Norges Bank Watch 2022

An independent Evaluation of Monetary Policy in Norway

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March 2022

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Foreword

Each year the Centre for Monetary Economics (CME) at the Department of Economics, BI Norwegian Business School, appoints an independent group of experts to evaluate monetary policy in Norway.

This year the NBW committee consists of Kjersti Haugland, Chief Economist at DNB Markets, Martin Blomhoff Holm, post-doc at the University of Oslo, and Sharon Zollner, Chief Economist at ANZ New Zealand.

The NBW committee is solely responsible for the report and the views therein. The report does not necessarily represent the views of the CME or of its members. The Ministry of Finance uses the Norges Bank Watch reports as input to their annual Financial Markets Report to the Parliament, when assessing the conduct of monetary policy. The Ministry of Finance partly funds the Norges Bank Watch reports.

Oslo, March 1, 2022
Centre for Monetary Economics
Tommy Sveen

Introduction

This report, Norges Bank Watch 2022, is an evaluation of the conduct of monetary policy in Norway in 2021. In section 1 we list our main assessments of the conduct and communication of monetary policy. In section 2, we describe the economic and monetary policy developments throughout the year. In section 3, we call for the introduction of minutes/accounts. In section 4, we discuss the challenges of the financial stability target. In section 5, the experience of New Zealand is compared to the Norwegian experience, in relation to developments in the economy, inflation, housing market and monetary policy.

The committee met with the Ministry of Finance on November 25, 2021, and with Norges Bank on December 21, 2021. We wish to thank Norges Bank for supplying us with useful data, and Nathalie Berner Sørhaug and Ingrid Solberg for constructive comments.

1. Norges Bank Watch 2022: Main assessments and conclusions

2021: The comeback of inflation jitters. 2021 was marked by a sharp U-turn in the policy stance and signals of several central banks in rich economies, caused by a significant reassessment of the persistence and strength of cost pressures over the year. The pressure, stemming from bottlenecks in global trade and transport, was at the beginning of the year seen as merely transitory. However, bottlenecks showed little signs of easing and energy prices soared. With labour markets running hot at the same time, central banks increasingly acknowledged the risk of significant second-round effects on inflation through wages, that could keep inflation high for longer, and in the worst case create a price-wage spiral. Many central banks pulled forward their tightening plans significantly over the year. Some, such as the ECB and the Reserve Bank of Australia, were slower to change direction and to recognize the need to normalize policy earlier than anticipated.

Norges Bank was earlier than most to signal lift-off. Already at the beginning of 2021, Norges Bank signaled an earlier start (H1 2022) to the monetary policy tightening process than most of its OECD peers. A less severe economic hit from the pandemic than seen in many other European countries, along with expectations of a rapid recovery, particularly after the vaccine roll-out, were the main reasons behind the lift-off plan. Concerns regarding the high house price growth seen during the pandemic were an additional argument at that point in time. However, from April onwards, housing market concerns ebbed due to lower price growth, while inflation concerns went from being nearly non-existent in the March Report to being highlighted as a part of the discussion of balance of risks in the December Report. The anticipated timing for rate hikes was pulled further forward in time, both in March and June, and Norges Bank ended up hiking twice in H2 2021, to 0.50% by year-end, signaling three further hikes in 2022 and a terminal rate at 1.75% by end-2024.

The timing was almost identical to that of the Reserve Bank of New Zealand. However, in a separate chapter in this report, we show that Norges Bank was in fact far more timely, insofar as rapidly rising core inflation became evident much earlier and more strongly in New Zealand.

Well-balanced and well-timed decisions. The NBW committee finds Norges Bank's policy decisions in 2021 (which are chronologically described in section 2 to have been well balanced and well-timed. It was reasonable to keep the policy rate on hold until the vaccine roll-out was completed. However, it was also highly appropriate to signal that the level of the policy rate would be lifted gradually, but steadily thereafter. While the decisions were well-founded given the information available at the time, they appear even more appropriate with the benefit of hindsight, with increasing signs of price pressure emerging towards the end of the year. Anticipation of such pressure was not the motive behind the tightening plans, but having been an early mover for other reasons, Norges Bank is now in the fortunate position of being less "behind the curve" than peers, in a better position to address the inflation risks that the NBW Committee judges to be at their highest in decades. For the same reason, we commend Norges Bank for their decision to move ahead with its planned December hike, despite it being more controversial due to elevated Covid-19-related uncertainty and the sharp spike in electricity prices hitting households. Norges Bank has not put itself in a position of having to perform the same kind of U-turn as for instance the Fed and Bank of England have recently done, roiling markets.

Effective communication (with one exception) has limited unnecessary volatility. The relatively modest market reactions to NB's announcements suggest that NB's reaction function and broader strategy has been well communicated and well understood in 2021. Even in December, with enormous uncertainty regarding the Omicron virus, most analysts expected that NB would move ahead with their planned rate hike.

There was one unfortunate incident, however. After the press conference in March, Governor Olsen specified the probabilities embedded in the March Report's interest rate path exclusively to a Norwegian daily, Finansavisen. Olsen was quoted saying that September and December were equally likely points in time for the first hike to occur. Such an interpretation was not obvious from the rate path presented and was hence a hot topic for discussion among market participants, who then received this information at different points in time, as the news article circulated. We find it important to give such information at the broadcasted press conference, or in the Monetary Policy Report, ensuring equal access to important information.

High-quality communication of the analytical backdrop for discussions. The analytical work that underpins the monetary policy decisions continues to be characterized by its high quality. The communication of these analyses to the public is also impeccable. The Monetary Policy Reports (MPR) are both well-written and to-the-point and give important input and insights to those following the decisions of the central bank. We also commend the NB for the focus sections in these reports, which provide additional input on the central banks' assessment of particularly urgent topics, such as vaccination scenarios, the impact of different containment measures on the economy and the distribution of savings across households.

We would also like to mention Bankplassen Blogg, a very welcome addition to the central banks' communication channels, providing the public with insights and analysis that previously was largely left in-house.

We also note that the uncertainty fans surrounding the main forecast variables, i.e. the interest rate, the output gap and inflation, have been absent since the spring of 2020. Given the unusual situation Covid-19 created this was reasonable, but Norges Bank should now consider finding alternative effective ways to illustrate and quantify uncertainty.

We also propose that that the CPIXE should be emphasized more as a main indicator for underlying inflationary pressure going forward. This indicator is adjusted for tax changes and excludes *temporary* changes in energy prices. As energy prices might be trending upwards, due to the ongoing energy transition in Europe, it may prove unfortunate to hold on to CPI-ATE as the preferred gauge of core inflation, as it excludes energy prices totally.

The openness of the Committee regarding their discussion of dilemmas and risks is not yet satisfactory. We find considerable scope for improvement when it comes to providing information to the public regarding the discussion and weighting of different arguments and risks among the policy makers. The information given in the assessment note is short, high-level, and stylized, providing scant information about the actual discussion. To improve this, we therefore recommend that Norges Bank introduces minutes or accounts (non-attributed to participants). With a policy committee consisting of highly competent economists, the introduction of such accounts should not serve to curb the discussion, thereby leading to sub-optimal outcomes. As well as providing the market and other observers with a richer picture of what is driving policy decisions, it would also provide NB with the comfort of knowing than when the inevitable forecast errors and policy mistakes occur, there is evidence that the various risks were robustly debated at the time. We discuss this in section 3.

"Leaning against the wind" should be saved for exceptional circumstances. As discussed in a separate chapter in this report, the costs of keeping the interest rate higher due to financial stability concerns are salient (unemployment now), and according to research also substantial. Gains, however, are opaque (reduction in future crisis risk/severity). According to research using Norges Bank's macroeconomic model NEMO, the net benefit from "leaning" is positive only in exceptional circumstances. Thus, the NBW suggests that NB looks to Bank of Canada, that states that monetary policy should be adjusted to address financial imbalances only in exceptional circumstances. A good example of such a situation is the New Zealand experience in 2021, when housing price growth peaked at about 30% YOY.

Related to the former point, we call for more information about whether, why and to what extent financial stability considerations have affected each policy decision. The potential costs of such a strategy imply that central banks should not be allowed to interpret the financial stability target unrestrained but rather be forced to be concrete and specify more clearly how they interpret the risk of financial imbalances. As discussed in a separate chapter of this report, it is currently hard to see precisely how this is done in practice, and thus hard to gauge whether it is done consistently over time. For instance, the MPC assessments have frequently stated that a long period of low interest rates increases the risk of a build-up of financial imbalances and noted that house prices have risen markedly during the pandemic. At the March meeting the assessment stated that the Committee "placed weight on" the marked rise in house prices. However, it was not a factor included in the illustration of the factors contributing to the changes in the interest rate path. Still, one is left with the impression that the argument did contribute to the desire to normalizing interest rates in a timely fashion.

We acknowledge that this factor is especially prone to judgement calls, but these calls should be more thoroughly explained than they are today, with the recently published Monetary Policy Strategy providing the appropriate theoretical framework. This would make the central bank more predictable as well as more accountable. We believe that introduction of minutes or accounts could be a very suitable medium to provide more openness on this matter.

Consider public appearances by external MPC members. On January 23 2020, Governor Olsen stated: *The Governor is the Committee's external spokesperson*. As the committee members stand on equal terms when it comes to the decisions being made, we believe it could be a valuable addition to the central bank's communication to allow all the members of the committee to give speeches and interviews, even though their primary jobs are not in Norges Bank.

The strategy to treat the output gap asymmetrically could cause inflationary bias. The MPC published its strategy in December 2021. It describes the Committee's interpretation of the monetary policy mandate and provides a framework for how policy will respond to different shocks. The document is a useful guideline for those following Norges Bank, and most of the messages are already well-known. However, we question whether an inflationary bias may be built into this strategy, due to the asymmetric policy response to the output gap.

Specifically, Norges Bank states that if inflation is expected to remain within a range close to 2%, it will not normally aim to quickly close a positive output gap by tightening monetary policy unless there are signs that financial imbalances are building up. The argument is that lower employment involves direct costs in the form of income and output loss, and economic and health consequences for those unemployed, while a positive output gap has only indirect costs in the form of wage and price inflation becoming too high. If such indirect costs do not occur, at least not significantly so, a response is thus seen as unnecessary.

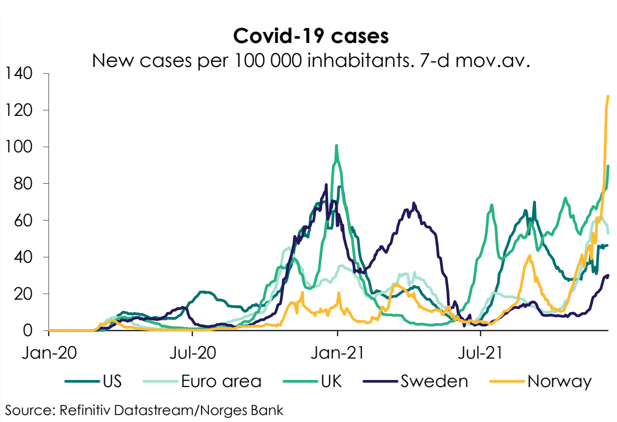
In our view, this amounts to targeting a slightly positive output gap, on average. However, the accepted way to define a positive output gap is a situation that leads to increased cost and wage pressure. Thus, the way that the strategy is laid out here, such an approach could end up merely contributing to an inflation bias, without any positive effects on employment. On average it could potentially introduce unnecessary volatility into the business cycle, and therefore employment, hurting the more marginalized workers the policy was aimed at helping. One could certainly argue that higher inflation than experienced in the past decades could be a good thing, especially given the problems connected to the lower effective bound of monetary policy, but if higher average inflation is the aim, the inflation target should be lifted instead. Granted, persistently high inflation has not been a challenge for OECD central banks for decades, but with the pandemic, peak globalization and climate change, it seems more likely than not that the period of problematically lower inflation is over.

System for FX transactions causes volatile money market premiums. Norges Bank states that: "Norges Bank manages bank reserves with a view to keeping the shortest money market rates close to the policy rate. This is carried out through different forms of market operations, which means that the central bank can either supply or withdraw reserves to/from the banking system". It follows that the liquidity management should not increase volatility in money market premiums. In 2021, like in the second half of 2020, there were large fluctuations in the money market premium, defined as the difference between the money market rate, 3M Nibor, and the expected policy rate for the same period as the money market rate (three months). In the beginning of the year the premium peaked at 53bp. Early in July it had fallen back to 17bp, before rising to 46bp late in December and further to 55bp in January 2022.

