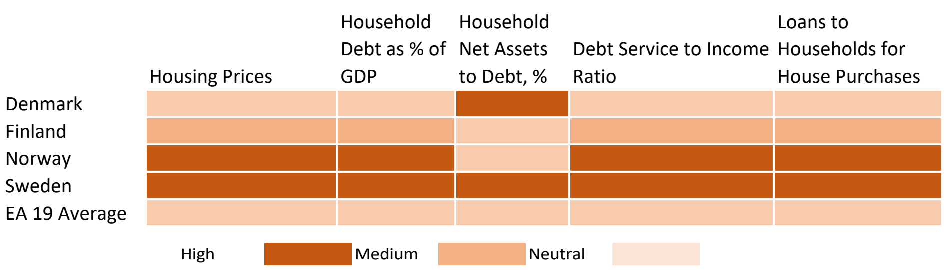
Special Comment: Risks abound for overheated Nordic housing market, but no crisis

Scope identifies imbalances in the housing market as one of the core challenges for Nordic sovereigns. Related risks include high household debt, vulnerabilities to unexpected changes to economic conditions and the deep interconnectedness of Nordic banking systems. There are fundamental reasons for high housing prices, tied to strong income growth and low interest rates. In Scope's view, housing risks are contained by favourable macroeconomic conditions, high standards for lending, and macro-prudential measures.

Nordic[1] housing prices have risen steadily over the last ten years, especially in Norway (AAA/Stable) and Sweden (AAA/Stable). Household debt, which is largely mortgage debt, has accompanied these rises, posing financial stability risks. With the strong price increases (notwithstanding recent modest corrections in Norway and Sweden), the question arises whether housing valuations are disconnected from the fundamentals, with prices irrationally exuberant and destined to reverse more materially?

Scope believes that high household debt increases economic fragility, decreasing the resilience of economies during downturns and placing heavy pressures on governments to create policy frameworks that allow for growth, but without enhancing imbalances. Furthermore, ensuring that a crisis in one country does not leap to other countries through banking system interconnectedness also shapes policy, as does increased oversight of the banking system to place the brakes on any relaxation of lending standards.

Figure 1: Housing Market Fundamentals – scale of increases over the last 10 years



Source: OECD, national central banks, BIS, Scope Ratings GmbH calculations

Nordic house prices have grown since 2008 at an annual compounded rate of 4.5% through the end of 2017. Long-term growth has been even more striking, with house prices in Sweden and Norway up from 1970 levels by about 20x-25x, and in Finland (AA+/Stable) and Denmark (AAA/Stable) by approximately 15x. Latest estimates suggest house prices could be overvalued to varying degrees across the region; a more substantial house price correction could negatively impact consumption, investment and growth, both directly and via banking lending given high levels of household debt and associated banking vulnerabilities. Moreover, private household assets are ample in the aggregate but most are illiquid and subject to price risk.

However, Scope believes that the scale of contingent risks for sovereign ratings in the region remain more limited owing to fundamental drivers of housing increases, improvements in macro-prudential regulations, and financial system buffers.

[1] In this comment, "Nordics" refers to Denmark, Finland, Norway and Sweden. Scope acknowledges that individual Nordic housing markets are very different, with significant regional variations also within countries.

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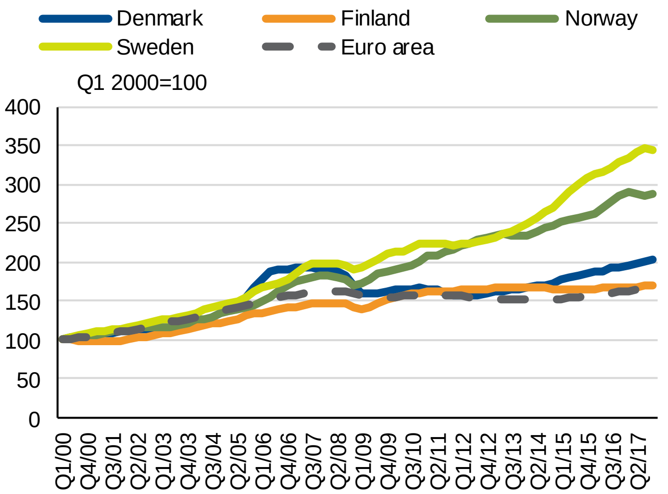
Fundamentals driving housing markets

House prices in the four Nordics have been steadily rising since 2000 by as much as 65% in real terms and almost 90% in nominal terms. In 2017, house prices started falling in Norway and Sweden. Historically, house price declines have often been triggered by higher interest rates, but that is not the case this time. Instead, it has to do with supply and demand, with new construction representing supply and demographics and income determining demand.

