Nordic housing hiccups

Nordea On Your Mind
Nordea Corporate & Investment Banking
24 January 2018

Johan Trocmé
Nordea Markets
Head of Corporate Research
+46 101 56 34 22
johan.trocm@nordea.com

Ellen Benktander
Nordea Markets
Analyst
+46 101 57 28 87
ellen.benktander@nordea.com

Nordea
Housing hiccups by the numbers

NORDIC 3-MONTH VARIABLE MORTGAGE INTEREST RATES

![Graph showing interest rates for Sweden, Norway, Denmark, and Finland from 2010 to 2017.](source: ECB and Macrobond)

SWEDISH RESIDENTIAL HOUSING STARTS

![Graph showing residential housing starts in Sweden, Norway, Finland, and Denmark from 1950 to 2017.](source: Statistics Sweden, Swedish Construction Industry Federation and Nordea)

NORDIC AVERAGE HOUSE PRICES INDEXED TO 2005 = 100

![Graph showing average house prices in Sweden, Norway, Finland, and Denmark from 2005 to 2017.](source: Macrobond)

APARTMENT PRICES, OSLO, INDEXED TO 2013 = 100

![Graph showing apartment prices in Oslo from 2013 to 2017.](source: Macrobond)

APARTMENT PRICES, STOCKHOLM, INDEXED TO 2013 = 100

![Graph showing apartment prices in Stockholm from 2013 to 2017.](source: Husmasken)

SWE: SHARE OF HOME BUYERS EXPECTING PRICE INCREASE

![Graph showing the share of home buyers expecting price increase in Sweden from 2010 to 2017.](source: EOBi)

SWE: INTEREST RATE USED IN MORTGAGE CALCULATION

![Graph showing interest rates used in mortgage calculation in Sweden from April 11 to November 17, 2017.](source: EOBi)
Housing revisited: Soft landing, dull outlook

Hiccups in Norway and Sweden, business as usual in Denmark and Finland
In the March 2017 Nordea On Your Mind (Nordic housing bubble?), we reviewed Nordic housing markets and concluded that house prices were high, but for good reason, underpinned by growth in disposable income and low interest rates. Since then, Denmark and Finland have largely stayed on trend, showing fairly stable housing markets. Norway and Sweden have seen sharp house price corrections from lofty peak price levels in 2017.

Correction driven by supply and affordability issues
Apartment prices in capitals Oslo and Stockholm are down some 12% and 15%, respectively, to date from the peaks. Demand for housing is still there, with strong employment and continued low interest rates. But Sweden and Norway have seen absolute prices rise to levels where marginal buyers have problems with affordability, while at the same time new supply (boosted by the previous price rally) is coming into the market. New mortgage lending regulations had a major negative impact in Norway, as disposable income multiples and minimum equity ratios were harder to meet given such high house prices. In Sweden, new mandatory mortgage amortisation rules will come into effect in March, in the midst of a market downturn.

Our view: Slight further downside, levelling out in H1, more stable in 2019
We at Nordea Markets expect Norwegian and Swedish residential property prices to fall another 1-3% before stabilising in H1 2018, with a more flat outlook during 2019. The pent-up supply in the secondary market owing to uncertainty and hesitation, as well as the supply from newbuilding, needs to be cleared, after which demand should again be fully anchored by disposable incomes and low funding costs. The greatest risk remains any form of interest rate shock, which would hurt housing markets along with the economy in general.

Housing headache hurts the economy
The Nordea Markets view is that the wobbly housing markets will have a tangible negative impact on GDP growth in Norway and Sweden, taking into account effects on both private consumption and residential construction output. Norway is on a different growth trajectory, from a lower starting point and recovering from the oil price crash in 2014, thus less vulnerable to housing headwinds. Sweden has, after many years of strong growth, become more dependent on continued low interest rates for its economic output.

What the experts have to say
In addition to an introduction from Nordea Global Co-Head of Corporate & Investment Banking Mathias Leijon, we interview Daniel Kjærberg Siraj, CEO of Norwegian home developer OBOS, Erik Olsson and Johan Nordenfeldt from Swedish leading estate agent Erik Olsson Fastighetsförmedling, Michael Skytt, CEO of Nordea Hypotek (our Swedish mortgage lending business), and our macroeconomists Erik Bruce and Torbjörn Isaksson.
Introduction: Going from 20 to 400 housing developers in Stockholm is unsustainable

Mathias Leijon, Global Co-Head of Corporate & Investment Banking, shares his thoughts on the Nordic housing markets, what to make of the correction in Norway and Sweden since last year, and who might be vulnerable while it plays out.

JT: We have had a long bull run for Nordic housing markets, but this autumn we have seen house prices starting to wobble in Norway and Sweden, creating a lot of scary media headlines. Do you have any concerns of a potential housing bubble, or a painful correction ahead?

ML: I remember reading in Michael Lewis’ Liar’s Poker at the end of the 1980s about how unsustainable the household debt level was in the US. He was eventually proven right, but it took almost 20 years from when the book was released until the subprime mortgage market collapsed and triggered the global financial crisis in 2008. Until then household debt levels just kept rising.

An observation from this is that when you are in a period where certain assets, such as real estate, seem to show price increases beyond what is justified based on underlying fundamentals, it is difficult to predict what kind of catalyst that will change this pattern, and when this might happen. Right now there are many smart individuals who have been bearish on Nordic housing and real estate markets for a long period of time. It would be very easy to fall into their camp, but I am not really sure it is the right call to make. Of course there will be corrections in housing markets. There always have been, and something like a 20% fall in values from lofty absolute peaks in Sweden and Norway – and how shaken the respective economies would be from such a correction – shouldn’t be exaggerated. To call a likely crash from these levels would seem to me like an overly dramatic prediction.

Historically, Sweden and Finland had sharp housing market downturns in the early 1990s, Denmark had its local housing market crisis around 2005-10, while Norway has not suffered any crash in the past 50 years – only a slight dip in 2008-10. Finland’s housing market is now seeing some recovery after several sluggish years with weak economic growth, and Denmark is continuing to recover from its home grown housing downturn which saw its low point some 10 years ago. Sweden and Norway have seen by far the steepest house price increases in the Nordic region since the end of the global financial crisis 10 years ago, and are now the two countries having seen housing prices take a plunge.
JT: Does this mean there is or has been a house price bubble in Sweden or Norway?

ML: Not necessarily. New regulations on mortgage lending have made the marginal buyers more cautious, in an environment where more new supply of housing is becoming available. Home prices in central Stockholm and Oslo have corrected 10-20% from last year’s all-time-highs to so far still high levels. A central bank study shows that another 5% fall in Swedish house prices from November 2017 levels would take the house price relative to household disposable income level back to the 45-year average, after having peaked about 25% above it.

JT: Would you see any obvious risks or challenges from a housing market correction for landlords, home developers, construction companies or mortgage lenders?

ML: There could be an economic fallout in Norway and Sweden from lower house prices dampening consumer confidence and housing construction, as our economists describe later in this report. But I would point to such an impact being much less important than global growth indicators, which if they stay as strong as they are today should allow healthy Nordic economic growth. The downturn in Denmark was amplified because it coincided with a global recession. This was also the case in Sweden in early 1990s. Don’t forget also how much stronger Nordic banks’ balance sheets and liquidity positions are today than just a few years ago, and that Nordic banks have had quite stringent mortgage lending standards – based on cash flow analysis of borrowers – for a decade.

---

**SWEDISH RESIDENTIAL HOUSING STARTS**

```
Source: Statistics Sweden, Swedish Construction Industry Federation and Nordea Markets

Regarding residential property developers, it is unsustainable in the long term when the number of players goes from less than 20 to around 400 in the Stockholm region alone today. There has been a lot of easy money to be made in the sector, and I would guess that we will now see some stronger developers and commercial real estate companies grasping opportunities to consolidate the sector. Some weaker developers might have to close down or get taken over if this correction period continues for some time, given that they have more or less built their business model on ever increasing values.
```
Interview: Sweden more vulnerable to housing fallout than Norway

We interview Erik Bruce and Torbjörn Isaksson, both Chief Analysts and macroeconomists at Nordea Markets, on the key triggers for the housing market corrections seen in Sweden and Norway last year, how much they could affect GDP growth and what we could expect from the housing markets going forward.

JT: Since we wrote our previous Nordic housing report (The March 2017 Nordea On Your Mind), housing markets in Denmark and Finland have largely stayed on trend, while Sweden and Norway have seen corrections. What do you think have been the key triggers in Sweden and Norway, respectively?

EB: In Oslo, house prices have increased very rapidly in the past few years. I think the key trigger for the correction was the new regulation introduced at the start of 2017, which requires mortgage borrowers to invest 40% equity when buying a second home in Oslo. It has a lending cap meaning that you are not allowed to borrow more than 5x your income before tax. This new regulation hit the Oslo market relatively hard because of the significant element of speculative buyers investing in properties.

TI: In Sweden it has more been an effect of an upsurge in housing starts driving up supply, and when supply increases there is a dampening effect on prices. Our view is that new housing has been built in line with population growth, and recent developments support this view.

