when tenancy ends.
- Thus, an important sub-sector of Swedish banks' property lending is to housing associations or co-operatives rather than individual borrowers.

Buy-to-let mortgages are rare in Sweden, and there is no sub-prime market. There is also no mortgage securitisation, as all mortgage-backed borrowing is conducted on balance sheet through covered bonds. Three of the top four banks – Swedbank, Svenska Handelsbanken and Nordea – conduct the bulk of their Swedish covered bond issuance through specialised subsidiaries, and the fourth, SEB, does covered bond issuance off its own balance sheet.

The top four Swedish banks also have considerable exposure to commercial property companies, constituting their second largest sector exposure after private mortgages (see Figure 11). While so far companies in the sector have generally shown good profitability and debt servicing ability, concerns have begun to surface over the financial position of some companies, which have benefited from ultra-low rates in being able to take on debt. Commercial property prices have been rising, reaching their highest levels since 2007, although not yet as high in real terms as before the crash of the 1990s. The Riksbank's 2016 risk surveys showed many participants expressing unease about commercial property overvaluations in Sweden.



Well Positioned Against a Downturn

The banks' lending to the sector has increased as prices have risen. The FSA has indicated that it does not see banks' exposures as excessive.

The top four banks - looking ahead

Scope sees the biggest risk to mortgage affordability – and therefore to the banks' asset quality – as a sudden spike in interest rates. This appears very unlikely in the near term, barring a severe and unexpected economic shock, which would most likely arise from events external to Sweden. However, around 70% of new household mortgage loans are floating rate, and only a small proportion have long fixed-rate terms, so many Swedish households are sensitive to rising rates, which could slow the pace of housing sales, depress prices, and in turn affect household consumption and GDP growth. The Riksbank's forecasts suggest that interest rates are likely to remain low for the foreseeable future.

A long boom in housing prices has its dangers, and we believe that the sector is overvalued by 20-30%, but in and of itself this is not a predictor of the steepness or timing of any subsequent downturn, or of the banks' ability to cope with it. If interest rates increase gradually as expected, Scope believes that the prevailing exceptionally low levels of credit losses may not be fully sustainable, but that the banks are comfortably positioned to deal with more normal levels of credit losses. We would expect residential mortgage loans to perform well in most scenarios. Other forms of real estate lending, mostly to property management companies, could prove riskier in a downturn. During the banking crisis of the early 1990s commercial property exposures caused the major damage to Swedish banks. Although financial disclosures by the banks were much more limited then compared to the present time, all the evidence is that household mortgages held up relatively well during that period.

It is not the purpose of this report to fully analyse the causes of the earlier crisis. Some developments that preceded it have echoes in today's economic situation in Sweden, which remains vulnerable to external shocks. However, there are also several factors contributing to that particular perfect storm that appear unrepeatable, notably the exceptionally high interest rates that developed.

In the run-up to the earlier crisis, from the 1970s onwards Sweden's financial system underwent deregulation and integration into world markets, after a long period of post-war isolation, during which capital controls applied and the krona was pegged to the US dollar. Quantitative limits on bank lending were eased, which, combined with low real interest rates for many, let loose heavy pent-up demand for credit. Lending rose as households used rising asset values to collateralise additional borrowing. Rising inflation, falling unemployment and a boom in construction fuelled by state subsidies all fed into an overheated economy. Attempts to cool it proved fruitless.

Then in 1990 Sweden announced it would apply to join the EU and peg the krona to the ECU. International developments, notably German reunification, led to the Bundesbank putting up rates, and Sweden required higher-than-average interest rates to defend the currency peg. Interest rates soared after the country unsuccessfully defended its exchange rate peg in late 1992, and this proved disastrous for the banks and many of their borrowers. A short-lived 500% overnight central bank rate heralded the credit crunch, falling real income, galloping unemployment, lower consumption and large budget deficits.



Well Positioned Against a Downturn

The banking system almost collapsed as asset prices, particularly of commercial property, spiralled down by 40-60% in some cases, and wealth was rapidly eroded. A blanket government guarantee was applied to the banks' obligations, to support the sector's liquidity. Svenska Handelsbanken and SEB avoided state ownership, but other banks failed or required support and restructuring. Later the depreciation of the krona led to a much-needed fall in interest rates, and an export-led economic recovery started in 1993, allowing the banking sector to recover.

Against a backdrop of low interest rates, the Swedish FSA believes that current levels of household debt don't currently represent a high level of credit risk for banks, citing Sweden's relatively high savings rate and social benefits which help to limit defaults.