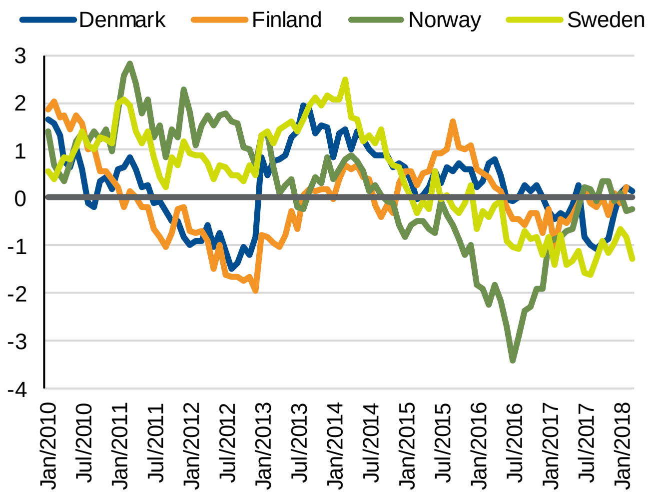
Housing supply has been lagging demand significantly due to lead times before completion, resulting in backlogs during upswings. Market distortions also play a significant role here, such as tax incentives and subsidies, as well as regulatory measures such as strict planning and zoning regulations. Country-specific factors are also critical: buy-to-let speculation plays a role in price increases in Norway, while tax reforms in Finland have dampened demand. At the same time, the increasingly widespread use of interest-only and variable rate loans since the early 2000s contributed to higher housing demand and prices, especially in Denmark. The growth of the working-age population, in part fuelled by immigration[2], has been strongest in Norway (+16% between 2000-2016) and Sweden (+11%), fuelling housing demand. Meanwhile, home prices in Finland and Denmark show little effect from population growth, as both countries show slower population increases (of between 5% and 6% from 2000-2016). Urbanisation has also driven demand in major cities.

Figure 2: Nominal house prices, 2000-2017



Source: OECD, calculations Scope Ratings GmbH

Figure 3: Real ten-year government bond yields, %



Source: National statistical offices, calculations Scope Ratings GmbH

ESRB 2016 warning for Denmark, Finland and Sweden

Denmark saw a housing crisis in the period between 2005-2010. Finland saw a major downturn at the beginning of the 1990s. Norway has not had a housing crisis in recent history, while Sweden also saw a downturn at the beginning of the 1990s. After the early 90s Nordic crisis, the fiscal costs of government intervention into the financial system in Finland, as a percentage of 1997 GDP, amounted to 9.0%, compared to 2.0% in Norway and 3.6% in Sweden[3]. Denmark was not materially affected. A European Systemic Risk Board (ESRB) warning in 2016 to eight EU countries, including Denmark, Finland and Sweden, regarding medium-term vulnerabilities in real estate markets underscores concerns on Nordic house price developments[4].

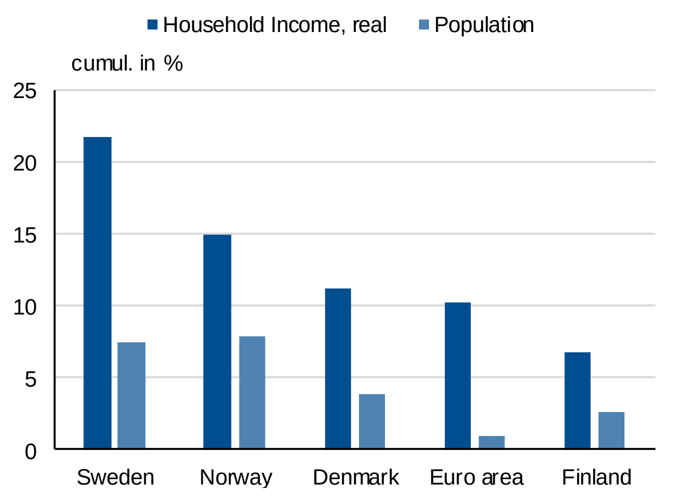
[2] Absent immigration, cumulative growth in Norway was 6% and in Sweden 4% over 2000-2016; for Finland and Denmark, there is little effect due to much lower immigration.
[3] The 1990's Financial Crisis in Nordic Countries, Seppo Honkapohja, Bank of Finland Research Discussion Papers 5/2009
[4] https://www.esrb.europa.eu/news/pr/date/2016/html/pr161128.en.html

Growing divergence in the Nordic real estate market

In the decade leading up to the great financial crisis (GFC), Nordic housing markets, supported by deregulation and liberalisation of housing and credit markets, grew largely in sync. Since the GFC, however, housing price developments have desynchronised. Sweden and Norway continued residential market booms well into 2017. Meanwhile, developments in Denmark and Finland were less robust.

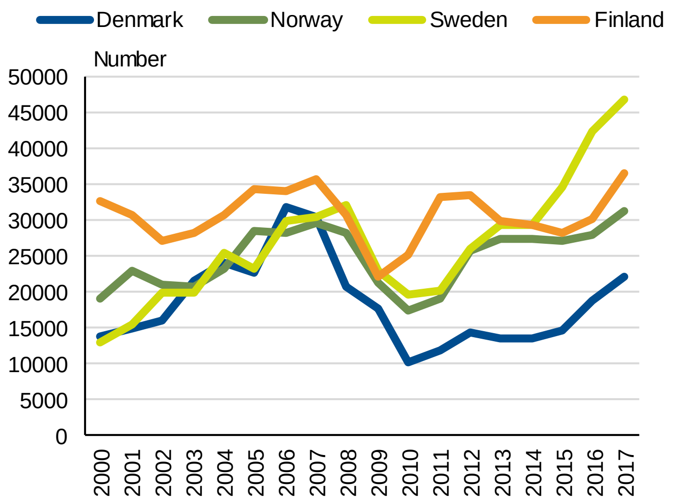
Weakness in the Danish market stems from a residential market collapse in 2007, resulting in a large overhang of apartments that continues to place significant pressure on prices. While demand has been healthy, this overhang resulted in Danish house prices recovering to pre-crisis levels only in 2017. Finnish house prices have meanwhile increased since 2007 by some 15%, but market growth has been well below that in Norway (where nominal housing prices have risen 60% since 2007) and Sweden (65%).

