

European Viewpoint

Nordics Year Ahead 2024: stickier inflation in Norway

Sweden stays in recession, Norway avoids

We lean bearish vs. consensus on Sweden and Norway, in line with our Eurozone outlook. We expect Sweden to stay in recession in 2024 but Norway to avoid one. The Swedish consumer has already been in recession for some time, with spending down in the past five quarters (and six of the past seven). But the Norwegian consumer has shown more resilience, in line with her less severe real income squeeze. For 2024/2025 we forecast GDP growth of -0.4%/+1.1% in Sweden, and +0.5%/+1.2% in Norway.

Stickier inflation in Norway

We expect much stickier core inflation in Norway than in Sweden. This reflects their somewhat diverging growth outlooks, the more modest Swedish wage growth, and the better-behaved Swedish inflation expectations. Meanwhile, the recent currency developments add to our conviction. In Sweden, we forecast headline CPIF inflation at 1.9%/1.7% in 2024/2025. We now expect CPIF excl. energy to fall below 2% y/y in July. In Norway, we expect headline CPI at 3.7%/2.8% in 2024/2025, and underlying inflation 3.7%/2.2%. We expect both headline and underlying inflation above 3% y/y through end-2024. Our inflation forecasts lie below those of the Riksbank and Norges Bank.

Riksbank to cut earlier and more

We think the Riksbank is done with hikes. We expect three 25bp rate cuts in 2024 and another five in 2025, leaving the policy rate at 3.25% and 2.00% at end-2024 and 2025, respectively. Our YE 24 Riksbank forecast is above what markets currently price, but our YE 25 forecast is slightly below. We see somewhat downside risks to our Riksbank path. We continue to expect Norges Bank to deliver one last hike next week, but this is a close call. Further ahead, we continue to forecast two 25bp rate cuts in 2024 and five in 2025, leaving rates at 4.00% at end-2024 and 2.75% at end-2025, with balanced risks.

FX: Constructive FX in '24, cautious SEK in Q1

We are constructive on NOK and SEK in 2024 although we are cautious on SEK in Q1. In our base case, the USD softens—as the US recouples with the rest of the world and the Fed starts cutting rates—risk sentiment remains positive, and oil prices are supported. We expect mild recession in Sweden, but it may take a few more months to definitively rule out "harder landing" risks—hence, our caution in Q1. Meanwhile, Norway will likely prove more resilient, which is partly why we maintain a bullish NOKSEK bias.

08 December 2023

Macro Europe

Michalis Rousakis FX Strategist MLI (UK) +44 20 7995 0336 michalis.rousakis@bofa.com

Ruben Segura-Cayuela Europe Economist BofA Europe (Madrid) +34 91 514 3053 ruben.segura-cayuela@bofa.com

Robert Wood UK Economist MLI (UK) +44 20 7996 7415 robert.d.wood@bofa.com

Kate Pavlovich >> Data Science Rsch Analyst MLI (UK) +44 20 7996 7726 kate.pavlovich@bofa.com

Trading ideas and investment strategies discussed herein may give rise to significant risk and are not suitable for all investors. Investors should have experience in relevant markets and the financial resources to absorb any losses arising from applying these ideas or strategies.

>> Employed by a non-US affiliate of BofAS and is not registered/qualified as a research analyst under the FINRA rules.

Refer to "Other Important Disclosures" for information on certain BofA Securities entities that take responsibility for the information herein in particular jurisdictions.

BofA Securities does and seeks to do business with issuers covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Refer to important disclosures on page 17 to 19.

GDP: Sweden recession, Norway avoids

Sweden is already in technical recession, with GDP falling 0.3% q/q in 3Q (Exhibit 1), below consensus and the Riksbank's forecasts but just above what we were expecting back in September. Weakness was driven by inventories and—once again—domestic demand (consumer spending, housing investment) despite the (persistently) strong net exports. Consumer spending has fallen in the past five quarters—and six of the last seven—as squeezed real incomes and rate hikes bite. Investment has also been weak. These are in line with lead indicators suggesting mild recession (Exhibit 5, Exhibit 7).

While we adjusted our 2023 slightly higher (-0.3%), we remain below consensus for 2024, expecting -0.4%. We see this mainly driven by falling consumer spending. Those falls should start moderating in 4Q 2023 as real wage growth improves and with rates likely at their peak. We look for the economy to start growing again in 2H 24, and expect still 1.1% growth in 2025, which is below consensus and the Riksbank but in line with our relatively bearish view on the Euro area (see Global Economics Year Ahead 2024).

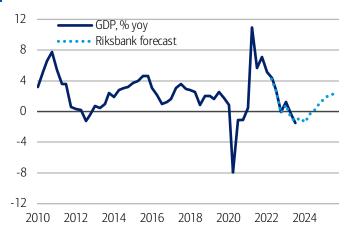
In Norway, too, growth has been slightly slower than Norges Bank expected (Exhibit 2). While Norway has been holding up better vs Sweden, it is a statistical error away from recession, too. Norges' Regional Network Survey, however, now suggests mild recession ahead (Exhibit 6), which could also depend on the energy prices' outlook (Exhibit 4).

Housing markets is an area the two countries diverged meaningfully until Q2 (Exhibit 8, Exhibit 9). But Norwegian construction softened meaningfully in Q3, and the Regional Network Survey points to some more weakness ahead.

Still, with a less severe real income squeeze, Norwegian growth will likely continue to hold up better and the consumer to avoid recession, while the (comparably) ratesensitive Swedish consumer (Exhibit 10) will not: in Norway, we expect final domestic demand to grow 0.2% in 2023 and 1.0% in 2024, but in Sweden to fall 0.8% this year and grow by a modest 0.2% in 2024.

We left our Norway growth forecasts unchanged at 1.1% for 2023, raised 2024 10bp to 0.5% for 2024 and left 2025 at 1.2%. These remain, however, slightly below consensus, and—we think—consistent with surveys pointing toward near-stagnation.

Exhibit 1: Weaker growth than Riksbank expects, mild recession ahead Riksbank GDP forecast



Source: BofA Global Research, Statistics Sweden, Riksbank

BofA GLOBAL RESEARCH

Exhibit 2: Norway growth slightly softer than expected but holding up Norges GDP forecast

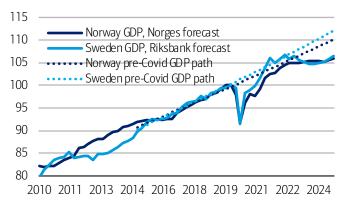


Source: BofA Global Research, Statistics Norway, Norges Bank



Exhibit 3: Both Riksbank and Norges expect permanent GDP losses

Riksbank and Norges GDP forecasts, 4Q 2019 = 100

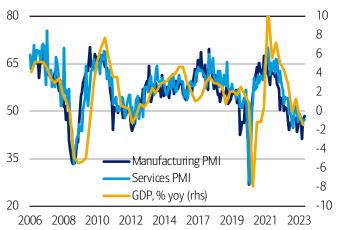


Source: BofA Global Research, Statistics Sweden, Statistics Norway, Riksbank (Monetary Policy Report November 23), Norges Bank (Monetary Policy Report 3/23)

