

Norges Bank Watch 2011

An Independent Evaluation of Monetary Policy in Norway

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Foreword

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

This year the committee consists of Hilde C. Bjørnland, professor of Economics at BI and Bjørn Roger Wilhelmsen, Senior Analyst at First Securities. The 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 partly funds the Norges Bank Watch reports, which contain useful information and analyses for the Ministry's evaluation of monetary policy that is presented each year in a White Paper to Parliament.

Oslo, 9 February 2011

Centre for Monetary Economics

Arne Jon Isachsen

Executive summary

Monetary policy in 2010

Overall, the committee considers the Norges Bank's decisions to signal delays in expected future interest rate increases in the first half of 2010 were well balanced and consistent with incoming information: The recovery in the Norwegian economy was weaker, inflationary pressures softer and global interest rates lower than expected at the beginning of the year.

In the committee's view, Norges Bank cannot be blamed for overestimating the outlook for Mainland-Norway growth at the beginning of the year. After all, the momentum in the economy had showed signs of improvement in late 2009 and the Bank's view was consistent with consensus at that time.

The weaker than expected economic recovery had consequences for future inflationary pressures. Interestingly, notwithstanding the fact that underlying inflation developed broadly in line with or slightly above the Norges Bank's inflation projections in the first half of 2010, the Bank revised its forecast for future price inflation down in Monetary Policy Report (MPR) 1 and MPR 2. This demonstrates that the Norges Bank's assessment of inflation prospects over the medium term was based on a forward looking approach.

Indicators of economic growth picked up over the summer and in Monetary Policy Report 3/2010 forecasts for GDP growth in 2011 and 2012 were revised up. These changes pushed up the interest rate forecast in 2012 and 2013. The committee would have expected these revisions to have contributed to a slightly higher interest rate path in 2011 as well.

Moreover, the communication associated with the faster increase in home prices after the Board meeting in December should have been less ambiguous and should have included a discussion about possible implications for monetary policy if the sharp increase were to continue. Added to that, the contradicting signals whether the increase in house prices had increased more than expected or not, may suggest that there is scope for improvement when it comes to integrating financial stability considerations in the discussions of monetary policy.

Finally, the Norges Bank may consider – as a rule – to discuss whether expected future rates among trading partners prevailing in the market look reasonable or not in every MPR's. Alternatively, the Bank may consider publishing an own path for future interest rates among trading partners based on its best judgment in its MPR's.

Economic performance in the inflation targeting period- stylized facts

Stability of key economic variables in Norway and some comparable countries are examined in the inflation targeting period, with the aim to establish some stylized facts of the economic performance and raise some issues that may be a concern for monetary policy in the future. It is the committee's view that monetary policy in Norway has been a success in terms achieving inflation rates close to the target and contributing to sustainable growth rates in the Norwegian economy. Contrary to much concern when inflation targeting was introduced, the

nominal exchange rate has also, with the exception of the brief period 2001-2003, remained fairly stable over this period, although on average, it has appreciated slightly.

Yet, despite being more gradual in its approach, Norges Bank still ranks as one of the most aggressive central banks with regard to interest rate volatility. The volatility was particularly high in the years of 2001-2003, contributing also to increased exchange rate volatility in that period.

The recent decade has also witnessed high variation in equity prices and unprecedented high growth rates in house prices. Notwithstanding that there are many factors explaining the variation in asset prices, monetary policy has clearly played a role. While we do not think the high growth rates in asset prices poses a major treat at the very short horizon, the high pass through from short term interest rates to asset prices coupled with high debt ratios makes the Norwegian economy more vulnerable to shocks in the future.

Financial Stability and Monetary Policy in Practice

Norges Bank argues that both financial stability and price stability considerations should be important when making monetary policy decisions. Yet, it is not clear to us what weight is attached to each consideration and how specific analysis and recommendations from financial stability is integrated into the actual monetary policy framework.

The committee suggests that Norges Bank makes it clearer as to how the issues of major concern in financial stability influence monetary policy decisions in practice. In particular, judgment as to how the risk of future financial imbalances may (or may not) disturb activity and inflation somewhat further ahead could be more emphasized. This is in particular important in the current phase, since the model suit in Norges Bank has not yet fully incorporated financial variables.

Communication – The role of the Executive Board

One important implication of having a central bank which targets inflation is that current economic behaviour will depend on expectations about monetary policy. The communication of the central bank therefore becomes an extremely important aspect of monetary policy.

The committee finds the monetary policy report, the press release and the report to the Executive Board with background and charts informative and well communicated, although the latter too detailed compared to the main message it should try to get across. Still we miss a clearer exposition of the role and explanation of the Bank's use of models of various kinds in arriving at its assessment of current circumstances as well as the proper policy stance. We also miss the reasoning behind judgments made to change or override the models.

The committee believes that a record of the discussion that has preceded the decisions at the Executive Boards meetings would be very useful and make monetary policy more transparent and credible. Making such information available would require minutes to be released from the policy meetings.

Hence, the committee suggests that non-attributed minutes should be published, in order to strengthen accountability and further improve transparency. These minutes could note, without attribution to individual members, which issues were discussed and what arguments were presented. Non-attributed minutes will reveal the scope and depth of the policy discussion, but will not identify the individual contributions of the members. This would be useful in providing an indication of the degree of disagreement and/or uncertainty among the members. This, in turn, would assist the private sector in learning the monetary policy reaction function more efficiently.

The forecast process – number of forecast a year

Norges Bank's Executive Board meets eight times a year. The forecasts are not updated except on the three occasions when the Monetary Policy report is published. An exception was in December 2008, when the unexpected depth of the financial crisis required new forecasts for the expected policy stance.

The committee suggests that while Norges Bank should keep the number of monetary policy reports at three per year, it should consider publishing a press release and a monetary policy update in conjunction with at least one of the other meetings of the Executive Board. The monetary policy update should contain a limited number of forecasts for central macroeconomic variables.

Measure of underlying inflation

Extraordinary fluctuations in different product markets or changes in taxes and subsidies may render the consumer price inflation very volatile. To ignore these temporary fluctuations, most central banks, including Norges Bank, therefore also construct indicators of so-called underlying inflation, where these extraordinary fluctuations are removed. While we encourage Norges Bank in publishing these measures, we are sceptical with regard to the use of CPIXE (CPI adjusted for tax changes and excluding temporary changes in energy prices) as their main indicator of underlying inflation in the policy process, for which they provide conditioned, detailed forecasts.

The committee suggest that CPI-ATE (CPI adjusted for tax changes and excluding energy products), or a related measure constructed by Statistics Norway, should be used as the focus measure instead of CPIXE, while taking its disadvantages more explicitly into account in times of rapid changes in forward prices on energy. This can be done by using the other indicators more actively (including CPIXE), by discussing how and why they differ from the current CPI inflation rates.

Furthermore, when discussing the profile for inflation over the medium term in section 1 of the Monetary Policy Report (Monetary policy assessments and strategy), it is the committee's view that the likely path for headline CPI inflation should take a more prominent role than has so far been the case. This should allow for a deeper discussion of the extent to which sharp increases in energy prices, taxes or other external disturbances may influence consumer price inflation over the policy-relevant medium-term horizon.

1. Introduction

This report, Norges Bank Watch 2011, is an evaluation of the conduct of monetary policy in Norway in 2010. This report will not evaluate the institutional framework for monetary policy. Like previous Norges Bank Watch reports, we adopt the ex-ante rather than the ex-post perspective, i.e. our assessment of the conduct of monetary policy is solely based on the information available when decisions were made, not data and information that became known afterwards.

The committee for Norges Bank Watch 2011 met with Norges Bank on November, 23 2010 and with the Ministry of Finance on November, 22 2010. We wish to thank Norges Bank for supplying us with useful data.

The committee would also like to thank Ida Wolden Bache, Arne Jon Isachsen and Erling Steigum for constructive comments. The responsibility for errors and omissions rests solely with the committee, however.

2. Monetary policy in 2010

When entering 2010, the Executive Board of the Norges Bank had already begun a process of gradually reversing previous policy accommodation with two interest rate increases in the fourth quarter of 2009. The bank had also signaled that further interest rate increases were likely in the course of 2010. Alongside the Reserve Bank of Australia, the Norges Bank was among the first central banks in the world to start increasing interest rates, after the bankruptcy of Lehman Brothers a year earlier caused a crisis in financial markets and plummeting global economic activity.

The impact on the Norwegian economy of the financial crisis appeared less pronounced than previously feared, partly thanks to stabilization and a subsequent rise in commodity prices, as well as swift policy responses by the Government and the central bank, which helped solving the liquidity crisis in the Norwegian banking system and boosted households' disposable income. As a result, private consumption and the housing market posted significant gains during 2009.

The monetary policy outlook for 2010 was among other factors based on a quite optimistic forecast for growth in the Mainland Norway economy, in particular supported by expectations of a very strong recovery in private consumption.

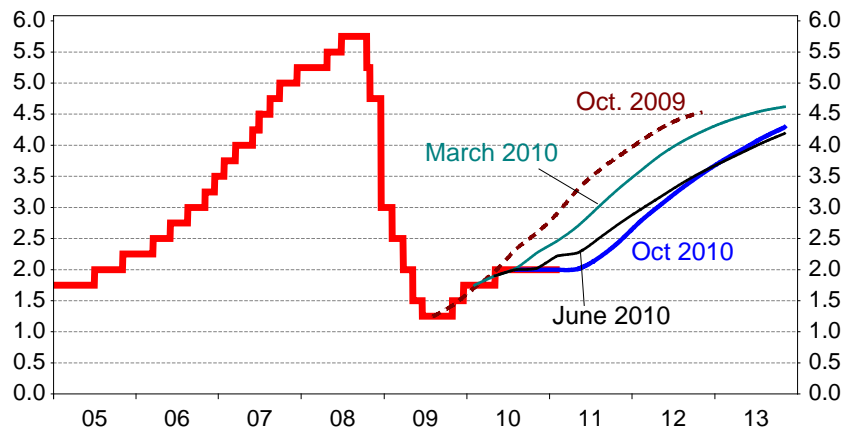
But these expectations turned out to be too optimistic. Growth in private consumption slowed in the first half of 2010 and the Bank's projection for growth in private consumption in 2010 was cut to 2 $\frac{3}{4}$ % in Monetary Policy Report (MPR) 3/10, from 5 $\frac{1}{2}$ % a year earlier. In the same period, the projection for Mainland-Norway GDP growth was cut by 1 percentage point to 1 $\frac{3}{4}$ % (see Figure 2.3).

In this context, price and cost pressures turned out to be more subdued in 2010 than the Norges Bank had expected. Low external price impulses amplified the disinflation trend (Figure 2.2).