Figure 4: Housing market demand, 2010-2017



Source: National statistical offices

Figure 5: Housing market: dwellings completed



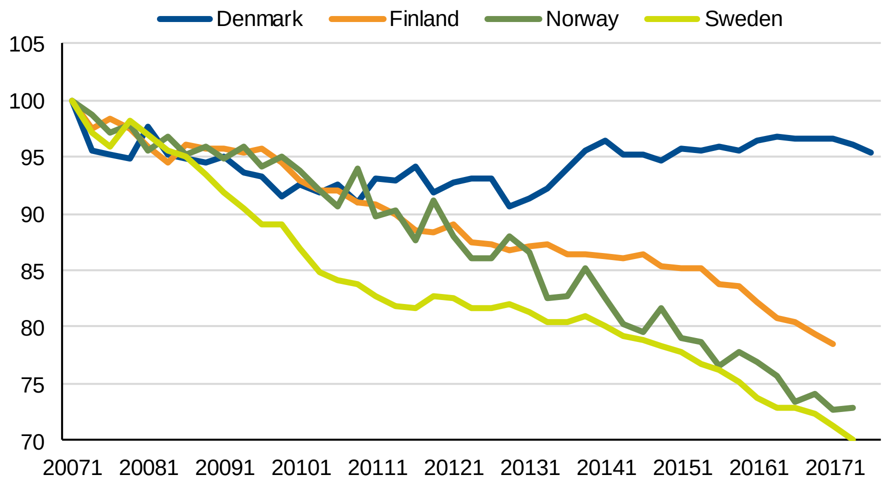
Source: National statistical offices

Housing market corrections in Sweden and Norway

In view of the significant housing upswings in Sweden and Norway, a downturn in prices was anticipated. Evidence of softening appeared in the spring of 2017 in Norway and in the middle of 2017 in Sweden. By the end of 2017, condominium prices in Oslo had fallen by 7.8% from recent peaks, while those in Stockholm slid 11.6%. The correction in Norway has seen nation-wide prices drop by a cumulative 2.3% from a March 2017 peak through March 2018. Data for the first three months of 2018 suggest some early stabilisation, with Stockholm prices down just 1.1% from the previous quarter and Oslo prices edging up by 0.6% quarter-on-quarter seasonally-adjusted.

There are multiple reasons for the recent price corrections. Measured relative to per capita disposable income, house prices levels in Norway are near all-time highs. The average cost of a home as a ratio of median household income has risen since the mid-1990s, with the ratio in Oslo amongst the highest of major cities in the world.

Figure 6: Wages to household debt, Q1-2007=100



Source: IMF, Calculations Scope Ratings GmbH

Housing affordability concerns

High household debt also leads to price corrections: increases in Danish debt compared to increases in income have been moderate, but developments in other Nordic countries are more dramatic (**Figure 6**). The changes in Sweden have been particularly significant, with the relationship between wage growth and household debt shifting by about -30% over a ten-year period, with Norway not far behind. This implies that increases in household debt are running away from gains in income. Furthermore, household debt-service ratios in Norway are high, near levels prevailing during the banking crisis of the late 1980s and early 1990s. The fact that most Norwegian mortgage loans include variable interest rates is a specific concern, subjecting borrowers to higher debt-servicing costs in the event of a sharp rise in short-term rates.

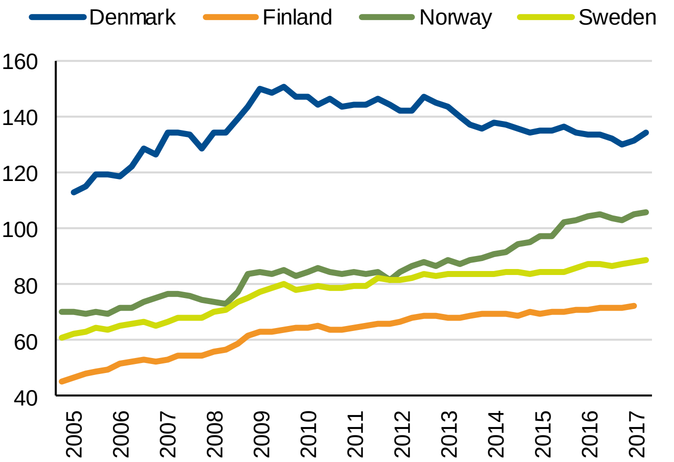
Scope notes that despite high prices and elevated debt, very low interest rates (**Figure 3**) have helped households spend proportionately less on their dwellings than at any other time in the last 20 years, mitigating concerns about the affordability of debt. Norway is an exception. However, consumer sensitivity to interest rates increases in tandem with higher debt stocks. Scope expects small upward movements in interest rates from the lows of 2016, of around 50-80 basis points. As rates rise from this trough, demand is reduced, helping slow any resurgence of price increases in the housing market.