BofA GLOBAL RESEARCH

Exhibit 5: PMIs in line with mild recession

Sweden PMI and GDP

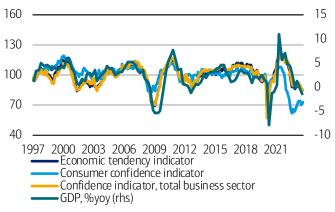


Source: BofA Global Research, Statistics Sweden, Swedbank

BofA GLOBAL RESEARCH

Exhibit 7: Swedish consumer & business confidence very weak

Sweden economic confidence and GDP



Source: BofA Global Research, National Institute of Economic Research, Statistics Sweden

BofA GLOBAL RESEARCH

Exhibit 4: Energy prices remain key for Norwegian growth

Norway vs. Sweden PMI and Brent

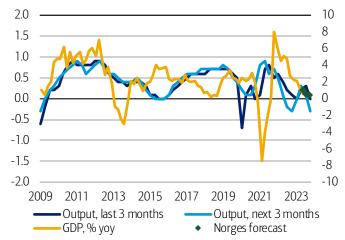


Source: BofA Global Research, Bloomberg, Swedbank, Statistics Norway

BofA GLOBAL RESEARCH

Exhibit 6: Norges business survey now suggests mild recession

Norges Bank Regional Network Survey and GDP



Source: BofA Global Research, Statistics Norway, Norges Bank.

BofA GLOBAL RESEARCH

Exhibit 8: Housing prices investment likely to fall sharply

Sweden house prices and investment, 2019Q4 = 100

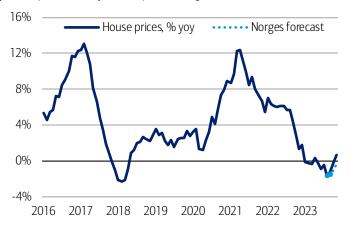


Source: Valueguard and Riksbank (Monetary Policy Report November 2023). Dotted lines show Riksbank forecasts



$\textbf{Exhibit 9: House prices slightly stronger than Norges\ expected}$

House prices, Norway, % four-quarter change

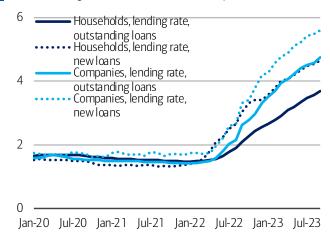


Source: Eiendomsverdi, Finn.no, Real Estate Norway, Norges Bank. Dotted lines show Norges Bank forecasts

RofA GLOBAL RESEARCH

Exhibit 10: Even fast passthrough to stock of NFC loans

Sweden lending rates for households and NFCs, percent



Source: Statistics Sweden, Riksbank (Monetary Policy Report, November 23

BofA GLOBAL RESEARCH

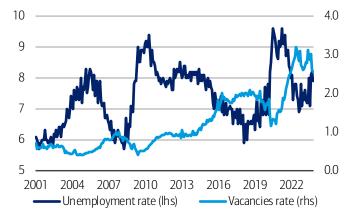
Labour market: softening from tight levels

We had been expecting unemployment to creep up in both Norway and Sweden as growth slowed. In Norway, registered unemployment remains very low: at 1.9% sa in November from a low of 1.6% in Jul-22, it is 10bp lower than Norges expected (Exhibit 12). But the latest Regional Network Survey points shows labour market constraints are now below their historical average, which suggest more softness lies ahead (Exhibit 14).

In Sweden, the labour market data has lately shown more signs of softness, with unemployment gradually rising and job vacancies falling slightly faster than in Norway (Exhibit 11). Labour supply constraints also seem to be easing (Exhibit 13).

But the Swedish labour market remains tight, which seems puzzling given the weak growth. We think its resilience partly reflects the relatively modest Swedish wage growth, in nominal and even more in real terms, as well as the resilience of the Swedish manufacturing/export sector (Exhibit 15, Exhibit 16).

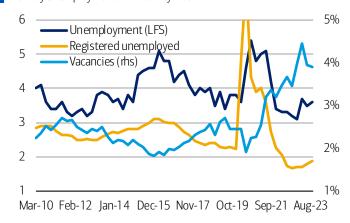
Exhibit 11: Swedish labour market now easing from tight levels Sweden unemployment rate and vacancies



Source: BofA Global Research, Statistics Sweden

BofA GLOBAL RESEARCH

Exhibit 12: Signs Norwegian labour market turning but remains tight Norway unemployment and vacancy rate



Source: BofA Global Research, Statistics Norway



Exhibit 13: Riksbank expects capacity constraints to keep easing Riksbank capacity constraints forecast



Source: Statistics Sweden and the Riksbank (Monetary Policy Report, November 2023). Dotted lines show Riksbank forecasts. The RU indicator is a Riksbank measure of resource utilization; normalised so that the mean value is 0 and the standard deviation is 1 since Q1-96.

BofA GLOBAL RESEARCH

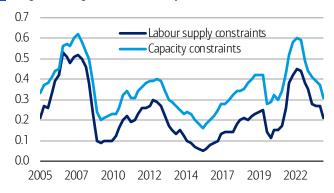
Exhibit 15: Job growth oscillating around zero PMI employment



BofA GLOBAL RESEARCH

Exhibit 14: Labour supply and capacity constraints now below their historical average

Norges Bank Regional Network Survey

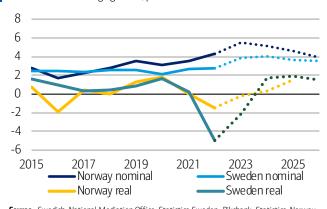


Source: Norges Bank

BofA GLOBAL RESEARCH

Exhibit 16: Real wages sharply lower in Sweden

Nominal and real wage growth, percent



Source: Swedish National Mediation Office, Statistics Sweden, Riksbank, Statistics Norway, Norges Bank. Note: Dashed lines show Norges Bank (dark blue) and Riksbank (light blue) forecasts

BofA GLOBAL RESEARCH

Inflation: more persistence in Norway

Core inflation continues to prove persistent but is no longer surprising Norges or Riksbank majorly on the upside. Our rate calls below are more about relative growth resilience than about relative inflation surprises now.

Both countries' national core inflation measures of course include food, which has distorted the relative signal. Swedish food inflation – in the harmonised inflation index – peaked at 18.2% y/y in February compared to 11.1% in Norway in June. This boosted Sweden's national core inflation measure well above Norway's earlier in the year and has recently led to Norway's measure falling slower than in Sweden.

We prefer to look at inflation excluding energy and food for judging core pressures. Here we see a similar picture so far in both countries, with core having likely peaked at 7-8% in both countries (Exhibit 17). We expect core to slow in both countries as global goods pressure continues easing and as services inflation slows back towards wage growth (Exhibit 18, Exhibit 19).

But we expect inflation to show more persistence in Norway than Sweden (Exhibit 25-Exhibit 28), which is in line with the two central banks' own forecasts (Exhibit 29)—after all, developments point to more "pain" ahead in Sweden than in Norway, as we already noted (Exhibit 30). Relatedly, the two-year Swedish wage deal provides more protection than Norway's one-year deal (Exhibit 20). Meanwhile, inflation expectations seem better



anchored in Sweden than in Norway (Exhibit 21, Exhibit 22), while the recent currency developments also add to our conviction (Exhibit 23, Exhibit 24).