The weaker than expected performance of the Norwegian economy in 2010 was *not* mirrored by a corresponding weakness abroad. Quite the opposite, the Bank's projection for GDP growth among trading partners in 2010 was revised up to 3%, from 1 $\frac{1}{4}$ % a year earlier. But despite an upward revision of the international economic outlook, market participants downgraded their expectations of future interest rate moves among major central banks amid sovereign debt concerns and a second round of unconventional monetary policy easing by the Federal Reserve.

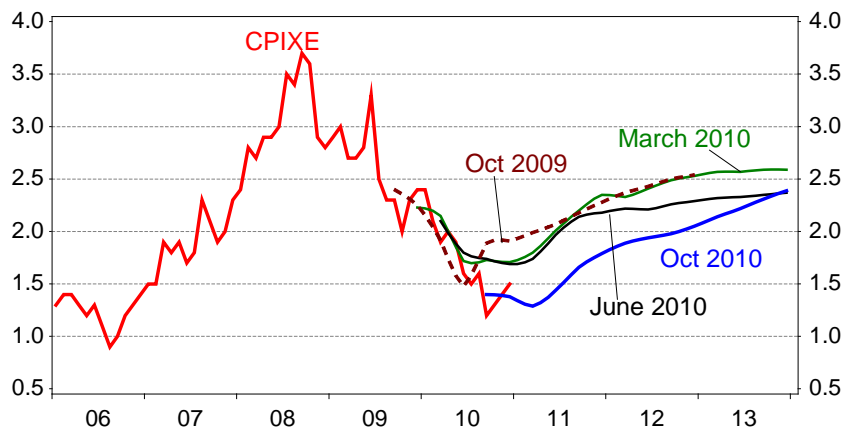
In sum, these developments contributed to delay the monetary tightening process in Norway (Figure 2.1). The key policy rate was raised only once, by 25 bp in May 2010, and near-term interest rate prospects were revised down in all three Monetary Policy Reports published in 2010. As the factors behind the downward revisions in the first half of 2010 and the second half of the year differed somewhat, the evaluation of monetary policy in these two periods is done separately.

Figure 2.1: Sight deposit rate projections



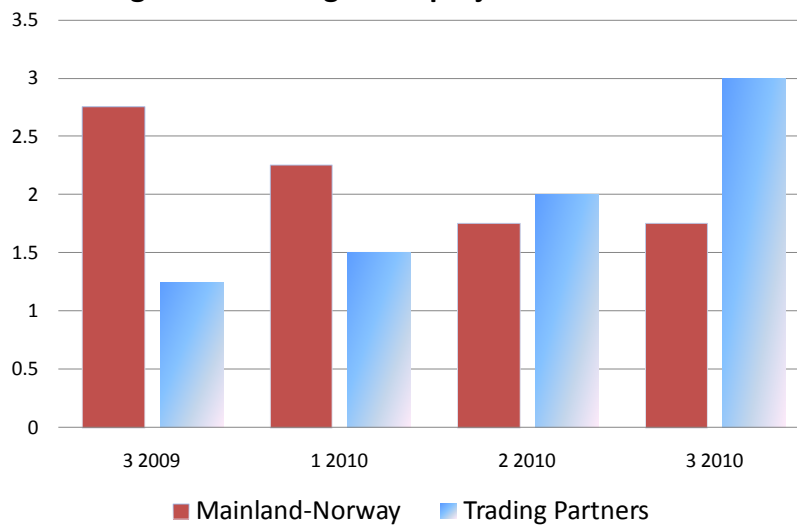
Source: EcoWin, First Securities

Figure 2.2: CPIXE and projections



Source: EcoWin, First Securities

Figure 2.3: GDP growth projections for 2010



2.1 January – June; Disappointing growth and turbulent financial market conditions

The first monetary policy meeting of the Norges Bank Board in 2010 was on **3 February**. Having raised its key policy interest rate by 25 basis points both in October and December 2009, the Board decided to leave its key policy rate on hold at this meeting, a decision which was widely expected. This decision was consistent with the interest rate projection outlined in MPR 3/09; the baseline scenario in the Report was to raise interest rates either in December 2009 or February 2010, and the Board chose the former.

According to the press release following the Board's decision, the outlook for petroleum investment was deemed weaker than previously assumed, but so far this was counterbalanced by stronger than expected growth in export. Overall, incoming information had been broadly in line with expectations, but with one important exception; the NOK exchange rate was somewhat stronger than projected. The press release warned that *“Should the krone appreciate considerably more than projected, the key policy rate may be increased to a lesser extent or later than envisaged in October”*.

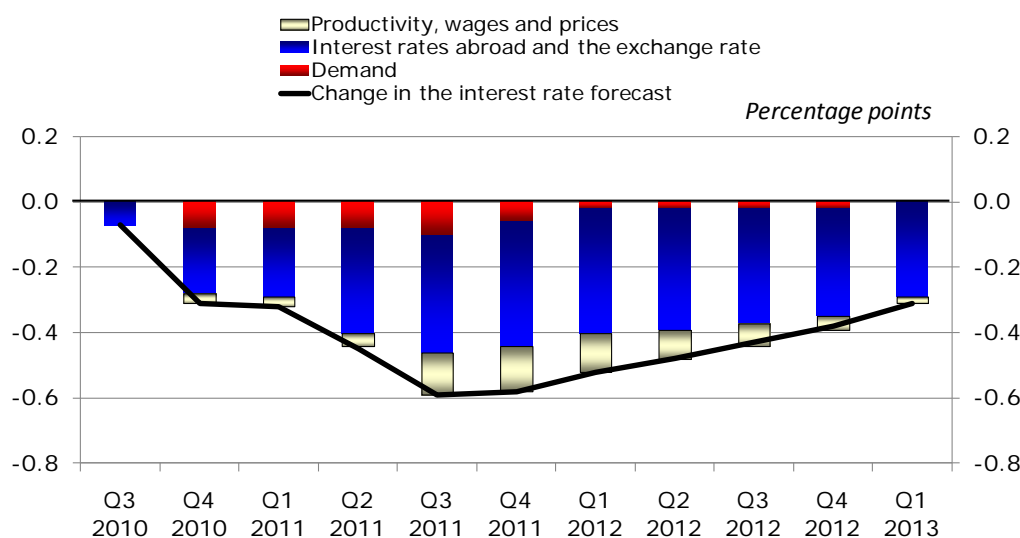
The trade weighted NOK exchange rate continued to remain stronger than projected in the period up to the next Board meeting on **24 March**. In addition, expected future interest rates among trading partners had fallen considerably amid heightened concerns over fiscal sustainability in some European countries. Furthermore, incoming data on growth in Norway was on balance weaker than anticipated; Mainland-Norway GDP grew at a significantly slower pace than expected in Q4 2009 amid plunging business investments.

Meanwhile, underlying inflation had developed broadly in line with projections. In fact, CPIXE inflation was actually slightly higher than expected, but incoming information regarding wage development in 2010 were more subdued than previously assumed.

In its baseline scenario in MPR 3/09 the Norges Bank signalled a 50/50 chance of a hike at this meeting, but the Executive Board decided to leave key policy interest rates on hold. This decision was expected by nine out of ten economists according to a Reuters poll.

In MPR 1/10, published simultaneously, the Norges Bank interest rate projection was revised down. The main reason for this downward revision since MPR 3/09, was lower expected interest rates abroad and a stronger NOK exchange rate, but domestic factors contributed as well (Figure 2.4). In its baseline scenario, growth in Mainland-GDP was cut by ½ percentage points in both 2010 and 2011. Prospects for wage growth and price inflation were also revised down.

Figure 2.4 Contribution to changes in rate path since MPR 3/09



Source: Norges Bank's Monetary Policy Report 1/2010

At first glance, the contribution from “demand” to changes in the interest rate forecast appeared modest considering the noticeable weaker than expected pace of recovery in the Norwegian economy. This has to be viewed in the context of a lower growth estimate for potential output, justified by the massive drop in business investments. Consequently, the output gap was little changed.

The new interest rate forecast was consistent with a 25 bp increase to 2% at the Board meeting on **5 May**. Economists in the market were split ahead of the meeting, but the majority (eight of eleven economists according to a Reuters poll) expected a hike.

The Executive Board decided to raise the key policy rate in accordance with its base line scenario. However, the press release revealed that the decision was close as the Board considered the alternative of leaving the key policy rate unchanged at that meeting, mainly due to turbulence in the market for government debt. Longer-term bond yields had increased considerably in Greece, Portugal, Ireland and Spain. The Board noted that the risk of weaker than expected developments in EU countries – with possible spill-over effects to Norway - had increased. This was interpreted by the market as a hint that future interest rate increases may be delayed if the financial market turbulence were to continue.

The turbulence in the market for government debt continued indeed up to the policy meeting on **23 June**. In the press release following a decision to leave rates on hold - which was expected by all economists surveyed - the Board made a note of the high yields on government bond yields in countries with weak public finances which had translated into higher spreads between money market rates and expected future central banks rates also in Norway.

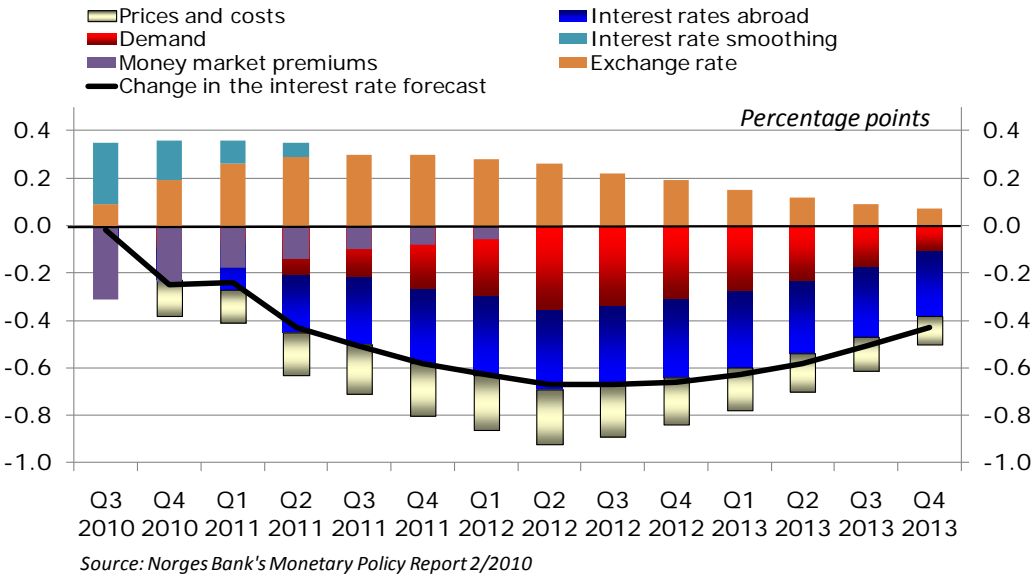
Moreover, as many European countries were compelled to implement substantial fiscal tightening, the Board decided to cut the forecast for trading partners’ growth in 2011 and 2012 in its MPR 2/10. Markets participants seemed to agree that the recovery in advanced economies was likely to lose momentum going forward, as reflected by a decline in expected future key policy rates among major trading partners.