On the demand side, the new mandatory mortgage amortisation regulations implemented in 2016 may be one factor slightly dampening demand. But the most important underlying driver for demand, the interest rate, is still extremely low. As long as the financing cost for housing is low and stable, we think this will work as an airbag for the correction. Low mortgage interest rates are the most important reason why we expect Swedish house prices will stabilise in 2018.

JT: How important is the housing sector for the economy in Sweden and Norway? Are we allowing for any slowing housing construction or weakened consumer confidence from lower house prices in our current GDP forecasts? How much could GDP be affected? What do you think is built into current consensus forecasts?

EB: For Norway we have the same view as for Sweden: that housing prices will soon start to stabilise and level out. If they were to fall, say, 10-15% from here, we would see a serious negative macro effect, but we deem this to be very unlikely because fundamentals are still very good. I think for Norway, the housing sector’s effect on consumption will be relatively small, as a majority of home owners still have very solid gains on the value of their homes. Hence we predict that this correction will not affect consumer confidence significantly.

Housing construction has increased a lot in Norway in recent years, and today home building represents 7% of Norwegian GDP. We expect construction to decline going forward due to weaker demand, and that this will have a negative effect on GDP growth of around 0.5 percentage points in 2019.
We predict GDP growth to be reduced by around 0.5 pp in Norway and 0.5-1 pp in Sweden. Households have been resilient so far, but we are also more concerned about consumer confidence in Sweden, and we think growth in consumption will slow as rising house prices have boosted consumption in recent years. I would predict that especially big ticket spending, like cars, will experience slower growth or even decrease slightly going forward.

Household consumption has been resilient so far, but we are also more concerned about consumer confidence in Sweden, and we think growth in consumption will slow as rising house prices have boosted consumption in recent years. I would predict that especially big ticket spending, like cars, will experience slower growth or even decrease slightly going forward.

Swedish households find themselves in a different situation now compared to the previous years, which creates uncertainty. I believe that we will have consumption growth going forward, but that it will be more subdued.

For Sweden, I estimate the direct negative effect on GDP growth from this decrease in construction and consumption growth to between 0.5 pp and 1 pp.

JT: Are the macroeconomic vulnerabilities to a housing market correction in Sweden and Norway different, from the countries being in different phases of an economic cycle? More compensating drivers for further economic recovery from a subdued level in Norway, versus a more broad-based all-time high with mostly downside in Sweden?

EB: Norway comes from a period of low consumption growth and increasing unemployment rates due to the oil price crash a few years ago. This effect was especially seen in the west, where the offshore sector is based, affecting roughly 30% of the population. However, when the oil price stabilised around USD 60-70 per barrel, it led to an upswing in the industrial and offshore sectors. Investments and employment rates started to increase, and Norway headed towards a better economic outlook. I think this is important for the general sentiment in the country.

The only negative signal in the Norwegian economy at the moment is the fall in house prices, but we don’t think this correction will be enough to change the country’s positive outlook.

JT: I think this is the most important question from a Swedish perspective. We predict that house prices will stabilise in the short term. But years of constantly increasing house prices have created a rather vulnerable economy. When interest rates rise, or when we are exposed to an external shock, it could have rather a severe impact on Swedish economic growth. Potentially, we could have a worse economic development compared to our trade partners.

Exports are rising, but it is harder to find positive drivers for economic growth in the Swedish economy compared to Norway. With declining housing prices we risk ending up in a troubled economic environment. Also, it will be a challenge for the Swedish economy when interest rates eventually rise.

JT: Do you see any signs of concern over housing markets in the Norwegian or Swedish bond or foreign exchange markets?

EB: We have not noticed any concerns in the Norwegian or Swedish bond markets. The housing market corrections have not affected expectations on interest rates to any significant extent, and Norwegian and Swedish banks have not experienced an increase in funding costs in the market.

However, looking at the FX market, we would have expected a stronger NOK because of a lower unemployment rate and higher oil prices, but instead we have had a depreciation in the NOK. This is viewed as a sign of concern about increased risk in the housing market. Similar patterns are evident in Sweden where the SEK has depreciated, and also in Canada which has had a similar journey in its housing market.
JT: What outlook do we see for the Norwegian and Swedish housing markets in the next few years? Will the correction get worse, level out or recover to buoyant levels again?

EB: I think house prices will fall a bit more in Norway, but no more than a few percentage points. There are at the moment a lot of homes for sale, and there will also be an increased supply from housing construction hitting the market. However, there is still a positive development for fundamentals, with rising employment, low interest rates and a willingness among banks to give credit to households. We can say with confidence that any tightening of mortgage lending regulations will not be introduced in the foreseeable future. Potentially we could even expect the specific regulation for second homes in Oslo to be dropped.

Going forward we predict prices to level out in the first half of 2018, and in a more long-term perspective see a very modest increase, probably in line with CPI.

TI: For Sweden we have the same prediction in the short run, for house prices to level out in the first half of 2018, and we see no driver for any marked downturn in 2018. But in a medium-term perspective, there is a high level of uncertainty. It is hard to find drivers for further continuous increases in prices, and it is unlikely that we will see a recovery to the historically high house prices we had previously.

Because we have had such an expansive monetary policy in an economy with high resource utilisation and rising debt, even relatively small changes in the interest rate could potentially have a great impact on economic growth in Sweden. One major difference between the countries is that Norges Bank is solely responsible for financial stability in Norway, while in Sweden the responsibility is divided between the central bank and the Swedish Financial Supervisory Authority.
Our view: Soft landing, dull outlook

Our view, coming from Nordea Market Research, is that the correction in the housing markets in Norway and Sweden that started in 2017 should level out after slight further downside for prices in H1 2018, with a fairly stable market development in 2019. We estimate that the housing correction will shave off roughly 0.5 pp from GDP growth in Norway and 1 pp in Sweden. Some form of interest rate shock remains the greatest risk going forward.

Nordic housing markets now versus a year ago

In late March last year, we released a Nordea On Your Mind titled "Nordic housing bubble?". The question mark in that title was deliberate. We did not conclude at the time that there was a housing market bubble in the Nordic region or in any of the four Nordic countries.

Our conclusions from the March Nordea On Your Mind can be quickly summarised as follows:

1. Nordic house prices were generally high, but for good reason, with powerful drivers such as record-low mortgage interest rates, growing disposable incomes, limited newbuilding and migration-boosted population growth.
2. The greatest risk factor for housing markets should be any interest rate shock, ie interest rates rising sharply and suddenly, and not in response to strong economic growth and associated inflation.
3. Among listed companies, the most vulnerable to any housing market correction would be the home builders and suppliers to residential construction; we did not see major risks among the real estate companies or the Nordic banks, as judging from historical corrections and crises they should not see huge problems with vacancies or mortgage credit losses.

Danish and Finnish housing has stayed on trend, but Norway and Sweden have seen house price falls of 12% and 15%, respectively

That all felt good, and life went on. At least in Denmark and Finland, where housing markets plodded along, more or less staying on trend, not showing any drama. But in Sweden and Norway, things turned for the worse. In Norway, Oslo apartment prices started sliding, driven in part by tighter mortgage lending regulations kicking in at the start of 2017, leading to a decline to date of ~12% from the 2016 peak. In Sweden, the market stayed strong until the autumn when a correction suddenly hit Stockholm, with a negative media frenzy further fuelling a price plunge for apartments of ~15% to date.

Source: Macrobond

So what happened?

Noting a massive spike in interest, including soaring downloads of our Nordic housing report from March from the Nordea Markets website, we decided to revisit the topic and take another look at the housing sector. We quickly noted there had been no major change of trend in the Finnish or Danish housing markets. This makes sense from the point of view that Norway and Sweden had seen house price spikes far...
beyond Finland and Denmark in the past ten years. Looking at national average house prices, Norway and Sweden more than doubled since 2005, compared with Denmark and Finland being up ~30%.

**NORDIC HOUSE PRICES, INDEXED = 2005**

---

**Denmark had its own housing crisis ten years ago, now still in recovery**

Denmark suffered its own housing market correction some ten years ago, starting before and then being amplified by the global financial crisis breaking out after the Lehman Brothers collapse in 2008. Danish house prices had previously surged in part from the introduction of variable interest amortisation-free mortgages.

**Finnish housing has been held back by its struggling economy**

Finland has enjoyed record-low interest rates just like its neighbours, but this has been offset by its economy plunging into deep recession during the global financial crisis and remaining quite depressed – with negative GDP growth – until a year or so ago. The net of low rates and a weak economy with contracting GDP and high unemployment made for a stable rather than soaring housing market.

**Norway and Sweden saw house prices in Oslo and Stockholm rise ~40% in the past two years alone**

Norway and Sweden did not come out of the global financial crisis with these kinds of “home-grown problems” in their housing markets, and instead entered some form of Goldilocks scenario. House prices surged, from a cocktail of almost only favourable variables including strong employment and disposable income growth, years of limited supply of new housing, migration-driven population growth, and – of course – low interest rates becoming ultra-low interest rates. National average house prices surged 15-20% in Norway and Sweden in just the past couple of years, and more than twice that in their capitals.