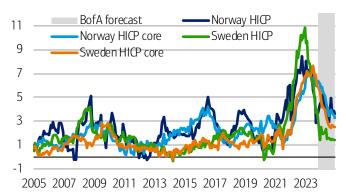
We tweak our inflation forecasts for recent data:

- For Sweden we expect headline CPIF inflation at 1.9%/1.7% in 2024/2025. We now expect CPIF excl. energy to fall below 2% y/y in July (see Exhibit 47, Exhibit 49).
- For Norway we expect headline CPI at 3.7%/2.8% in 2024/2025, and underlying inflation ("CPI-ATE") at 3.7%/2.2%. We expect both headline and underlying inflation above 3% y/y through end-2024 (see Exhibit 48, Exhibit 50).

Our inflation forecasts lie below those of the Riksbank and Norges Bank (Exhibit 25-Exhibit 28) but are in line with our more bearish growth outlook for the two economies and our relatively bearish Euro area growth and inflation outlook.

Exhibit 17: Sweden saw larger inflation spike, driven by food and goods, core proving persistent

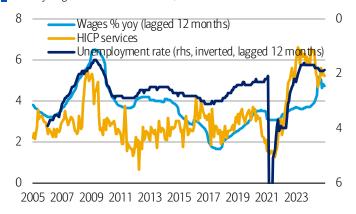
BofAf Norway and Sweden CPI inflation



Source: BofA Global Research, Eurostat

BofA GLOBAL RESEARCH

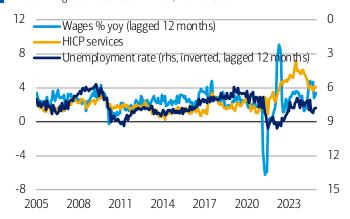
Exhibit 19: Norwegian services inflation running still above wages Norway wages and services inflation, BofA forecast



Source: BofA Global Research, Statistics Norway

BofA GLOBAL RESEARCH

Exhibit 18: Swedish services inflation now more aligned with wages Sweden wages and services inflation, BofA forecast

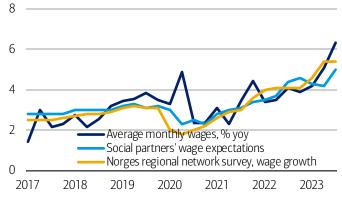


Source: BofA Global Research, Statistics Sweden

BofA GLOBAL RESEARCH

Exhibit 20: Norwegian wage growth strong

Wage growth, Norges regional survey and social partners

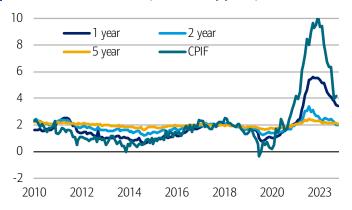


Source: Norges Bank, Statistics Norway



Exhibit 21: Swedish inflation expectations anchored...

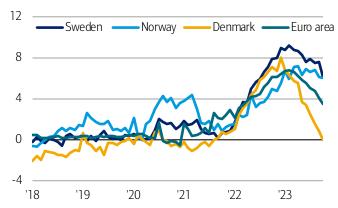
Sweden CPIF annual inflation expectations and y/y CPIF, percent



Source: Prospera, Statistics Sweden. Note: We use the monthly survey data ("Small Prospera"). BofA GLOBAL RESEARCH

Exhibit 23: FX likely contributing to higher goods inflation in Norway and Sweden

Goods prices excl. food, %y/y

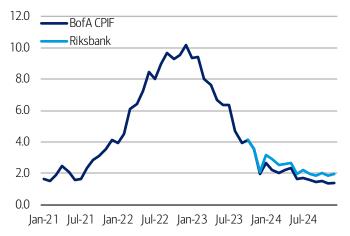


Source: Eurostat via Riksbank (Monetary Policy Report November 2023)

BofA GLOBAL RESEARCH

Exhibit 25: Headline Inflation dropping sharply as energy eases

Riksbank and BofA core inflation forecast (percent)

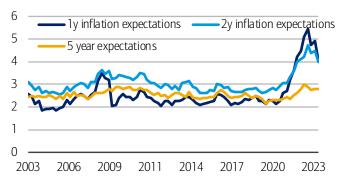


Source: BofA Global Research, Riksbank

BofA GLOBAL RESEARCH

Exhibit 22: ...but Norwegian inflation expectations more of a concern

Norges Bank CPI inflation expectations survey (percent)



Source: Norges Bank. 1y and 2y expectations are the average of economists', households', firms' and social partners' expectations. 5y expectations are the average of economists' and social partners' expectations.

BofA GLOBAL RESEARCH

Exhibit 24: Weaker NOK could contribute to inflation persistence

Norway inflation and Norges forecast (percent)

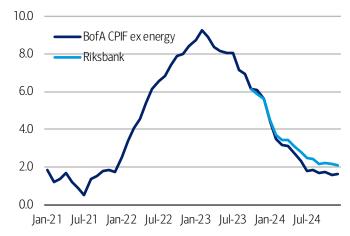


Source: BofA Global Research, Statistics Norway, Norges Bank. Note: We use Norges Bank projections for both CPI ex energy and the effective exchange rate

BofA GLOBAL RESEARCH

Exhibit 26: We expect CPIF ex energy below 2% y/y in July

Riksbank and BofA inflation forecast (percent)



Source: BofA Global Research, Riksbank



Exhibit 27: Headline inflation to undershoot Norges but be persistent...

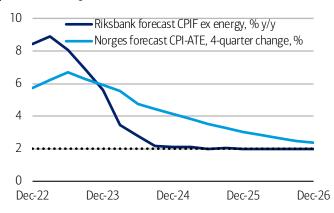
BofA and Norges Bank inflation forecasts



Source: BofA Global Research, Norges Bank, Statistics Norway

BofA GLOBAL RESEARCH

Exhibit 29: Riksbank expects inflation to return to target faster Riksbank vs Norges inflation forecasts

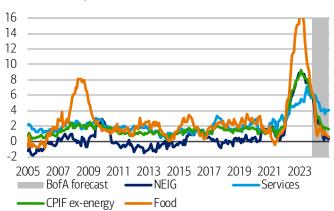


Source: Statistics Sweden, Riksbank (Nov 23), Statistics Norway Norges Bank (Sep 23)

BofA GLOBAL RESEARCH

Exhibit 31: Swedish inflation heavily driven by global factors, but services strong