Furthermore, the recovery in Norway had been somewhat weaker than Norges Bank expected as business investments continued to contract and the household saving ratio remained elevated. The latter was interpreted being related to heightened uncertainty among households concerning developments abroad and their potential impact on Norway. According to the press release, “the economic outlook is more subdued as a result of developments in Europe”

Due to the slower than expected pace of the economic recovery in Norway, the Board decided yet again to cut its forecast for inflation over the medium term. A slightly lower than expected outcome of the centralized wage negotiations in the private sector also supported a lower profile for underlying inflation.

In sum, these developments by far outweighed the effect of a weaker krone exchange rate on the interest rate outlook, leading to a downward revision of the interest rate path. In the baseline scenario the first hike was projected around the turn of the year.

Figure 2.5 Contribution to changes in rate path since MPR 1/10



When accounting for the factors behind the decision to change the interest rate profile, the Norges Bank added a smoothing-bar which represented a preference for stable interest rates instead of “abrupt and unexpected changes in the key policy rate” (see Figure 2.5). According to the Board’s judgment, the rise in money market premiums should be considered temporary. Interestingly, had the Bank not added this judgment, the Bank’s reaction function would imply an immediate and transitory cut in the interest rate.

Assessment

Norges Bank cannot be blamed for overestimating the outlook for Mainland-Norway growth at the beginning of the year. After all, the momentum in the economy had showed signs of improvement in late 2009 and the Bank’s view was consistent with consensus at that time.

The weaker than expected economic recovery had consequences for future inflationary pressures. Interestingly, notwithstanding the fact that underlying inflation developed broadly in line with or slightly above the Norges Bank’s inflation projections in the first half of 2010,

the Bank revised its forecast for future price inflation down in both MPR 1 and MPR 2. This demonstrates that the Norges Bank's assessment of inflation prospects over the medium term was based on a forward looking approach.

The committee therefore considers the Norges Bank's gradual re-assessment of expected future inflation being appropriate on balance, even if measures of underlying inflation over the summer came in somewhat lower than projected.

NBW view

Overall, the committee considers the Norges Bank's decisions to signal delays in expected future interest rate increases in the first half of 2010 were well balanced and consistent with incoming information: The recovery in the Norwegian economy was weaker, inflationary pressures softer and global interest rates lower than expected at the beginning of the year.

2.2 August – December; Growth picked up, but inflation fell more than expected

The accumulation of news over the summer had been slightly more upbeat as regard the growth outlook for Norway. In particular, new industrial orders and business confidence had picked up following an increase in oil companies' investment plans, suggesting somewhat better growth prospects in the second half of the year.

Meanwhile, the international environment had improved somewhat as turbulence related to public finances in several European countries had receded, even though survey-based indicators of growth (such as PMIs) signaled a weaker momentum in the economic recoveries of several countries.

According to the press release following the Board meeting on **11 August**, developments in Norway and abroad were deemed to be "*broadly in line with expectations*". The Board also noted that consumer price inflation had slowed as expected and decided to leave its key policy rate unchanged at 2%. This decision was widely expected.

The key policy rate remained on hold also after the Board meeting on **22 September**, which was anticipated by all twelve economist polled by Reuters prior to that meeting. In the press statement the Board reiterated that growth in Norway was picking up as expected, while noting that "*activity among some of Norway's most important trading partners increased more than expected in the first half of the year and growth in Asia remains high*". Financial markets had also stabilized somewhat after the summer turbulence.

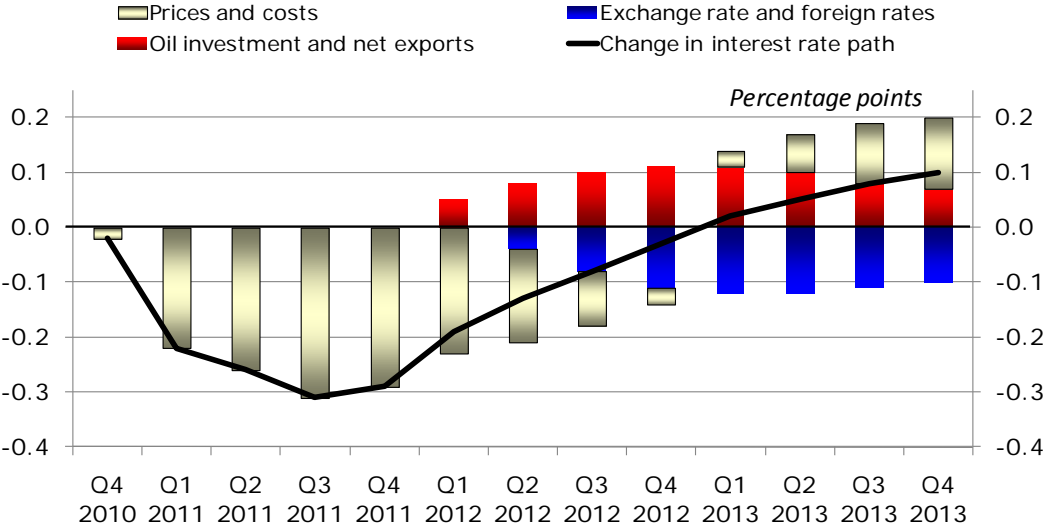
Despite the more positive assessment of the external environment, expected future interest rates among trading partners were markedly lower than at the time Monetary Policy Report 2/10 was published. This should at least partly be interpreted in light of signals by Fed officials about possible extensions of policy accommodation.

Moreover, consumer price inflation had slowed to a slightly lower rate than expected, in particular due to lower prices on imported consumer goods. Looking ahead, the Board was of the opinion that "*new information may indicate that inflation in the coming months will be*

slightly lower than projected in June”. This was interpreted by the market as a signal that the next increase in the key policy rate could be delayed further.

Underlying inflation continued to fall in the period up the next Board meeting on **27 October**, motivating a widely expected no-change in rates and a further delay in the estimated upward shift in interest rates. To be precise, prospects for the next interest rate hike were postponed by around six months to the summer of 2011 (June or August), according to the baseline scenario in MPR 3/10 published contemporaneously.

Figure 2.6 Contribution to changes in rate path since MPR 2/10



Source: Norges Bank's Monetary Policy Report 3/2010

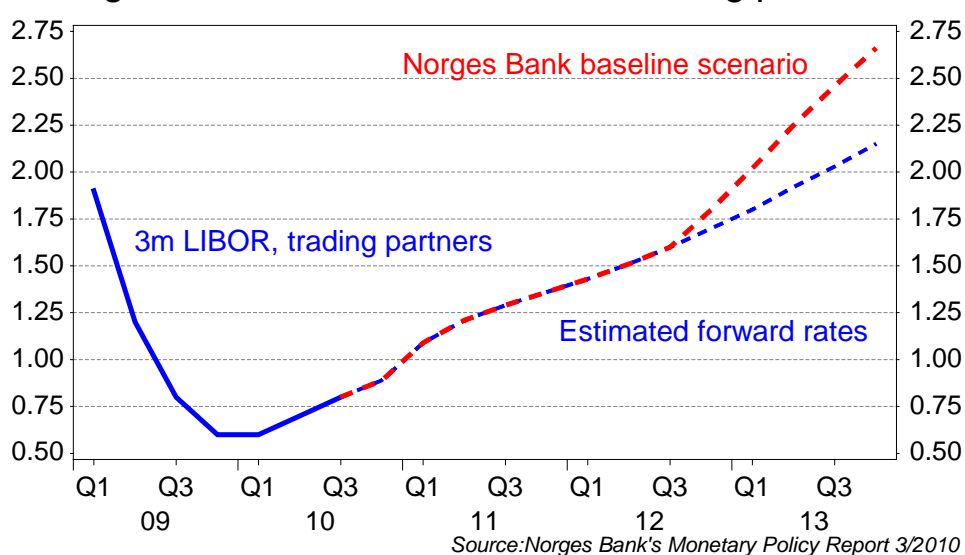
Meanwhile, the Board revised its forecast for Mainland-Norway GDP growth in 2011 and 2012 up on expectations of higher oil and gas investments and stronger exports growth. While this was expected to boost capacity utilization and eventually bring up inflation over the medium term, it had no effect on the interest rate path in 2011.

When accounting for the factors behind the changes in the interest rate path (Figure 2.6), the impact of higher capacity utilization was considered to offset the negative impact from lower interest rates abroad in 2012 and 2013. In fact, the outlook for interest rates in 2013 was even revised up a little between June and October.

Interestingly, the assumption regarding foreign interest rates going forward deviated from the Bank’s standard model, which is based on the term structure of market interest rates. The Norges Bank staff stated the following on page 14 in MPR 3/10:

“The current low level of long-term interest rates seems to be due to particular conditions and probably does not provide an accurate picture of key rate expectations. It is therefore assumed that central bank key rates abroad and short-term rates will after a period rise somewhat more rapidly than currently reflected by long-term market rates”.

Figure 2.7: Estimated fwd rates, trading partners



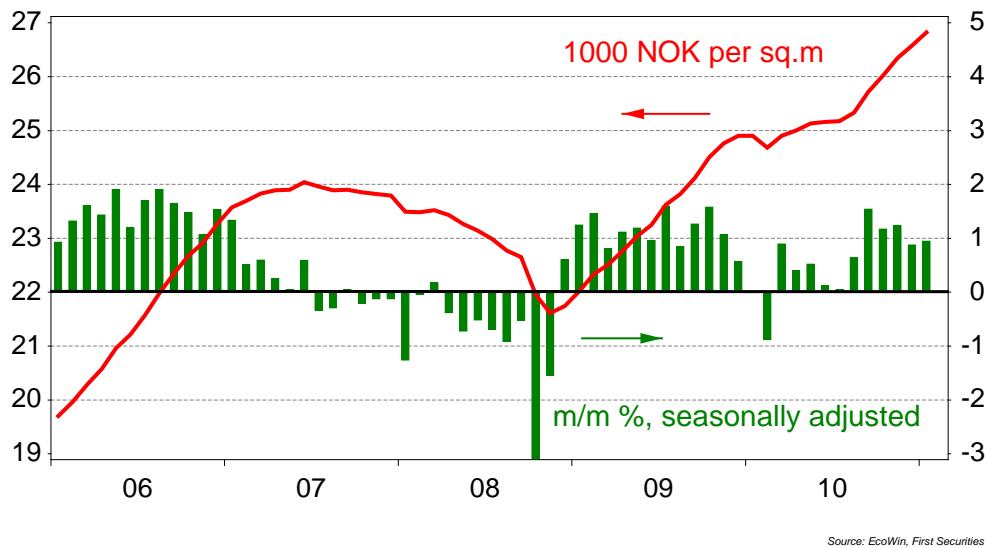
In other words, the Norges Bank standard technique for estimating forward market rates abroad was complemented with a considerable amount of judgment, leading to a steeper curve for interest rates abroad from Q3 2012 and beyond (see Figure 2.7). This judgment also contributed to a higher profile for Norwegian interest rate in this segment (or to be more precise, less of a drag from interest rates abroad on Norwegian rates).