Structural expansion of supply

Supply-side factors have also helped put the brakes on housing market acceleration. Across all four countries, construction has seen a major upswing since 2010. This is especially true in Sweden, where new construction is significantly above long-term trends.

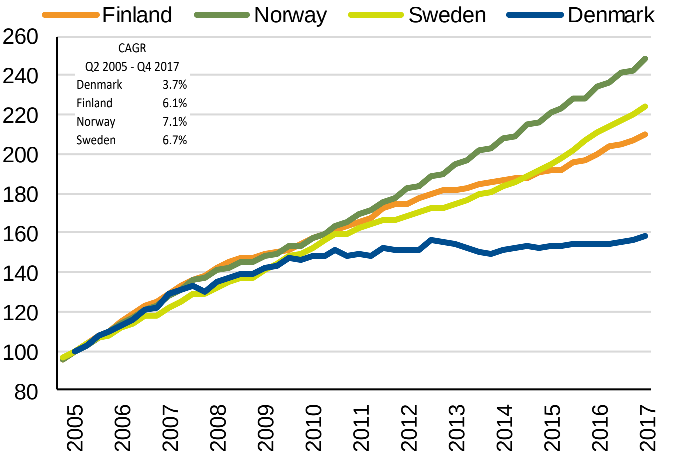
This owes partly to Swedish municipalities cutting red tape for new construction to take advantage of high demand (and to build up their tax base and release funds for projects) for new developments. Increased competition has also helped price developments slow (the number of Swedish building companies has increased from 20 to 400). Scope expects that the housing market will undergo supply-side adjustments that will end when fewer developers lead to reduced price competition, resulting in a turn-around in prices.

Figure 7: Household debt, as a % of GDP



Source: National statistical offices, Haver Analytics

Figure 8: Cumulative change in household debt, Q2-2005=100



Source: National statistical offices, Haver Analytics, Calculations Scope Ratings

The regulatory underpinnings of the price slowdown

Weaker housing price changes also have roots in tighter regulatory oversight aimed at reducing areas of lending oversupply. In Denmark, limits to loan-to-value ratios, bank lending guidelines, a gradual reduction in tax deductability and the so-called “supervisory diamond” setting up specific benchmarks for higher-risk-profile institutions have led to weaker lending. In Finland, policy constraints on lending have slowed demand increases by setting a maximum 90% loan-to-value ratio for housing loans (95% for first-time buyers), combined with a gradual reduction in the tax deductability of interest payments.

Reversals in the Norwegian market followed temporary tightening of residential mortgage lending from 1 January 2017 onwards. To reduce speculative purchases in Norway, the regulations there now cap borrowing at five times pre-tax annual incomes and second home buyers must meet a loan-to-value limit of 60% (from 70%); the loan-to-value limit is 85% for primary home buyers. The Norwegian Ministry of Finance was advised by the Financial Supervisory Authority to extend most of these measures beyond an expiry on 30 June 2018.

In Sweden, mortgage amortisation requirements for new loans with loan-to-value ratios of over 50%, reform of capital-gains-tax deferral rules for housing transactions, enhancements of legal mandates and a 22-point plan to address imbalances in the Swedish residential investment market provide a policy framework to slow lending.

Household debt balanced by household assets

Recent price decreases should also be placed in perspective: housing prices in Norway and Sweden had more than doubled since 2005, and were up by 30% in Denmark and Finland. Hence, a 12% decline in Oslo apartment prices and a 15% decline in Stockholm are not as dramatic as they first appear. Declines in housing prices should be interpreted as a realignment of market dynamics to reduce macroeconomic imbalances.

No signs of deeper market correction

Scope does not believe that the Nordics show signs of a coming significantly deeper market correction, given the high rates of savings. Countries that have gone through property sector bubbles tend to show falling savings rates, consumption booms and increasing current account deficits. Denmark had a current account *surplus* of 7.6% of GDP in 2017; in the same period, Finland had a current account surplus of 0.7%, Norway 5.1%, and Sweden 3.2%.

Overall, Scope views the housing corrections in Norway and Sweden constructively to date, as moderating prevailing imbalances while these two economies are growing near potential. This will reduce the possibility of a deeper and more prolonged decline in prices at a later stage, which may easily contribute pro-cyclically to intensifying a simultaneous slowdown or recession in the economy.