Lending standards have been tightened over the years, and Swedish banks routinely stress test households' ability to pay higher levels of interest on origination. SEB, for example, notes that it "maintains a long-term perspective ... in its household mortgage lending, with particular focus on repayment ability and amortisation requirement. This includes a threshold for debt-to income of 500 per cent and a home affordability analysis with significantly higher interest rates." Most banks apply a buffer which would enable a household to cope with interest rates rising to 7%.

In relation to the housing market, the greater concern for the FSA has been the knock-on effect on consumption and GDP if households are forced to deleverage in the event of an extended housing market slowdown. While on average current levels of debt appear very manageable, inevitably the debt is unevenly spread. Looking only at mortgage loans, 56% of households are debt-free while 21% have loans exceeding SEK1 mn. Geographically the highest levels of debts are concentrated in the biggest cities. While a 2013 study conducted on behalf of the Swedish government provides evidence to suggest that many of the most indebted households have the strongest ability to pay, the Riksbank has recently said that the level of detail available to analyse households' vulnerability is limited, and that it hopes to collect more data on this going forward. Clearly interest rate rises would have a disproportionately greater absolute effect on the most indebted households, but relative levels of accumulated wealth or disposable income to cover the elevated costs may vary considerably.

Stress testing

To test the banks' resilience in the event of a much more severe downturn in the property market than we expect, we have conducted stress tests based on public data on the four banks. We use the following assumptions:

- 1. The starting point is the loans on the balance sheets of the banks as at 3Q17, which contain low levels of nonperforming loans (defined here as impaired loans plus any restructured loans and loans 60+ days past due).
- 2. We stress only the Swedish portion of the property-related loan books. We assume other property markets to which the banks are exposed remain healthy.
- 3. The property market crisis, while triggered in Year 1, develops over a five-year period, with non-performing loans and the related loan loss provisions and reserve build-up occurring at a constant rate.
- 4. Reserve coverage remains at a constant 50%.
- 5. Income statement elements remain constant, with the exception of lost interest income (for which we adjust), provisions for nonperforming loans, and the amount of tax paid.
- 6. The balance sheet size remains constant.



There are a number of factors not accounted for, not least the likely increase in funding costs as balance sheets become more stressed, possible remedial measures that might be taken by banks and/or regulators, such as asset sales, and other effects that would follow from the slowdown in GDP growth, or the contraction of GDP. As an example of the latter, households may have property-related debts which are not backed by mortgages. Many households are indirectly liable for loans made to tenant-owned associations. They could then be affected both by interest rate rises on their own loans and by higher monthly fees due to increased interest expenses on loans taken out by associations. The FSA notes that the aggregate debt-to-income ratio for households including loans via tenant-owned associations amounts to 200%.

Further, as mortgages are generally issued up to 75-85% of the purchase or valuation price, not all potential buyers will have a large enough deposit to cover the rest, so will need to take out an unsecured additional loan for this purpose, which could be from a different bank. Given that these have higher interest rates and are unsecured, it appears likely that defaults would first appear in this part of the banks' loan books.

We have looked at two scenarios for our stress tests:

Scenario 1

- NPL ratios for private mortgages reach 10% over 5 years
- NPL ratios for property management companies reach 50% over 5 years
- NPL ratios for housing cooperatives reach 20% in 5 years
- NPL ratios for construction reach 40% over 5 years

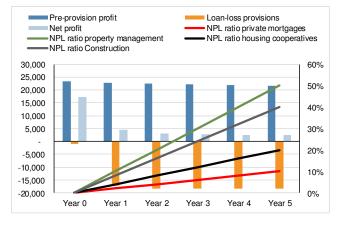
Scenario 2

- Only the housing market relating to private mortgages is affected
- The NPL ratio in this segment of the loan books rises to 20% over 5 years

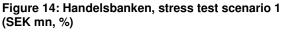
Figures 12-23 demonstrate the outcome of the two scenarios for each of the four banks. Unsurprisingly, given its greater loan book diversification outside Sweden and consequent proportionately lower exposure to the Swedish property market, Nordea's net income is shown to be the most resilient in both scenarios, with loan loss provisions having the least impact. The only scenario to produce net losses (and thus affect capital) is scenario 1, for Handelsbanken, largely due to its exposure to the property management sector. Even in this scenario, after generating net profit equivalent to 13% of CET1 capital in Year 0, the bank subsequently uses up the equivalent of 20% of its CET1 capital over the next five years. In scenario 2, the impact on Handelsbanken and Swedbank looks proportionately more similar.