**Housing markets hit by new mortgage lending regulations in January 2017 (Norway) and March 2018 (Sweden)**

And then the party ended. In Norway, new mortgage lending regulations in 2017 requiring a minimum of 40% equity to allow mortgages for second homes and a new mortgage lending cap of 5x household disposable income had a strong braking effect on the market. In Sweden, the mandatory mortgage amortisation regulations introduced in 2016 were followed by proposed additional mandatory amortisation of 1% of the mortgage loan per annum for mortgages in excess of 5x disposable income, the new requirements coming into force in March 2018. The authorities and governments have been keen to manage risks to the economy from a bloated housing sector, seeking to cool housing markets down in an orderly manner. Time will tell how successful and accurate the regulations prove to be, but there is general agreement that they have played a critical part in bucking the buoyant house price trends in Norway and Sweden.
### HOUSING MARKET REGULATIONS, NORDIC COUNTRIES (NEW REGULATIONS IN RED)

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Applies to</th>
<th>Country</th>
<th>Level, %</th>
<th>Introduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortgage risk weights for capital reserves</td>
<td>Banks</td>
<td>Sweden</td>
<td>25</td>
<td>2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Norway</td>
<td>0.2; 20*</td>
<td>2015;2013</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Finland</td>
<td>&gt;10; 12</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Norway</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Finland</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Denmark</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Mandatory mortgage amortisation

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Applies to</th>
<th>Country</th>
<th>Level, %</th>
<th>Introduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortgage borrowers</td>
<td></td>
<td>Sweden</td>
<td>LTV&gt;70% : 50 years</td>
<td>2016</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Norway</td>
<td>LTV 50-70% : 100 years</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Finland</td>
<td>LTV &lt; 50% : None</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Norway</td>
<td>Mortgage &gt; 4.5x income before tax: additional 1% per year</td>
<td>2018</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Norway</td>
<td></td>
<td>2015</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Finland</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Denmark</td>
<td></td>
<td>None</td>
</tr>
</tbody>
</table>

#### Loan-to-value caps for mortgages

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Applies to</th>
<th>Country</th>
<th>Level, %</th>
<th>Introduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortgage borrowers</td>
<td></td>
<td>Sweden</td>
<td>85%</td>
<td>2010</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Norway</td>
<td>85%</td>
<td>2015</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Finland</td>
<td>90%***</td>
<td>2016</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Denmark</td>
<td>95%</td>
<td>2015</td>
</tr>
</tbody>
</table>

#### Variable rate mortgage restrictions

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Applies to</th>
<th>Country</th>
<th>Level, %</th>
<th>Introduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortgage borrowers</td>
<td></td>
<td>Denmark</td>
<td>If LTV&gt;60% and mortgage &gt; 4x income before tax: Fixed 5Y interest rate required</td>
<td>2018</td>
</tr>
</tbody>
</table>

#### Mortgage restrictions for second home

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Applies to</th>
<th>Country</th>
<th>Level, %</th>
<th>Introduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortgage borrowers</td>
<td></td>
<td>Norway (Oslo only)</td>
<td>LTV&lt;40%</td>
<td>2017</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Finland</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Denmark</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Applies to</th>
<th>Country</th>
<th>Level, %</th>
<th>Introduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortgage borrowers</td>
<td></td>
<td>Sweden</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

#### Lending caps

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Applies to</th>
<th>Country</th>
<th>Level, %</th>
<th>Introduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortgage borrowers</td>
<td></td>
<td>Norway</td>
<td>Max. 4.5x income before tax</td>
<td>2017</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Finland</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Denmark</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

*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: FSA in each country

Population growth has slowed

So if it was not just new mortgage lending regulations that reversed the house price rallies in Norway and Sweden, what else caused prices to fall? Has demand disappeared? Generally speaking, no; demand is still there. Households are by and large employed, have fairly intact spending capacity, and do not have materially higher mortgage interest expenses. There is still population growth in Norway and Sweden, but much less than during the labour migration to Norway in 2007-14 and the refugee-driven surge in 2014-16, which ended after the EU imposed stricter asylum rules and tighter border controls in 2015. Households are, however, less confident about their level of wealth and the value of their homes, and could thus become more reluctant to spend on big-ticket items.

### NORDIC THREE-MONTH VARIABLE MORTGAGE INTEREST RATES

Source: ECB and Macrobond
Homes became too expensive for first-time buyers

To blame for falling house prices: Absolute price levels and supply

So in a way, the absolute house price levels – how much it actually costs to buy a home – have risen so high in Norway and Sweden that they started causing a demand problem. Affordability became an issue. For households that already own a home and may have accumulated a profit (a latent capital gain) from the rise in property values, rising prices may not be much of a problem. But particularly for first-time buyers, youths living with their parents, or those who have rented accommodation and are looking to buy, a sky-high starting level for house prices creates a massive obstacle to taking that first step onto the property ladder.

High absolute home prices exacerbated negative impact from new lending regulations

Even if first-time buyers do not represent a big share of total demand for housing, they are important marginal home buyers. When prices are so high that they have difficulty scraping together enough money for a deposit necessary to qualify for a mortgage, or to pass the mortgage lender’s screening for ability to carry the mortgage, they are effectively excluded from the market. We believe this has been a factor in breaking the booming house price trend in Norway and Sweden. Many marginal buyers of homes have reached the limit of their ability to pay for the apartments and houses on offer in the market. And this has made them even more vulnerable to facing actual constraints from new lending regulations relating to minimum equity for second homes, or maximum mortgage as a multiple of disposable income. When house prices rise much faster than incomes, the caps become more significant constraints for more potential buyers.

NEW HOUSING STARTS, NORDIC COUNTRIES

And then there is the issue of supply. The ultra-low interest rate environment and associated soaring house prices in Norway and Sweden have caught the attention of residential property developers, which put more resources into newbuilding of homes. The big established players have raised ambitions and new players have entered the market (particularly in the big cities), some of them with a more financial than industrial profile or background. Municipalities have generally welcomed new players in land tenders, wanting competition, and benefiting from strong demand for land and development rights that can be sold at very attractive prices in a market with many bidders.
New homes are a small share of the total market, but the share is at a 20-year high in Sweden. As an illustration of the impact from residential newbuilding in Sweden, we show the total annual supply of housing since 2001 in the graph above. It is evident how the vast majority of homes changing hands are turned over in the secondary market, and that this turnover is reasonably stable. While newbuilding is a small share of total housing turnover, it has grown in 2014-16 and is forecast to grow to a 20-year high share in 2017-19E, as the current development pipeline gets completed.

New supply of homes needs to be absorbed by lowered prices, postponed development of land and conversions to rental. Part of the process for house prices to stabilise and eventually recover in Norway and Sweden will be for newbuild homes to be absorbed in the market. Some painful adjustments may be needed by developers, where the new supply is of premium apartments that may not be affordable for home buyers at the originally planned prices. Developers can respond by lowering sales prices, postponing development of acquired land in anticipation of a future price recovery (if they have sufficiently strong balance sheets allowing them to carry the land assets for longer without generating returns), or converting planned co-op owner-occupied housing into rental apartments. We would expect to see a mix of all three options used to absorb new supply in the next few years.

Taxes – Not a major factor so far
Since the March issue of Nordea On Your Mind there have not been any major tax reforms relating to residential property in the Nordic countries. Tax regulations can have a big impact on property markets, but in our view were not a significant driver behind the housing market corrections in Norway or Sweden last year.

### CAPITAL GAINS TAXATION OF OWN RESIDENCE, NORDIC COUNTRIES 2017

<table>
<thead>
<tr>
<th>Country</th>
<th>Level</th>
<th>Tax exempt criteria</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweden</td>
<td>22%</td>
<td>No tax exemption. But if you have lived in the residence for less than one year you are not able to make a deferral</td>
<td>A deferral of the tax payment may be made if you buy a new residence but you need to pay interest (0.5%) on the deferred amount.</td>
</tr>
<tr>
<td>Finland</td>
<td>30% if capital gain ≤ 30 000€ 34% if capital gain &gt;30 000€</td>
<td>1) Has to be your main residence for more than 2 years 2) Total of capital gain is less than 1000€</td>
<td></td>
</tr>
<tr>
<td>Norway</td>
<td>Max 24%, taxed as capital income</td>
<td>Has to be your main residence for more than 2 years</td>
<td></td>
</tr>
<tr>
<td>Denmark</td>
<td>No capital income taxes</td>
<td>Has to be your main residence</td>
<td></td>
</tr>
</tbody>
</table>

Source: FSA in each country
Sweden is the only country in the Nordic region that taxes capital gains on primary residential property. This can create obstacles to “trading down” or changing from house to apartment, particularly for home owners who bought at low historical levels and hence face tax on very large latent capital gains. They face major cash outflows from paying the tax when moving to a new home and often prefer to stay put for longer to avoid realising the capital gain and the associated tax charge. But this has a limiting effect on supply (which is supportive for housing prices), and has not seen any change in the past ten years.

The other relevant tax issue is deductibility of mortgage interest expenses against taxed income. Again, there have been no proposed changes to these rules since our last housing report in March 2017.

Any reduction of tax deductibility of mortgage interest could be a risk in Sweden, but there is no current proposal.