Outlook for Nordic housing markets

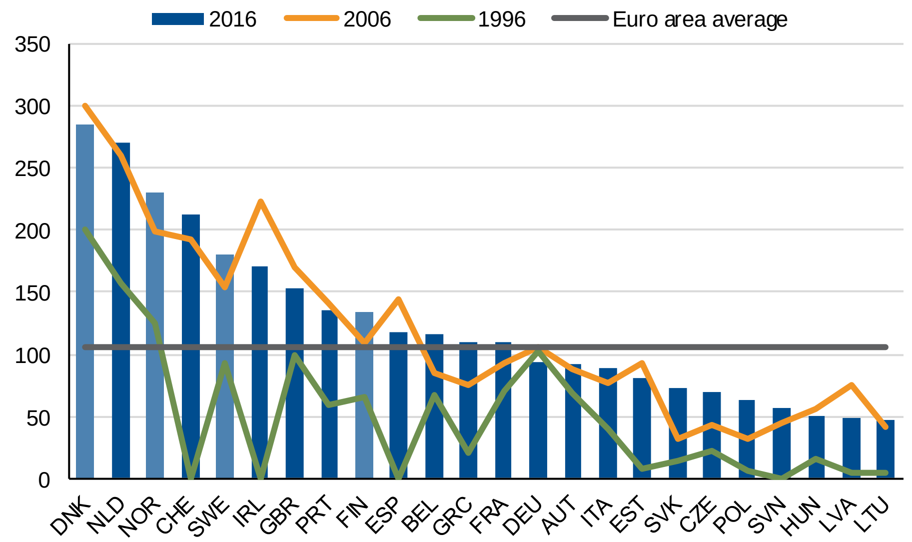
Favourable economic outlook

Overall, the economic outlook for the Nordics is favourable: Scope anticipates growth to continue in 2018. Consumer sentiment also suggests a soft landing for the property sector, with most recent surveys pointing to resilience. Improvements in the labour market boost real disposable incomes and purchasing power. In the medium term, housing markets are supported by demographics, especially in Norway and Sweden.

Scope does not see the vulnerabilities endemic before housing market collapses in recent history

Scope recognises that while interest rates are very low, a prevalence of variable-rate mortgages, popular in the Nordics, raises risks. Under certain non-baseline scenarios, housing prices could fall significantly, potentially owing to a global shock, instigating corrections in domestic markets. However, Scope does not consider the current situation in the region to resemble the excessive fragilities extant in the cases of Ireland, Spain or even Denmark between 2004 and 2008.

Figure 9: Household debt as a % of net disposable income



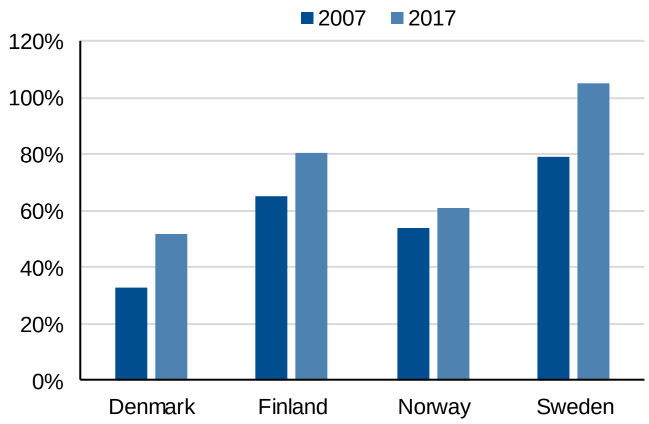
Source: IMF, Calculations Scope Ratings GmbH

Household debt balanced by assets, but much of these assets are illiquid

The increase in household debt has been accompanied by rises in household assets, Scope notes (**Figure 10**). However, large shares of such assets are illiquid and housing wealth is subject to price risk during a downturn. In a crisis, a diminishing value of nonfinancial assets reduces the utility of housing as a financial buffer with a large share of other household assets tied in pension accounts. If housing and pension/insurance assets are excluded, net liquid assets as a share of disposable income are negative in Denmark and Norway and low in Finland and Sweden.

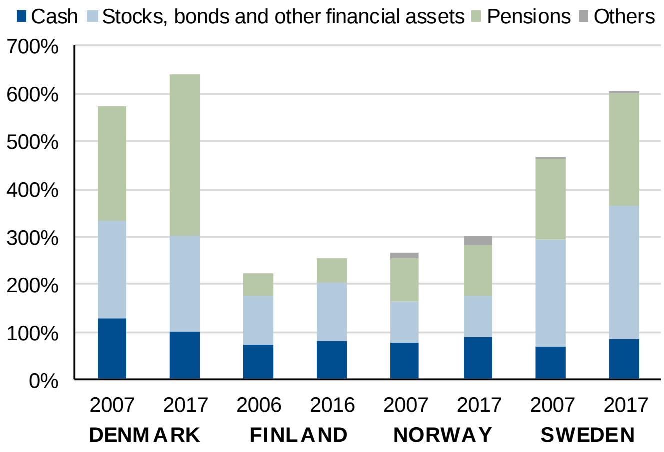
The ratio of Nordic household debt to disposable income has risen rapidly, reaching 285.4% in Denmark, 133.1% in Finland, 220.5% in Norway and 180.1% in Sweden, well above a euro area average of 105.5% in 2016. Nominal increases in levels of household debt are the most striking in Norway, up approximately 7.1% compounded annually between Q2 2005 and Q3 2017, followed by Sweden at 6.7%, Finland at 6.1% and Denmark at 3.8%.