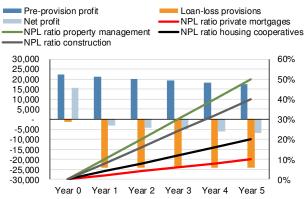


Figure 12: SEB, stress test scenario 1 (SEK mn, %)



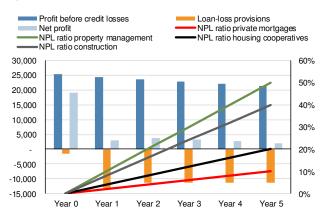
Source: Company data, Scope Ratings





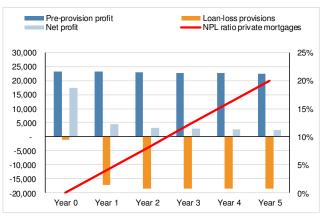
Source: Company data, Scope Ratings

Figure 16: Swedbank, stress test scenario 1 (SEK mn, %)



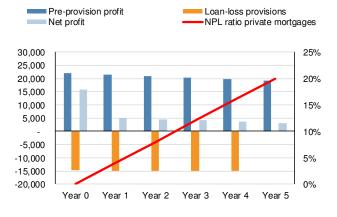
Source: Company data, Scope Ratings

Figure 13. SEB: Stress test scenario 2 (SEK mn, %)



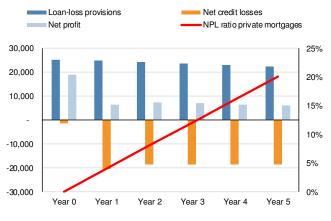
Source: Company data, Scope Ratings

Figure 15: Handelsbanken, stress test scenario 2 (SEK mn, %)



Source: Company data, Scope Ratings

Figure 17: Swedbank, stress test scenario 2 (SEK mn, %)

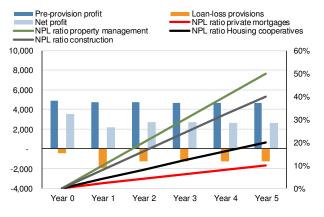


Source: Company data, Scope Ratings



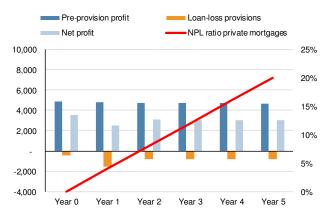
Well Positioned Against a Downturn

Figure 18: Nordea, stress test scenario 1 (EUR mn, %)

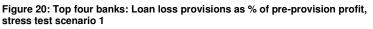


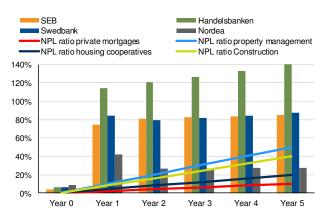
Source: Company Reports, Scope Ratings

Figure 19: Nordea, stress test scenario 2 (EUR mn, %)



Source: Company data, Scope Ratings





Source: Company reports, Scope Ratings

Figure 22: Top four banks: Net profit as % of CET1 capital, stress test scenario 1

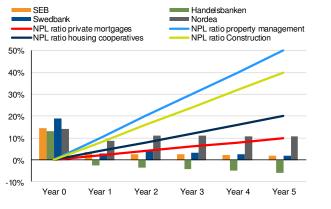
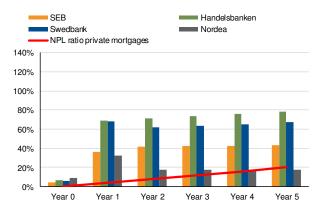
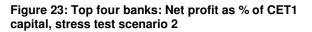
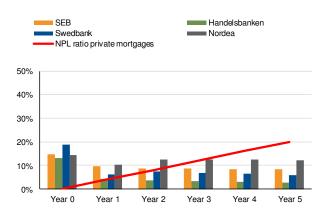


Figure 21: Top four banks: Loan loss provisions as % of preprovision profit, stress test scenario 2



Source: Company reports, Scope Ratings





Source: Company reports, Scope Ratings

Source: Company reports, Scope Ratings



In conclusion, given the Swedish banks' current high levels of profitability and some of the highest capital ratios amongst international banks, they appear able to withstand the effects of much higher losses than we expect in relation to Swedish property lending, without severe effects on most banks' capital – assuming that the losses can be absorbed over an extended period.