The impact on households’ cash flow from this tax subsidy of mortgage borrowing is not huge, and it has fallen further as interest rates kept falling to ever lower levels. Finland continues to pursue an almost total phase-out of its interest tax subsidy, and Norway is also implementing a more limited reduction. In Sweden, there is a concern regarding potential future political initiatives to reduce or eliminate the mortgage interest tax breaks. Visibility into what may happen is poor, however, as there is no broad parliamentary unity on if or how any reforms should be implemented. There is a widespread political desire to curb booming housing markets (which are less booming today than six months ago), but great anxiety about alienating important voter groups who could experience a significant negative impact from any reforms.

Nordea Markets Research expects house prices to fall slightly further in Norway and Sweden, level out and stabilise in H1 2018.

Nordea Markets and Nordea Corporate & Investment Banking

The Nordea view: Soft landing, but no return to 2016 heyday

So what do we expect from the Norwegian and Swedish housing markets going forward? Our view is articulated by Nordea Market Research (as described in our interview with Eric Bruce and Torbjörn Isaksson in this report), and can be summarised as:

- **Norway**: Slight (~1%) further downside for national average prices, which should level out in H1 2018, then recover very modestly (roughly in line with inflation) in the next few years
- **Sweden**: Slight (~1-3%) further downside for national average prices, levelling out in H1 2018, to stay roughly flat in the next few years. The medium-term outlook is quite uncertain, with risks tilted to the downside.

In Norway, the market needs to absorb excess supply, including that coming to the market from the current residential development pipeline. But fundamentals remain healthy, with rising employment, continued low interest rates and mortgage lenders willing to extend credit. Also, there is good visibility that Norwegian mortgage lending regulations will not be tightened and, if anything, will be eased somewhat.
In Sweden, excess supply also needs to be absorbed, but there is a lack of clear and strong drivers for further house price increases, with most key variables being in “as good as it gets” territory. Norway’s economy had a setback after the oil price crash in 2014 and is today still recovering from a more subdued level. Sweden has seen many years of strong growth and is now more sensitive to (and dependent upon) continued low interest rates. The Swedish general economy would be more vulnerable than Norway’s to any interest rate surge, which would affect the Swedish housing market directly and indirectly (through lower economic activity).

We estimate that housing corrections “cost” ~0.5% of GDP in Norway and ~1% of GDP in Sweden.

Housing corrections chill the Norwegian and Swedish economies

It is difficult to estimate how much the state of the housing market affects the economy, as the impact comes on many levels. House prices influence households’ perceived wealth and hence consumer confidence, which in turn impacts private consumption. Construction output is another key component of GDP, even more so if renovation and refurbishment of residential properties is included. Taking all influence from the housing market into account, Nordea Markets Research (see our interview with Erik and Torbjörn) estimates the impact on economic growth from the housing corrections in Norway and Sweden as follows:

- **Norway**: Roughly -0.5 pp from GDP growth
- **Sweden**: Roughly -1 pp from GDP growth.

Comparing with actual 2016 levels of GDP growth for Norway of 1% and Sweden of 3%, this means we expect housing corrections to take away half of Norwegian growth and one-third of Swedish growth.

We believe recent NOK and SEK weakness indicates FX markets are pricing in some housing-related risks to the Norwegian and Swedish economies.

We have so far not seen signs in Swedish or Norwegian bond markets of concerns over the outlook for housing markets, and we have not seen any such concerns influence funding costs for Nordic banks. We have, however, seen recent weakness in SEK and NOK exchange rates against USD and EUR, which we believe at least partly indicates some investor concerns with local housing markets. In our view, neither the fundamentals of the economies as such, nor current or projected policy rate spreads versus the ECB or the Fed justify this exchange rate weakness. This suggests FX markets are pricing in some risk of housing market-related challenges in Norway and Sweden.

**NORDIC HOUSE PRICES, INDEXED = 1970**

Source: OECD and Nordea Markets
Interview: Sweden could take longer to bottom out than Norway

We interview Daniel Kjørberg Siraj, CEO of Norwegian co-operative residential property developer OBOS, a top three Nordic player with more than 415,000 members and over 215,000 homes and apartments under management, on what has driven the housing market corrections in Norway and Sweden, what impact they have had, and when they could end.

JT: What has driven the correction in the Norwegian residential property market in 2017?

DKS: There have been multiple drivers. The tighter mortgage lending regulations that took effect at the start of 2017 have definitely had a notable impact. The raised requirement for minimum 40% equity when financing a second home has hit the buy-to-let market quite hard, and unlike in the other Nordic countries this is a significant segment of the Norwegian housing market. In addition, the new mortgage lending cap of 5x disposable income has also become a much more obvious and significant demand constraint after house prices rose 40% over two years in Oslo. It is easy to overlook high absolute price levels as a driver for a correction, but many more buyers hit that income multiple ceiling in 2017 compared with the number who would have if it had existed in 2014-15. And population growth has slowed after the labour-driven immigration, especially in 2007-14.

The result has been that the product – homes – has become too expensive, and buyers are deciding to stay put for longer, or are considering cheaper alternatives in less central locations. The slowing activity has led to an accumulating supply of homes, and this excess supply has put downward pressure on prices. According to official statistics, Norwegian residential property prices are down nearly 7% from the peak, and nearly 12% in Oslo, but our own statistics indicate the fall in Oslo is even higher, at about 14%.

JT: How has the housing market correction affected different segments? Oslo versus the regions? Houses versus apartments? Newbuilding versus existing homes?

The housing market correction has affected various Norwegian regions differently

DKS: In the west, Stavanger has suffered from the oil price collapse a few years ago, which drove house prices down 13%, and prices on new production perhaps even as far as 20%. Prices have levelled out there but have not yet started to recover. This has spread to the other major cities, like Bergen and Trondheim, which saw price declines in 2017. But areas outside Oslo, like Hamar, Fredrikstad and Moss, which have benefited from improved communications, saw prices rise last year.

Apartment prices have led the decline, house prices are up

Apartment prices are down, while house prices have increased. I think this pattern will remain a longer-term trend, as policymakers are more restrictive in terms of building rights for individual houses and are trying to encourage multi-home dwellings near railbound public transport.
Rented accommodation is considered normal in Sweden but is typically viewed as temporary in Norway

Norway has a significant buy-to-let sector; Sweden does not

Buy-to-let sector gives the Norwegian economy greater exposure to housing

Existence of owner-occupied apartments makes the Norwegian housing market slightly less exposed to any funding pullback

JT: What differences do you see between the housing markets in Norway and Sweden?

DKS: I think one cultural difference is that it is considered perfectly normal and acceptable to be a tenant in Sweden, through all stages of your life. In Norway, there is more of a universal aspiration to own your home. If you are over 40 years of age and you are renting your home, you might be concerned that people will wonder what is wrong with you. Rented accommodation is typically only a temporary solution, if you are a student, getting divorced, or otherwise in between permanent homes. 80% of Norwegians own their home.

Another difference which makes the Norwegian housing market a bit more dynamic than the Swedish one is that there is an additional form of home ownership. In Sweden, we have tenants who rent apartments from landlords and co-operatives, in which each member or shareholder has the right to occupy one unit in the building owned by the association. But in Norway, we also have owner-occupied apartments which are owned individually. This gives greater representation of private property owners in the Norwegian market. It also helps create a more evenly spread residential development, as opposed to the approach more common in Sweden of a municipal property developer establishing a whole area of new rental housing, with a neighbouring area of only premium apartments by a private developer.

The flipside of having a significant private landlord property owner segment in Norway is higher exposure to the housing market in the economy. These private landlords typically get a yield (in the form of rental income) on their properties which is not great but better than interest on a bank deposit. But they typically see potential value creation from property prices going up. They have been used to seeing this, and have thus come to expect it over the years. You could call this a speculative element in the housing market, which has contributed to driving up house prices in the major cities.

This means there is also a difference in the funding of residential development between Norway and Sweden. For owner-occupied apartments, which represent the clear majority of newbuilding in Norway, the owners each get their own mortgage funding. For co-ops, one or a couple of banks typically provide the critical anchor funding for the association, ie for the whole project. As banks are risk-averse, they can in uncertain times choose to pull back from mortgage funding and put more stringent demands on new residential developments. This can delay or kill major projects, but it
may not hinder Norwegian projects, where a number of different individual owners can each still secure funding for their ownership in a project on their own merits. Putting it differently, the more varied property ownership in Norway arguably makes residential newbuilding less exposed to cancellation or delay from funding being pulled.

NORDIC RESIDENTIAL PROPERTY DEVELOPERS RANKED BY HOMES SOLD, Q2 2017

<table>
<thead>
<tr>
<th>Developer</th>
<th>Homes Sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skanska</td>
<td>2,154</td>
</tr>
<tr>
<td>OBOS</td>
<td>1,955</td>
</tr>
<tr>
<td>JM</td>
<td>1,735</td>
</tr>
<tr>
<td>YIT</td>
<td>1,615</td>
</tr>
<tr>
<td>Peab</td>
<td>1,184</td>
</tr>
<tr>
<td>Bonava</td>
<td>941</td>
</tr>
<tr>
<td>Veidekke</td>
<td>650</td>
</tr>
<tr>
<td>Selvaag</td>
<td>355</td>
</tr>
</tbody>
</table>

Source: OBOS, company data

JT: In your experience, how much of an impact do regulations have on the housing market? What types of regulatory changes have the most impact? Lending caps (LTV or household income)? Minimum equity requirements? Tax deductibility of mortgage interest costs? Mandatory amortisation? Capital gains tax on property?