Sweden HICP components and BofA forecast

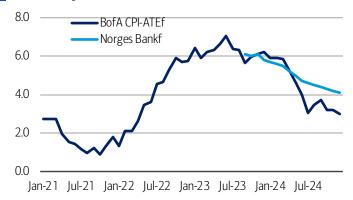


Source: BofA Global Research, Statistics Sweden

BofA GLOBAL RESEARCH

Exhibit 28: ...and core to be stickier

BofA and Norges Bank inflation forecasts

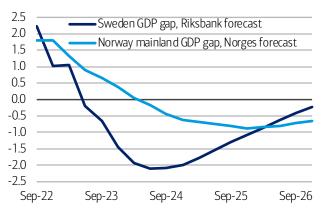


Source: BofA Global Research, Norges Bank, Statistics Norway

BofA GLOBAL RESEARCH

Exhibit 30: ...due to a more negative output gap

Riksbank and Norges Bank output gap forecasts

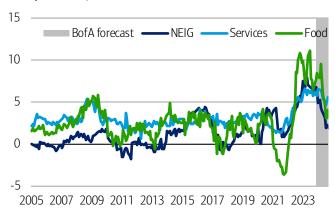


Source: Statistics Sweden, Riksbank (Nov 23), Statistics Norway Norges Bank (Sep 23

BofA GLOBAL RESEARCH

Exhibit 32: Food and energy make large inflation contribution, but services risen

Norway HICP components and BofA forecast



Source: BofA Global Research, Statistics Norway



Policy: Riksbank to cut more

Our policy calls are sensitive to judgements about two types of central bank tolerance: for currency weakness; and the time to return inflation to target.

The Riksbank plans to return inflation to target faster than Norges (Exhibit 27). Norges meanwhile, in our view, contends with a more resilient economy. We expect a higher terminal rate in Norway for the latter reason, but earlier and more rate cuts in Sweden for the former reason. Norway seems to us closer to higher for longer than the Riksbank.

This is not how the two central banks view the outlook. The Riksbank projects a slightly lower terminal than Norges but holding theirs for longer (Exhibit 36). Why is that? The Riksbank seems to view its inflation problem as more entrenched than we do, and more entrenched than Norges sees its inflation challenge despite a stronger economy. The Riksbank also seems much more focused on avoiding currency weakness. Our proprietary mood indicators do indeed show a more hawkish Riksbank (Exhibit 33, Exhibit 34).

On balance Norges hikes next week. Expect a flatter rate path vs markets

Next week, on balance we continue to expect Norges Bank to deliver one last hike. We think currency weakness will weigh slightly more on their decision than the somewhat weaker activity data and the soft Regional Network Survey. But it is a close call and, no doubt, the November core CPI print will be key—we expect it in line with Norges. But we are confident Norges will project next week a flatter path than markets currently price.

Looking further ahead, we continue to forecast two 25bp rate cuts in 2024 and five in 2025, leaving rates at 4.00% at end-2024 and 2.75% at end-2025, with balanced risks. We think persistent core inflation amid a relatively resilient economy will keep Norges cautious.

Riksbank to cut much more than it projects

We think the Riksbank is done with hikes. We expect three 25bp rate cuts in 2024 and another five in 2025, leaving the policy rate at 3.25% and 2.00% at end-2024 and 2025 respectively. Our YE 24 Riksbank forecast is above what markets currently price, but our YE 25 forecast is slightly below. We see somewhat downside risks to our Riksbank path.

This is because we think growth will be slower than the Riksbank expects, while even the Riksbank's stance on FX will likely turn more neutral as core CPIF gets closer to target.

What prevents us from forecasting earlier cuts is what the Riksbank noted in the April Monetary Policy Report (and has argued along these lines since): "[T]he underlying inflation rate is expected to fall rapidly, but policy rate cuts will not begin until it has been close to the target for a while." In similar vein, near term we expect the Riksbank to continue trying to avoid fresh currency weakness and likely projecting a flatter path than currently priced—of course, what the ECB does remains key.

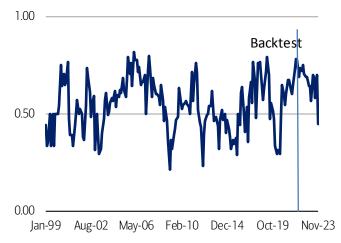
We expect the ECB to start cutting in June, so we expect the Riksbank to also start later that month. But our Euro area colleagues flag risks of an earlier ECB cut, which suggests risks the Riksbank could also start a little earlier (May), or to perhaps cut rates by more than in our base case in 2H.

Bottom line - we continue to think the Riksbank will need to cut rapidly from the peak, whereas Norges will likely be more cautious.



Exhibit 33: Norges mood indicator fell to dovish territory in Nov

BofA Norges Bank mood indicator (Back-tested)

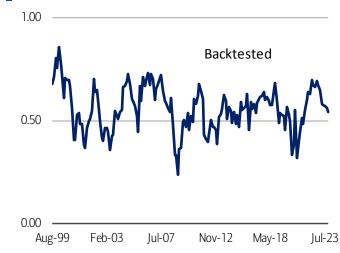


Source: BofA Global Research, Norges Bank. NORBI is scaled from 0 to 1, and reflects the proportion of 'hawkish' sentences in monetary policy assessments. A score of 0.5, for instance, means half of the sentences were hawkish. The indicator identified as NORBI is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purpose, without the prior written consent of BofA Global Research. This economic indicator was not created to act as a benchmark. This performance is back-tested and does not represent the actual performance of any account or fund. Back-tested performance depicts the theoretical (not actual) performance of a particular strategy over the time period indicated. No representation is being made that any actual portfolio is likely to have achieved returns similar to those shown herein. For more details, please see European Viewpoint: Assessing Norges Bank's hawkishness

BofA GLOBAL RESEARCH

Exhibit 34: Riksheard suggests hikes likely over but still hawkish

BofA Riksbank mood indicator (Back-tested)



Source: BofA Global Research. Note: Riksheard is scaled from 0 to 1, and reflects the proportion of 'hawkish' sentences in each publication. A score of 0.5, for instance, means half of the sentences were hawkish. The indicator identified as Riksheard is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purpose, without the prior written consent of BofA Global Research. This economic indicator was not created to act as a benchmark. This performance is back-tested and does not represent the actual performance of any account or fund. Back-tested performance depicts the theoretical (not actual) performance of a particular strategy over the time period indicated. No representation is being made that any actual portfolio is likely to have achieved returns similar to those shown herein. For more details, please see <u>European Viewpoint</u>: <u>Riksheard</u>: doves without a tool.

BofA GLOBAL RESEARCH

Exhibit 35: Riksbank roughly symmetric to the ECB but Norges to cut less

BofA ECB, Riksbank, Norges Bank forecasts (percent, end-quarter forecasts)

	Q4-23	Q1-24	Q2-24	Q3-24
ECB	4.00	4.00	3.75	3.50
Riksbank	4.00	4.00	3.75	3.50
Norges Bank	4.50	4.50	4.50	4.25

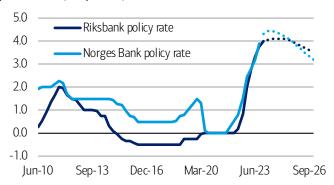
Source: BofA Global Research

04-24 01-25 02-25 03-25 04-25 3.25 2.75 2.25 2.00 2.00 2.50 3.25 3.00 2.25 2.00 4 00 3 50 3 25 3.00 2.75

BofA GLOBAL RESEARCH

Exhibit 36: Riksbank projects a flatter path

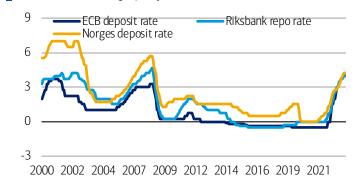
Central bank policy rate expectations



Source: Riksbank (November 2023), Norges Bank (September 2023)

BofA GLOBAL RESEARCH

Exhibit 37: Riksbank will likely focus more on the ECB than Norges will ECB, Riksbank and Norges policy rates



Source: BofA Global Research, ECB, Riksbank, Norges Bank



FX: Constructive FX in '24, cautious SEK in Q1

We are constructive on NOK and SEK in 2024 although we are cautious on SEK in Q1. In our base case, the USD softens—as the US recouples with the rest of the world and the Fed starts cutting rates—risk sentiment remains positive, and oil prices are supported. We expect mild recession in Sweden, but it may take a few more months to definitively rule out "harder landing" risks—hence, our caution in Q1. Meanwhile, Norway will likely prove more resilient, which is partly why we maintain a bullish NOKSEK bias.