We would be wary of drawing firm conclusions about the differences between banks from such relatively crude assumptions. Handelsbanken and Swedbank, in that order, appear the most exposed, but all the banks have grown their housing market exposures by 30-34% over the past five years, which suggests that none is taking on a much higher proportion of less desirable borrowers. As always, the devil lies in the detail, not all of which is available in readily comparable format. While the banks publish data in relation to the cover pools for their covered bond issuance, this is probably not indicative of all the property loans within a banking group. This is because banks may take differing approaches to which mortgages end up in the cover pools (which permit substitution of new collateral). Mortgages may also be booked in the parent bank. Swedbank, for example, has mortgages issued in its own name, although the majority are out of Swedbank Mortgage AB.

We would also note that – especially against the backdrop of a rising market – loan-tovalue (LTV) ratios on housing loans provide a considerable collateral cushion for the banks, although clearly a prolonged property market slump could have a negative effect on values. The only bank providing disclosure of average loan-to-value ratios for its entire private mortgage portfolio (as opposed to only cover pools) is Swedbank, which at the end of 2016 had 64% of properties with LTVs below 50%, and 10% above 70%, with the remainder between 50% and 70%. Cover pool data for some other banks suggests a lower proportion of 70%+ LTV loans, but we expect this is because the cover pools have been populated with the most acceptable forms of collateral in order to maintain ratings.

Finally, Handelsbanken, which performed least well in our stress tests, provides relatively detailed disclosures on its property management exposures, which are heavily weighted towards its internally assigned lower-risk buckets. According to the bank, a large portion of the real estate mortgages have low LTVs, and many of its borrowers in the sector consist of government-owned property companies, municipal housing companies and other housing-related enterprises where cash flows are strong and stable, with a low. probability of default. This suggests that such high loss rates as used in our stress tests for commercial property management borrowers may be unrealistic. We also note that Handelsbanken so far has had the strongest track record amongst Swedish banks in containing credit risk over a long period, including through the 1990s financial crisis. We attribute this to its well-developed risk control culture, linked to long-term rewards through employee share ownership, and detailed local knowledge of borrowers via local branches. Branches not only take decisions, but are accountable for following up any credit problems that arise.



Well Positioned Against a Downturn

Scope Ratings AG

Headquarters Berlin

Lennéstraße 5 D-10785 Berlin Phone +49 30 27891 0

London

Suite 301 2 Angel Square London EC1V 1NY

Phone +44 203-457 0 4444

Oslo

Haakon VII's gate 6 N-0161 Oslo

Phone +47 21 62 31 42

info@scoperatings.com www.scoperatings.com

Frankfurt am Main

Neue Mainzer Straße 66-68 D-60311 Frankfurt am Main

Phone +49 69 66 77 389-0

Madrid

Paseo de la Castellana 95 Edificio Torre Europa E-28046 Madrid

Phone +34 914 186 973

Paris

33 rue La Fayette F-75009 Paris

Phone +33 1 82 88 55 57

Milan

Via Paleocapa 7 IT-20121 Milan

Phone +39 02 30315 814

Disclaimer

© 2017 Scope SE & Co. KGaA and all its subsidiaries including Scope Ratings AG, Scope Analysis GmbH, Scope Investor Services GmbH (collectively, Scope). All rights reserved. The information and data supporting Scope's ratings, rating reports, rating opinions and related research and credit opinions originate from sources Scope considers to be reliable and accurate. Scope cannot however independently verify the reliability and accuracy of the information and data. Scope's ratings, rating reports, rating opinions, or related research and credit opinions are provided "as is" without any representation or warranty of any kind. In no circumstance shall Scope or its directors, officers, employees and other representatives be liable to any party for any direct, indirect, incidental or otherwise damages, expenses of any kind, or losses arising from any use of Scope's ratings, rating reports, rating opinions, related research or credit opinions. Ratings and other related credit opinions issued by Scope are, and have to be viewed by any party, as opinions on relative credit risk and not as a statement of fact or recommendation to purchase, hold or sell securities. Past performance does not necessarily predict future results. Any report issued by Scope is not a prospectus or similar document related to a debt security or issuing entity. Scope issues credit ratings and related research and opinions with the understanding and expectation that parties using them will assess independently the suitability of each security for investment or transaction purposes. Scope's credit ratings address relative credit risk, they do not address other risks such as market, liquidity, legal, or volatility. The information and data included herein is protected by copyright and other laws. To reproduce, transmit, transfer, disseminate, translate, resell, or store for subsequent use for any such purpose the information and data contained herein, contact Scope Ratings AG at Lennéstraße 5 D-10785 Berlin.