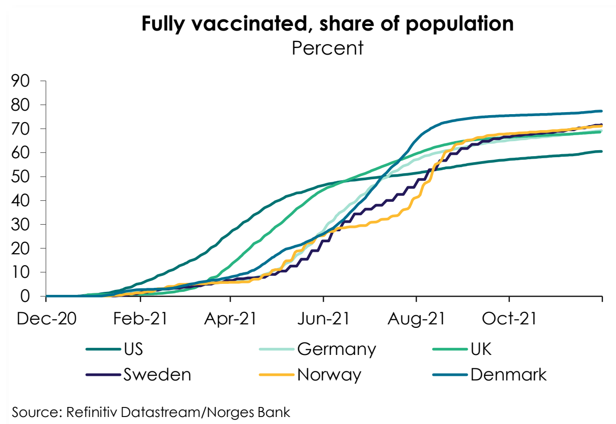
The fluctuations in the premiums can be linked to the development in structural liquidity and its expectations. In the latter part of 2020 and partly into 2021 movements could partly be attributed to long-term F-loans that matured, rising prices for the F-loans and, from February 2021, stricter requirements for providing security for the loans. However, another important factor in 2020 and 2021 is Norges Bank's foreign exchange transactions on behalf of the government to cover the non-oil fiscal budget deficit. Broadly speaking, Norges Bank's foreign exchange transactions, together with the central government's current krone revenues from the petroleum activities, will balance the liquidity effects of the central government settling the budget with an oil-adjusted deficit. Both in 2020 and in 2021, Norges Bank has for long periods purchased significantly more kroner than it turned out to be needed. In 2020, it was particularly related to the oil-adjusted deficit being lower than projected, while in 2021, the petroleum companies' tax payments were also far higher than projected. This indicates that the system for determining foreign exchange transactions have some shortcomings in dealing with sudden changes in the budget assumptions. One consequence is that the key policy rate has a limited impact on one of the most widely used money market rates. For example, oil prices rose markedly in the second half of 2021 and gas prices became very high. In the budget process in the Storting towards the end of 2021, the estimates for the state's oil and gas revenues and the oil-adjusted deficit were not adjusted. These are estimates that are important for Norges Bank's calculation of the foreign exchange transactions for 2022 and the estimates seem misleading. There should be a basis for improving the system for these foreign exchange transactions.

2. Developments in 2021: Recovery, inflation surprises and lift-off

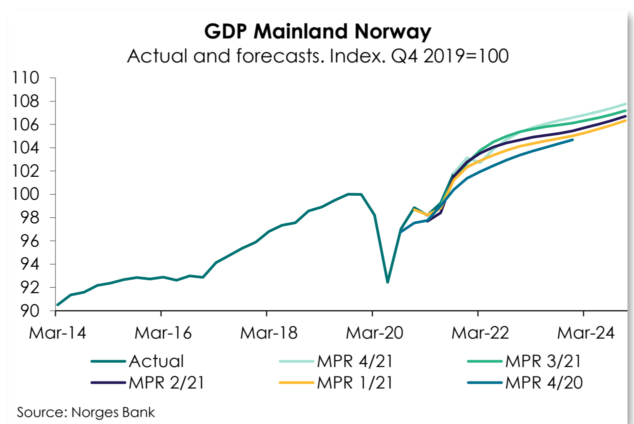
Although 2021 was generally a strong year for the Norwegian economy, it both started and ended on a weak note, due to Covid-19. At the start of the year, the wave of Delta variant cases caused local and central authorities to tighten restrictions that had already been in place from end-November. From April onwards, the number of Covid-19 cases and deaths declined again. The vaccination roll-out, which started on 27 December, was much slower than in the US and the UK, and somewhat slower than in the major central European economies (see chart below). The vaccination goal of the government was reached in September. Consequently, most pandemic-related restrictions were lifted on 25 September, allowing for all-but-normal activity, including for the leisure and hospitality sectors.



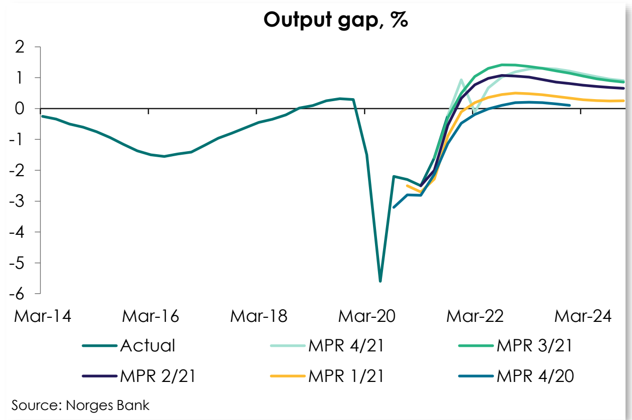
In the wake of the reopening, Delta cases peaked again. Due to a high degree of vaccination, the number of Covid-19 related deaths did not follow cases to the same extent as before. However, in November the total strain on hospitals was characterized as high, exacerbated by a simultaneous spike in many other viruses reappearing after having been curbed during the previous winter. On Friday 26 November news broke about a worrying new variant, even more transmittable than the Delta variant. To slow the outbreak of the Omicron variant the Norwegian government decided to reimpose national restrictions on 2 December, and to tighten them further on 13 December.



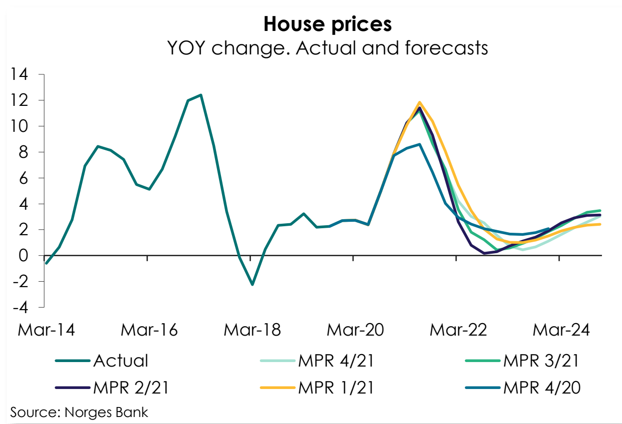
Economic developments in 2021 were clearly demarcated by the developments in the pandemic. Mainland GDP fell through January to March. The downturn was modest, compared to the one seen during the first wave. The containment measures first and foremost hit high-contact industries, like culture, leisure, and hospitality, but also for a period the retail sector.



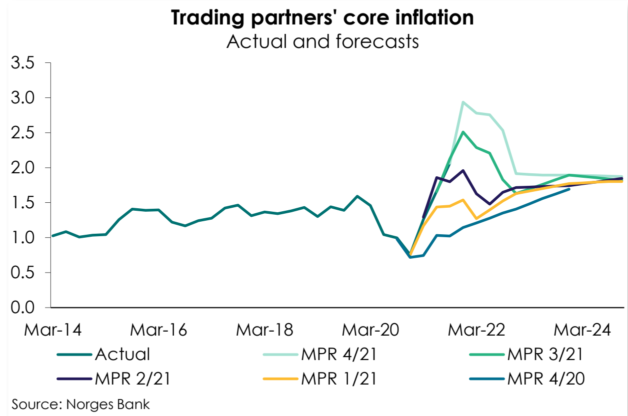
When restrictions were gradually eased, a solid recovery quickly took place. In June 2021, mainland GDP was back at its pre-crisis level from February 2020, and it continued upwards. Unemployment fell to its pre-pandemic level (2.2%) during the autumn. However, with heightened virus fears and restrictions at the end of the year, activity was dampened again, and unemployment edged up.

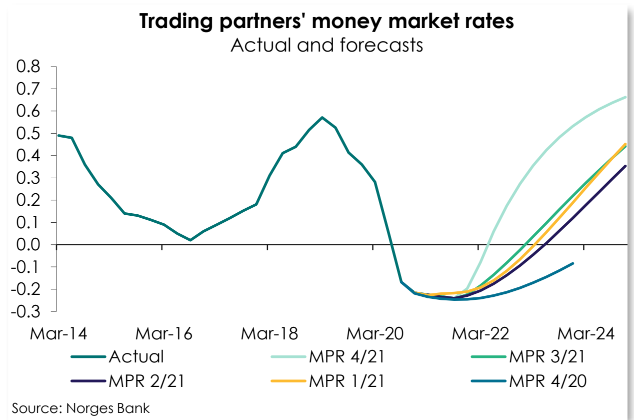


One risk factor faded during 2021: The temperature in the housing market, which had been high throughout the pandemic, cooled significantly from April onwards.



In parallel, another risk factor emerged. Cost pressures were building up more strongly than expected in OPEC economies, due to bottlenecks in both global goods trade and the labour market. The outlook for inflation among Norway's trading partners was consequently significantly upwardly revised over the course of 2021, as was the market pricing of money market rates abroad.

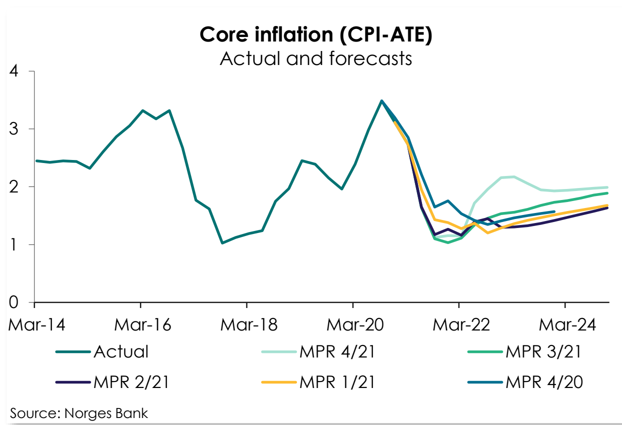


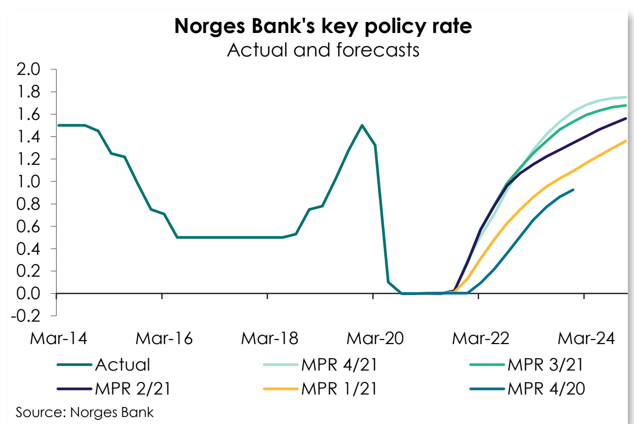


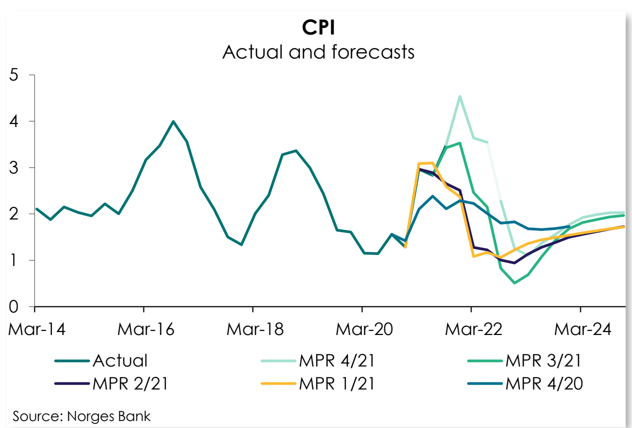
For Norway, inflation developments in 2021 were the opposite of those seen in 2020. Headline inflation (CPI) soared, lifted by electricity prices, which went from record-lows in 2020 to record-highs in 2021. Core inflation (CPI adjusted for taxes and excluding energy goods, CPI-ATE), however, fell to a level well below the 2% target. It was lowered by the rebound of the NOK after the dramatic depreciation in March 2020.

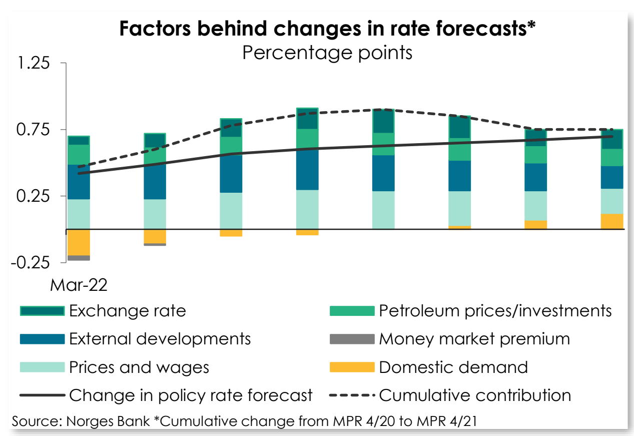
Despite sharp upward revisions to the outlook for core inflation abroad, NB's upward revisions to its forecasts of Norwegian core inflation have been rather moderate. Until the December report, inflation was expected to remain below the target throughout the whole forecast period. In December, the forecast was lifted in the near-term, to slightly above 2% during the winter of 2023, coming back down to 2% rapidly thereafter.

Norges Bank's interest rate paths were also revised upwards throughout the year. The most important contributors to the changes in NB's interest rate forecasts were the higher growth and inflation outlook among trading partners and a stronger outlook for domestic prices and wages. Each quarter, the timing of the first hike was brought closer, and the endpoint of the rate path was lifted. At the threshold of 2021, Norges Bank expected the first hike, from the record-low 0.00%, to happen in Q1 2022. The largest lift in the forecasts took place in June, when Norges Bank pointed to September 2021 as the most likely time for lift-off, followed by another hike by year-end. The policy rate was indeed hiked in September and in December, leaving it at 0.50%, with signals of at least three further hikes in 2022, and two more after that.