DKS: The biggest impact comes from how the granting of development rights is regulated. More easily available land means more potential supply of new housing. This is what we have seen in Swedish municipalities which have been successful in resolving red tape for building permits; in today's market, this has arguably created a local excess supply of new residential property. It is important for the long-term stability of the market to have sensible and robust rules for awarding development rights.

The other type of regulation, restrictions on mortgage borrowing, can have a more immediate and drastic impact, particularly a psychological impact on market sentiment and demand. This can be dangerous when new regulation is not thoroughly evaluated or tested. I find it somewhat difficult to understand the desire of Swedish regulators to push ahead with new lending regulations right in the midst of a steep market decline.

JT: Do you view OBOS’s development portfolio any differently after the housing market correction during the autumn? Do you see any project risks, or opportunities to strengthen your market position in an environment where weaker players are under pressure?

DKS: Yes and no. We have land and building rights in our portfolio, which were acquired with the aim of completing projects generating a 12% margin. In a booming housing market, we have got used to closing projects with margins above 20%. We may now revert back to more normal levels, and should and will, of course, close projects with 12% margins. If we are unable to reach projected sales prices for our newly built homes, we will have to reduce our cost base.

We are continuing to acquire land for development in attractive urban areas in Norway, where we have our key competences and a strong execution track record. In Sweden, I expect that we will be a bit more cautious in the weaker market environment, focusing on our house building activities and using the hiatus in major residential development to build up our organisation and position ourselves for a more normalised market going forward. Our starting exposure in Swedish major urban development is marginal. OBOS has chosen a business model with diversified market...
and project risk in the Swedish market. We build single family homes, small and large projects both in the countryside and in cities. In 2017 we delivered homes in 161 of 290 Swedish municipalities!

JT: What outlook do you see for the Norwegian and Swedish residential property markets? Could we see a bigger correction, will they level out, or could we see a recovery?

Norwegian house prices should bottom out and see a gradual recovery by the summer

DKS: My guess is that Norway will see a gradual recovery towards the summer. By then, house prices will have fallen for more than 12 consecutive months, which would put the correction on a par with the dip we saw during the global financial crisis in 2008-09. The current correction is already worse than the smaller dips of 2013-14 and 2001-02. With continued low interest rates and strong employment, it is hard to see the correction lasting beyond the summer.

Sweden could take longer to see a housing market recovery, as new lending regulations are being introduced in the midst of a downturn

I think the Swedish outlook is a bit more uncertain, given that new lending regulations are being introduced (effective from March) in the midst of a market slump. And Sweden could be somewhat more vulnerable from not having a similar amortisation culture for mortgages as its Nordic neighbours. Homeowners will have to get used to amortising their mortgages. We hear anecdotally from Swedish colleagues that they may be disappointed to get “only” 80-year amortisation for a housing co-op. In Norway, a healthy co-op will be lucky to get 40 years. A typical comparison would be a Norwegian co-op with 40% equity amortising debt over 40 years, while a Swedish co-op with 60% equity would amortise over 80-100 years. I think it has partly to do with the Swedish appetite for rental accommodation: people are used to thinking in terms of monthly costs. There is a desire to limit monthly costs, or cash outflow.

It is hard to tell, but my gut feeling is that it might take a bit longer for house prices to bottom and level out in Sweden.

JT: What do you think would be required to trigger a deep housing recession, like in the local bank crisis in the early 1990s?

DKS: That would be additional new regulation to curb lending, aimed more directly at the banks than at borrowers. Any sharp tightening of capital reserve requirements for mortgage lending, in effect a regulation-driven funding squeeze in the housing market, could be such a trigger.

A structural long-term challenge is to find the right way to meet future housing demand. Populations are growing, but young people seeking their first home will no longer be the typical locals from families with an average of two children with parents who can give some financial support. They will often have different ethnic or cultural

Nordea Markets and Nordea Corporate & Investment Banking
backgrounds, perhaps come from families with four children, and not have funds for an equity down-payment for a modern premium apartment. The authorities, developers and construction companies need to find good ways of being able to offer these people housing they will be able to afford. What we can offer today is too expensive.
Interview: A housing correction with a soft landing could be a good thing

We interview Niclas Höglund, Construction & Real Estate Analyst, Nordea Equity Research, on what has caused housing markets to see a price correction, why we see differences between the four Nordic countries, how the correction will affect industry players and home owners, and what could theoretically trigger a more severe correction.

EB: After a long upturn for Nordic housing markets, 2017 has become a turbulent year, with collapsing share prices for homebuilders and media headlines about falling house prices. What happened?

NH: With hindsight, it is easy to conclude that the price decline is a reaction to:

1. A sharp increase in newbuild activity (both rentals and tenant-owned units) while home migration growth came to an halt and expectations were revised.
2. Residential property prices outgrowing disposable income
3. New regulations from Swedish FSA tightening mortgage amortisation requirements and discussions among Swedish political parties to reduce the tax deductibility of mortgage interest rates

The timing and magnitude of price declines is most likely amplified by negative media coverage, creating a sharp boost in supply in the secondary market. This has resulted in longer closing lead times, or rather "normalised" lead times, and lower prices, after several years of a "sellers market".

EB: It seems like there are some housing market concerns in Sweden and Norway, while Denmark and Finland are more business as usual – why is the situation different in each of the countries?

NH: Stable high supply and general vacancies have limited price appreciation in Finland and Denmark in contrast to historically low supply with low vacancies in Sweden and in Norway. But a boost in demand from migration, in combination with a low supply of new units (mainly Sweden) have supported prices. Flexibility in the rental market of Finland and Denmark has also likely helped to keep up supply, while regulatory limitations for rents have held back supply and limited flexibility in Sweden.

EB: What is happening with housing supply and demand in the Nordics? Is either becoming a problem?

NH: I would say that the higher demand seen in Sweden in 2017 stands in contrast to the weak pricing we have seen, but is likely a delayed effect related to the strong economy. High supply in the secondary market is the main negative putting pressure on prices in Sweden and partly related to negative media coverage which has fuelled a scare in the market. Banks and the FSA could also be partially to blame, stricter mortgage lending requirements have put more pressure on homebuyers to sell before buying a new apartment. This has created excess supply in the midst of a transition period. Key worries among investors are still related to completions of units started in 2016-17, which will continue to boost newbuild transactions relative to the secondary market. We will carefully monitor risks of forced sellers.

EB: How much have regulatory changes (mortgage lending restrictions, tax changes) affected housing markets in the past? What impact could we see going forward?

NH: From a theoretical perspective, still very little of the recent decline can be linked to the mandatory higher savings from amortisation, especially since financing costs and disposable income levels have partly compensated, especially with a record high savings ratio among consumers in general. If consumers view amortisation as higher
Lower house prices have yet to affect construction output, owing to backlogs. A mere 3% further house price decline would take Swedish prices relative to disposable income back down to the 42-year average.

costs, however, the negative cash flow effects are quite substantial and imply a negative cash flow effect of ~4.5% of a mortgage, compared with the 1.5% related to interest rate payments.

EB: How are the different segments of Nordic construction and real estate performing? Construction, housing and commercial property?

NH: So far, the weaker price development on tenant-owned residential units has not meaningfully affected construction volumes (due to lead times and strong backlogs among the listed companies). Margins among construction companies are under some pressure and the companies point to higher input prices from subcontractors and suppliers and poor project execution mainly related to infrastructure projects (complex projects which are in a ramp-up mode with lower profit accounting opportunities).

Commercial property companies continue to benefit from the low-interest rate environment, with high demand for properties and yield requirements coming down or asset values going up. The solid development of the Swedish economy and employment also impact positively on rental growth opportunities and projects/refurbishments. New tougher tax regulations related to interest cost deductibility and capital gains taxes imply that paid taxes will gradually increase; at the same time, most listed commercial companies have used a strong market to strengthen equity ratios and reduce Loan-to-Value, hence reducing financial risks. Uncertainty for commercial properties lies in the spill-over effects from a softer housing market on consumer spending (retail property) and the general investment level which impacts the overall economy.

EB: How sensitive do you think Nordic mortgage borrowers are to potentially higher future interest rates?

NH: Higher funding costs are a key long-term risk, but recent house price declines are more related to the demand/supply balance than we have seen in previous corrections. If interest rates were to normalise above 4% again, prices would likely be under pressure. The only mitigating factor is related to alternative accommodation costs, since these would also rise and reflect higher funding costs, although with a substantial delay since it is a regulated market. Prices relative to disposable income have come down sharply. To put current house prices in some perspective, we need only a 3% additional price decline of the current annual growth rate in disposable income, currently 3.4%, to drop back down to the 42-year average level of house prices relative to disposable income – which in theory should include normalisation of interest rates well above 5%.
A sharp housing boom correction would be bad for the whole economy – a soft landing in a strong economy would be much better.

Home developers with strong balance sheets could be relative winners, reinvest in building rights when prices fall.