Exhibit 38: We see EUR/Scandies lower by YE 2024 but we remain cautious on SEK until end-Q1 NOK and SEK forecasts

	Spot	YE 2023	Mar-24	Jun-24	24 Sep-24 YE 2024		Mar-25	Jun-25	Sep-25	YE 2025
EUR/NOK	11.74	11.70	11.60	11.30	11.00	10.90	10.90	10.80	10.70	10.60
USD/NOK	10.88	11.14	10.84	10.27	9.57	9.48	9.40	9.23	9.07	8.83
EUR/SEK	11.23	11.50	11.70	11.40	11.20	11.10	11.10	11.00	10.90	10.80
USD/SEK	10.40	10.95	10.93	10.36	9.74	9.65	9.57	9.40	9.24	9.00
NOK/SEK	0.96	0.98	1.01	1.01	1.02	1.02	1.02	1.02	1.02	1.02
EUR/USD	1.08	1.05	1.07	1.10	1.15	1.15	1.16	1.17	1.18	1.20

Source: BofA Global Research. Spot and forecasts as of 7 Dec 2023.

BofA GLOBAL RESEARCH

Exhibit 39: In our base case Norges and Riksbank cut less in '24 than priced...

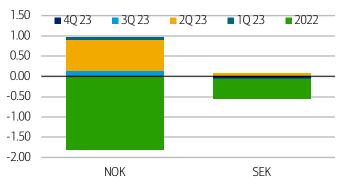
BofA vs market pricing by YE 2024



Source: BofA Securities, Bloomberg. Data as of Dec 7.

BofA GLOBAL RESEARCH

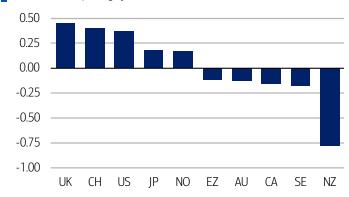
Exhibit 41: Monetary policy positive for NOK in 2023, neutral for SEK 2-year EUR/Scandies swap spreads, percent



Source: BofA Global Research, Bloomberg. Data as of Dec 1

BofA GLOBAL RESEARCH

Exhibit 40: ...but we expect around one more Riksbank cut by end-25 BofA vs market pricing by YE 2025

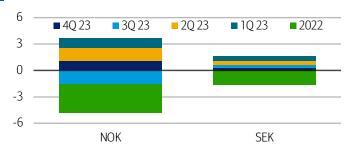


Source: BofA Securities, Bloomberg. Data as of Dec 7.

BofA GLOBAL RESEARCH

Exhibit 42: Vol has likely weighed on NOK this year

NOK and SEK implied volatility spreads



Source: BofA Global Research, Bloomberg. Data as of Dec 1. We define the idiosyncratic NOK (SEK) implied volatility spread as that between the equally weighted average of the 3-mth EUR/NOK and USD/NOK (EUR/SEK and USD/SEK) implied volatilities and the equally-weighted average of the 3-mth EUR/USD, USD/JPY, EUR/JPY and EUR/CHF implied volatilities.

NOK: weakness seems overdone

2023 was a bad year for NOK and, for its most part, our forecasts. 2024, we believe, will be better given our (1) bearish view on USD (see our G10 FX YA); (2) constructive view on oil (see our Energy YA); (3) hawkish Norges view vs markets (Exhibit 39, Exhibit 40). Lower NOK sales by Norges could also support NOK.

Looking back: NOK weakness in 2023 overdone

We think NOK's weakness in 2023 is overdone. Oil moved below its YE22 level in the past days, but we would have expected its demand-supply mix to be largely neutral for NOK. Norges was slightly dovish in November but more hawkish overall in 2023, so we would have expected a small positive impact (Exhibit 41). The USD is also flat year-to-date. However, NOK's vol spread rose throughout this year ex 3Q (Exhibit 42) and natural gas prices are meaningfully lower. Even in hindsight, we would have expected no more than modest NOK weakness, yet NOK has weakened around 10% in trade-weighted terms this year (Exhibit 43).

Looking ahead: softer USD, higher oil, peak China pessimism, hawkish Norges In 2024 we expect NOK to recover some of its lost ground. First, we expect a weaker USD in our base case (EURUSD at 1.15 by year-end), counting on a soft US landing and an easing Fed. Second, our commodities team expects Brent to average 90\$/bbl in 2024. Relatedly, China bearishness seems overdone to us. Third, we expect Norges to cut its policy rate twice next year (after concluding its hiking cycle next week), i.e., likely cut rates less than most G10 central banks (again Exhibit 39, Exhibit 40). Last, we expect Norges Bank to lower its NOK sales in 2024, which markets will likely see favourably.

Forecasts: EURNOK at 10.90 by end-2024, USDNOK 9.48, NOKSEK 1.02 We recently revised up our EURNOK profile: we expect EURNOK at 10.90 and USDNOK at 9.48 by end-2024. We revised NOKSEK down but still expect it higher (1.02) in 2024.

Risks: Fed, risk sentiment, energy supply, China

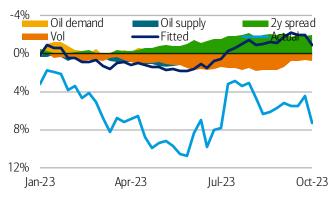
Our main risk scenarios involve a less soft (or even stronger) USD vs our base case and weaker risk sentiment—these scenarios pose downside risks to NOK. But NOK could perform well in the crosses if market bearishness is driven by an energy price shock. Nearer-term, positioning still suggests mostly downside risks for NOK (Exhibit 44).

On balance upside NOK risks into Norges' December meeting

With the market pricing a small chance of a hike next week, our base case suggests upside risks for NOK. But it is a close call. In case, however, Norges holds, we would expect NOK to weaken—also given the long NOK positioning—even if Norges Bank projected a flatter rate path vs. markets.