2.1 Chronological description of developments and policy announcements in 2021

At the threshold of 2021: Covid-wave, vaccine roll-out, prospects of lift-off in Q2 2022
At the policy meeting 17 December 2020, Norges Bank (NB) kept the policy rate unchanged at record-low 0.00%, and reiterated that it wanted, due to "the sharp economic downturn and considerable uncertainty surrounding the outlook" to keep "the policy rate on hold until there are clear signs that economic conditions are normalizing". The central bank expected mainland GDP to fall in November and December but saw "prospects for a faster upturn through 2021", due to the roll-out of vaccines. Thus, the policy rate path for 2022 and 2023 was lifted, indicating a first hike in Q1 2022, followed by further hikes after the summer.

Data released after the December meeting indicated that initial negative effects of the containment measures on the economy had been significantly milder than expected. Mainland GDP dropped by 0.9% MOM in November, much less than the projected -1.6%. Also, unemployment remained rather stable.

Whilst still well above the 2% target after a substantial lift due to the sharp NOK depreciation in Q2 2020, core inflation was declining more rapidly than NB expected. In December, core inflation was 3.0% YOY, 0.3%-points lower than NB's estimate. Moreover, a stronger NOK than expected from December and up to the January meeting pointed to lower inflation ahead.

Meanwhile, activity in the housing market remained high, with higher price growth than projected by NB. This added to concerns regarding the potential build-up of financial imbalances.

21 January: Decision from interim monetary policy meeting announced
Norges Bank kept the policy rate unchanged at 0.00%, in line with market and analysts' expectations. The decision was unanimous.

Summarizing the incoming information since the December meeting, the committee assessed that economic developments so far had "been broadly in line with the projections in the December Report." Norges Bank acknowledged that the recovery was being held back by the Covid-19 wave but held on to the view that vaccinations (described as "well underway") would lead to a pick-up in growth further out in 2021. It also acknowledged that underlying inflation was above the target but held on to the view that the krone appreciation since March and prospects for low wage growth suggested that it would moderate ahead.

There were no new policy signals to be read from the communication material. Largely, the language used in the December meeting was repeated, including the main message: The sharp downturn and considerable uncertainty suggested keeping the policy rate on hold until there were clear signs that economic conditions were normalizing. The policy rate most likely would remain at the present level for "some time ahead".

The trade-offs were also described in the exact same manner as in the December meeting. "Low interest rates are contributing to speeding up the return to more normal output and employment levels. This reduces the risk of unemployment becoming entrenched at a high level. On the other hand, house prices have risen markedly since spring, and a long period of low interest rates increases the risk of a build-up of financial imbalances".

Developments from the January to the March policy announcement
The first months of 2021 were marked by "reflation trade" in financial markets. The trend was first and foremost driven by prospects of another strong fiscal boost, initiated by President Biden and made possible by the Democrats' marginal majority in both chambers of Congress.

The March package boosted the prospects of the US economy, already on a stronger path than its European peers. International long-term rates were on the rise, and the oil price rose significantly.

The Norwegian economy, however, remained weighed down by Covid-19-related restrictions. Although the initial downturn in Q4 2021 had turned out milder than NB had expected, with the 0.6% MOM decline followed by a 0.8% MOM recovery in December, it was more protracted than envisaged. While NB had projected a marginal rebound for mainland GDP in January, statistics showed that it fell by 0.2% MOM. Moreover, Statistics Norway commented that the input material indicated a deterioration during the month of January, implying a negative figure also for February, a month in which NB had penciled in 0.9% growth.

Core inflation continued to fall faster than projected, reaching 2.7% YOY in February, 0.2 %-points below Norges Bank's forecast. Also, the NOK had continued to appreciate more than NB had projected, pointing to lower inflation pressures ahead. At the same time, however, higher energy prices led to higher-than-expected headline inflation, at 3.3% YOY in February.

House prices, however, continued to rise more than estimated by NB, namely by 0.8% MOM in January and 1.3% MOM in February. Household credit growth had risen to 4.9% YOY, in line with NB's expectations.

18 March: Policy decision announced, along with Monetary Policy Report 1/21

Norges Bank kept the policy rate unchanged at 0.00%, in line with market and analysts' expectations. The decision was unanimous. The expected timing of the first hike, however, had been moved forward in time, namely from Q1 2022 to "the latter half of 2021". The interest rate path in the MPR showed that the policy rate was projected to be 0.75% in Q4 2022, rising further to 1.36% in Q4 2024.

The MPC reiterated that "when there are clear signs that economic conditions are normalizing, it will again be appropriate to raise the policy rate gradually from today's level". However, these conditions were now assessed to be met earlier than previously envisaged, as the health authorities' projections for the vaccination progress indicated that restrictions could be lifted significantly after May and go down to a minimal level after August. Stronger global economic developments than expected also added to expectations of a stronger rebound. NB forecasted a "pronounced recovery over summer", with economic activity approaching a normal level earlier than projected in the December report, and the output gap turning positive already at the beginning of 2022.

The MPC noted that there were some signs of higher cost growth both globally and in Norway. However, inflation was still expected to slip further, due to a stronger NOK and moderate wage growth. Core inflation was estimated to decline from 1.9% in 2021 to 1.6% in 2024.

In the description of the strategy trade-offs, the Committee also placed weight on the "marked rise in house prices since spring 2020. A long period of low interest rates increases the risk of a build-up of financial imbalances."

The MPC advised the Ministry of Finance to keep the countercyclical capital buffer unchanged at 1.0% but signaled that it would advise increasing the buffer stepwise over the course of 2021, expecting it to return to 2.5% in the period ahead.

Developments from the March to the May announcement

In April, Covid-19 cases fell sharply, and restrictions were eased somewhat. On the vaccine roll-out, both negative and positive news had emerged. The AstraZeneca vaccine had been removed from the vaccination program due to potential side-effects. However, a government decision to increase the number of weeks between the first and second vaccine doses was assessed to increase the probability of a faster phasing out of the containment measures than was assumed by NB.

After climbing in Q1, forward rates abroad and the oil price had stabilized. The market was pricing in a policy rate hike in Norway at the end of 2021.

Mainland GDP fell further in March, and due to revisions, the level by end-March was somewhat lower than projected by NB in the March MPR. The seasonally adjusted unemployment rate kept steady at 4.0% from January to April, instead of declining to 3.8% in April, like NB had projected.

Core inflation, however, continued to edge down, reaching 2.7% YOY in March, in line with NB's expectations. Moreover, moderate wage settlements, in line with NB's expectations, along with a continued appreciation of the NOK, indicated moderate price pressures ahead.

Finally, the first signs of a lower temperature in the housing market came in April, with a slight decline in existing home prices after several month of strong rises.

6 May: Decision from interim monetary policy meeting announced

Norges Bank kept the policy rate unchanged at 0.00%. The decision was unanimous and in line with market and analysts' expectations. The MPC assessed the economic developments as "largely in line with the projections in the March report" and reiterated that "the policy rate will most likely be raised in the latter half of 2021".

Developments from the May to the June policy announcement

From the end of April, growth had picked up solidly among Norway's trading partners, due to a gradual reopening of European societies as the vaccination programs progressed. Simultaneously, inflation had picked up markedly in several countries. The rise was driven primarily by rising energy prices and base-effects. However, there were also signs of building cost pressures, stemming from soaring freight rates, and a steep rise in commodity and producer price due to bottlenecks in global goods trade.

Interest rate expectations remained stable, though, implying that markets continued to believe that it would take considerable time before the first tightening moves were expected among major central banks. Covid- 19 infections rates had leveled out in May, after a sharp fall in April, but fell further in June, with some local infection spikes. The vaccination program had largely developed in line with Norges Bank's expectations.

After falling from January to March, mainland GDP picked up by 0.3% MOM in April. The level was, however, somewhat lower than Norges Bank had anticipated, first and foremost due to downward revisions in the previous months. The Regional Network survey indicated a rise in production, with the containment measures expected to ease throughout summer. Capacity utilization had also risen, likely due to the strict travel restrictions. A larger decline than expected in registered unemployment from May and into the first week of June also supported the impression that the economy was recovering solidly.

Core inflation had fallen more than expected, to 1.5% YOY in May. With a decline in electricity prices, headline inflation had also been slightly lower than forecast.

Data from the housing market had been more mixed than in the beginning of the year. In the period February – May home prices had risen 0.5%-points less than Norges Bank projected in the March MPR.

17 June: Policy decision announced, along with Monetary Policy Report 2/21

Norges Bank kept the policy rate unchanged at 0.00%, in line with market and analysts' expectations. In the press release, it was stated that "the policy rate will most likely be raised in September". The rate path was lifted by 1 basis point in Q3 2021 and by 15 basis points in Q4 2021 and was consistent with rate hikes in September and December 2021, as well as in March and June 2022. The path ended at 1.56% in Q4 2024, 20 basis points higher than in the March report.

In the decomposition of the changes in the rate path, higher-than-expected domestic demand, through household consumption, investments, and public spending, contributed to lifting the path. An improvement in external developments and higher wage growth also contributed.

Norges Bank's mainland GDP forecast was unchanged at 3.8% in 2021 but lifted by 0.7%-points to 4.1% in 2022. Registered unemployment was forecast to be 3.3% in 2021, falling to 2.3% in 2024. Core inflation was forecast to be 1.7% in 2021, 1.3% in 2022 before increasing to 1.6% in 2024.

The MPC assessment stated: "The Committee placed weight on the contribution of low interest rates to speeding up the return to more normal output and employment levels. This reduces the risk of unemployment becoming entrenched at a high level and helps return inflation towards the target. At the same time, a long period of low interest rates increases the risk of a build-up of financial imbalances. The Committee placed weight on the marked rise in house prices since spring 2020 but noted that house price inflation has recently moderated somewhat."

"In the Committee's assessment, the overall outlook and balance of risks imply a continued expansionary monetary policy stance. Further easing of Covid-related restrictions will help a return to more normal economic conditions. This suggests that it will soon be appropriate to raise the policy rate from the current level."

The countercyclical capital buffer was unchanged at 1.0%, but the Committee advised the Ministry of Finance to raise the countercyclical capital buffer to 1.5%, effective from 30 June 2022. The Committee expected the buffer to return to 2.5% in the period ahead.

Developments from the June to the August announcement

During the summer, the reopening of the economy proceeded largely in line with NB's expectations. Data showed that mainland GDP rose by 1.8% MOM in May, much more than Norges Bank had forecasted (0.8%). Registered unemployment was 3.0% in July, in line with NB's forecast. Core inflation continued to surprise on the downside, being 0.1%-points below NB's expectations both in June and July.

The housing market was cooling down. House prices flattened in June and July, contrary of NB's expectations of a 0.9% increase over these two months.

19 August: Decision from interim monetary policy meeting announced

Norges Bank kept the policy rate unchanged at 0.00%, in line with market and analysts' expectations. In the assessment, it was reiterated: "In the Committee's current assessment of the outlook and balance of risks, the policy rate will most likely be raised in September"

Regarding the trade-offs facing monetary policy, "(…) the Committee placed weight on the contribution of low interest rates to speeding up the return to more normal output and employment levels. This reduces the risk of unemployment becoming entrenched at a high level and will help to bring inflation back towards the target. At the same time, a long period of low interest rates increases the risk of a build-up of financial imbalances. The Committee noted that house price inflation has moderated recently, following a marked rise in the period to spring."

Developments from the August to the September announcement

Up to the September meeting the vaccine roll-out was about to be completed, in line with NB's expectations. There had been a significant increase in the cases of Delta variant Covid-19, but the Government signaled that it would take a significant rise in hospitalizations for new lockdowns to be implemented. The final step of the reopening plan had been delayed, but this was not of major importance for economic activity.

The solid economic recovery proceeded. The monthly growth profile for mainland GDP showed a declining tendency in June–July after a stronger-than-expected May. The Regional Network survey reported strong growth and expectations of further progress in H2. The labour market was improving more rapidly than expected. In August, registered unemployment was recorded at 2.7%, 0.2%-points lower than NB had projected. The share of enterprises reporting a shortage of labour in the Regional Network survey had risen to above-normal levels.

The trade-weighted forward interest rates had risen slightly during the summer. The NOK had depreciated, with the import-weighted krone (I-44) about 2.5% weaker than projected in Q3. The oil price had developed largely in line with the assumptions in the June Report, while gas prices had risen significantly.

The high European gas prices, along with a low domestic hydro balance, led to a steep rise in electricity prices, lifting the short-term outlook for headline inflation substantially. Headline inflation rose to 3.4% YOY in August, 0.4%-points higher than Norges Bank's estimate. Core inflation however, continued to fall. In August, it reached 1.0% YOY, well below the 2%-target, but in line with the forecast from MPR 2/21.