Figure 10: Net household worth, % of disposable income



Source: National statistical offices, Haver Analytics, Calculations Scope Ratings

Figure 11: Gross household assets, % of disposable income



Source: National statistical offices, Haver Analytics, Calculations Scope Ratings

Mortgage lending in the Nordics has historically exhibited both low default rates and low loss given default. Most loans are for financing primary residences, and are subject to full recourse from lenders, meaning that borrowers have a life-long personal obligation for their debts. Moreover, a generous system of social benefits in all four countries and high net wealth have historically helped to insulate households from shocks.

Scope is monitoring contingent risks to the sovereign

Economic vulnerabilities in a shock scenario

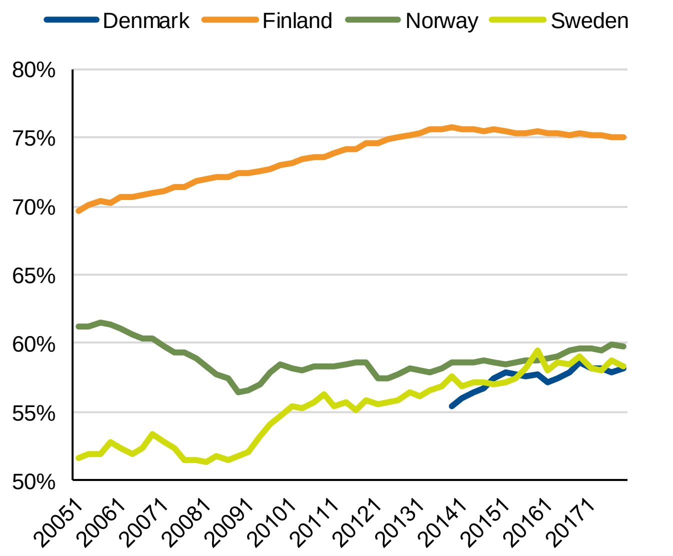
Scope does not foresee a deeper real estate downturn in the Nordics in the near term. However, Scope observes that strong price increases of recent years bring contingent risks for the sovereigns. The scenario of greatest concern is of an economic downturn with a simultaneous sudden, sharp spike in interest rates, driven by a global event. With such a sharp contraction in demand, housing demand would dry up, leading to falling property prices, with liquidity drying up and fewer transactions. Those forced to sell would accept fire-sale prices, further driving prices down and leading to downward pressure on personal consumption and leading to increased unemployment, creating a negative spiral.

As mortgage loans represent a large share of bank assets in the Nordics, lower house prices under such a scenario may instigate a vicious cycle of tighter credit lending leading to further drops in housing demand and prices.

Deeply interconnected banking system

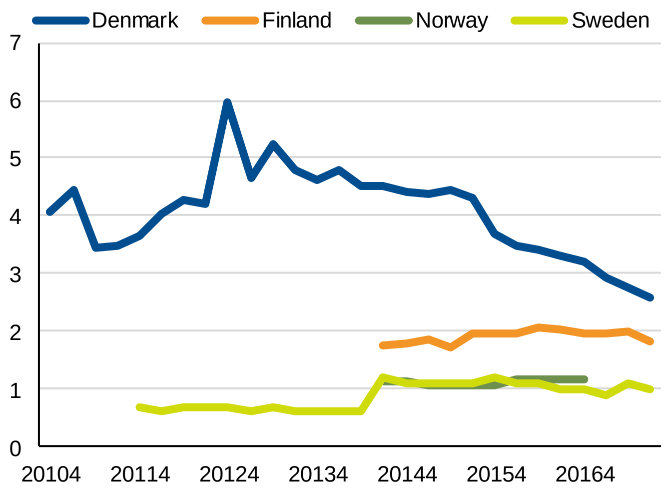
The Nordic banking system is deeply interconnected. This interconnectedness facilitates, on the one hand, stability and liquidity during expansions; however, on the other hand, it results in contagion risk during a downturn, owing to cross-border balance sheet links and financing dependencies. A domestic banking crisis may spill over to neighbouring countries rapidly if foreign subsidiaries enter financial difficulties due to parent company problems.

Figure 12: Housing loans, % of total household lending



Source: National statistical offices, Haver Analytics, Calculations Scope Ratings

Figure 13: Non-performing loans, % of gross total loans



Source: National statistical offices, Haver Analytics, Calculations Scope Ratings

Banking sector strengths mitigate risks

Risks mitigated by bank balance sheet strengths

Risks to the sovereigns from housing imbalances are mitigated by the strong loan portfolios of individual Nordic banking systems, with low non-performing loan (NPL) ratios, currently well under an EU average of over 5% (**Figure 13**). This underscores that while housing and household debt risks exist, buffers are in place to minimise the economic, fiscal and financial impact should these risks crystallise further. While Denmark holds the highest NPL ratio in the Nordics, reflecting the easing of credit standards leading up to the GFC and effects of following distress on the closure of around 60 small banks[5], Denmark's NPL ratio has been declining since 2015 and is now converging towards the levels seen in other Nordic economies.

A key aspect of the resilience of Nordic banks is shown in **Figure 14**. Nordic banks have high tier 1 capital ratios, and these have increased as new Basel III standards have been implemented. In 2016, Nordic banks met or exceeded tier 1 capital requirements for Group 1 banks (12.9% fully phased-in), were above tier 1 requirements for globally significant banks (12.9%) and were above the Group 2 requirements for smaller banks (13.8%)[6].