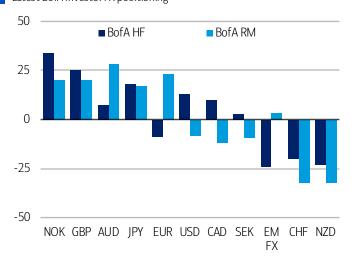
Exhibit 43: NOK 10% weaker than its recent history would suggest Fitted vs. actual NOK I-44 (inverted values)



Source: BofA Global Research, Bloomberg, Federal Reserve Bank of New York, Oil Price Dynamics Report, https://www.newyorkfed.org/research/policy/oil_price_dynamics_report.html. Lower values of the import-weighted krone index (NOK I-44) show a stronger NOK. Weekly data through Nov 3. Regression estimates are for Jan 18- Sep 22. We regress changes in (log) NOK I-44 (Norges' import-weighted krone index) on: demand- and supply-driven changes in (log) Brent crude spot prices as per the New York Fed Oil Price Dynamics Report data; changes in Norway's 2-year tradeweighted swap spread; and changes in the idiosyncratic NOK implied-vol spread.

BofA GLOBAL RESEARCH

Exhibit 44: Our own FX flows suggest market long NOK, neutral SEK Latest BofA investor FX positioning



Source: BofA Securities.+50 (-50) represents a max long (short) positioning relative to history. Data as of Dec 1.

BofA GLOBAL RESEARCH

SEK: cautious in Q1, constructive later

2022 & 2023 were bad years for SEK. In our base case, 2024 proves better, counting on a softer USD and lower Swedish hard landing risks. But near-term risks remain bearish.

Looking back: "rolling" SEK bearishness. Impressive comeback in Q4

We have been rolling over our SEK bearishness for many months despite finding it much undervalued from a long-term perspective: amid persistently high inflation in a ratesensitive economy, we saw tricky options for the Riksbank and risks of a less mild landing, a view we think markets largely shared for most of the year until end-Q3.

So far in Q4 SEK has staged a remarkable comeback (Exhibit 45): initially, amid hawkish Riksbank talk and the Riksbank's FX hedging operation (coupled with hopes of local asset managers following suit) and, afterwards, on the back of the softer USD. Interestingly, EURSEK has been recoupling fast with EURUSUD (Exhibit 46), while SEK positioning turned largely neutral from short earlier in 2023 (Exhibit 44 again).

Looking ahead: cautious in Q1 but constructive later

Are we out of the woods? We are hopeful, but we still lack visibility. Ex energy inflation remains high and the impact of the Riksbank's hikes is yet to be fully felt. Our base case—given Sweden's rate sensitivity—assumes mild recession in 2024 and core inflation below target in Jul-24, with the Riksbank cutting rates three times next year, starting around the same time as the ECB and in broadly symmetric fashion.

Although markets are front-loading rate cuts vs our baseline for both the ECB and the Riksbank, we expect the ECB-Riksbank differential to eventually push EURSEK a little higher (Exhibit 39, Exhibit 40). SEK could also come under some pressure in case the Fed starts cutting later or slower than markets expect. Meanwhile, we remain more bearish on the Swedish economy than consensus and, with core inflation below target perhaps by July, we suspect the Riksbank will turn more neutral on SEK over the course of 1H.

From Q2 we expect SEK to make more sustained gains, which reflects our base case of (1) USD softness amid favourable risk sentiment and (2) mild recession in Sweden (no "hard landing").

Bottom line – we forecast SEK to be stronger in a year from now but expect some retracement of its recent move in Q1.



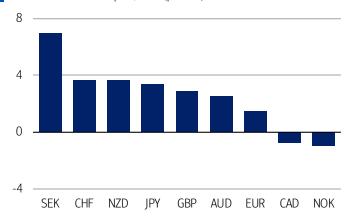
Forecasts: EURSEK slightly up

We recently revised our EURSEK profile slightly higher: we expect EURSEK at 11.10 and USDSEK at 9.65 by end-24. We revised NOKSEK down but still expect it higher (1.02).

Risks: Fed/risk sentiment, Swedish property markets

Our main risk scenarios involve a less soft (or even stronger) USD vs our base case and softer risk sentiment—these scenarios pose downside risks to SEK. We can also easily envisage "harder landing" scenarios for Sweden if Swedish inflation proves stickier than we expect and/or the Riksbank stays high for longer than we expect.

Exhibit 45: SEK has staged a remarkable rebound in Q4 unlike NOK G10 FX vs USD since Sep 22, 2023 (percent)



Source: Bloomberg, BofA Global Research. Data as of Dec 7.

BofA GLOBAL RESEARCH

Exhibit 46: EURSEK recoupling with EURUSD in Q4



Source: Bloomberg, BofA Global Research. Data as of Dec 1.



Annex: economic forecasts

Exhibit 47: BofA Sweden inflation Updated forecasts

	HICP													
			Unprocessed	Processed food,							CPIF ex			
	NEIG	Energy	food	alcohol, tobacco	Food	Services	Headline	Core	CPI	CPIF	energy			
Feb-23	9.19	9.69	23.41	17.13	18.16	5.49	9.70	7.19	11.95	9.42	9.26			
Mar-23	8.72	-2.15	19.48	16.75	17.17	5.32	8.14	6.88	10.64	8.04	8.89			
Apr-23	8.69	-2.04	12.11	15.88	15.18	5.11	7.74	6.76	10.47	7.63	8.39			
May-23	8.22	-10.90	9.81	13.59	12.90	5.88	6.67	6.99	9.67	6.70	8.17			
Jun-23	7.57	-11.94	9.42	12.19	11.65	6.53	6.32	7.16	9.31	6.38	8.06			
Jul-23		-13.66	10.03	10.18	10.12	7.13	6.35	7.65	9.26	6.37	8.05			
Aug-23	7.46	-21.00	8.77	9.20	9.10	5.99	4.53	6.75	7.45	4.73	7.17			
Sep-23	7.54	-25.83	9.71	7.34				6.78	6.48	3.95	6.92			
Oct-23				6.49	6.88						6.13			
Nov-23	6.23	-23.43	9.68	5.68	6.34	5.62	3.18	5.91	5.62	3.53	6.07			
Dec-23	4.85	-33.01	9.40	5.04	5.76			5.56	3.81	1.94	5.61			
Jan-24				3.33	3.93					2.65	4.46			
Feb-24	2.06	-14.61	0.72		1.84	5.71	2.11	4.18	3.70	2.22	3.51			
Mar-24	2.74	-14.06	0.98	0.62	0.67	5.23	1.91	4.19		2.02	3.17			
Apr-24					1.53			3.97		2.19	3.12			
May-24	2.09	-5.83			2.02		2.32			2.36	2.70			
Jun-24			4.35	1.10	1.64	3.96	1.54	3.11	2.32	1.63	2.34			
Jul-24		-3.92			0.80			2.62		1.71	1.82			
Aug-24	0.14	-5.90	4.22	0.83	1.39	4.25	1.54	2.54	1.85	1.57	1.84			
Sep-24	0.71	-5.21	2.68	1.02	1.30	3.62	1.46	2.41	1.61	1.46	1.67			
Oct-24					0.85		1.53		1.52	1.54	1.77			
Nov-24		-5.07	0.96	0.66	0.72	4.01	1.38	2.49		1.37	1.60			
Dec-24	0.30	-4.29	0.65	0.60	0.61	4.10	1.42	2.51	1.31	1.40	1.64			