However, upside risks for the inflation outlook were rising. There were indications of higher-than-expected wage growth in 2021, likely owing to the rising scarcity of labour. Moreover, the bottlenecks in international trade had not only been persistent, but also worsening, leading to logistics challenges, shortages of raw material and a dramatic rise in Norwegian producer prices.

In parallel, risks connected to financial stability seemed to subside. Home price rose strongly in August, but were flat in both June and July.

23 September: Policy decision announced, along with Monetary Policy Report 3/21

Norges Bank increased the policy rate by 25 basis points to 0.25%, in line with market and analysts' expectations. The decision was unanimous. The assessment state: "Based on the Committee's current assessment of the outlook and balance of risks, the policy rate will most likely be raised further in December."

It was stated that: "A normalising economy suggests that there is no longer a need to maintain the current degree of monetary accommodation. The objective of countering the build-up of financial imbalances also suggests higher interest rates. Uncertainty surrounding the effects of higher interest rates warrants a gradual rise in the policy rate."

The rate path was lifted from Q3 2022 onwards, due to a weaker NOK and outlook for higher wage and price growth. It ended at 1.68% in Q4 2024. Three more hikes by June 2022 were locked in, while there was a 50-50 chance of a fifth hike in September or December 2022. The rate path was ended at 1.68% in Q4 2024, 12 basis points higher than in the June Report.

In the decomposition of the changes in the rate path, Norges Bank emphasized a weaker-than-expected NOK as well as a higher wage and price growth outlook. Overall, mainland growth was expected to be a little higher in 2022, but in 2023 and 2024, mainland-GDP was set to grow at a modest 1.2% and 0.8%, respectively.

Rising cost pressures received more attention than before. They were still expected to be transitory, as there were "prospects for moderate underlying inflation among trading partners in the coming years". However, the committee acknowledged that the inflation outlook had become more uncertain. "The pandemic is creating uncertainty regarding price and wage inflation ahead. For example, bottlenecks may arise in distribution chains, and some occupational labour shortages may be greater than assumed. This may lead to increased pressure on prices and wages."

"In its discussion of the balance of risks, the Committee was concerned with the uncertainty surrounding the evolution of the pandemic and the restraining effect that new virus variants could potentially have on the economic upturn. At the same time, there is still a risk that the pandemic will have lasting consequences for employment. This favours supporting economic growth to enable the unemployed to return to work more quickly. On the other hand, capacity constraints may result in faster-than-expected price and wage inflation. Nevertheless, the Committee judges that the risk of inflation becoming too high is limited."

On 3 September the Government decided to give Norges Bank decision-making authority for the countercyclical capital buffer, effective from 10 September. At the September meeting, the Committee thus decided that the countercyclical capital requirements for banks, which was lifted to 1.5% in July, would be increased further to 2.0% in December 2022. The Committee expected the buffer rate to return to 2.5 percent somewhat further out.

Developments from the September to the November announcement

During the six weeks between the September and the November meeting, oil and gas prices continued to rise. This contributed to a stronger NOK, with the I-44 roughly 3% stronger in than NB's Q4 forecast. Moreover, foreign forward rates increased markedly, partly driven by higher inflation expectations.

Headline inflation continued to climb more than NB had expected, due to a continued steep rise in electricity prices. In September, the CPI was up 4.1% YOY. Core inflation, however, was evolving in line with expectations.

The domestic economy continued to improve. Mainland GDP rose by 1.1% MOM in August, just above Norges Bank's forecast of 1.0%, albeit with a significant arbitrary effect of strong fishing activity. Registered unemployment fell further, in line with Norges Bank's forecasts

Adding to the impression of a cooler housing market, home prices rose moderately in both September and October.

4 November: Decision from interim monetary policy meeting announced

Norges Bank kept the policy rate unchanged at 0.25%, in line with market and analysts' expectations. The decision was unanimous. The guidance from the September meeting was reiterated: "Based on the Committee's current assessment of the outlook and balance of risks, the policy rate will most likely be raised in December."

The committee assessed that "(…) the economic upturn in Norway is continuing broadly as expected. Unemployment has fallen further. Higher electricity prices have resulted in high consumer price inflation, but underlying inflation is lower than the inflation target. Looking ahead, higher economic activity and rising wage growth will likely lift underlying inflation, but the recent krone appreciation could curb the rise in prices."

Developments from the November to the December announcement

In the period running up to the December meeting, inflation concerns were mounting abroad, with much higher-than-expected readings of inflation both in the US and in Europe. Foreign forward rates remained clearly higher than at the September meeting.

The oil price had fallen back again, after climbing during the autumn, to a level well in line with the assumption in the September MPR. In parallel, the NOK had weakened again, after a strong development in the autumn.

Economic developments were strong. Mainland GDP rose more than projected in the September MPR, both in August and September. Registered unemployment fell to pre-pandemic levels, in line with Norges Bank's forecast. Importantly, the central bank's Regional Network indicated high and rising capacity utilization. The share of enterprises experiencing labour shortages climbed further, to levels not seen since before the financial crisis.

Headline inflation soared in November, to 5.1% YOY. The outcome was the highest since October 2008, and 1.2%-points above NB's forecast. It was pushed up by a 12.5% MOM rise in electricity prices. Core inflation was also on the rise, albeit from a low level. The November outcome, at 1.3% YOY, was a little higher than Norges Bank had projected. However, various surveys indicated substantial price pressure in the pipeline.

On Friday 26 November a new virus variant, later called Omicron, came to the world's attention. Cases had risen exceptionally quickly in South Africa, pointing to the variant being much more transmittable than previous variants. Due to the high number of mutations, there were worries that the existing vaccines would have problems not provide adequate protection from infections.

Market rates fell significantly in the aftermath of the news, and NB's planned December hike was suddenly seen as anything but certain. More uncertainty was added as the government imposed restrictions in the start of December, further strengthening them less than a week later due to elevated concern among the health authorities.

At the eve of the meeting a majority of analysts expected Norges Bank to hike 25bp to 0.50%, but everyone emphasized it was a close call. A minority of analysts did not expect a hike, pointing to "bad timing" given the uncertainty of the situation and adding an extra burden on those affected by new government constraints, in a situation in which also consumer's energy bills were soaring.

16 December: Policy decision announced, along with Monetary Policy Report 4/21

Norges Bank increased the policy rate by 25 basis points to 0.50%, in line with the majority of analysts' expectations. The decision was unanimous. The interest rate path was little changed. It signaled a slightly lower probability of a hike in March 2022 than the previous path. However, in the press release it was stated that the next interest rate hike most likely would take place in March. The end-point of the interest path, in Q4 2024, had been lifted by 7 basis point to 1.75%.

The decomposition of the rate path changes showed that domestic demand weighed on the short-term path, while petroleum prices, money market premiums and factors abroad lifted the terminal point. The exchange rate also served to lift the path through 2023.

The economic forecasts showed that the virus situation was likely to lead to a decline in GDP in the start of 2022, but a strong rebound was anticipated once reopening occurred, leading to higher growth than previously projected in 2023. Inflation forecasts were upwardly revised. Headline inflation was estimated to be 2.7% in 2022, 1.2%-points higher than in the September MPR. Core inflation was estimated to be 1.7% in 2022 and 2.0% in 2024, 0.3 and 0.4%-points higher. Wage growth estimates, however, were revised upwards only marginally.

The Committee was clearly more aware of upward risks to inflation. "In its discussion of the balance of risks, the Committee was concerned with the potential economic effects of the pandemic and containment measures in the period ahead. If there is a need for more stringent and protracted containment measures that pull down economic activity through spring next year, further rate hikes may be postponed. The Committee was also concerned with a potentially higher-than-projected rise in domestic wages and prices due to capacity constraints and persistent global price pressures. If there are prospects of persistently high inflation, the policy rate may be raised more quickly.

The countercyclical capital buffer was raised to 2.0 percent, effective from 31 December 2022, and would be raised to 2.5 percent in the first half of 2022, taking effect one year later.

3. A call for the introduction of minutes/accounts

As pointed out in the 2020 NBW report, the new Central Bank Act, coming into force in 2020, was a milestone that invited, and increased the expectations of, communication innovations. In the new set-up, a separate Monetary Policy and Financial Stability Committee, rather than the Executive Board, make the monetary policy decisions. The committee consists of five members: the governor, the two deputy governors and two external members. The external members are economists, and stand on equal terms, with access to the same information as the internal members. They are also involved at an earlier stage of the decision process than was the case for the Executive Board. In 2020 and 2021 the external members were Ingvild Almås (Professor at Stockholm University and Adjunct Professor at NHH) and Jeanette Fjære-Lindkjenn (former DNB Markets, now HousingLab at OsloMet).

With an expert committee in place, expectations of innovations rose. These have not been met so far. It is hard to spot the important institutional change in Norges Bank's communication. Specifically, we believe there is significant room for improvement when it comes to openness regarding the deliberations, judgements, different views, and arguments made in the committee's policy discussion. For those following the central bank closely it would be useful to get more insight into the shades of the discussion. Do any dilemmas incite more discussion than others? Do the views among the members differ more on certain topics than on others? Which arguments were brought to the table, and implicitly – were any arguments lacking? Introducing minutes or accounts from the policy meetings would be a good way of filling this information gap.

The call for introduction of minutes/accounts has been repeated in several previous NBW reports, but so far been rejected by the central bank. On 23 January 2020, after the committee had its first meeting, Governor Olsen commented: "*Detailed minutes of the meetings will not be published. Summary minutes of monetary policy meetings will not contain any monetary policy assessments other than what appears in the Committee's assessment.*"

An oft-repeated argument against the publications of minutes is that it could hamper an optimal, free discussion. Ideally, well-prepared participants start the meeting with an opinion on the right policy strategy but are willing to adjust their views if convinced by arguments throughout the discussion.

We agree that minutes containing explicit reference to which member said what, like those released from the Swedish Riksbank's meetings, could have a negative impact on the value of the discussion. However, minutes from the ECB, Bank of England and Federal Reserve do not have such explicit mentions. In our view, the ECB accounts could be a source of inspiration for Norges Bank, providing good insight from the actual discussion, without being too explicit.

Introduction of such minutes should have a minor negative impact, if any, on the environment for discussion. After all, the highly professional economists in the Committee know that there are no straight answers to what is right or wrong, so the reflection of diverging views on certain topics within the committee should be welcomed rather than seen as a problem.

We have also heard the arguments that minutes are obsolete for a central bank that already publishes its own forecast for the policy rate, along with explanations of how deliberations have changed from the previous report (the chapter Monetary policy deliberations, that includes the interest rate accounts). That is, releasing minutes would only serve to add noise to otherwise clear and concise communications. However, although we certainly find the path and the accounts valuable, we do not find them sufficient. Analysis of economic trends and risks, and deliberations of the optimal policy strategy are much too complex and prone to judgement calls to be reflected in such communication tool, which are by necessity simplified and somewhat stylised. The fact that Sweden's Riksbank publishes both minutes and interest rate forecasts suggest that the Swedish central bank see these as complements in their communications rather than substitutes.

4. The Financial Stability Target

Since the revision of the central banking act in 2019, a financial stability target has been explicitly included as part of Norges Bank's mandate (Section 1-2). Norges Bank formulates this objective thus:

> "To some extent, monetary policy can contribute to counteracting the build-up of financial imbalances and thereby reduce the risk of sharp economic downturns further ahead. If there are signs that financial imbalances are building up, the consideration of high and stable output and employment may in some situations suggest keeping the policy rate somewhat higher than would otherwise be the case. The regulation and supervision of financial institutions are the primary means of addressing shocks to the financial system."

This change in law did not represent a break in Norges Bank's policy but rather a continuation of its policy, at least since the aftermath of the financial crisis in 2008.

Since Norges Bank started putting weight on counteracting financial imbalances in its interest rate policy, market participants have sought more concrete guidance to understand how Norges Bank understands the target. The new monetary policy strategy in combination with Norges Bank's Monetary Policy Handbook provides some long sought-after guidance. We think these are valuable additions that help outsiders understand how monetary policy is conducted in Norway. Nevertheless, the description of how Norges Bank addresses financial stability is still vague.

This section first discusses the theoretical motivation behind why central banks should be concerned with financial stability in their interest rate policy. Next, we discuss how Norges Bank addresses financial stability, as presented in its Monetary Policy Handbook. We raise several questions that we think Norges Bank should clarify.

Why is financial stability a concern for central banks?

After the global financial crisis in 2008-2009, financial stability became a primary concern in many countries. A dominant explanation of the financial crisis was that monetary policy was too expansive from 2001 to 2007, contributing to rising house prices and increased household debt. The combination of low interest rates and insufficient banking regulation in the US resulted in an explosion of debt, especially to the so-called subprime segment of households, culminating with Lehman Brothers' bankruptcy in September 2008. In the aftermath of the crisis, several commentators and researchers asked whether the central bank, if it cared more about financial stability concerns, would have raised interest rates earlier and dampened the effects of the financial crisis.