When meeting on **15 December**, the Norges Bank Board left its key policy rate unchanged, as expected. The Bank's press statement noted that "*underlying inflation has been approximately as projected...*" and that "*Growth in the Norwegian economy has picked up as expected*". However, there was one change in the press release that particularly caught market participants' attention, namely the assessment regarding the impact of low interest rates on growth and inflation on somewhat longer horizons.

Throughout 2010 the Norges Bank repeatedly stressed the risk of future financial imbalances that may disturb economic activity and inflation somewhat further ahead when interest rates are low. In isolation, this risk suggested that the key policy rate should not be kept low for too long. But there had been no clear signs that this risk was materializing, as illustrated by the moderate pace of growth in existing home prices in the first half of 2010. Consequently, the Board probably did not feel any need to rush ahead with interest rate increases when inflation was low.

But growth in existing home prices accelerated in the second half of 2010 (Figure 2.8), as did consumer spending. In the press release in December, the Board noted that (the Executive Board background note): "*The rise in house prices and consumer spending has picked up recently. The consideration of guarding against the risk of future financial imbalances that may disturb activity and inflation somewhat further ahead suggests that the key policy rate should not be kept low for too long.*". Although the Board did not provide any clear signals about changes in the outlook for monetary policy ahead, the emphasis on the rise in house prices could indicate that the increase in the risk to future financial imbalances were more pronounced, thus underpinning the Board's view that the key policy rate should not be kept low for too long.

Figure 2.8: Existing home prices



Forward rates in the market increased slightly after the press release was published. But in the Q&A session at the press conference Deputy Governor Qvigstad underplayed the significance of the change in rhetoric about home prices, saying that the rise in home prices was in line with expectations.

However, the statement by Mr. Qvigstad at the press conference represented a contradiction to a sentence that prevailed in the Norges Bank's Financial Stability report No. 2/2010 published a couple of weeks earlier. On page 17 in the report, the Bank stated the following:

"The [house] price increase in October was higher than assumed in Monetary Policy Report 3/10"

Assessment

Indicators of economic growth picked up over the summer and in Monetary Policy Report 3/2010 forecasts for GDP growth in 2011 and 2012 were revised up. These changes pushed up the interest rate forecast in 2012 and 2013. The committee would have expected these revisions to have contributed to a slightly higher interest rate path in 2011 as well.

Moreover, the monetary policy signals provided in the press release and the press conference in December was somewhat confusing. Norges Bank's Financial Stability report No. 2/2010 had concluded that house prices had increased more than expected, but the statement on house prices were much softer at the press conference in December. The committee believes the statement on house prices should have been less ambiguous and should have included a reference to possible implications for monetary policy if the sharp increase in home prices were to continue. Non-attributed minutes would certainly help clarifying the Board's view on this matter (see section 3.3).

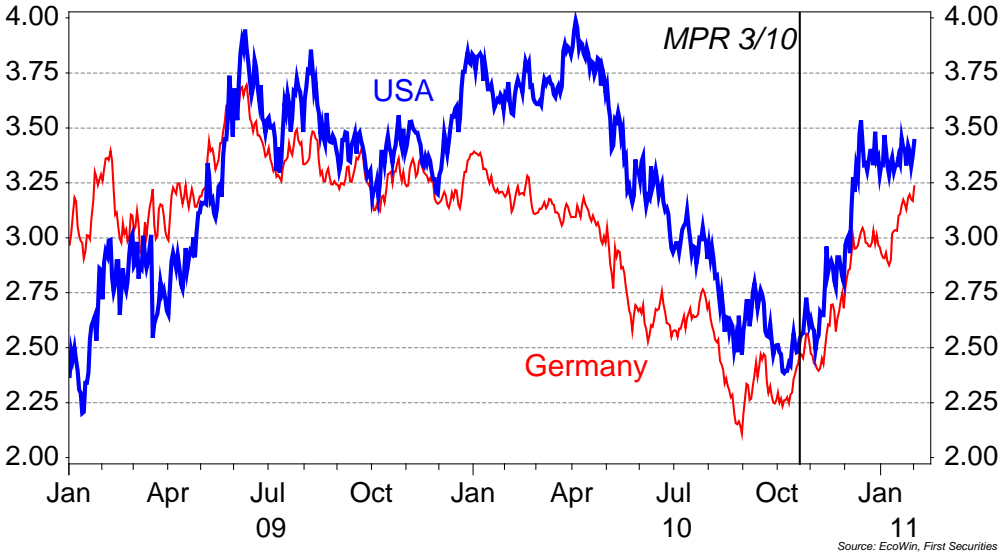
As usual, Norges Bank' forecast for future trading partners' rates was mostly based on the term structure of interest rates prevailing in the market, allowing the Norges Bank to respond

swiftly to changing perceptions of the likely path for future interest rates among trading partners with a view to avoid excess volatility in the NOK exchange rate.

However, in October the Norges Bank decided to deviate from this pattern by assuming that interest rates abroad will rise somewhat faster than implied by forward interest rates. Although this judgment did not affect interest rate prospects for 2011, and had only limited impact on the 2012 rate outlook, it was considered as a controversial decision by some market participants.

In retrospect, the judgment appears well conducted considering the substantial government bonds sell-off in major markets that occurred in November and early December (Figure 2.9).

Figure 2.9: Yields on 10 year gov. bonds



NBW view

The outlook for stronger growth in oil investments and exports should have contributed positively to the interest rate forecast for 2011.

Moreover, the communication associated with the faster increase in home prices after the Board meeting in December should have been less ambiguous and should have included a discussion about possible implications for monetary policy if the sharp increase were to continue. Added to that, the contradicting signals whether the increase in house prices had increased more than expected or not, may suggest that there is scope for improvement when it comes to integrating financial stability considerations in the discussions of monetary policy. We will discuss this further in Section 3.2-3.3.

Furthermore, to avoid confusion in the future, the Norges Bank may consider – as a rule – to discuss whether expected future rates among trading partners prevailing in the market look reasonable or not. Alternatively, the Bank may consider publishing an own path for future interest rates among trading partners based on its best judgment in its MPR’s (e.g. in line with the practice of the Riksbank).

3. A decade of inflation targeting.

This report, NBW2011, is the twelfth report from the Norges Bank Watch. The report from the first Norges Bank Watch group (NBW2000) assessed monetary policy in 1999 and the first half of 2000. Although Norges Bank did not have an official inflation target at that time, the then new Governor of Norges Bank, Svein Gjedrem, had early in 1999 signaled that Norges Bank would no longer fine-tune movements in the krone exchange rate. Discretion in the mandate implied that Norges Bank would place emphasis on the fundamental conditions for achieving exchange rate stability over time, such as stabilizing price and cost inflation, see the article on “Monetary Policy Challenges” by Svein Gjedrem in *Aftenposten* May 4, 1999 and Norges Banks letter to the Ministry of Finance, October 21, 1999 (from which this quote is taken):

“In order to achieve exchange rate stability against the euro, monetary policy instruments must be oriented in such a way that price and cost inflation is brought down towards the corresponding aim for inflation for the European Central Bank (ECB). At the same time, monetary policy must not in itself contribute to deflationary recessions, as this would undermine confidence in the krone.”

In March 2001, a formal inflation targeting framework was adopted for monetary policy. Guidelines were set in a Regulation by the Ministry of Finance on Monetary Policy dated March 29, 2001. The guidelines for monetary policy specified that *“Monetary policy shall be aimed at stability in the Norwegian krone's national and international value, contributing to stable expectations concerning exchange rate developments. At the same time, monetary policy shall underpin fiscal policy by contributing to stable developments in output and employment.”* To obtain this stability, the operational target of monetary policy in Norway was specified to be annual consumer price inflation of close to 2.5% over time.

The division of responsibility between monetary and fiscal policy was also clarified. In particular, fiscal policy (the central government budget) should emphasize long run sustainability. Hence, fiscal policy should influence the exchange rate and the size of the internationally exposed sector in the medium term (Gjedrem, 2010).

In Section 3.1 we examine the stability of the key economic variables in Norway and some comparable countries (Sweden, the UK, Euro countries and the US) in the inflation targeting period, given the new mandate. Our aim is to establish some stylized facts (summary statistics) of the economic performance, and in so doing, raise some issues that may be a concern for monetary policy in the future. Section 3.2-3.4 then discuss related topics that are of importance for a transparent and credible central bank like Norges Bank.

3.1 Economic performance in the inflation targeting period – Stylized facts

The record since 2001 speaks for itself. Norges Bank has successfully implemented its policy within an inflation targeting framework as best reflected in a consumer price (CPI) inflation that has moved around the target, although on average, markedly below (2 % on average since 2001), see Figure 3.1. Although this would indicate that Norges Banks’ forecasts for inflation have systematically been biased upwards (since Norges Bank always predicts that inflation will reach the target of 2.5 % by the end of the forecast horizon), there are many factors

outside the central banks control that can explain this deviation, such as low prices for imported consumer goods. Also, compared to the other countries analyzed here, average inflation rates in Norway are neither exceptionally low nor high, with the US experiencing the highest average inflation rate of 2.4 % and Sweden the lowest; 1.5 %.