New leverage requirements

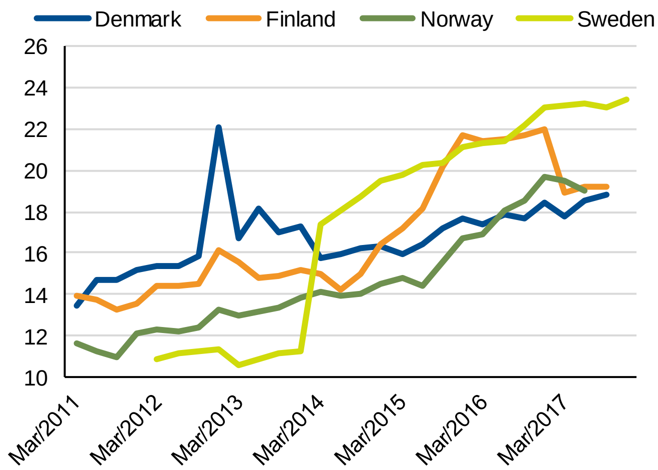
Recently, banks have also been required to meet a new leverage ratio requirement. The EU leverage ratio requirement is evolving, with expectations of requirements of 3%. This applies to Denmark, Finland and Sweden. All Norwegian banks satisfy a leverage ratio requirement of 5% (the requirement is higher for DNB, Norway's largest bank, at 6%).

In the most recent stress test of banks in Denmark[7], a few of the largest banks fell short of their capital buffer requirements in a severe recession scenario, with other banks meeting requirements, but with a small buffer. However, none of the systemically important financial institutions are close to falling below statutory minimum capital

[5] http://www.nationalbanken.dk/en/publications/Documents/2017/11/Analysis-Risks%20are%20building%20up%20in%20the%20financial%20sector.pdf
[6] https://www.bis.org/bcbs/publ/d397.pdf
[7] https://www.nationalbanken.dk/en/publications/Documents/2017/11/A%20few%20banks%20have%20capital%20shortfall%20in%20severe%20recession%20scenario.pdf

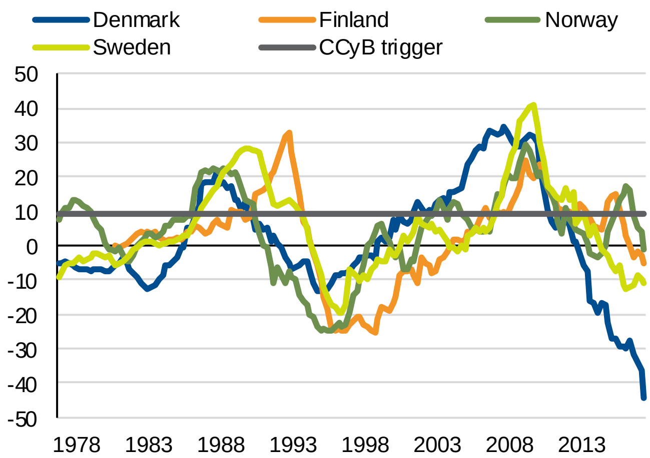
requirements, and the hypothetical shortfall is mitigated because counter-cyclical buffers were not activated during a worst-case scenario.

Figure 14: Tier 1 capital ratios, % of risk-weighted assets



Source: IMF

Figure 15: Domestic credit to GDP gap[8], %



Source: BIS

In the most recent banking stress test in Finland[9], the tier 1 ratio of the most important banks remained strong under the adverse macroeconomic scenario. OP Financial Group's tier 1 ratio remained strong at 14.9%, as did that of Nordea Bank Finland at 14.1% and Danske Bank at 14.0%, well above the average results of 51 EU/EEA banks. Nordea's move to Finland is expected to increase vulnerabilities in Finland, although upcoming regulatory and supervisory reforms will mitigate this[10].

Proactive macroprudential measures to address housing risks

Several macroprudential measures (**see Appendix**) have been introduced in all four countries mainly focusing on households with a high debt level in combination with non-amortised, variable loans, which Scope considers to be particularly vulnerable to sudden changes in macroeconomic conditions.

Scope views the ongoing introduction of counter-cyclical capital buffers (CCyB) positively. Under these policies, capital reserves increase when cyclical risk is judged to be increasing, strengthening the resiliency of banks during stress periods in which losses may materialise. Flexible minimum capital buffers will help maintain the supply of credit and hence dampen any financial cycle downswing, as well as help to reduce excessive credit growth during financial cycle upswings.

The importance of CCyB policies can be seen in the Danish Systemic Risk Council's plans to set the CCyB rate to 0.5% starting in March 2019, reflecting concerns that the persistently low levels of interest rates, combined with strengthening growth, increasing property prices and easing of credit conditions point to potential rapid rises in credit risk within a framework of high debt levels[11]. In Finland, CCyB rates remain at 0.0%, reflecting their view that supplementary risk indicators do not point to increases in risk[12].