The main concern with prolonged low interest rates is that high debt growth prior to a crisis deepens the financial crisis due to debt-deleveraging among households (Eggertsson & Krugman, 2012; Mian, Rao and Sufi, 2013; Mian and Sufi, 2015). Since households accumulated a good deal of debt in the run-up to the crisis and house prices fell during the crisis, many households found themselves with very high debt levels relative to their housing equity. Households can respond by either selling their homes (or defaulting on their mortgage) or going through a period of deleveraging in which they reduce their debt to manageable levels. During the period of deleveraging, these two mechanisms deepen the financial crisis. The market failure, in this case, is that households do not privately consider that their actions of selling their homes or cutting back on spending deepen the crisis (a pecuniary and aggregate demand externality in the literature). Therefore, macroeconomic policies may play a role in dampening debt accumulation before the crisis to reduce the severity of future financial crises.

It is important to note that the presence of pecuniary or aggregate demand externalities is not in itself an argument for including financial stability as an explicit monetary policy target for the central bank. If more precise macroprudential tools are available (e.g., mortgage regulations such as loan-to-value or loan-to-income constraints), there is in theory no reason for the central bank to address financial stability concerns with its policy rate. Indeed, Fahri and Werning (p.1673, 2016) argue explicitly for this view when they say, "[i]n particular, it is not optimal to implement tighter monetary policy in period 0 [the period before the crisis] because of financial stability concerns. Financial stability is best addressed with macroprudential policy."

Nevertheless, the theoretical benchmark where financial regulation works perfectly to address these externalities is arguably unrealistic. Hence, the central bank should pay attention to financial stability in its interest rate policy to the extent that (i) pecuniary or aggregate demand externalities are present and (ii) financial regulations are imperfect. These two conditions arguably hold, and the central bank should, therefore, to some extent, take financial stability concerns into account in its interest rate policy.

Norges Bank's view on "Counteracting the build-up of financial imbalances"

On February 2, 2022, Norges Bank released its Monetary Policy Handbook. In Section 2.3, the bank discusses how it understands the financial stability target. This section discusses points presented in the chapter on financial stability.

What are the indicators of financial instability?

We first note that Norges Bank states clearly that "[…] regulation and supervision of financial institutions […] should be the first line of defence against shocks to the financial system" (p. 30). This view is in line with the theoretical literature discussed above. Financial regulation more directly addresses financial imbalances and should, therefore, be the leading tools to address financial stability. However, some pages later, the bank writes, "[i]f there are signs that financial imbalances are building up, the consideration of longer-term stability may warrant a somewhat higher policy rate than the consideration of maintaining high and stable output and employment in the short term may suggest (p. 32)." This statement explicitly says that financial stability concerns will affect the interest rate decision. The question for external observers of Norges Bank is then, when will financial stability affect the interest rate decision? Or similarly, when is there a risk of a build-up of financial imbalances in the economy?

With hindsight, it is easy to claim that financial imbalances were building up in a run-up to a crisis. It is much harder to distinguish between normal and unhealthy credit and asset price growth in real-time. An extensive literature has attempted to address this issue by analyzing historical data on which conditions before a crisis affect the severity and risk of a crisis. Several conditions have been identified. Drehmann and Juselius (2014) highlight the importance of credit-to-GDP and the debt service ratio. Schularick and Taylor (2012), Jordà, Schularick, and Taylor (2013), and Mian, Sufi, and Verner (2017) emphasize the importance of credit or household debt to GDP. Jordà, Schularick, and Taylor (2015), Anundsen, Gerdrup, Hansen and Kragh-Sørensen (2016), and Richter, Schularick, and Wachtel (2021) show that a combination of high asset price and credit growth is important. One can summarize this literature on predicting crisis risk as follows: a combination of high house price growth and high credit growth raises both the likelihood and the severity of financial crises.

Norges Bank also highlights the importance of credit and house prices. In the monetary policy strategy, Norges Bank writes,

> "A persistently low interest rate level can sow the seeds of increased risk-taking, soaring property prices and rapid debt accumulation. High debt makes households and firms more vulnerable to income shortfalls, augmenting the risk of a severe downturn in the future."

Furthermore, in the Monetary Policy Handbook (p. 33), Norges Bank writes

> "Defining and estimating "financial imbalances" is difficult. […] Periods of sharp property price inflation and credit growth and an underpricing are associated with higher risk of severe downturns. […] Norges Bank's assessment of financial imbalances will largely be based on a number of indicators and an overall judgment."

And on p. 42, Norges Bank writes,

> "Financial stability concerns are generally greater if house price inflation and debt growth are higher […]"

The statements above seem to be deliberately vague in how Norges Bank operationalizes its financial stability target. To an outsider, there seems to be two views within the bank. On the one hand, the statements above suggest that house price inflation and credit growth are Norges Bank's main indicators of financial imbalances, in line with the empirical literature. On the other hand, Norges Bank does not want to say this explicitly. In the monetary policy strategy quote, high debt levels are a concern when operationalizing the financial stability target. Moreover, in the Monetary Policy Handbook, "a number of indicators" will be used.

There are two problems with these formulations. First, there is a mismatch between what the empirical literature finds are the main concern for financial stability and what Norges Bank says its concern is. The empirical literature suggests that a combination of high house price growth and high credit growth raises the likelihood and severity of financial crises. Norges Bank is vague but mentions both the house price and debt growth, but also other indicators. Hence, house price and credit growth are the main indicators, but other indicators will also play a role. If so, how are these different indicators weighted? How should we understand this?

A further problem with such vague statements is that it makes it hard for anyone outside Norges Bank to predict on which occasions the financial stability target will influence the interest rate decision. With the current high debt levels, one could argue that financial stability should play a role in every meeting – if one wants to. For example, when Norges Bank raised the interest rate at the September meeting, it wrote "[t]he objective of countering the build-up of financial imbalances also suggests higher interest rates" and in December, it wrote "[h]igher interest rates will also help to counter a build-up of financial imbalances." Are financial imbalances always an argument for higher interest rates? That suggests a way of thinking along the lines of the central bank wanting to get back to a "normal" interest rate (as defined as the sum of the neutral real interest rate and the inflation target on p. 43 in Norges Bank's Monetary Policy Handbook) with little direct concern for current movements in financial imbalances. Since the neutral real interest rate is defined as the rate that balances aggregate demand and supply, the implication of such a target is that Norges Bank reacts less to any shock that would imply lower rates.[1] Is that how Norges Bank wants the financial stability target to operate?

In practice, the growth rate of debt and asset prices varies over time, suggesting that the relevance of financial stability in the interest rate decision will vary as well. For market participants to understand how Norges Bank takes the financial stability target into account, it would be beneficial to learn about situations in the past where financial stability played an essential role in the interest rate decision and why it did. Norges Bank goes some way in this direction on p. 45 in the Monetary Policy Handbook by illustrating that financial stability seems to have played a role in the interest rate decision, particularly between 2012 and 2016. Another alternative, as discussed in Section 3, is to publish minutes that could potentially communicate how the board discusses financial stability.

[1][1] Although the deviation from the normal interest rate in the loss function is formulated as a quadratic term, it is reasonable to assume that the target is asymmetric in the sense that it only affects the interest rate decision when the interest rate is lower than the normal interest rate.

How does Norges Bank view the trade-off between financial stability and other targets?

When conducting monetary policy, there can at times be direct trade-offs between the objectives. For financial stability, an example would be when weak output or inflation suggests lowering the interest rate, but the concern about financial stability is an argument for not lowering the interest rate, or even raising it. In general, when a central bank has multiple objectives, the optimal monetary policy depends on (i) the (relative) importance of the target and (ii) the effect monetary policy has on the objectives.

In the case of financial stability, we need to know how much the central bank cares about financial stability and how much it thinks interest rate changes affect financial stability. We will first discuss how monetary policy affects house price and credit growth, arguably the main predictors of the severity and likelihood of financial crisis. Next, we discuss the trade-off between financial stability and the other targets.

House prices. Several studies use different identification schemes for monetary policy and find similar results: higher interest rates dampen real house price growth, and the effect is strong and immediate. This finding has been confirmed using a variety of identification schemes and time windows on Norwegian data (see, e.g., Bjørnland and Jacobsen, 2010, Robstad, 2018, Alstadheim, Robstad and Vonen, 2017, and Holm, Paul, and Tischbirek, 2021). It is therefore relatively uncontroversial that higher interest rates dampen house price inflation.

Aggregate Credit. While the effect on house prices is relatively robust, the effect on credit is more ambiguous. In theory, interest rate changes affect credit growth through two channels. First, a higher interest rate makes new borrowing more expensive, reducing the incentives to borrow today – consistent with the intertemporal substitution channel. Second, a higher interest rate means lower disposable income for debtors, and thus less income to repay debt. This could result in higher debt growth but could also result in lower debt growth if borrowers choose to sharply reduce spending elsewhere to deleverage faster. The empirical literature in Norway finds small and negative effects on credit growth from interest rate hikes (Robstad, 2018) consistent with the first effect dominating.

However, one is usually not concerned with the level of debt per se, but rather debt relative to income. The effects of monetary policy on debt-to-income ratios depend on how monetary policy affects both debt and income. Since higher interest rates tend to reduce incomes, we expect tighter monetary policy to have a weaker negative impact on debt-to-income than on debt itself, or potentially even a positive impact if the effects of monetary policy on incomes are strong enough.

The empirical literature on the effects of monetary policy on debt-to-income in Norway finds that higher interest rates reduce debt-to-income somewhat. For example, Alstadheim, Robstad, and Vonen (2017) find that contractionary monetary policy results in a short-run decrease in the credit-to-GDP ratio. Similarly, Fagereng, Gulbrandsen, Holm, and Natvik (2021) use administrative data on individual households and find that higher interest rates reduce average debt-to-disposable income. But the effects of monetary policy are relatively weak. For example, Gulbrandsen, Holm, and Natvik (2021) find that a one percentage point increase in the interest rate reduces the debt-to-income level by 2-3 percentage points (from an average debt-to-income of around 200 percent).

Furthermore, Fagereng, Gulbrandsen, Holm, and Natvik (2021) use administrative data from Norway to investigate how monetary policy affects the debt-to-income ratio across the initial debt-to-income distribution. The richness of their data allows them to see whether higher interest rates may reduce debt-to-income levels for those households that are most vulnerable. They find that higher interest rates reduce the debt-to-income ratio even for the most indebted households. However, when they also divide the most indebted households into those who face high and low unemployment risk, they find that the effects are driven by households with relatively safe jobs and low unemployment risk.

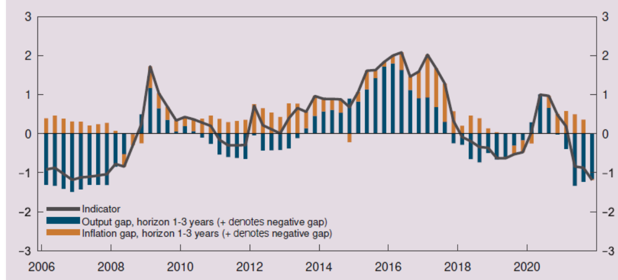
Hence, while higher interest rates somewhat reduce average debt-to-income levels, it has a muted impact on the most vulnerable households (high debt, high unemployment risk).

Trade-offs. While there is broad agreement that interest rate hikes reduce house price growth and debt growth, that is not sufficient to conclude that Norges Bank should consider financial stability in its monetary policy decisions. Whether the central bank should target financial stability depends on the relative size of costs and benefits. The benefit of `leaning against the wind' is that a higher interest rate may dampen the severity or risk of financial crises, as outlined above. The cost, however, is that one would have to accept more significant inflation and output deviations from the targets if the central bank puts more weight on financial stability in its interest rate decision.

Of course, in practice, and in real time, the financial stability objective will often be redundant, in that it supports the same interest rates decisions that the inflation and growth outlook would warrant in any case. Our focus in this discussion is rather on situations where there are clear trade-offs, i.e., where financial imbalances are building, but the growth and inflation outlook does not warrant raising interest rates.

An illustration of how costly it can be to address financial stability is the case of Sweden in 2010-2011. While the economy was still recovering from the aftermath of the financial crisis, Riksbanken decided to raise the interest rate from 0.25% in June 2010 to 2% in July 2011 due to financial stability concerns. Coglianese, Olsson, and Patterson (2021) evaluate this episode and find that the unemployment rate increased by around three percentage points, or more than 100,000 persons. Since the benefits of raising the policy rate to reduce financial crisis risk were probably small, the net costs of this specific episode of leaning against the wind were potentially substantial.

Chart 2. LOC indicator decomposed by the average forecast for the output and inflation gaps one to three years ahead



Source: Norges Bank

Norges Bank also provides an illustration of the potential costs of leaning against the wind In Chart 2 on p. 46 in the Monetary Policy Handbook. Although the gap in the figure cannot in its entirety be attributed to "leaning," it gives an indication of the potential costs. The cost is estimated to be quite sizeable. For example, in 2015-2016, the output gap loss was around 1-2%. This output gap cannot be translated directly into unemployment, but a 1-2% lower growth rate of GDP has quite sizeable effects on the economy.