Source: BofA Global Research, Statistics Sweden

BofA GLOBAL RESEARCH

Exhibit 48: BofA Norway inflation

Updated forecasts

	HICP													
				Unprocessed	Processed food,									
		NEIG	Energy	food	alcohol, tobacco	-	Food	Services	Headline	Core	CPI	CPI-ATE		
- 1	Mar-23	7.84	11.70	15.0)5	5.83	7.14	6.32	7.28	7.08	6.51	6.22		
	Apr-23	7.96				7.51	8.90				6.44			
١	May-23	7.10	6.09	9 18.4	11	9.19	10.51	6.48	7.24	6.80	6.67	6.66		
	Jun-23	6.86	-1.30	18.4	17	9.85	11.12	6.14	6.76	6.55	6.36	7.05		
	Jul-23	6.65	-7.79	12.8	31	6.87	7.75	6.28	5.63	6.52	5.39	6.35		
ŀ	\ug-23	6.80	-16.51	11.9	95	6.93	7.68	6.30	4.85	6.62	4.84	6.30		
	Sep-23	6.15	-29.96	9.3	32	5.98	6.49	5.78	2.81	5.99	3.34	5.66		
	Oct-23					6.65	7.33	6.17			4.05			
I	Nov-23	6.85	-26.00	11.0)1	7.05	7.65	5.83	3.70		4.12			
	Dec-23					7.67	8.49	5.73			4.60			
	Jan-24					7.01	8.00	6.52			4.44			
I	Feb-24	5.21	-9.73	8.0	00	7.77	7.83	6.41			4.88			
- 1	Mar-24					9.76	9.55	6.46			4.69			
	Apr-24					7.75	7.37	6.02			4.04			
1	Иау-24	3.68	3 -9.62	2 3.1	16	6.36	5.91	5.35	3.92	4.57	3.69	4.60		
	Jun-24					5.88	4.67	5.17			3.26			
	Jul-24	1.95				4.42	3.17	4.68			2.74			
1	\ug-24	2.31	5.41	-4.0)8	4.46	3.17	5.14	3.97	3.84	3.55			
	Sep-24					5.31	4.09	5.63			4.33			
1	Oct-24					4.27	2.97	5.25			3.43			
	Nov-24					4.19	2.80	5.34			3.52			
	Dec-24	1.03	8.49	-5.1	8	3.94	2.58	5.24	3.58	3.26	3.31	3.00		

Source: BofA Global Research, Statistics Norway



Exhibit 49: Sweden Economic forecasts

Recession in 2023, 2024. Inflation to fall back towards target around mid-2024

		2020	2021	2022	2023	2024	2025	1Q23	2Q23	3Q23	4Q23	1Q24	2Q24	3Q24	4Q24	1Q25	2Q25	3Q25	4Q25
GDP	% qoq							0.5	-0.8	-0.3	-0.2	-0.1	-0.1	0.2	0.3	0.3	0.3	0.3	0.3
	% qoq ann.							2.0	-3.2	-1.2	-0.8	-0.3	-0.2	0.8	1.2	1.2	1.2	1.2	1.2
	% yoy	-2.3	5.9	3.0	-0.3	-0.4	1.1	1.3	-0.4	-1.4	-0.8	-1.4	-0.6	-0.1	0.4	0.8	1.1	1.2	1.2
Private Consumption	% qoq							-1.0	-0.3	-0.6	-0.2	-0.1	-0.1	0.2	0.3	0.3	0.3	0.3	0.3
	% yoy	-3.2	6.2	1.9	-2.4	-0.5	1.1	-1.9	-3.4	-2.3	-2.0	-1.2	-1.0	-0.2	0.3	0.7	1.1	1.2	1.2
Government Consumption	% qoq							0.9	0.4	0.0	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	% yoy	-2.0	2.9	0.1	2.1	1.6	2.0	2.4	2.6	1.7	1.6	1.2	1.3	1.8	2.0	2.0	2.0	2.0	2.0
Investment	% qoq							-0.6	-0.1	-0.6	0.0	0.1	0.2	0.3	0.4	0.4	0.4	0.4	0.4
	% yoy	1.5	6.8	6.1	-1.0	0.1	1.5	2.1	-1.8	-2.7	-1.4	-0.7	-0.4	0.6	1.0	1.3	1.5	1.6	1.6
Final Domestic Demand ¹	% qoq							-0.4	-0.1	-0.4	0.0	0.1	0.1	0.3	0.4	0.4	0.4	0.4	0.4
	% yoy	-1.6	5.3	2.5	-0.8	0.2	1.4	0.3	-1.4	-1.4	-0.9	-0.4	-0.2	0.6	1.0	1.2	1.5	1.5	1.5
Net exports ¹	% qoq							0.3	-0.2	1.5	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
	% yoy	0.0	0.2	-0.6	1.9	0.4	-0.1	1.4	2.1	2.6	1.4	1.0	1.1	-0.4	-0.2	-0.1	-0.1	-0.1	-0.1
Stockbuilding ¹	% qoq							0.6	-0.5	-1.4	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
	% yoy	-0.8	0.5	1.2	-1.4	-1.0	-0.2	-0.4	-1.2	-2.7	-1.3	-2.0	-1.6	-0.3	-0.3	-0.3	-0.2	-0.2	-0.2
Current Account Balance	% of GDP	5.9	6.8	5.0	5.0	4.9	4.7	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Industrial production	% qoq							2.8	-3.6	2.6	0.2	-0.6	-0.3	0.4	0.6	0.2	0.2	0.2	0.2
	% yoy	-5.0	7.0	2.2	0.6	0.0	0.0	1.5	1.2	6.1	0.1	3.5	-0.9	-2.2	2.0	-1.4	1.9	-0.3	0.1
Unemployment rate ²	%	8.5	8.9	7.5	7.6	8.0	8.1	7.4	7.5	7.8	7.9	7.8	7.9	8.0	8.2	8.2	8.2	8.1	8.0
CPI Inflation (harmonised) ²	% yoy	0.7	2.7	8.1	5.9	1.9	1.7	9.1	6.9	4.8	2.9	2.3	2.0	1.6	1.6	1.8	1.7	1.7	1.8
CPI ²	% yoy	0.5	2.2	8.4	8.5	2.5	1.6	11.4	9.8	7.7	5.3	3.8	2.9	1.9	1.5	1.7	1.6	1.6	1.7
CPIF	% yoy	0.5	2.4	7.7	6.0	1.9	1.7	8.9	6.9	5.0	3.3	2.4	2.2	1.7	1.5	1.7	1.7	1.7	1.7
Policy Rate ⁴	%	0.00	0.00	2.50	4.25	3.25	2.00	3.00	3.75	4.00	4.00	4.00	3.75	3.50	3.25	3.00	2.50	2.25	2.00

Notes: ¹ Contribution to GDP growth ² quarterly averages ³ Period averages, quarterly change. **Source:** BofA Global Research, Statistics Sweden, Bloomberg BofA GLOBAL RESEARCH

Exhibit 50: Norway Economic forecasts Growth to slow in 2024, inflation to persist