**EB: If there is a Nordic housing market correction, who will suffer? Homebuilders? Housing landlords? Mortgage borrowers? Mortgage lenders?**

NH: Home builders are clearly taking the first hits, especially since cash flow and project finance is very much linked to activity and bookings, a level which declined drastically and will limit growth and cash flow short to medium term. I think it is easier to mention who will not suffer – people who do not own their home today. Tenants who can borrow money could enter the market at a lower level. In theory, households which keep their jobs and need to buy a bigger apartment or house should also be winners.

In practice, the aftermath of housing bubble correction will likely cause ripple effects on the economy, which would impact banks (credit losses) and all corporates via higher funding costs. Volume declines due to a lack of funding or demand would not only impact construction companies, but also subcontractors and service companies (architects, estate agents, etc), which implies a higher unemployment and lower tax revenues for the government. These need to be balanced by 1) higher fiscal debt, 2) a higher tax burden and/or lower public spending. At the end of the day a “soft landing” correction due to higher supply when the economy is strong could be a good thing and limit real downside risks in the next economic downturn.

**EB: What have been mitigating factors for developers during and after a downturn, and what is a winning strategy for a developer at this point?**

NH: Lower construction costs or construction inflation normally tend to act as mitigating factors for the developers who are able to keep their production ongoing. Attractive building rights and a strong financial position are winning strategies to mitigate risks in residential development, since these companies are able to reinvest into building rights when prices fall, which should enable higher returns when markets stabilise again. Standardised development business models stand out as boring when prices are moving up, but will have attractive cost bases to balance price declines.
EB: What would it take to trigger a major housing market correction?

NH: Policymakers making the wrong decisions to raise interest rates or further mortgage amortisation requirements, lending caps, hurting general GDP growth already under pressure. Sweden is an export-driven economy, hence if European economies weaken and policymakers disregard the lower growth and focus on headline inflation, then a further housing market correction would likely be inevitable.

EB: What could trigger a rebound in prices again?

NH: There is fundamental support for higher prices given the low interest rate environment and strong support from urbanisation and migration. Several years of low supply growth are also visible across Sweden. A sharp decline in supply in light of recent lower prices should stabilise the market and, given lead times, supply declines could lead to shorter lead times and price pressure upwards again. In the short term there are discussions of a potential pre-buy effect ahead of more demanding mortgage amortisation rules in Sweden taking effect 1 March, but this effect should not be exaggerated and compared with the pre-buying that was visible in Oslo in Q4 2016, since we have a very limited buy-to-let market in Sweden and also because banks have become more cautious with higher amortisation in place already.

EB: How do equity investors view Nordic construction and property today?

NH: Investors are cautious on the sector, with less focus on valuation multiples than short-term momentum and sentiment currently. Prices and supply need to stabilise in order for investors to feel confident in the underlying earnings capacity of the companies.
**Interview: We require mortgage borrowers to be able to cope with an 8% interest rate**

We interview Michael Skytt, CEO of Nordea’s mortgage lending subsidiary Nordea Hypotek, on the housing market dips in Sweden and Norway, what is causing them, how they may end, and the differences from Denmark and Finland. He also elaborates on mortgage lending standards, the impact on markets from regulatory changes, and who is most vulnerable to sustained housing market weakness.

**JT:** After a very long upturn for housing markets, we have now seen Nordic home developers’ stock prices collapse and plenty of big media headlines about falling house prices. Why? What has happened compared with six months ago?

**MS:** We started seeing the first signs of a housing market dip after the summer. I would hesitate to point to any single factor, but the new, stricter mortgage amortisation rules announced by the Swedish FSA, which will apply from March 2018, have certainly had a cooling impact. In addition, there has been a gradual realisation among home buyers that things won’t get much better: a strong macro backdrop and record-low interest rates make for an unbeatable combination, from which there is only downside. Also, there has likely been an overestimation of the number of new dwellings needed. Home developers in some ways resemble super tankers – acceleration and deceleration of their project portfolios is quite slow and gradual. House prices move more quickly, and when they soften, developers that feel pressure from projects no longer being profitable at current prices can respond by selling the land or by converting owner-occupied housing projects into less profitable rental flats.

I think the worst squeeze is currently being felt by pure developers which don’t own properties – only develop and sell, in specific niches like inner city loft conversions with premium prices. These smaller players may need to sell off projects that are no longer bankable for them with new, lower sales price assumptions. They are having difficulty holding onto these projects without cash flow from other, successful project closures.

**JT:** It seems that most housing market worries have come out of Sweden and Norway lately, while Denmark and Finland are more ‘business as usual’ – how do you see the differences between the Nordic countries?

**Denmark has recovered from its earlier housing bubble**

MS: The Danish housing market has recovered from, perhaps now even surpassed, the decline of 2007 – at least in the major cities Copenhagen and Aarhus. The rest of the country is still lagging. The Danish authorities have gradually revised previous regulatory reforms which helped create the earlier local property spike, such as the introduction of ten-year interest-only mortgages, in sharp contrast to the previous norm of 30-year mortgages. Danish household leverage has also come down significantly, although it remains higher than in the rest of Nordics. But this needs to be seen in the context of a more generous pension system.

The Finnish housing market has started to recover, along with the economy, after prolonged weakness.

**Norway and Sweden have seen tighter regulations and growing supply trigger housing market corrections**

Norway has been more similar to Sweden, seeing a weakening this year after a long, strong rally. And the weakening, which is most notable in Oslo, has been at least partly driven by regulatory changes, including tighter amortisation and minimum equity rules for second homes.

Ultimately, it is, of course, about the balance between supply and demand. In Sweden, the house price dip is so far mostly a Stockholm issue, but with some locations – like the provincial city of Örebro – and certain types of housing units seeing local oversupply problems. In Stockholm, I would expect some major developments like Hjorthagen to do well, catering to potential buyers with strong purchasing power.
Other developments like Barkarbybastaden or Vega could find it harder to live up to expectations, with target audiences for whom rental flats might be a better choice. The new regulations, with more mortgage amortisation, will make such new flats less affordable for those buyers.

JT: What is new on the regulatory side, and how might it affect housing markets going forward?

Over 80% of Nordea’s Swedish mortgage customers are currently amortising

MS: In Sweden, the mortgage loan-to-value cap introduced in 2010 meant a big change, which had a greater impact than mandatory mortgage amortisation for mortgages above 50% LTV, which came in 2016. The cap makes it difficult for young first-time buyers to get onto the property ladder. Amortisation is fundamentally sound, a known cash outflow which can be planned for (and which is actually a form of saving), and the new regulation has helped create an amortisation culture. In Nordea’s Swedish mortgage stock, over 80% of borrowers are currently amortising – and that obviously includes mortgages with LTV below 50%. I think this is a welcome development. Sweden was previously the only Nordic country to offer 50-year mortgages, versus 30 years in Denmark and Norway. And Denmark has abandoned its ten-year interest-only mortgages.

In Finland, mortgages are traditionally amortised faster, with an average mortgage tenor of 18 years: you pursue a ‘housing career’ – start with buying a studio flat, pay the debt off, then buy a one-bedroom flat, and so on. As a Finnish banker colleague once told me: each generation repays its own debt.

JT: What is your view on how new regulations – restrictions on mortgage borrowing or changed tax rules – have historically impacted housing markets in the Nordics?

MS: Listening to the separate, respective agendas of the Swedish central bank and the Financial Supervisory Authority, it is apparent that they are less concerned with household indebtedness than with soaring property prices. So they should welcome the house price dip we have now seen.

I would say mortgage lending regulation is a fairly effective tool for cooling off housing markets, and has had such effects in Denmark (ten years ago) and in Norway. The risk with this tool is the psychological effect: if households become concerned about a potential major loss of value for their home, consumer confidence can suffer, hurting private consumption and ultimately GDP growth.

Mandatory mortgage amortisation not necessarily the best tool with which to cool down house prices

Mandatory amortisation regulations are not necessarily the best policy tool for avoiding a housing market bubble. They are somewhat complex to implement, and they have not been tested prior to being rolled out. But the political reality is such that broadly anchored reforms of key housing market drivers like tax deductibility of mortgage interest, property capital gains tax, or property tax have not been on the table. The Swedish Banking Association has estimated that a halving of the current mortgage interest tax deductibility would have an impact corresponding to the central bank increasing its repo rate by 50 basis points, and abolishing it completely would be the equivalent of 100 basis points. That should affect house prices.
JT: Do you have a feel for how sensitive Nordic homeowners are to potentially higher mortgage interest rates in the future? Could there be many forced sellers if rates go up?

MS: I was around at the time of the previous Swedish financial crisis in the early 1990s, and I do not feel particularly concerned about today’s situation. Back then, the banks’ credit losses on mortgages were negligible – the big losses came from commercial real estate exposure, from credits granted more on the basis of expected increases in asset values than on cash flow generation.

Back then, property prices fell 30-50% and took six years to recover – versus only six months after smaller dips in 2008 and 2011.

Since then, we have had two more property market dips: the Lehman crisis in 2008 and the Greek euro crisis in 2011. In the early 1990s, Swedish house prices fell 30% and apartment prices fell 50%. Only forced sellers had to actually realise such value losses; those who could stayed put until the market recovered. It took six years for prices to recover to pre-crisis levels. In 2008, prices dipped in the autumn but recovered fully after six months. We saw the same pattern again in 2011.