Chart 4 Effect on expected cumulative costs and benefits[1] from a monetary policy shock that lasts for four quarters when financial imbalances increase markedly at the same time

1 Costs (-) and benefits (+) are defined as the cumulative sum of the output and inflation gaps when both elements are squared.

Source: Kockerols, T., Y. Mimir and E. Kravik (2021)

Several papers have tried to address the trade-off issue by looking at how various variables affect crisis risk and including this in monetary policy models (Gerdrup, Hansen, Krogh and Maih, 2017; Svensson, 2017; Gelain, Lansing and Natvik, 2018; Kok and Kockerols, 2019; Mimir, Kockerols and Kravik, 2021). The most relevant and recent paper is Mimir, Kockerols, and Kravik (2021), who use a regime-switching version of NEMO (Norges Bank's model) to investigate to what extent Norges Bank should lean against the wind, i.e., care about financial stability. They find that the "costs [from leaning against the wind] of depressing the economy in normal times far outweigh the benefits of a less likely and less severe crisis." However, they do show that in exceptional circumstances, where financial imbalances increased markedly, there may be a role for a `leaning' policy. This is illustrated in Chart 4 on p. 37 in the Handbook (shown above). They further argue that other policies such as banking regulations more effectively address crisis risk, echoing Fahri and Werning (p. 1673, 2016) statement that "financial stability is best addressed with macroprudential policy."

The results in Chart 4 should also provide a warning. The costs of leaning are salient. Higher unemployment affects individuals here and now. The benefits are opaque, unclear, uncertain, and untestable. There is no way to know whether a specific policy dampened or reduced the probability of a future crisis because the counterfactual does not exist. Hence, leaning against the wind is a sacrifice of current welfare for future gains that may or may not eventuate. The further problem is that since the benefits are unclear, then one can argue that the future gains from `leaning' are significant, for example because one argues that the models or empirical results in the literature do not describe reality well enough. In that case, one could be willing to sacrifice almost anything today for opaque future gains. Hence, one should be careful not to allow the central bank to interpret the financial stability target unrestrained. A clarification of the current vague formulation by Norges Bank about the financial stability target should help reduce this concern.

Assessment and suggestion

This section has discussed the operationalization of the financial stability target. We have highlighted the vagueness in Norges Bank's discussion of how it perceives the financial stability target. Currently, it is unclear to what extent Norges Bank considers time-varying variables such as house price and credit growth or more slow-moving variables such as the deviation of the interest rate from the "normal" interest rate. The empirical literature points to important time-varying variables: simultaneous high house price and credit growth seem to predict increased crisis risk and severity. We suggest that Norges Bank should adopt a more accurate description of how it operationalizes its financial stability target, focusing on house price and credit growth.

Furthermore, we discuss the central bank's trade-off when pursuing leaning against the wind policies. Several authors, including work based on Norges Bank's model framework, point out that adopting a leaning-against-the-wind framework in most cases is a costly strategy. However, in a few cases, leaning policies seem to have a positive net benefit. For example, Mimir, Kockerols, and Kravik (2021) show that when financial imbalances increase markedly, there may be a role for a `leaning' policy.

In conclusion, we suggest that Norges Bank should adopt the Bank of Canada view that "monetary policy should be adjusted to address financial imbalances only in exceptional circumstances (p. 31 in Norges Bank's Handbook of Monetary Policy)." Moreover, Norges Bank should explicitly define *exceptional circumstances* as simultaneous high house price and debt growth.

5. A tale of two central banks: monetary policy in 2021 at Norges Bank and the RBNZ

Norges Bank and the RBNZ were not afraid to stand out from the crowd over the second half of 2021, raising their policy rates twice while many other central banks have only recently come around to the view that tightening is necessary.

Before turning to the policy responses over 2021, it's useful to lay out some background.

Both countries have around five million people. Norway is an energy exporter; New Zealand imports oil, but like Norway, has a good supply of hydro-electricity. NZ is far more dependent on China as an export market. New Zealand's major exports are agricultural commodities. Norway's GDP per capita is considerably higher.

The RBNZ has full responsibility for financial stability, whereas in Norway, responsibilities are shared with the Ministry of Finance and the Financial Supervisory Authority.

Monetary policy in both countries has an over-arching inflation target centred on 2% in a flexible, forward-looking fashion. However, there are subtle differences.

The RBNZ has two operational objectives: low and stable inflation, and supporting maximum sustainable employment. There are various requirements about how they go about that job, including having regard to the efficiency and soundness of the financial system, avoiding unnecessary volatility, and since early 2021, assessing their impact on the housing market.

In contrast, Norges Bank (NB) effectively has three operational objectives: the over-arching inflation target, and subject to that, contributing to full employment and counteracting the build-up of financial imbalances. The latter point refers to cyclical systemic risk that may trigger or amplify a pronounced downturn. As discussed in Chapter 4, it is unclear exactly how these risks are defined, and how they actually affect the policy in real-time. However, in the description of Norges Bank's framework for setting the level of the countercyclical capital buffer, a macroprudential tool, three main elements are listed as indicators to assess the existence of financial imbalances: (a) pricing of risk and lending conditions; (b) real estate market vulnerabilities; and (c) vulnerabilities in the household and corporate sectors.

In other words, while monetary policy is certainly not "responsible" for financial stability, counteracting the build-up of financial imbalances is built into NB's monetary policy objectives. It is acknowledged that monetary policy affects financial imbalances and vice versa, and that this could lead to policy trade-offs. Importantly, financial imbalances are a broader concept than financial stability. That is, the objective is not just to prevent a financial crisis because of issues in the financial system in a downturn. It is to avoid unnecessarily deep recessions that occur through aggressive deleveraging – i.e. to smooth the business cycle.

NB's Monetary Policy Strategy describes the reason for including the objective (emphasis added):

The build-up of financial imbalances increases the risk of a severe downturn further out. The consideration of mitigating financial imbalances therefore derives from the consideration of high and stable output and employment over time.

A persistently low interest rate level can sow the seeds of increased risk-taking, soaring property prices and rapid debt accumulation. High debt makes households and firms more vulnerable to income shortfalls, augmenting the risk of a severe downturn in the future. If there are signs that financial imbalances are building up, the consideration of longer-term stability may warrant maintaining a somewhat higher policy rate than the consideration of maintaining high and stable output and employment in the short term may suggest. How much higher the interest rate is set depends in part on other regulations and their effect.

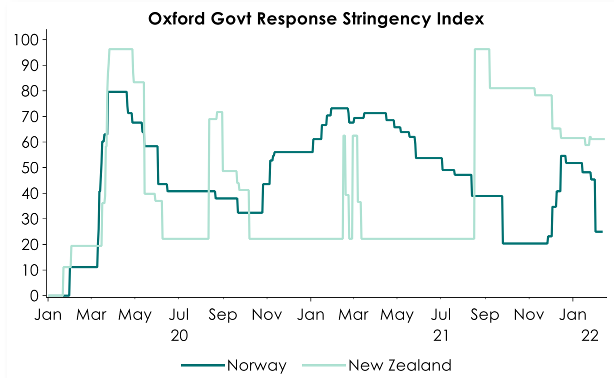
Setting a higher policy rate to mitigate the build-up of financial imbalances may involve costs in the form of lower demand in the near term. In the Bank's monetary policy assessments, reducing the risk of a severe downturn in the long term is weighed against maintaining high and stable output and employment in the near term. **In many situations, the degree of conflict between the two considerations will be minimal. …**

In some situations, there may be a greater conflict between short-term and long-term stability. In a downturn, the policy rate will normally be lowered to cushion the contraction. Even though a lower level of economic activity also dampens house price inflation and debt growth, a lower policy rate will in isolation stimulate the housing market. Such stimulus will often be desirable and contribute to dampening the decline in economic activity, but in some cases **house prices and debt can rise to such a high level that it conflicts with the aim of long-term stability. This would then provide grounds for lowering the policy rate somewhat less or starting to normalise the policy rate slightly earlier** than suggested by the need to support activity in the short term.

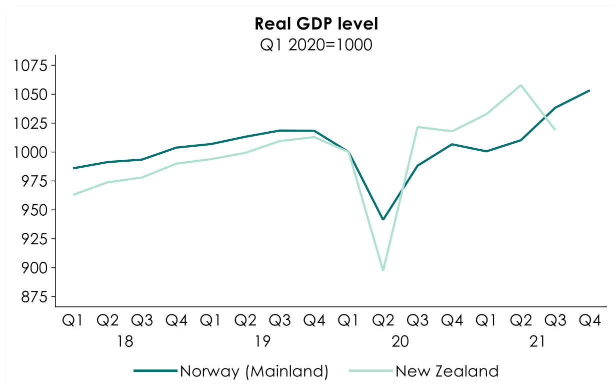
At the RBNZ, on the other hand, "financial stability" (more narrowly defined than "financial imbalances") is seen as a completely separate and independent strand of the central bank's responsibilities, addressed using macroprudential tools such as limits on loan to value restrictions (LVRs) etc, but never policy rate settings. Of course, the same interactions between monetary and financial stability policy exist. But the risk of causing an unnecessarily severe downturn in the future does not explicitly enter monetary policy deliberations outside of the vague "avoid unnecessary volatility" directive.

How 2021 unfolded for Norges Bank and the RBNZ

The Norwegian and New Zealand economies have been through similar cyclical dynamics since COVID hit. Norway had a smoother path, due to less variation in COVID restrictions, but New Zealand had much lower domestic restrictions over the last two years on average due to the closed border being largely successful at keeping COVID out. As a result, activity recovered to pre-COVID levels much faster than in Norway, albeit with enormous volatility caused by hard lockdowns.

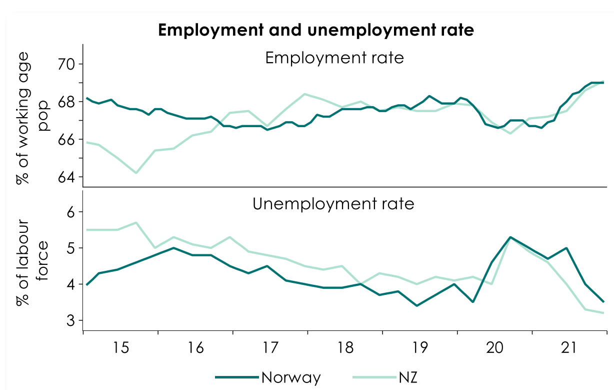


Source: University of Oxford, Macrobond, ANZ Research



Source: Stats NZ, Statistics Norway, Macrobond, ANZ Research

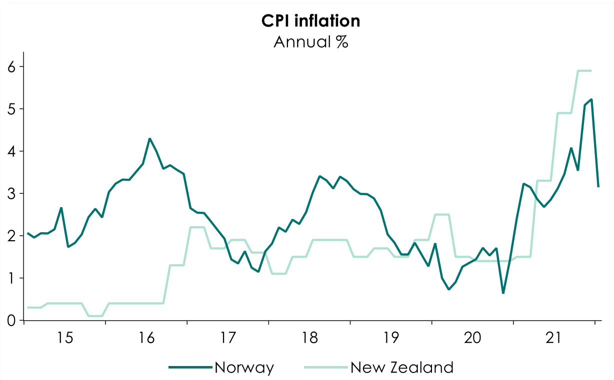
While the employment rate in both countries has been remarkably similar, the unemployment rate in New Zealand is a bit lower, and also ended below its pre-COVID level (indeed, it is at its lowest in decades). In Norway, the unemployment rate is close to pre-COVID levels.



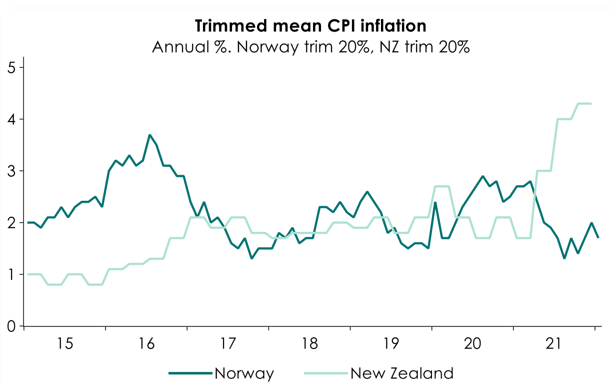
Source: Stats NZ, SSB, Macrobond, ANZ Research

The dramatic tightening in the labour market over 2021 was a key reason why the RBNZ was comfortable forecasting and delivering policy rate hikes faster than many other countries. Reported capacity utilisation and other measures of resources stretch quickly rose far above pre-COVID levels in New Zealand. Capacity pressures tightened in Norway also.

The path for headline CPI inflation has had some similarities in the two countries, but importantly, inflation in New Zealand has been far more broad-based, with core inflation measures rising rapidly over 2021. Even with a more aggressive trim of outliers (30% vs. 20% in Norway), New Zealand's core inflation rose much more quickly over 2021.