		2022	2023	2024	2025	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23	1Q24	2Q24	3Q24	4Q24	1Q25	2Q25	3Q25	4Q25
GDP (mainland)	% qoq					0.2	1.1	0.6	0.4	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.4
	% qoq ann.					0.9	4.3	2.3	1.6	0.5	0.2	0.2	0.6	0.4	0.4	0.8	0.8	1.2	1.6	1.6	1.6
	% yoy	3.7	1.1	0.5	1.2	5.2	4.8	2.7	2.3	2.1	1.1	0.6	0.4	0.3	0.4	0.5	0.6	0.8	1.1	1.3	1.5
Private Consumption	% qoq					-3.1	3.8	0.1	4.1	-5.2	0.4	0.1	0.2	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.4
	% yoy	6.3	-1.1	0.6	1.2	9.3	9.8	2.0	4.7	2.4	-1.0	-0.9	-4.6	0.8	0.5	0.6	0.6	0.8	1.1	1.3	1.5
Government Consumption	% qoq					-0.8	0.4	0.6	0.9	0.4	0.9	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	% yoy	1.0	2.4	1.4	1.2	2.2	1.2	-0.2	1.1	2.3	2.8	2.5	2.0	1.9	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Investment	% qoq					4.2	0.6	2.0	-1.9	1.0	-0.7	0.0	0.2	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6
	% yoy	7.6	0.2	1.2	2.3	7.2	8.0	10.6	4.9	1.7	0.4	-1.6	0.5	0.0	1.2	1.7	2.0	2.1	2.2	2.3	2.4
Final Domestic Demand ¹	% qoq					-0.8	2.1	0.7	1.7	-2.2	0.3	0.1	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4
	% yoy	5.3	0.2	1.0	0.3	6.7	6.9	3.3	3.7	2.2	0.4	-0.1	-1.6	0.9	0.9	1.0	1.1	1.2	1.4	1.5	1.6
Net exports ¹	% qoq					-1.7	-0.9	2.0	-2.2	0.9	-0.6	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
	% yoy	-2.0	-0.6	-0.4	0.0	-2.0	-3.7	0.6	-3.0	-0.3	0.0	-2.1	0.1	-0.9	-0.4	-0.2	-0.1	-0.1	0.0	0.0	0.0
Stockbuilding ¹	% qoq					2.8	-0.1	-2.1	0.8	1.6	0.4	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0
	% yoy	0.5	1.4	-0.1	-0.3	0.3	1.5	-1.3	1.4	0.2	0.7	2.8	2.0	0.3	-0.1	-0.3	-0.4	-0.4	-0.3	-0.2	-0.2
Current Account Balance	% of GDP	30.3	14.3	8.9	0.0	28.6	25.0	39.7	27.0	21.2	12.7	12.7	11.0	10.2	9.3	8.5	7.7	6.9	6.2	5.5	4.7
Industrial production	% qoq					1.8	1.3	2.0	-2.0	-7.7	0.0	1.6	0.0	0.3	0.5	0.6	0.6	0.6	0.6	0.6	0.6
	% yoy	2.6	-7.2	1.9	2.4	2.2	2.8	2.4	2.4	3.0	-6.6	-7.8	-8.1	-6.2	1.8	2.4	1.4	2.0	2.3	2.4	2.4
Unemployment rate ²	%	1.8	1.8	2.2	2.5	2.1	1.7	1.7	1.7	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.4	2.5	2.5	2.5
CPI Inflation (harmonised) ²	% yoy	6.2	5.5	3.9	2.9	3.8	6.4	7.4	7.3	7.5	7.0	4.4	3.3	4.3	3.5	3.7	4.2	3.7	3.2	2.7	2.2
CPI ²	% yoy	5.8	5.31	3.7	2.8	3.8	5.8	6.7	6.6	6.6	6.5	4.5	3.7	4.3	3.4	3.4	3.9	3.4	3.0	2.6	2.1
CPI-ATE ²	% yoy	3.9	6.1	3.68	2.2	1.9	3.2	4.8	5.8	6.2	6.7	6.1	5.6	5.1	3.5	3.0	3.1	2.6	2.5	2.0	1.9
Policy Rate ³	%	2.75	4.50	4.00	2.75	0.75	1.25	2.25	2.75	3.00	3.50	4.25	4.50	4.50	4.50	4.25	4.00	3.50	3.25	3.00	2.75

Notes: 1 Contribution to GDP growth 2 quarterly averages 3 End period. Source: BofA Global Research, Statistics Norway, Norges Bank BofA GLOBAL RESEARCH



Disclosures

Important Disclosures

BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.

BofA Securities fixed income analysts regularly interact with sales and trading desk personnel in connection with their research, including to ascertain pricing and liquidity in the fixed income markets

Other Important Disclosures

Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.

The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

This report may refer to fixed income securities or other financial instruments that may not be offered or sold in one or more states or jurisdictions, or to certain categories of investors, including retail investors. Readers of this report are advised that any discussion, recommendation or other mention of such instruments is not a solicitation or offer to transact in such instruments. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor for information relating to such instruments. Rule 144A securities may be offered or sold only to persons in the U.S. who are Qualified Institutional Buyers within the meaning of Rule 144A under the Securities Act of 1933, as amended. SECURITIES OR OTHER FINANCIAL INSTRUMENTS DISCUSSED HEREIN MAY BE RATED BELOW INVESTMENT GRADE AND SHOULD THEREFORE ONLY BE CONSIDERED FOR INCLUSION IN ACCOUNTS QUALIFIED FOR SPECULATIVE INVESTMENT.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.

The securities or other financial instruments discussed in this report may be traded over-the-counter. Retail sales and/or distribution of this report may be made only in states where these instruments are exempt from registration or have been qualified for sale.

Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.

This report, and the securities or other financial instruments discussed herein, may not be eligible for distribution or sale in all countries or to certain categories of investors, including retail investors.

Individuals identified as economists do not function as research analysts under U.S. law and reports prepared by them are not research reports under applicable U.S. rules and regulations. Macroeconomic analysis is considered investment research for purposes of distribution in the U.K. under the rules of the Financial Conduct Authority.

Refer to BofA Global Research policies relating to conflicts of interest.

"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.

Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofaml.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI, BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSFC); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.Á. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.

This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSFC; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to "Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securit

This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your



jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities. This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

Futures and options are not appropriate for all investors. Such financial instruments may expire worthless. Before investing in futures or options, clients must receive the appropriate risk disclosure documents. Investment strategies explained in this report may not be appropriate at all times. Costs of such strategies do not include commission or margin expenses. BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

This report may contain a trading idea or recommendation which highlights a specific identified near-term catalyst or event impacting a security, issuer, industry sector or the market generally that presents a transaction opportunity, but does not have any impact on the analyst's particular "Overweight" or "Underweight" rating (which is based on a three month trade horizon). Trading ideas and recommendations may differ directionally from the analyst's rating on a security or issuer because they reflect the impact of a near-term catalyst or event.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned in this report. Investors in such securities and instruments effectively assume currency risk.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information. In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

Copyright and General Information:

Copyright 2023 Bank of America Corporation. All rights reserved. iQdatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BofA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Securities. BofA Global Research information is distributed simultaneously to internal and client websites and other portals by BofA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BofA Securities. Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public inform

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial



instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies. Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.