What about this time? If house prices slide 10-15%, I think the political establishment will be quite happy, and see it as ‘mission accomplished’. If prices slide 20-25%, the risk is that a negative spiral will be triggered, with an impact on consumer confidence, private consumption and ultimately GDP. If we go there, I think there will be great concern.

Nordea’s Swedish mortgage pool has high credit quality - loan-to-value of under 50%
**JT:** How have mortgage lending standards evolved in the past five years? How strict are they compared with regulatory requirements? Do they differ much between banks?

**JT:** From your extensive experience, what do you think would be needed to trigger a major house price correction?

**JT:** In the event of a sharp housing market correction, who would suffer most? Mortgage lenders? Home developers? Housing landlords? Homeowner households?

**Home developers (which don't own properties) are most vulnerable to a house price correction**

---

**Mortgage lending standards have not seen major changes for the past ten years - and have so far prevented credit losses**

**MS:** All the major mortgage lenders have mortgage calculators available on their websites which show how much you are able to borrow based on your level of income. These are all compliant with the regulator's requirements. There have been no major changes over the past ten years, only minor ones like having to include car leasing as costs and certain social security and other benefits as income. The models have worked, in that there have not been credit losses on mortgages.

Nordea's mortgage borrowers have very strong credit profiles. They need to be able to cope with an interest rate of 8% (the fixed five-year mortgage rate + 300 basis points, but always a minimum of 8%). Many think we are too tough in our requirements. A few mortgage players are a bit more aggressive in order to win market shares, but there are no huge differences in lending standards. I believe we have the strictest standards, while at the other end of the spectrum there are lenders requiring borrowers to be able to manage a 6% interest rate.

**JT:** From your extensive experience, what do you think would be needed to trigger a major house price correction?

**MS:** I think it would take something quite major. One example could be a potential political crisis, like if the Swedish general election in September 2018 were to result in political stalemate, a hung parliament which might be unable to form a viable government. Or perhaps a combination of political turbulence and new housing market regulations which misfire. If households start to have real fears over their future disposable income, it will inevitably affect house prices. Among the risk groups who might get hit hardest are young first-time property buyers without financially strong parents to support them. This is where you could find forced sellers.

**JT:** In the event of a sharp housing market correction, who would suffer most? Mortgage lenders? Home developers? Housing landlords? Homeowner households?

**MS:** Not landlords. I would not see any major residential vacancy risk, at least not for 90% of the Swedish housing market – all the major cities. Urbanisation and immigration remain strong drivers for housing demand.

Households? Yes, but only a very limited number would be at risk of becoming forced sellers.

I think home developers might have the hardest time. Those bigger ones which both develop and own property should be better off, and could perhaps win market shares at the expense of weaker players, using cash flow and strong balance sheets to buy distressed projects or land with development rights. Smaller players which only buy land, develop and sell could get squeezed if they were not able to generate demand at assumed price levels, and consequently had to try to sell projects to stay afloat.

This should not be a big issue for the banks. For banks to approve a housing development project, 70% of planned dwellings need to be pre-booked. And for release of funds to the new housing association created for the development, 90% of dwellings need to be sold. As a share of the total, credit exposures to these developers are not significant.
Interview: "As good as it gets" house prices

We interview Erik Olsson, CEO, and Johan Nordenfelt, Head of Business & Process Development and Communications, from leading Swedish estate agent Erik Olsson Fastighetsförmedling, on what has driven the Swedish housing market correction, the nature of today’s market, where the market is heading, and what the key risk factors are.

EB: Your proprietary residential property index, EOBi (Erik Olssons Bostadsindex), showed its biggest sequential quarterly decline since it was created in November 2017. Could you describe what your index measures, and what this weak observation is telling us about Swedish housing demand?

EO: Our index is based on answers from a sample of 500 people who have been to view our properties for sale, and hence are actively looking to buy a home. It is similar to other indices such as SEB’s "Boprisindikator", but there is a crucial difference. Other indices are typically based on a sample of randomly selected Swedish households. The problem with that kind of sample is that only around 10% of Swedish households are at any given point in time planning to move, meaning 90% of the sample could actually be considered a potential source of error.

We introduced the EOBi in 2010. It is based on four multiple choice questions which are asked quarterly.

The questions are:

1. How do you think housing prices will develop in your city in the next 12 months?
2. How do you think your personal finances will develop in the coming year?
3. What is the level of the expected floating interest rate you take into account when calculating the cost for your mortgages?
4. What loan-to-value ratio are you planning to have?

Recently we also added two extra questions to get a feel for the current market psychology:

1. Would you change your behaviour if the interest rate were to double from current 1.5% to 3%?
2. What is of most importance to you? Maximising the chance of a high sales price or minimise the risk of a sales price below your expectations?

The answers to the first question showed a large decrease in November, with a majority of our respondents now thinking that housing prices will decline in the coming year. This is a clear shift in trend. We have to go back to 2011 and the Euro crisis to find a similar data point.
A majority of the respondents now think that housing prices will decline in the coming year.

The interest rate people use to calculate the cost of their mortgage is 3.62%.

Question number two regarding personal finances is interesting from the perspective of the underlying factors that could drive property prices. People were not particularly cautious on this point, indicating optimism on employment and the economy, which reflects a more positive fundamental outlook for the market.

In the third question, we get an indication of how much of a buffer home buyers have for a potential uptick in interest rates. The interest rate people use in their calculations has naturally come down a bit in recent years, but is still at 3.62%.

**JN:** What could be read from question four is that people now lower the intended loan-to-value on their homes because of the greater uncertainty in the market. We believe that this is due to the fact that the government and the financial supervisory authority have failed to give real visibility on what will happen to the tax deductibility of mortgage interest, which would hit all mortgage borrowers, and how the expanded mandatory amortisation requirement coming into effect in March will play out. People expect something negative to happen soon, which would increase the cost of a mortgage. No one knows exactly what will happen, so to be on the safe side a majority of home buyers are planning for a lower leverage level.
People now lower the intended loan-to-value on their homes because of greater uncertainty.

An unfavourable market psychology is the key driver behind the correction.

Referring to question six, when the market psychology is more positive, as it has been until November this year, people have always preferred to maximise the chance of a high sales price. November 2017 was the first time we saw that a majority of the respondents instead wanted to minimise the risk of a loss, being more risk averse.

The conclusion from our last update of EOBI is that an unfavourable market psychology is the key driver behind the correction. The fundamentals remain strong. We have high employment, extremely low interest rates and high level of economic growth.

EB: In your view, what has happened during autumn that has caused such jitters in the Swedish housing market? What has changed in H2 2017?

JN: One special event was the big listed Swedish property group Wallenstam’s decision to convert some of the planned co-operative apartments in their development pipeline to rentals, in response to a weaker market. This announcement attracted considerable attention in media, since they are a big and well-reputed player in the field. But the media noise overlooked that Wallenstam’s core focus is actually rental apartments – not co-operatives. They started to make co-ops earlier only because it was unusually profitable, so their move should, in our view, be seen as a sign of the market starting to normalise rather than a sign of a bursting bubble.

The soaring Swedish house prices have been made possible by continuously improving fundamentals. First, the property tax was abolished in 2007, which has been followed by falling unemployment rate and interest rates. Tax cuts (”jobbskatteavdrag”) have increased household disposable income. One-third of disposable income is typically used for accommodation expenses, and Swedish households have spent roughly one-third of the additional income from tax reductions on accommodation expenses.

EO: We have a situation today where the conditions are arguably perfect for the housing market – it is actually hard to see how they could possibly get any better. Hence it is not easy to justify a house price increase like we have become used to in recent years. On the contrary, most people expect that today’s ultra-low interest rates will at some point rise, and new regulations will be implemented, which will eventually increase the cost of home ownership.

Not until interest rates start to rise will we see the real, full effects from the new, tighter mandatory mortgage amortisation requirements. As an example, say that you need to amortise SEK 2,000 per month on your mortgage. This may not be an issue with today’s interest expense of, let’s say, SEK 5,000. But eventually a situation with higher interest rates will arise. In the future you could theoretically be paying SEK 13,000 in monthly interest on the same mortgage, then the extra SEK 2,000 per month may be tough to afford. No one knows how the new amortisation regulations will affect households in a “normal” interest rate environment. These factors help explain the jitters that we see today in the market.
Tabloid journalism has played a part as well, time and again releasing doomsday headlines to get clicks on articles, which has reinforced the negative market psychology. It tends to be a self-fulfilling prophecy. In the end people get scared from reading these headlines all the time, which makes them change their behaviour in the market, and hence prices drop.

**EB: How do you see supply of housing in Sweden? Is there any risk of excess supply in the market?**

**EO:** I don’t think there is an excess supply in the market, but rather the wrong kind of housing is being built, creating a mismatch between supply and demand.

You can view the housing market as a balance sheet with demand on one side and supply on the other. If you look at the secondary market in Sweden, a vast majority of houses and apartments are owned by people with housing needs, meaning that we do not have a lot of investors speculating in property. When you put your home on the market (add to the supply side), you usually also appear on the demand side, making the market well balanced. As long as the supply is matched with equivalent demand, it doesn’t matter how large the supply of housing is.