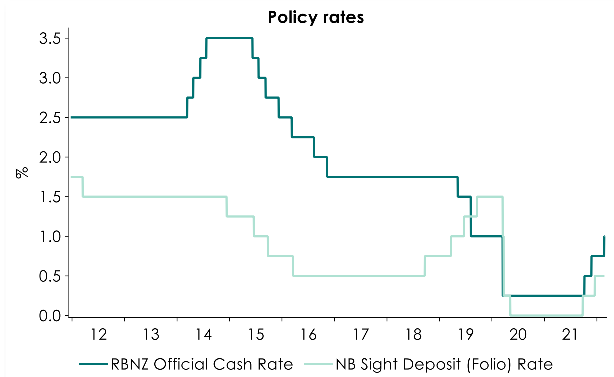


Source: Stats NZ, SSB, Macrobond, ANZ Research



Source: Stats NZ, SSB, Macrobond, ANZ Research

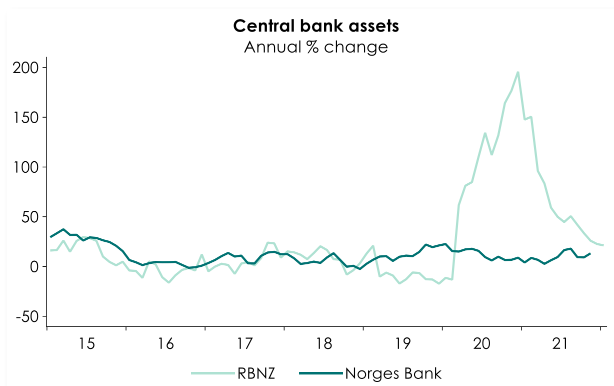
What about the path of monetary policy? Strikingly, even though the level of policy rates has been very different over history, the paths over 2020-21 were very similar. In particular, the two central banks delivered two 25bp hikes with almost identical timing in the last months of 2021.



Source: RBNZ, Norges Bank, Macrobond, ANZ Research

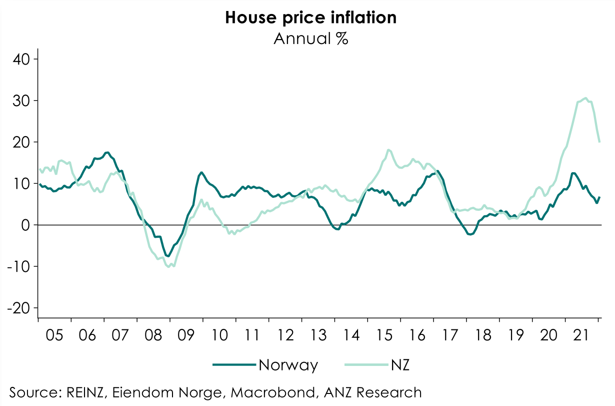
But that chart doesn't tell the whole monetary policy story. The RBNZ also engaged in large-scale asset purchases (QE) under its Long-Term Asset Purchases program, buying central and local government bonds, expanding their balance sheet enormously. It also started a bank funding for lending program at the end of 2020 to provide further stimulus, and asked banks to prepare their systems for a negative policy rate – though by the time this was made possible, it had become clear it wasn't necessary.

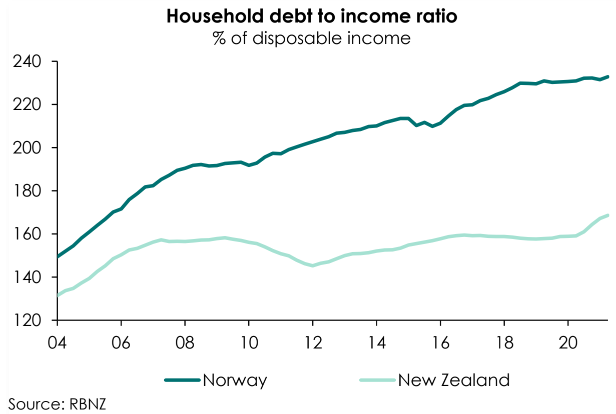
The RBNZ gradually wound down its QE purchases as the year went on, ceasing them in July 2021 without fanfare and without any market reaction.

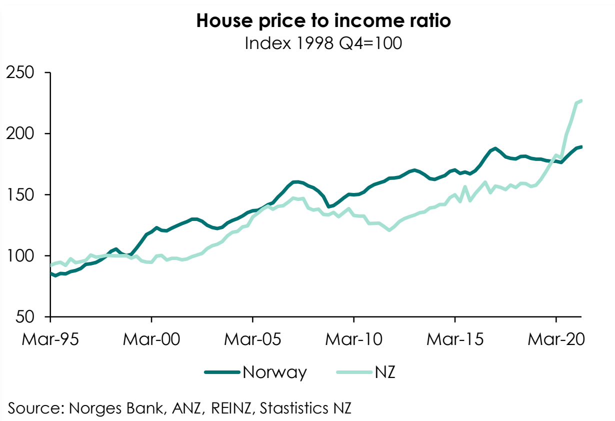


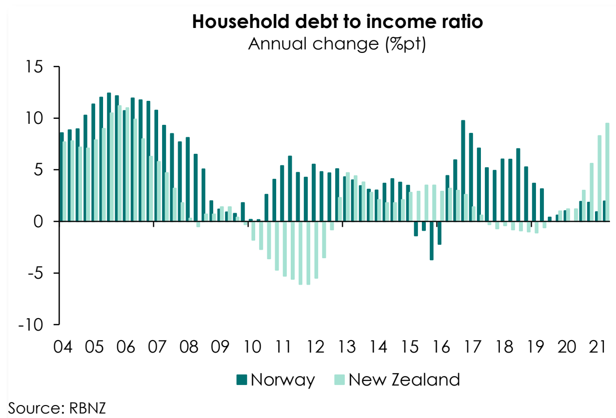
Source: Norges Bank, RBNZ, Macrobond, ANZ Research

But perhaps the most glaring difference is what happened to the two countries' housing markets over 2021. While both countries have long had concerns about overvalued housing, New Zealand's market had an unprecedented boom over 2021, with house price inflation hitting 30%. House price affordability in New Zealand has deteriorated dramatically in the past two years.









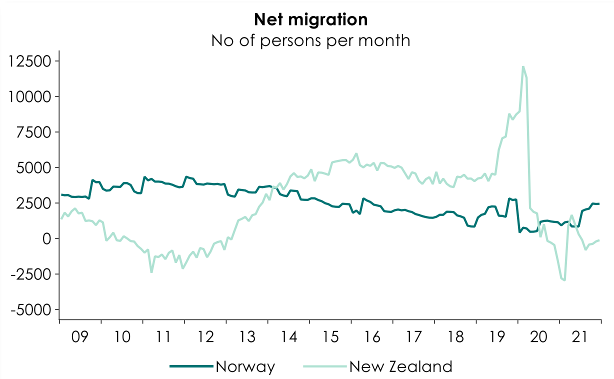
What about household debt levels? The data is only available up to June 2021, but it shows the ratio of debt to disposable income in New Zealand rising from around 158% in early 2019 to 169% by mid-2021. Norway's debt to income level is eye-wateringly high, at 233% – which probably goes some way to explaining why Norges Bank was motivated to do what it could to prevent it getting worse. But it has been much more stable over the last couple of years. New Zealand's debt ratio will have continued to lift over the latter half of 2021, given new mortgage lending remained so high during that period, running 50-60% higher than pre-Covid levels over all of 2021. New mortgage lending in Norway has been far more stable in the last couple of years.

New Zealand's house price cycle was not caused purely by cuts in the policy rate. The impact of the RBNZ's QE on the housing cycle is hotly debated, and will never be fully settled, but it did facilitate the sudden massive fiscal response required to support incomes though the Covid disruption, and brought about a surge of household deposits that significantly boosted banks' funding positions, thereby facilitating the strong growth in mortgage lending.

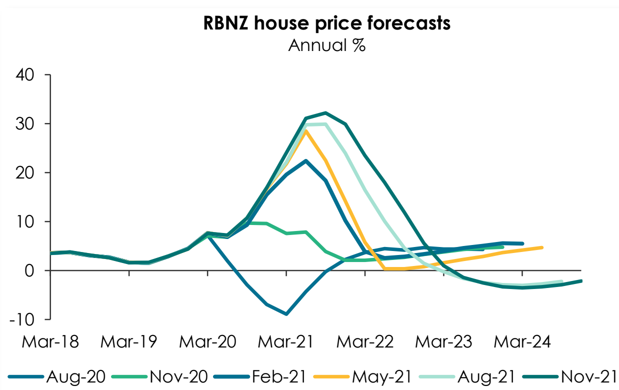
Also, in what was a very reasonable move at the time, but a mistake in hindsight, the RBNZ suspended its macroprudential restrictions on higher-risk mortgage lending for 12 months in early 2020 (Norway also eased restrictions for a time, but less dramatically). That caused a frenzy of activity as investors correctly recognised a narrow window of opportunity. This window was closed in 2021 when the restrictions were put back on a little tighter than they had been before. This succeeded in reducing the volume of higher-risk lending (particularly to investors) but as first-home buyers jumped at their chance to buy, it took considerably longer to dampen housing activity.

On the other hand, tax changes over 2021 reduced the attractiveness of new housing investment (a phased-in removal of interest deductibility excluding the primary dwelling).

Exacerbating the upswing, exceptionally strong migration over 2019 had led to a significant real shortage of housing in New Zealand. However, New Zealand house prices are supremely out of line with all fundamentals (eg incomes, rents), indicating the importance of financial conditions in driving the surge. But such a strong lift in house prices certainly wasn't planned by the RBNZ. The chart below shows how its house price forecasts were revised up over time – particularly rapidly at the start of 2020 but the upward revisions continued throughout 2021. (To be fair, no one else's house price forecast was any better – indeed, our own was worse).



Source: Stats NZ, SSB, Macrobond, ANZ Research



Source: RBNZ

Over two years, despite record-high rates of house-building, house prices in New Zealand went up more than 40%. In Norway, house prices went up 13% over the same period.

Hindsight is a wonderful thing. The fact is, when COVID first hit it was widely assumed that economies were going into a deep, prolonged recession. The strength of demand, the severity of the supply-side challenges, and the resulting strength and persistence of inflation pressure – and the asset price boom – surprised everyone.

New Zealand was out the front of that evolution, because the country was least affected by COVID. The upside surprises in growth, employment and inflation (both CPI and house prices) over 2021 were relentless. House price inflation hit its highest ever; the labour market was the tightest it had ever been; inflation shot out the top of the target band and kept rising. Everything pointed to a need for higher rates.

And indeed, the RBNZ was poised to hike in mid-August, but that plan was abruptly derailed by a lockdown that kicked off the day before, when COVID was discovered to have escaped from the quarantine system into the community (an event that eventually brought an end to New Zealand's COVID elimination strategy).

But the RBNZ went ahead and hiked in October, and again in November, taking the Official Cash Rate (OCR) to 0.75%, despite ongoing restrictions in Auckland. In the November Monetary Policy Statement, the RBNZ forecast the Official Cash Rate to get to 2.6% over coming years. Our own most recent forecast is that the OCR will go to 3%.

As already discussed in Chapter 1, the evolution of the macroeconomic picture in Norway was far more nuanced than the largely one-way data flow the RBNZ was confronted with. So how did it happen that the policy rate rises were synchronous?

The reasoning behind the hikes has in fact been very different. Appendix 1 goes through the chronology of 2021 for those interested in the detail. But in short,

- The RBNZ hiked in response to virtually relentless very large, positive starting point surprises on growth, core inflation and the labour market. By the time the RBNZ was ready to raise the OCR in August (albeit derailed by a sudden lockdown) most core inflation measures were out the top of the target band. And house price inflation was over 30%.

- Norges Bank, on the other hand, hiked in September even though core inflation, at 1%, was below target. NB actually expected inflation to remain below target for some time, but argued that the rapid normalisation of the economy nonetheless called for gradually normalising the policy rate. The Committee also "placed weight on the marked rise in house prices" and pointing out that "a long period of low interest rates increases the risk of a build-up of financial imbalances".

Of course, raising rates in a forward-looking way before inflation was back at target was a bit of a gamble – and central banks got it wrong doing exactly that in the 2010s. The RBNZ twice in that decade had to stop and subsequently reverse rate hiking cycles that had been started on the basis of forecast inflation, rather than actual outcomes, when the expected inflation failed to materialise. That experience, plus a desire to flatten the yield curve to provide extra stimulus in a zero-bound-constrained setting, led to pledges by central banks to that essentially guaranteed a 'late' policy response to the eventual emergence of inflation, and indeed that's what's been seen.

There's unavoidably always an element of luck with monetary policy. But NB's punt has paid off this time. With central banks now scrambling as they belatedly recognise the seriousness of the inflation threat, Norges Bank can be well satisfied that it has given itself of a head start. On the other hand, in New Zealand's case, the 'early' tightening was simply a reflection of an earlier economic recovery. The tightening was actually exceptionally 'late' relative to the level of both CPI inflation and the labour market.