In Norway, the Norges Bank stated that as financial imbalances remain, due to rises in household debt ratios and high property prices, the CCyB rate will remain at 2.0%, although the developing housing market price correction has, to some degree, reduced the risk of abrupt, sudden price declines, with lower housing price growth also helping to

[8] CCyB=counter-cyclical capital buffer
[9] http://www.finanssivalvonta.fi/en/Publications/Press_releases/Pages/12_2016.aspx
[10] https://www.bofbulletin.fi/en/2017/articles/financial-stability-assessment-finland-s-banking-sector-expands-banking-union-mitigates-risks/
[11] http://www.risikoraad.dk/nyheder/2017/dec/recommendation-on-activation-of-the-countercyclical-capital-buffer/
[12] http://www.fin-fsa.fi/en/Publications/Press_releases/Pages/10_2018.aspx

curb household debt accumulation[13]. In Sweden, the CCyB was also left at 2.0%, reflecting their consideration that debt growth is not sustainable in the long run. Denmark has also introduced an additional 5% down payment compulsory for new loan applications in 2015.

A degree of resilience in Norges Bank's 2017 stress test

Scope believes Norway has the most significant fiscal, external and financial buffers to absorb shocks from adverse scenarios, underpinned by the nation's sovereign wealth fund valued at approximately USD 1tn. An annual bank stress test by Norges Bank in 2017[14] showed banks' buffers would be sufficient to absorb losses in the scenario of a severe downturn in the Norwegian economy and the associated unwinding of financial imbalances. In the stress test, output in the economy declines over a two-year period, registered unemployment more than doubles and remains elevated, while house prices fall by 25%–35% (compared with the 3% to the trough of the recent correction) with rising default rates on both household and commercial loans. Nonetheless, banks' buffers cushion the shock, without the need for sovereign intervention. Even so, in such a situation, Norges Bank concluded that banks may tighten lending significantly, which may easily accentuate an existing downturn.

In Sweden, the most recent stress test[15] showed resilience against economic downturns and falling real estate prices. The tier 1 ratios of key banks remained strong, with Handelsbanken at 18.5%, Nordea 14.1%, SEB 16.6% and Swedbank 22.3%.

Tax reforms to take place in Finland, Norway and Denmark

Finland, Norway and Denmark are set to introduce measures to reduce tax deductions on mortgage interest costs. Although these new taxation systems will reduce imbalances in the long run by raising the cost of home ownership, the dynamics in the housing market in the near term are somewhat moot. Some fluctuations in the housing market may materialise ahead of the implementation of the new system. Buyers may rush into the market to avoid tax increases. Nevertheless, Scope expects the new housing taxation systems to help stabilise housing market dynamics in the longer term.

Sovereign implications

Scope believes Nordic banks are well-placed in the event of negative shocks, minimising sovereign implications

Scope believes that Nordic banks, despite the vulnerability to high household debt levels and contingent risks, are well positioned to handle significant negative shocks, minimising the risk of contingent liabilities. As such, housing price reversals pose mostly indirect risks to the sovereigns, relating to contagion effects from property market weakness on economic and fiscal performance, tying in to debt sustainability. One estimate places the economic effects (from lower growth) of the ongoing housing market correction in Norway at 50 basis points and at 100 basis points in Sweden[16].

Policy challenges remain in all four countries but appear the most pressing in Sweden. Most importantly, the following policy areas need to be addressed: i) the reduction of high tax incentives that drive up housing debt, ii) further measures to ease restrictions on the housing supply side, and iii) the revision of the property tax system.

Scope believes that while there are structural vulnerabilities in the Nordic financial systems, tied to significant increases in housing prices and high debt levels, the risks to the sovereigns are minimised by the strong and resilient banking systems, supported by proactive macro-prudential policies.

[13] https://www.regjeringen.no/en/aktuelt/countercyclical-buffer-unchanged/id2593759/
[14] Norges Bank. (2017) '2017 Financial Stability Report: Vulnerabilities and Risks'.
[15] https://www.fi.se/en/published/news/2016/swedish-banks-show-resilience-in-european-stress-test/
[16] Nordea, Nordic housing hiccups, 24 January 2018

Appendix: Regulatory Measures

Regulation	Country	Level, %
Mortgage risk weights for capital reserves	Denmark	~12
	Finland	>10
	Norway	0.2; 20*
	Sweden	25
Mandatory mortgage amortisation	Denmark	None
	Finland	None
	Norway	LTV>60% : 40 years**
	Sweden	LTV>70% : 50 years
		LTV 50-70% : 100 years
		LTV < 50% : None
		Mortgage > 4.5x income before tax: additional 1% per year
Loan-to-value caps for mortgages	Denmark	95%
	Finland	90%***
	Norway	85%
	Sweden	85%
Variable rate mortgage restrictions	Denmark	If LTV>60%; and mortgage > 4x income before tax: Fixed 5Y interest rate required
	Finland	None
	Norway	None
	Sweden	None
Mortgage restrictions for second home	Denmark	None
	Finland	None
	Norway (Oslo)	LTV<60%
	Sweden	None
Lending caps	Denmark	None
	Finland	None
	Norway	Max. 5x income before tax
	Sweden	None

*Probability of default (PD) floor 0.2% (2015); Loss given default (LGD) floor 20% (2013)

The LTV threshold was decreased from 70% to 60% in Jan 2017 * First time buyers 95%

Source: Financial stability authorities of Denmark, Finland, Norway and Sweden

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