Figure 3.1 Inflation rates in selective countries

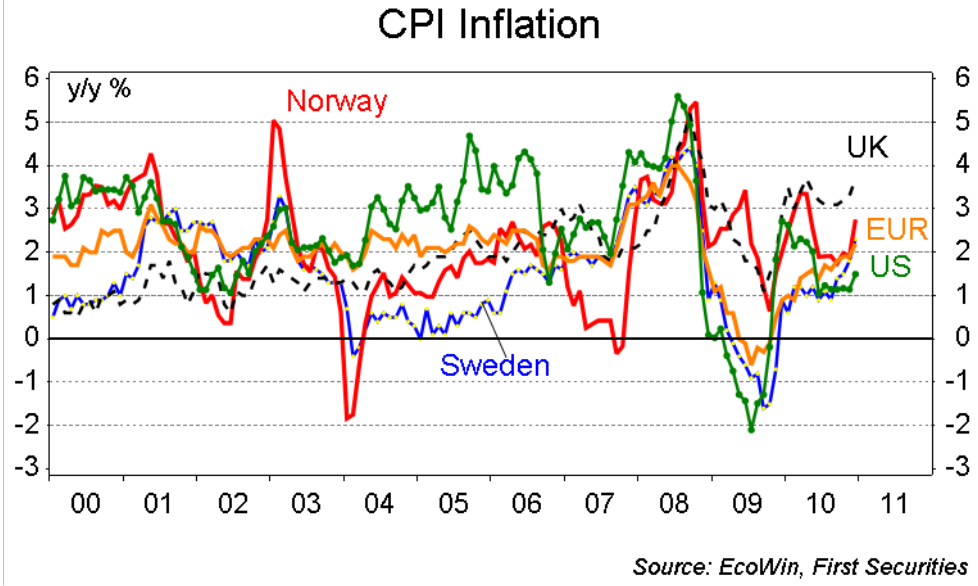
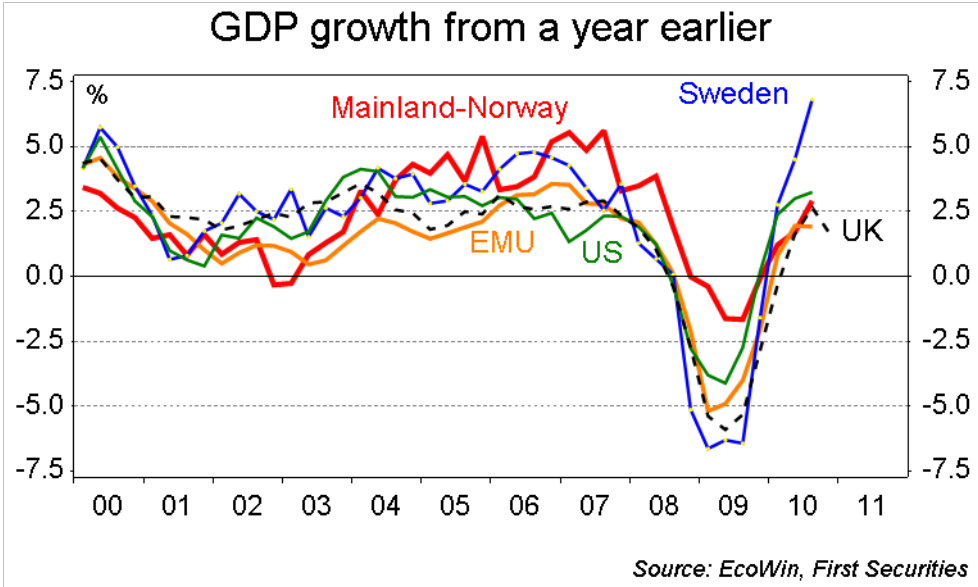


Figure 3.2 GDP growth rates in selective countries



However, the figure also illustrates that CPI inflation fluctuates a lot, and Norway ranks second, after the US, in terms of volatility.¹ One reason for the high variation in consumer prices is the extraordinary fluctuations in different product markets or changes in taxes and

¹ Standard deviation of CPI inflation is 1.4 in the US and 1.3 in Norway. EMU ranks the lowest, with standard deviation of 0.8.

subsidies. To ignore these temporary fluctuations, most central banks, including Norges Bank, therefore also construct indicators of so-called underlying inflation, where these extraordinary fluctuations are removed (see section 3.4).

Annual growth rates for GDP mainland Norway has been 2.3 % on average in the inflation targeting period, which of the countries compared here, is only surpassed (marginally) by Sweden (Figure 3.2). Figure 3.2 also illustrates that throughout this period, the Norwegian economy has experienced two recessions, a minor one in 2002/2003 and the more serious recession in 2008/2009 following the international financial crisis. However, compared to its trading partners, the last recession in Norway turned out to be relatively mild. Whether this is primarily due to good policies (an active monetary and fiscal policy) or good luck (being an oil exporter when terms of trade increases), is an issue that needs to be examined in more detail. We leave this to future research, but conclude as NBW2009 and NBW2010, that Norges Bank played an important role in dampening the effect of the international financial crisis on the Norwegian economy.

The main instrument in monetary policy is the interest rate. One important issue to explore with regard to monetary policy is how frequently and by how much Norges Bank has altered interest rates. Large and frequent (aggressive) interest rate changes can be beneficial if they bring about better economic performance, such as stable inflation and a lower inflation risk premium. On the other hand, large variations in interest rates increase the interest risk premium. Furthermore, large changes to the central bank's signal rate are not always the most effective tool to influence the economy either. The impact monetary policy has on the economy comes from the whole yield curve, which crucially includes expectations and confidence in future policy as well.

To evaluate the aggressiveness of monetary policy, one can look at the range of interest rates used, as well as the frequency and size of interest rate changes. Figure 3.3 presents the ranges whereas Figure 3.4 presents the standard deviation of the annual changes of these interest rates.

In the period where Norges Bank has targeted inflation (informally from 1999 and then formally from 2001) Norges Bank ranks as one of the most aggressive central banks with regard to interest rate volatility (in this sample of countries, but also including other small resource rich open economies such as Australia and New Zealand). This could reflect that Norway is exposed to more sizeable shocks/impulses, has less emphasis on gradualism, or it might also be a sign of more policy errors.

The committee believes that some of the volatility of the policy rate in Norway can be explained by the more aggressive interest rate changes in 2001-2003 (see Figure 3.3.), a period where one could argue that policy errors may have played a role (see NBW2004). Redoing the analysis from 2005 brings the volatility in Norway more in line with the other countries, although Norway still ranks high on volatility.

Another important factor that may have contributed to reduce volatility in the last years, is that Norges Bank has gradually changed its communication, first by publishing strategy intervals for the interest rate (from July 2004), and finally by publishing its own interest rate forecast (from November 2005). By focusing on the forecast of the interest rates rather than

just the announcement of the policy rate, monetary policy has become more transparent and predictable.²

Figure 3.3 Interest rates in selective countries

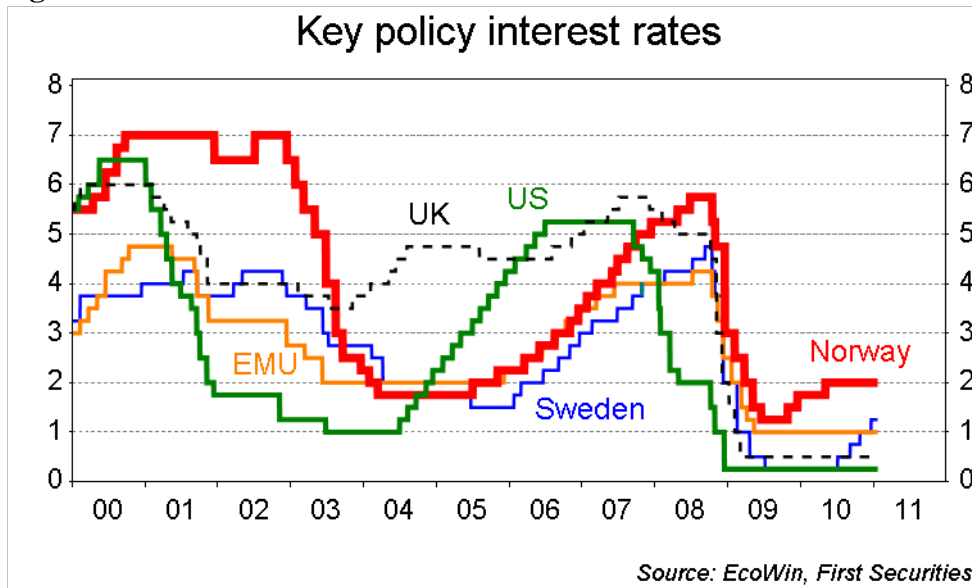
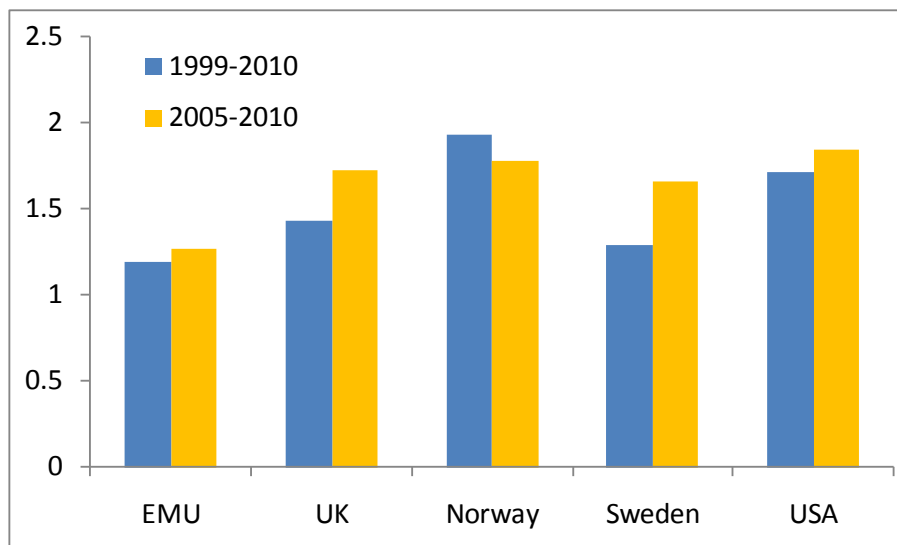


Figure 3.4 Standard deviation of the annual change in central bank policy rates



On a final note, the two countries that have the most aggressive central banks (Norway and the U.S.), are the same two countries that have experienced highest volatility in inflation. On

² Related to this, Eeg (2008) finds that after 2004/2005, Norges Bank's interest rate decisions have explained a smaller share of the variability in forward interest rates than previously. Related findings are also found in Andersson and Hoffman (2009) in the period when Norges Bank has published its own interest rate path.

the other scale is the ECB that is the least aggressive of the central banks and has the least volatile inflation rates (see footnote 1). One reason for this could be that Norges Bank and the Fed practice a more flexible inflation target, contributing also to smoothing fluctuations in output and employment, while ECB tends to focus more on the stabilisation of inflation. If that is the case, one would expect the growth rates in GDP to be more stable in Norway and the US than in the EMU.

This is partly confirmed. For the period 2001-2010, the fluctuation in GDP has been less volatile in both Norway and the US than in countries such as Sweden and the UK. Compared to the EMU, however, Norway and the US have only marginally more stable growth rates.³

A concern if monetary policy is aggressive is that it may lead to increased volatility in asset prices. However, judging by Figure 3.5, the nominal effective exchange rate in Norway has been the most stable (least volatile) exchange rate of the countries analyzed here, although it has appreciated over the sample (10% since 1998). One exception to the stability is the period 2001-2003, when the interest rate differential changed by a lot, thereby also contributing to exchange rate fluctuations (the exchange rate first appreciated sharply when interest rates increased, only to depreciate substantially when the interest rate was quickly brought down).