But understandably so. It's important to point out that the RBNZ was not ignoring a chorus of criticism for not raising interest rates earlier. It took all economic forecasters time to recognise the facts of the situation, and the downside risks to the growth outlook were abundantly clear throughout. But running policy too loose for too long is not costless. Apart from the question of inflation outcomes relative to target, there is the question of boom-bust risks, as outlined in Norges Bank's strategy document.

In particular, the full ramifications of the enormous house price cycle New Zealand has experienced are yet to be seen. While macroprudential and other rules have ensured that New Zealand's "financial stability" metrics are excellent (i.e. financial system soundness in the event of a downturn), the economy's broader "financial imbalances" are not, in terms of housing valuations and the speed of recent household credit growth, in particular. Monetary policy definitely supported growth and employment through the pandemic. But the next recession is likely to be deeper than it would have been had house prices not risen 40%, with the debt accumulation that went along with that. There is nothing in the RBNZ's frameworks to address the trade-off that NB addresses in its financial imbalances objective.

That said, in practice, it is unclear whether having financial imbalances in the objectives meant that Norges Bank actually raised its policy rate any more promptly than they would have done otherwise. It's impossible to tell how much weight was placed on the various objectives at any one time, which does raise some communication issues, as discussed in part 1. And there's also the fact that holding interest rates unnecessarily high has real economic costs, as outlined in section 4**.** You don't want to smooth the business cycle by unnecessarily constraining growth in the good times. The objective should therefore be applied sparingly and carefully, in exceptional circumstances.

Had the RBNZ had a similar "counteracting financial imbalances" objective to Norges Bank, how might things have played out?

It's entirely possible that the policy rate (and house price) outcomes may not have actually been materially different, given a (very understandable) forecast error was at the heart of how things evolved. But as house price inflation shot ever higher over late-2020 and 2021, the monetary policy committee would at least had to discuss at length at its meetings whether supereasy policy was causing uncomfortable downside risks around the inevitable next slowdown – risks that might actually outweigh the benefits of stronger growth in the immediate future. Rather than just reaching for macroprudential tools to rein in the housing market, the option of earlier rate hikes would have at least been discussed, as would the likely cost in terms of growth and inflation outcomes – both of which were surprising strongly on the upside at the time.

There wouldn't have been any easy answers, naturally, but it would certainly have been more difficult for the RBNZ to simply bat away questions about its role in causing extreme house price inflation as an unavoidable by-product of monetary policy doing its job. The view was that macro-prudential policy tools such as LVRs could deal adequately with any financial stability consequences, narrowly defined in terms of the health of the financial system. It's not clear that the broader risk of causing an unnecessarily severe downturn in the future was ever a policy consideration. Rather, the focus appears to have been entirely on supporting the near-term growth outlook to the maximum extent possible.

No monetary policy objectives framework can prevent forecast errors – which, when it comes down to it, was the main issue that led to New Zealand house prices rising to such extremes, not the monetary policy framework. But in an uncertain world, robust, wide-ranging discussion of policy risks is key when making decisions, and the financial imbalances objective does encourage a broader discussion of those risks and the very real trade-offs that exist.

The 2021 house price cycle in New Zealand could certainly be used to make a case for including consideration of financial imbalances in monetary policy objectives, at least when such risks seem extreme – a criteria that a 40% increase in house prices over two years appears to fit, though time will tell.

For credibility purposes, the inflation target must always remain the single clear overriding monetary policy objective, and there's no question that multiple objectives muddy the waters of both decision making and communication. The potential drawbacks of the financial imbalances objective specifically have been outlined in Chapter 4. Trade-offs certainly exist, but it appears that the Norges Bank wider set of objectives has some distinct advantages. In particular, it encourages consideration of the impact policy may be having on the shape of the next recession (whenever that occurs, and as innately unforecastable as it is), and not just the growth and inflation outlook in the current phase of the business cycle. Whether through changing objectives or a less formal approach, that sounds like a useful discussion for policymakers to have.

Appendix: Chronology of economic developments and policy announcements in 2021

	Norges Bank	RBNZ
End-2020	Keep "the policy rate on hold until there are clear signs that economic conditions are normalizing". Policy path indicated a first hike in Q1 2022	Added stimulus via a funding for lending program. "Economic activity… has proved more resilient than earlier assumed. … However, … inflation and employment will remain below the remit targets for a prolonged period."
	Upside surprise on growth, downside surprise on inflation. Upside on housing adding to concerns about financial imbalances.	Upside surprises: CPI 1.4% y/y (RBNZ 1.1%), unemployment (fell from 5.3% to 4.9% vs RBNZ 5.6%). Confidence improving, capacity constraints becoming evident. House price inflation 19% y/y with a frenetic pace.
NB 21 January / RBNZ 24 Feb	No change to rate. Similar messaging. The policy rate most likely would remain at the present level for "some time ahead".	Similar messaging. Historically low OCR for "an extended period". "Some temporary factors" currently supporting inflation and employment.
	Downside surprise on growth and inflation; upside surprise on housing.	Downside surprise on GDP (-1% q/q vs RBNZ +0.3%) but improving confidence. Capacity constraints more acute. House price inflation hits 21%, frenzied. Govt announces RBNZ must report on impact of monetary policy decisions on house prices. No actual change in mandates. Tax change for housing investors – removal of deductibility, phased in over four years.
NB 18 March / RBNZ 14 April	No change in policy rate but the expected timing of the first hike, however, had been moved forward in time, namely from Q1 2022 to "the latter half of 2021". The interest rate path in the MPR showed that the policy rate was projected to 0.75% in Q4 2022, rising further to 1.36% in Q4 2024. In the description of the strategy trade-offs, the Committee also "placed weight on" the marked rise in house prices since spring 2020. "A long period of low interest rates increases the risk of a build-up of financial imbalances."	OCR unchanged. Similar medium-term outlook. "Meeting [targets] will necessitate considerable time and patience. The Committee agreed that it was prepared to lower the OCR if required."
	COVID cases fell, restrictions eased. Downside surprise on growth and inflation. First signs of cooling housing.	CPI slightly weaker than RBNZ exp (1.5% y/y). Upside surprises included lower unemployment (4.7% vs. RBNZ 5%), robust wage inflation. House sales eased but inflation hit 25% y/y.

NB 6 May / RBNZ 26 May	No change. Still latter-21.	No change but reintroduced OCR forecast shows hikes from mid-22. Similar medium-term outlook but "more confident". Costs rising. Employment resilient but still seen as below maximum sustainable employment. "Temporary" factors to lift inflation above 2%.
	Cost pressures rising. CAPU and U better than expected despite slight downside GDP surprise. Housing market data mixed.	Big upside GDP surprise (+1.6% q/q vs RBNZ -0.6%). Capacity constraints more marked. House sales easing but price inflation almost 30% y/y.
NB 17 June / RBNZ 14 July	"the policy rate will most likely be raised in September". The rate path was lifted 1 bps in Q3 2021 and 15 bps in Q42021, and was consistent with rate hikes in September, December, March and June. The path ended at 1.56% in Q4 2024. In the decomposition of the changes in the rate path, higher-than-expected domestic demand, through household consumption, investments, and public spending, contributed to lifting the path. Also contributing to lifting the path was improvement in external developments and higher wage growth. The assessment stated: "The Committee placed weight on the contribution of low interest rates to speeding up the return to more normal output and employment levels. This reduces the risk of unemployment becoming entrenched at a high level and helps return inflation towards the target. At the same time, a long period of low interest rates increases the risk of a build-up of financial imbalances. The Committee placed weight on the marked rise in house prices since spring 2020 but noted that house price inflation has recently moderated somewhat." Core inflation was forecasted to 1.7% in 2021, 1.3% in 2022 before increasing to 1.6% in 2024.	Ended QE. No change in OCR but prepared ground for a first hike in August. Aggregate activity above its pre-COVID-19 level. Strong household spending and construction. Business investment and confidence increasing. Near-term spikes in CPI inflation "reflect factors that are either one-off in nature, such as high oil prices, or expected to be temporary in duration, such as supply shortfalls and higher transport costs." "The Committee agreed that, in the absence of any further significant economic shocks, more persistent consumer price inflation pressure is expected to build over time due to rising domestic capacity pressures and growing labour shortages. However, the Committee noted that uncertainties remain as to the pace and magnitude of any pass-through of costs onto medium term inflation, especially given reported underutilisation of labour, modest wage growth, and well anchored inflation expectations." "The Committee agreed that the level of monetary stimulus could now be reduced to minimise the risk of not meeting its mandate."
	Upside GDP surprise, downside housing and core inflation surprise	Big upside surprises on CPI (3.3% y/y vs. RBNZ 2.6%) with most core measures over 3%; unemployment (4% with strong details vs RBNZ 4.7%). Housing: Sales rebounded. Annual inflation ~30%.
NB: 19 August, RBNZ 18 August	"the policy rate will most likely be raised in September". Underlying inflation has declined and is below the 2 percent target	No change in OCR. Were set to deliver a hike but NZ went into hard lockdown the night before. OCR forecast to 2% by mid-2023. Employment "at or above" maximum sustainable. Inflation expectations "remain anchored".

		Demand robust, recovery has broadened. Capacity pressures now evident, particularly in the labour market. Broader inflation pressures accentuated by one-off price rises. Inflation expected to breach 1-3% target range before returning towards the 2 percent midpoint around mid-2022.
	Tightening labour market and increased wage pressure becoming evident. Upside surprise to headline inflation (3.4% in Aug vs 3% exp by NB) but core 1%, well below target. risks connected to financial stability seemed to subside. Home price rose strongly in August but had been flat in June and July. Credit growth had also been in line with NB's estimates	Tighter LVRs proposed 3 Sep, enacted 23 Sep. Upside GDP surprise: 2.8% q/q (RBNZ: 0.7%) but lockdown in Auckland continues. Increasingly intense capacity pressures. House prices still rising strongly. Lockdown persists in Auckland but eased elsewhere.
NB 23 September / RBNZ 6 October	25bp hike to 0.25%. "the policy rate will most likely be raised further in December". Rate path ending at 1.68% in Q4 2024. In the decomposition of the changes in the rate path, Norges Bank emphasized a weaker-than-expected NOK as well as an outlook for higher wage and price growth. Higher capacity utilisation leads to higher wage growth which helps lift the outlook for inflation as well, according to Norges Bank's estimates. Overall, mainland growth was expected to be a little higher in 2022, but in 2023 and 2024, mainland-GDP was set to grow at a modest 1.2% and 0.8%, respectively. "the Committee judges that the risk of inflation becoming too high is limited"	25bp hike to 0.5%. Lockdown not seen as changing the medium-term outlook. Capacity pressures evident, particularly in labour market. "The New Zealand economy has been performing strongly in aggregate." Headline CPI inflation forecast above 4% near term, accentuated by higher oil prices, rising transport costs and the impact of supply shortfalls. "These immediate relative price shocks risk leading to more generalised price rises. At this time, measures of core inflation and medium-term inflation expectations remain close to 2 percent."
	Oil price increase. GDP nothing flash. U, house prices, core inflation close to expected. Rise in electricity prices pushed up CPI headline to 4.1% (3.9% exp).	Upside CPI surprise (4.9% vs RBNZ 4.1%, non-tradables 4.5% vs RBNZ 3.8%). Unemployment 3.4% with solid details (RBNZ: 3.9%). Wages accelerating. Clearer signs of housing peak despite another strong monthly price rise.
NB 4 November / RBNZ 24 November	No change. "the policy rate will most likely be raised in December." "Underlying consumer price inflation is low"	25bp hike to 0.75%. Track shows OCR at 2.1% by Dec 2022. Employment above maximum sustainable. Headline CPI inflation forecast >5 % near term with upside risks, "accentuated by higher oil prices, rising transport costs and the impact of supply shortfalls. These immediate relative price shocks risk generating more generalised price rises given the current domestic capacity constraints."

	Omicron. Global inflation surprises. Headline inflation soared in November, to 5.1% YOY. The outcome was the highest since October 2008, and 1.2%-points above NB's forecast. It was pushed up by a 12.5% MOM rise in electricity prices. Core inflation was also on the rise, albeit from a low level. The November outcome, at 1.3% YOY, was a little higher than Norges Bank had projected. However, various surveys indicated substantial price pressure in the pipeline. Right before the meeting a majority of analysts expected Norges Bank to hike to 0.50%, nevertheless emphasizing that it was a close call	Smaller fall in Q3 GDP than expected (lockdown-affected). -3.7% q/q vs RBNZ -7.0%. Housing: prices still increasing but clear signs of slowing activity and peaking annual inflation.
16 December	25bp hike to 0.5%. The interest rate path was little changed. It signaled a slightly lower probability of a hike in March 2022 than the previous path. However, in the press release it was stated that the next interest rate hike most likely would take place in March. The end-point of the interest path had been lifted slightly, by 7 basis point to 1.75%, in Q4 2024. The Committee was concerned "with a potentially higher-than-projected rise in domestic wages and prices due to capacity constraints and persistent global price pressures. If there are prospects of persistently high inflation, the policy rate may be raised more quickly."	

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