The problem with newbuilding of housing is that it needs to be supported by new people entering the market on the demand side. There could be many reasons why people are not on the demand side yet, but a very common one today is that they simply cannot afford to buy a home. Looking at what is being built today, it is mostly rather expensive homes. This means that a chain of buyers often needs to be involved in order for the market to balance. This takes time and is more complicated than if new developments were built for the direct demand of new entrants.

Many municipalities have lately made very good profits from selling land to housing developers, and used them to finance various projects in their regions. This is great in theory, but also gives developers incentives to build expensive housing to generate decent profits from the expensive land they have bought.

**EB: How much do you think mortgage lending regulation and taxation affects housing demand? Which are the key factors to watch? Lending caps? Amortisation requirements? Tax deductibility of mortgage interest? Property capital gains tax?**

**EO:** Starting with property capital gains tax and deferrals, today it is typically only people who are not credit-worthy who postpone the tax on capital gains, since what you pay for the option of postponement corresponds to an effective interest rate of 3.25%. Capital gains tax is a big issue for homeowners who have bought into the market at much lower levels a long time ago, and have large latent capital gains. This has the effect of making many elderly people stay in their houses instead of moving to a more convenient apartment. Net after tax, they might not be able to afford as good or central an apartment as they would like, and deferring the tax may leave them with higher accommodation costs than they had in the house they have sold. This creates a lock-in effect which lowers supply and inflates prices. The issue with the property capital gains tax is not, I would argue, that the tax rate is too high, but that it has to be paid at a certain time (just after the end of the fiscal year when you sell your home), when you often need the money, for example to fund your new home.

On the other hand, for some periods this has been an unusually cheap credit, making it a driver for higher housing prices. If capital gains tax deferrals were to be linked to the financing cost for the state we would not have this issue, since they would, by definition, be interest rate adjusted. We at Erik Olsson have proposed this to the government. Looking at the ten-year Swedish government bond yield, which is around 0.87%, it is far lower than the current effective rate of 3.25%.
The other factors you mention have a negative impact on prices because they make it harder for people to buy housing, and hence reduce demand. Until now, lending caps and the amortisation requirement have been about loan-to-value, which we think is a rather blunt tool to use. Loan-to-value caps are about controlling the mortgage lenders’ credit risk, which is not a problem today and has not been a major problem in Sweden in past downturns either.

A decrease in consumption due to accommodation expenses rising too sharply could dampen economic growth

The real fear is that households would cut back on other types of consumption if accommodation (eg mortgage) expenses rise too sharply, which would dampen economic growth. In that perspective, the new mandatory amortisation requirements based on debt ratio are effective because you want to reduce households’ interest rate sensitivity. However, I would argue that it is a bit risky to add the debt ratio requirement as an addition to current legislation. I think it would be a better approach to admit that the first amortisation requirement was not that good, and replace it with this new one or to combine them somehow.

EB: What is your view of how sensitive Swedish homeowners are to potentially higher interest rates, possibly in combination with mandatory mortgage debt amortisation? Could there be many forced sellers if interest rates saw a significant uptick?

JN: I think homeowners today are very sensitive to higher interest rates. Swedbank has an index which measures how much of disposable income households use for accommodation expenses. In Stockholm and Gothenburg it is already around 30% today. This level is usually considered to be a limit for what households are comfortable to pay for accommodation. If it is already on this level now with a 1.5% interest rate, that 30% share could rapidly become much more if interest rates started rising notably.

During the recent years of sharp house price increases the average mortgage has also increased. A majority of them carry floating interest rates, which implies that the negative effect from an increasing interest rate could be immediate and rather substantial.

Another concern is that the increase in average mortgages is not matched by increases in real wages. To get from Malmö’s property prices to Gothenburg’s price level, you have to add approximately 50%, and roughly another 50% corresponds to moving from Gothenburg to Stockholm. However, the average person living in Stockholm doesn’t have 50% more in income compared with a person living in Gothenburg.

EB: Your company is present in Sweden’s three biggest cities Stockholm, Gothenburg and Malmö. What differences do you see between housing markets in the cities versus the regions, and between the three individual cities?

EO: In Stockholm there is a strong positive correlation between commuting proximity to the city centre and the price, but looking at Malmö this relationship doesn’t hold at all. In Stockholm buyers have to compromise more because of the higher prices.

Malmö experienced a setback some 20 years ago

Malmö experienced a local setback some 20 years ago, when the bridge to Copenhagen in Denmark was finished. It was attractive, especially for Danes, to live in Malmö and work in Copenhagen because of the lower housing costs in Malmö. This led to a construction boom in Malmö. Unfortunately, shortly after Denmark experienced a sharp correction in the housing market, the “Malmö housing alternative” became less attractive, and much of the local housing demand shifted to Denmark. People in the Skåne region have a housing market setback fresh in their minds in another way than we do in Stockholm, since we have not experienced any extensive major correction in our local market for many years.

The local market in Gothenburg is the strongest

Comparing the three cities I would say that the market in Gothenburg is the strongest. They haven’t had the same worry over increasing prices as in Stockholm, and have still experienced strong economic growth and stable economic conditions.
EB: From your long experience, what are the key drivers for a strong housing market – what makes people confident to buy? And what are the dynamics in a weak housing market, what does it take to close a sale in a tougher environment?

JN: On average, you own an apartment for ten years and a house 25-30 years. From that perspective, it is incredible that authorities and politicians don’t manage to deliver predictability, which I think is one of the most important drivers for making people confident to buy.

As mentioned earlier, it is positive that the housing market in Sweden has a low share of speculative buyers. This contributes to a more stable market and prices that are less volatile because demand more accurately meets supply.

In a weaker housing market you should limit your risk exposure and sell before you buy

In a weaker market you can limit your risk exposure by selling first. Today's tougher environment requires more from the homeowner, you have to be better informed, engage more and be more careful. If you sell first, you need to know what you are looking for in order to see how much money you need to get for your current place as well as to prepare financing. When supply is abundant there are also greater differences between a good deal and a bad deal. In this environment, buyers tend to gravitate towards quality, which requires you as a seller to prepare your apartment more before selling. From an estate agent's perspective, I would say the agent makes more of a difference in this market as well, because buyers are less forgiving. We have to coach and have a dialogue with the potential buyers who show up at the viewing, arrange more viewings, make a more attractive presentation of the place and be very agile and forthcoming when working through all the steps that lead to deal closure.

If you sell first and do that in a good way in this market environment, it is actually an advantage that there is plenty of supply. This is especially true if you are looking to increase in size, since all types of properties have declined roughly the same percentage, meaning that in real money larger object have dropped more.

The worst situation you could be in today is if you bought a new place before the summer and waited until after the summer to sell. Such sellers risk finding themselves in a situation where they are practically forced to accept an offer which is much lower than they expected.

EB: What do you expect from the Swedish housing market going forward? Could we see a major correction, or a recovery from the price falls we have seen so far? What are the big question marks?

EO: I think that as long as interest rates do not rise dramatically in the coming years, house prices may have found a new level to stabilise around. It will most likely not be a large upswing in prices going forward. Our feeling is that the concerns we have discussed could very well be discounted in today’s prices. You can say that it is a sign of strength from the market to be able to keep the price level that we currently have, because housing prices have developed in a way that is entirely detached from other types of assets. It requires a lot to be able to keep this price level and we do not have much stimulating measures left to use.

The big question marks are mostly related to politics. We will most likely not see any interventions in the housing market from the current Swedish government before the general election in September 2018. There have been discussions about reducing the tax deductibility of mortgage interest, but no agreement has been reached. One reason for that is that there are so many voters who would be negatively affected by this decision. After the election there will be a new chance to agree on this matter, because there are then four years until the next election, meaning politicians can more easily make unpopular decisions.

The main risks that we see ahead are what will happen when all new regulations are introduced, and at some point interest rates start to rise.
This page is intentionally blank
Disclaimer and legal disclosures

Disclaimer
Nordea Markets and Nordea Corporate and Investment Banking are departments of Nordea Bank AB (publ) and its branches Nordea Danmark, filial af Nordea Bank AB (publ), Sverige; Nordea Bank AB (publ), filial i Finland and Nordea Bank AB (publ), filial i Norge.

The information provided herein is intended for background information only and for the sole use of the intended recipient. The views and other information provided herein are the current views of Nordea Markets and Nordea Corporate and Investment Banking as of the date of this document and are subject to change without notice. This document is not investment research. This notice is not an exhaustive description of the subject discussed or the product described herein, or of their related risks, and it should not be relied on as such, nor is it a substitute for the judgment of the recipient.

The information provided herein is not intended to constitute and does not constitute investment advice nor is the information intended as an offer or solicitation for the purchase or sale of any financial instrument. The information contained herein has no regard to the specific investment objectives, the financial situation or particular needs of any particular recipient. Relevant and specific professional advice should always be obtained before making any investment or credit decision. It is important to note that past performance is not indicative of future results.

Neither Nordea Markets nor Nordea Corporate and Investment Banking is, nor does either purport to be, an adviser as to legal, taxation, accounting or regulatory matters in any jurisdiction.

This document may not be reproduced, distributed or published for any purpose without the prior written consent from Nordea Markets.

Nordea Bank AB (publ), Company registration number/VAT number 516406-0120/SE663000019501. The board is domiciled in Stockholm, Sweden.