The same picture of stability emerges when the nominal effective exchange rate in Norway is deflated by relative consumer prices (see Figure 3.6). The real exchange rate has appreciated slightly, in particular over the last decade, but compared to the mean of the period 1970-2010, the appreciation of the real exchange rate is modest. This most likely reflects the low inflation rates experienced in Norway due to the favourable terms of trade (low prices for imported consumer goods, combined with high prices for our commodities exports), preventing the real exchange rate from appreciating any further.

This favourable picture changes somewhat when the nominal exchange rate is deflated by relative wages. The resulting real exchange rate (denoted by relative wages in Figure 3.6) shows clear evidence of declining competitiveness in the inflation targeting era compared to previous periods. Hence, notwithstanding the low inflation rates, labour costs have not remained stable in the period. In fact, Norwegian labour costs have reached an unprecedented high level measured by relative labour costs, and cost competitiveness has thereby weakened.

Although some of the increase in labour cost could reflect increased productivity, it illustrates a feature of the Norwegian economy that has become more prominent in the last decade; High growth in employment in the public sector has come at the expense of employment in the manufacturing sector, where there has been a gradual decline. While 1/3 of the labour force in Norway today is employed in the public sector, only 10 % of the labour force is employed in manufacturing industries. Although there has been a decline in manufacturing employment in many other industrial countries, the combination of high share of employment in the public sector and low share of employment in the manufacturing sector is unique for Norway. This most likely also has impacted upon the wage formation and incentives.

While the (nominal) exchange rate has remained fairly stable in the inflation targeting period, other asset prices, such as house and equity prices, have shown high volatility in this period,

³ Standard deviation of annual GDP growth rates is 2 in both the US and Norway, while in EMU standard deviation is 2.1.

also when compared to other countries. In particular, house price growth has been very high in the past 10-12 years, putting Norway in the lead among many countries (see Figure 3.7).

Figure 3.5 Exchange rates in selective countries

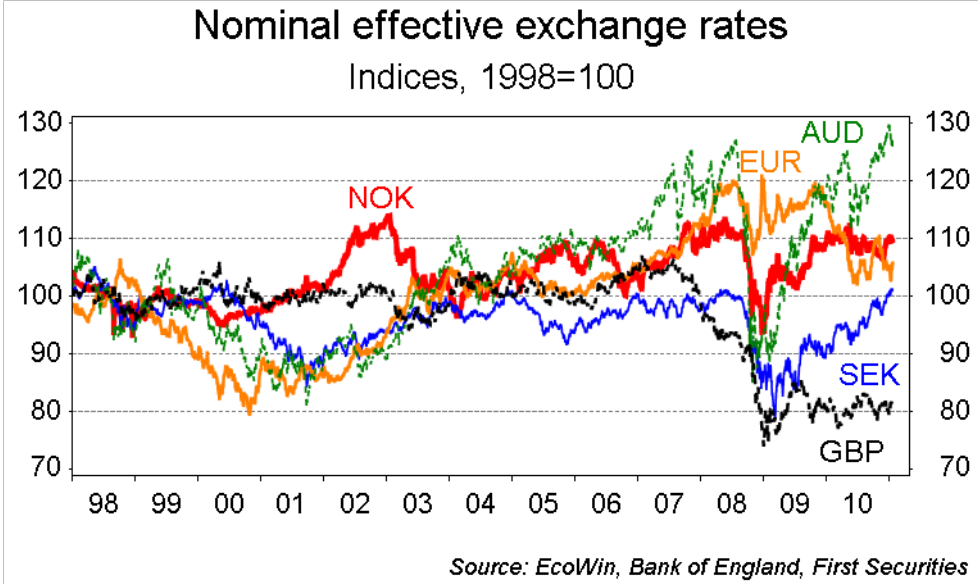
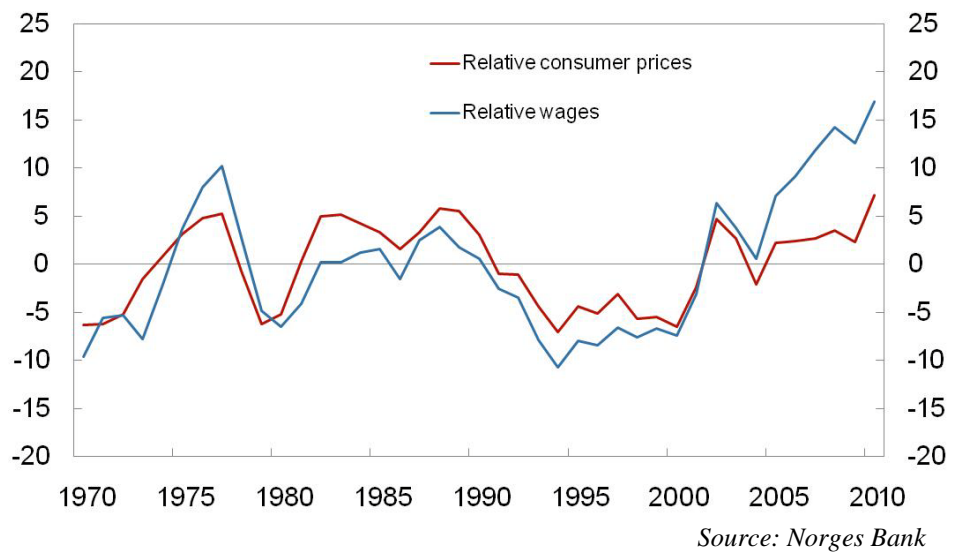


Figure 3.6 Real exchange rate. Deviation from mean, 1970 – 2010. Per cent.



Of the countries compared here, equity prices in Norway display the highest volatility in the inflation targeting period (Euro is now replaced with Germany). The high volatility is manifested in a much steeper increase in Norwegian equity prices in the booming years prior to the recent recession, and a subsequent larger decline in the recession (see Figure 3.8). Since most equity prices reached a through by the end of 2008, they are again on a relative steeper climb in Norway than in the other countries.

Figure 3.7 House prices in selective countries

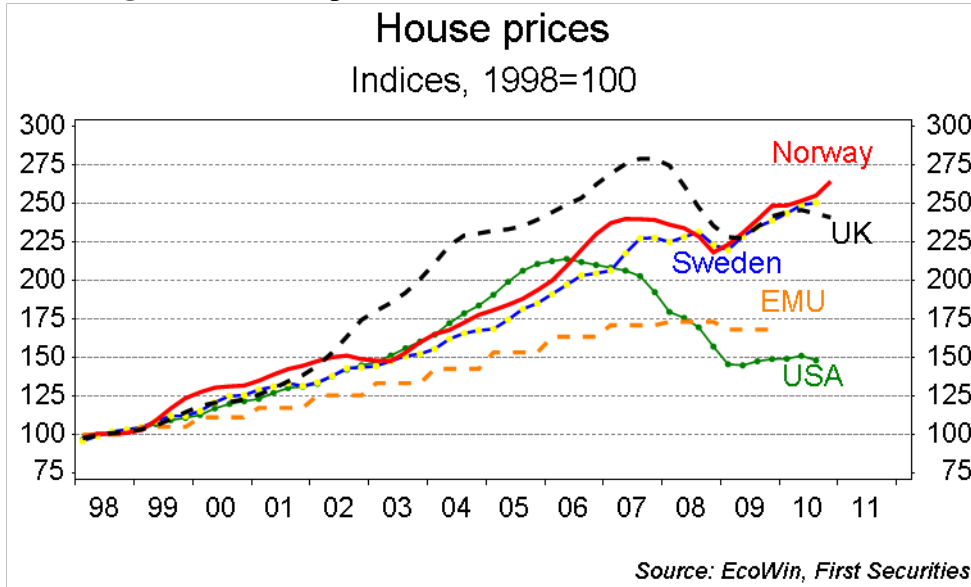
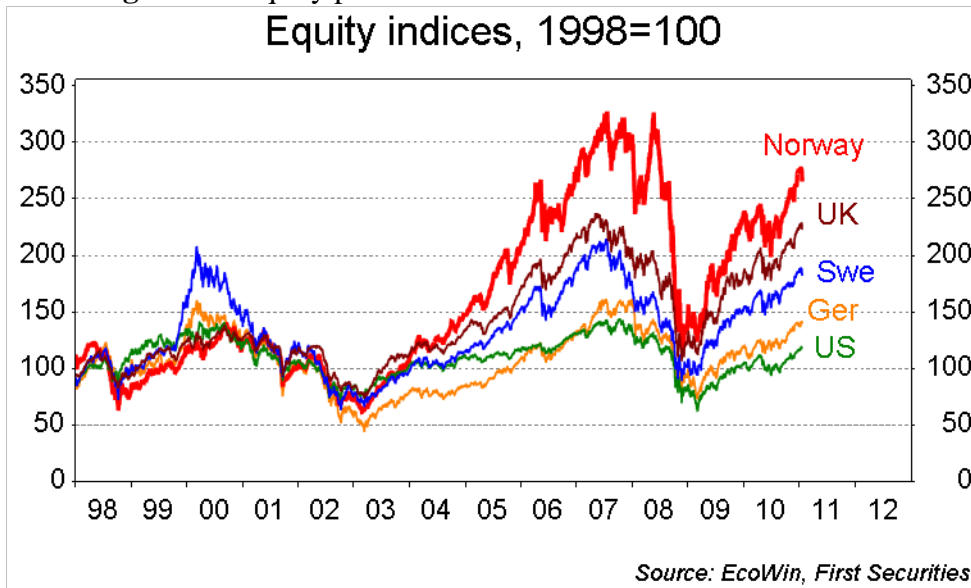


Figure 3.8 Equity prices in selective countries

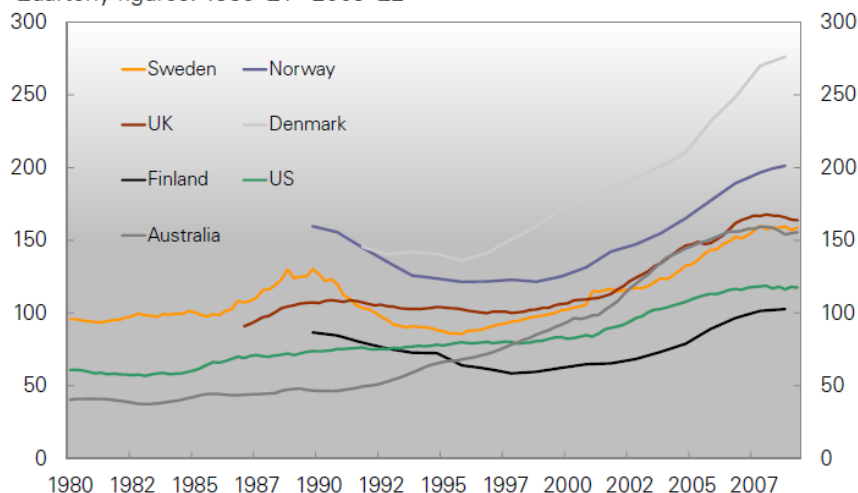


Clearly, there are other factors at play than monetary policy explaining the relatively high momentum in asset prices in Norway, such as volatile oil prices, favourable terms of trade and a large share of foreign investment. However, several studies have pointed out that monetary policy does indeed explain a large share of the variation in these asset prices, see Bjørnland (2009) for an analysis of the contribution of monetary policy to the variation in stock prices and Jacobsen and Naug (2005) and Bjørnland and Jacobsen (2010) on the role of monetary policy in explaining movements in house prices (all studies control for other factors, such as foreign impulses and oil prices).⁴

⁴ Jacobsen and Naug (2005) find that house prices react quickly and strongly to changes in interest rates. In particular, the low interest rates since 2003 can explain a substantial portion of house price inflation since then. Similar findings are documented in Bjørnland and Jacobsen (2010).

Figure 3.9 Debt burden

Chart 19 Household debt as a percentage of disposable income¹⁾. Per cent. Quarterly figures. 1980 Q1– 2009 Q2



1) Figures are not necessarily comparable due to differences in definitions and institutional arrangements.

Sources: BIS, central banks, Thomson Reuters and Sveriges Riksbank

The escalating growth in asset prices may ultimately become a challenge for monetary policy. In particular, Norges Bank's financial stability wing has repeatedly emphasized in their financial stability reports how fast growth in various asset prices (house prices in particular), has increased the household debt burden so that it is now very high, both historically and in comparison with other countries (see Figure 3.9, which is adapted from the financial stability report 1/2010).

High debt burden makes households very vulnerable to small interest rate changes. The accumulation of household debt may therefore give rise to financial and economic instability in the longer term, thereby posing a challenge to monetary policy. We will get back to this issue in section 3.2. below.

NBW's view:

It is the committee's view that monetary policy in Norway has been a success in terms achieving inflation rates close to the target and contributing to sustainable growth rates in the Norwegian economy. Contrary to much concern when inflation targeting was introduced, the nominal exchange rate has also remained fairly stable over this period, although on average, it has appreciated slightly.

Yet, despite being more gradual in its approach, Norges Bank still ranks as one of the most aggressive central banks with regard to interest rate volatility. The volatility was particularly high in the years of 2001-2003.

The recent decade has also witnessed high variation in equity prices and unprecedented high growth rates in house prices. Notwithstanding that there are many factors explaining the variation in asset prices, monetary policy has clearly played a role. While

we do not think the high growth rates in asset prices poses a major treat at the very short horizon, the high pass through from short term interest rates to asset prices coupled with high debt ratios makes the Norwegian economy more vulnerable to shocks in the future.

3.2 Financial stability and monetary policy in practice

Norges Bank financial stability wing contributes information, forecasts and recommendations in the process leading to the monetary policy decisions (see Haugland and Vikøren, 2006). For instance, Norges Bank has through its financial stability reports repeatedly stressed the risk of future financial imbalances that may disturb economic activity and inflation somewhat further ahead when interest rates are low. Experience shows that financial instability builds up in periods of strong credit growth and asset price inflation. If household debt reaches unprecedented levels, it may pose a threat to macroeconomic stability at the longer horizons. The following quotes from the Financial Stability Report 2/2010 published in December illustrates well this concern:

“Low interest rates are favouring current consumption, including housing consumption. Expectations of low interest rates ahead may contribute to higher debt growth ...High debt burdens may increase households’ vulnerability to unexpected interest rate hikes, pronounced income shortfalls or an abrupt turnaround in the housing market.”

At the press conference in December following the last monetary policy announcement, the report (prepared for the Executive Board) had a passage stating:

“The rise in house prices and consumer spending has picked up recently. The consideration of guarding against the risk of future financial imbalances that may disturb activity and inflation somewhat further ahead suggests that the key policy rate should not be kept low for too long.”

Although this passage originating from the monetary Policy Wing (PPO) echoes the concern raised repeatedly by the Financial Stability Wing (FST), the committee finds this expression somewhat vague. As was discussed in Section 2 above, while the Norges Bank’s Financial Stability report 2/2010 had stated clearly that the house price increase in October was higher than assumed in the Monetary Policy Report from October, the press conference following the monetary policy announcement in December underplayed the significance of the statement, saying that the rise in house prices was in line with expectations.

Clearly both financial stability and price stability considerations should be important when making monetary policy decisions (see Gjedrem 2005). Yet, it is not clear to us what weight is attached to each consideration or how specific analysis and recommendations from financial stability is integrated into the actual monetary policy framework. Hence, we are not asking for a more comprehensive macro prudential analysis like the one the financial stability wing is currently providing in their financial stability reports, but a consideration as to how

the macro prudential analysis influences monetary policy in practice. This is in particular important in the current phase, since the model suit in Norges Bank has not yet fully incorporated financial variables. Hence, judgment as to how the risk of future financial imbalances may (or may not) disturb activity and inflation somewhat further ahead becomes extremely important.

The committee suggests that Norges Bank makes it clearer as to how the issues of major concern raised by FST influence the monetary policy decisions *in practice*. This was a suggestion also raised recently in the report on the internal monetary policy process by Fridriksson (2010)⁵:

“The contribution of FST in the meetings where it participates might possibly be better coordinated with or integrated into the general preparations in the PPO; some of the analysis presented by the FST might perhaps be a logical part of the analytical preparatory work in the PPO.”

That said there has recently been promising research cooperation at the department level in FST and PPO. For instance, Norges Bank is currently integrating financial frictions into the economic model framework, see e.g. Brubakk and Natvik (2010). These are useful additions to the Bank’s model suite. However, the model by Brubakk and Natvik (2010) is a rational expectation models (like the main model NEMO), where house price bubbles cannot exist. Hence, to get an effect of housing on the real economy as one has seen in some of the countries in this financial crisis (Ireland, Spain, UK and the US), requires the use of more empirically oriented models.

NBW view

The committee suggests that Norges Bank makes it clearer as to how the issues of major concern in financial stability influence monetary policy decisions in practice. Although both financial stability and price stability considerations are important when making monetary policy decisions, it is not clear what weight is attached to each consideration or how specific analysis and recommendations from financial stability is integrated into the actual monetary policy framework.

It is in important to be clear about the role of judgment used in the current phase, since the model suit in Norges Bank has not yet fully incorporated financial variables. Hence, disclosure of judgment as to how the risk of future financial imbalances may (or may not) disturb activity and inflation somewhat further ahead becomes extremely important.

⁵ In January 2010, Ingimundur Fridriksson, who has a long-standing experience with central banking and monetary policy, was asked by Norges Bank to assess the internal interest rate decision process in Norges Bank. His report was presented to the Board in October 2010. It gives an overview of the discussions and deliberations leading up to the publication of Monetary Policy Report 1/10 and the interest rate decision in March 2010.

3.3 Communication – the role of the Executive Board

One important implication of having a central bank which targets inflation is that current economic behaviour will depend on expectations about future monetary policy. The communication of the central bank therefore becomes an extremely important part of monetary policy. Since the interest rate is the main instrument in monetary policy, equally important as the setting of the interest rate, is therefore the communication of the future course of interest rates.

Norges Bank has since 2005 published its own forecast for the interest rate. This forecast is linked to the forecasts of the other key variables in the Bank's objective functions (inflation and the output gap). These forecasts are communicated jointly in the Norges Bank's Monetary Policy Report (MPR) that is published three times a year. This report is at the core of the communication of Norges Bank.

The forecasts are updated with the arrival of new information in each MPR. The revisions of the forecast from one report to the next should then reflect new information (about exogenous factors), rather than changes in the Bank's own assessment of economic conditions (see Alstadheim, Bache, Holmsen, Maih and Røisland 2010). To add credibility to the revisions of the forecast, the interest rate forecast is therefore accompanied by a separate chart in the MPR (see Figure 2.4, 2.5 and 2.6 above) that attributes the revision since the previous report to the change in exogenous factors. *“Such a precise account makes it easier for outsiders to check whether the Bank is consistent over time, and also imposes discipline on the internal decision process (Alstadheim et al. 2010, p. 5).*

In addition, the two last monetary policy reports have also included alternative scenarios for the interest rate based on different loss functions. These are useful, as they explain how the interest rate forecast could be changed by altering the various criteria that monetary policy should take into account.⁶

The announcement of the actual interest rate decision is accompanied by the Bank's press release and a brief report (1-2 pages) following each announcement (“The Executive Board's monetary policy decision - background and general assessment”). The report gives a summary of relevant new information that has arrived since the previous interest rate meeting with charts and a rather detailed list (bullet points) of the new data releases.

The MPR, the press release and the report to the Executive Board with background and charts are informative, although the latter seems too detailed compared to the main message it should try to get across. Still we miss a clearer exposition of the role and explanation of the Bank's use of models of various kinds in arriving at its assessment of current circumstances as well as the proper policy stance. We also miss the reasoning behind judgments made to change or override the models.

The committee believes that a record of the discussion that has preceded the decisions at the Executive Boards meetings would be very useful and make monetary policy more transparent

⁶ For instance, MPR 2/10 showed that if Norges Bank should only take into account the consideration of bringing inflation rapidly back to target, that would imply lowering the interest rate below 1%. The interest rate would then have to be raised rapidly again to prevent activity and inflation from becoming too high further ahead.

and credible. Making such information available would require minutes to be released from the policy meetings. Currently, Norges Bank has decided against publishing minutes of its meetings. We suggest (in line with NBW2010 and many other previous Norges Bank Watch reports) that non-attributed minutes should be published, in order to strengthen accountability and further improve transparency. These minutes could note, without attribution to individual members, which issues were discussed and what arguments were presented.

Non-attributed minutes will reveal the scope and depth of the policy discussion, but will not identify the individual contributions of the members. This would be useful in providing an indication of the degree of disagreement and/or uncertainty among the members. This, in turn, would assist the private sector in learning the monetary policy reaction function more efficiently.

A prominent example of a central bank with external, part-time members that publishes such non-attributed minutes is the Bank of England. In the appendix we have attached an extract of the most recent minutes from the Bank of England's Executive Board meeting. In our opinion, this provides the public with very useful information that will make any statement or forecast of future paths for the interest rate even more credible.

Finally, the above mentioned charts in the MPR (Figures 2.4-2.6), that attribute the revision of the interest rate forecast since the previous report to changes in exogenous factors (such as petroleum investment, domestic demand, foreign interest rates etc.), are useful, but does not give any information as to where judgment is added into the process. In fact, without disclosure of this judgement, it could give the impression that there is a mathematical relationship between changes in economic conditions and the following changes in the interest rate path.

Clearly, it can not be as simple as that. First, because the model (i.e. NEMO) is a simplification of the world, it has omitted many important variables, including house prices. If for instance the *consideration of guarding against the risk of future financial imbalances that may disturb activity and inflation somewhat further ahead* should suggest that the interest rate path is moved up (as was how the market interpreted the press release from Norges Bank in December 2010), technically this amendment then has to come through changes in the forecast of another relevant variable linked to house prices, such as for instance domestic demand (through collateral).⁷

Furthermore, the idea that *the chart imposes discipline on the internal decision process* could give the impression that there is no room for alternative views or judgement in the decision process in Norges Bank. If that was the case, one could easily follow up with the question as to how the Executive Board can contribute usefully in the decision making process. Publishing minutes where the Boards view is communicated would contribute positively to ease this concern.

Finally, the following speech by Ms Barbro Wickman-Parak, Deputy Governor of the Sveriges Riksbank, at Swedbank, Stockholm, 26 January 2011, summarizes well our view:

⁷ Another way would be to place more weight on stabilizing GDP (capacity utilization) in the loss function. If house prices increased faster than anticipated, placing more weight on GDP could imply that the interest rate was increased somewhat faster.

“The moral of the story is that monetary policy cannot be reduced to a mechanical reading exercise. However well-prepared the material on which monetary policy decisions are based, there will always be complex and important aspects that policymakers must take a stance on. It is important that these aspects are discussed from several different perspectives. This is one reason why we have an Executive Board made up of economists with different backgrounds and expertise. It is beneficial and important for us to conduct a wide-ranging debate on monetary policy at the Riksbank and not just externally. I believe that it leads to better monetary policy decisions.”

Norges Bank view:

The committee believes that a record of the discussion that has preceded the decisions at the Executive Boards meetings would be very useful and make monetary policy more transparent and credible. Making such information available would require minutes to be released from the policy meetings.

We suggest that non-attributed minutes should be published, in order to strengthen accountability and further improve transparency. These minutes could note, without attribution to individual members, which issues were discussed and what arguments were presented.

Non-attributed minutes will reveal the scope and depth of the policy discussion, but will not identify the individual contributions of the members. This would be useful in providing an indication of the degree of disagreement and/or uncertainty among the members. This, in turn, would assist the private sector in learning the monetary policy reaction function more efficiently.

3.4 The forecasting process

The analytical and empirical work conducted at Norges Bank is impressive; drawing on high-level skills in diverse areas such as economic theory, statistics, econometrics, mathematics and programming techniques. Here we will not evaluate the analytical nor the empirical work any further than this, but refer the reader to previous Norges Bank Watch reports for details. Instead we follow up on two central issues that were raised in last year NBW report; The frequency for which the forecasts are updated, and an evaluation of the use of indicators of underlying inflation.

The number of forecasts in a year

Currently, the projected interest-rate path, as well as the forecasts for other macroeconomic variables, are updated and published in the monetary policy reports three times a year. Norges Bank has argued against writing a report every quarter, as it leaves very little time for the staff to digest new information and conduct thorough analyses. Recently, the Riksbank came to the same conclusion and reduced the number of reports from four to three per year. However, on the three other occasions that the executive board meets in the course of the year, the Riksbank publishes a press release and a monetary policy update; the latter containing a limited number of forecasts for central macroeconomic variables.

Norges Bank's Executive Board meets eight times a year. The forecasts are not updated except on the three occasions when the Monetary Policy report is published. An exception was in December 2008, when the unexpected depth of the financial crisis required new forecasts for the expected policy stance.

The NBW committee suggests, in line with NBW 2010, that while Norges Bank should keep the number of monetary policy reports at three per year, it should consider publishing a press release and a monetary policy update in conjunction with at least one of the other meetings of the Executive Board. The monetary policy update should contain a limited number of forecasts for central macroeconomic variables. Given the current publishing schedule, a natural time to provide such an update of the forecast would be the meeting of the executive board in December.

Already, Norges Bank is updating and publishing short term forecast (4-5 quarters) from the system of averaging models (SAM) before each meeting of the Executive Board (that is, eight times a year). These graphs show the forecast from SAM from the last monetary policy report with uncertainty band, together with the latest official MPR forecast and an update of the SAM forecast, see the webpage: http://www.norges-bank.no/templates/article_77206.aspx

The committee finds these charts with updated short term forecasts very informative and a useful communication. Yet, we believe Norges Bank could be more explicit about the implications of the update of these short term forecast for the published official forecasts of the key variables (including the interest rate path), at least for the quarter when there is no published MPR (i.e., in December).

NBW view:

The committee suggests that while Norges Bank should keep the number of monetary policy reports at three per year, it should consider publishing a press release and a monetary policy update in conjunction with at least one of the other meetings of the Executive Board. The monetary policy update should contain a limited number of forecasts for central macroeconomic variables.

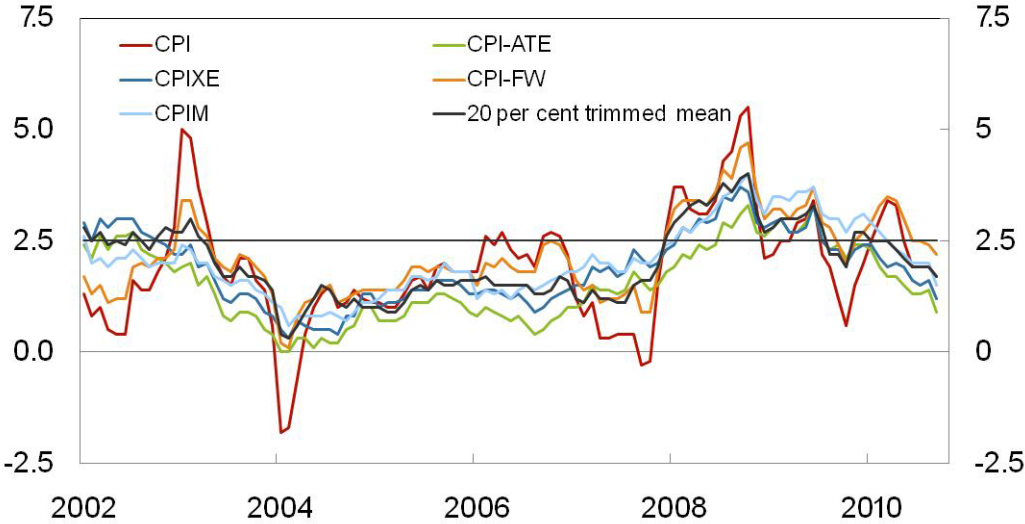
Measure of underlying inflation

As noted in Section 3.1, most central banks, including Norges Bank, construct indicators of so-called underlying inflation, where these extraordinary fluctuations are removed. These measures will have different characteristics based on varying assumptions regarding which price movements will have short-term effects on the CPI and which are permanent.

Figure 3.10 presents five such indices constructed for the period 2002-2010 for Norway. These are CPI adjusted for tax changes and excluding energy products (CPI-ATE), CPI adjusted for tax changes and excluding temporary changes in energy prices (CPIXE), CPI excluding outliers from period to period (trimmed mean), CPI adjusted for frequency of price changes (CPI-FW) and a weighted average of various forecast of the sub-indices of CPI (CPI-M). All indices except CPI-ATE and the trimmed mean are constructed by Norges Bank. CPI-ATE and the trimmed mean are constructed by Statistics Norway.

As expected, all the indicators of underlying inflation show more stability than actual CPI. CPIXE is on average closest to CPI, while CPI-ATE deviates the most (0.4 percentage points below CPI on average). The remaining three indicators are on average higher than actual CPI inflation. Since CPIXE is on average higher than CPI-ATE (and closer to the mean of CPI), it implies that there have been mostly positive impulses that are added back to CPIXE, on the reason that they are permanent.

Figure 3.10 Consumer prices. 12-month change. Per cent.*



* See the text for explanation of various measures.

Source: Norges Bank

While we encourage Norges Bank in publishing these measures, we are more sceptical with regard to the use of CPIXE as their main indicator of underlying inflation in the policy process, for which they provide conditioned, detailed forecasts.

The motivation for constructing CPIXE was that the previous measure of underlying inflation, CPI-ATE, did not capture trends in energy prices, because energy prices were permanently excluded. While we are sympathetic to this concern, CPIXE is far from an optimal indicator, as the historical index values are revised as new observations of energy prices are added to the sample. In periods with rapid changes in forward prices on energy, such a revision can be substantial, as emphasized by NBW 2009 and NBW 2010.

In their monetary policy reports, Norges Bank does not update the data for CPIXE as it is revised. Hence, the effects of the revisions become suppressed. If Norges Bank continues to publish CPIXE in their monetary policy reports, we recommend that the final numbers are published as they are revised, not the real time values. Given that the final revised values of CPIXE will always be uncertain by construction, Norges Bank should also extend the fan charts backwards in time to reflect this uncertainty.

Our view, however, is that Norges Bank should *not* use CPIXE as their main indicator of underlying inflation. Overreliance on CPIXE could make monetary policy less robust, since historical data are revised as new observations become available. Furthermore, since the construction of CPIXE involves evaluation and revision of historical information, it cannot provide a transparent indicator that Norges Bank should use as its main indicator.

The committee believes that it is important that an independent institution like Statistics Norway produce and publish the operational target used in monetary policy as their official statistics. CPI-ATE is such an indicator and was the main measure of underlying inflation used until recently.

Our view is therefore that CPI-ATE (or a related indicator published by Statistics Norway) should be used as the focus measure, while taking its disadvantages more explicitly into account in times of rapid increases/decreases in forward prices on energy. This can be done by using the other indicators (including CPIXE) more actively, by discussing how and why they differ from the current CPI inflation rates.

Added to that, when discussing the profile for inflation over the medium term in section 1 of the MPR (Monetary policy assessments and strategy), it is the committee's view that the likely path for headline CPI inflation should take a more prominent role than has so far been the case. This should allow for a deeper discussion of the extent to which sharp increases in energy prices, taxes or other external disturbances may influence consumer price inflation over the policy-relevant medium-term horizon, rather than taking for granted that any difference between headline CPI inflation and measures of underlying inflation are pure transitory disturbances. For instance, changes in energy prices may sometimes pass-through to prices on other consumer goods (such as airline ticket prices) and may also impinge on wage formation.

NBW view

The committee suggest that CPI-ATE (or a related indicator published by Statistics Norway) should be used as the focus measure instead of CPIXE, while taking its disadvantages more explicitly into account in times of rapid increases/decreases in forward prices on energy. This can be done by using the other indicators more actively (including CPIXE), by discussing how and why they differ from the current CPI inflation rates.

Furthermore, when discussing the profile for inflation over the medium term in section 1 of the MPR (Monetary policy assessments and strategy), it is the committee's view that the likely path for headline CPI inflation should take a more prominent role than has so far been the case.

This should allow for a deeper discussion of the extent to which sharp increases in energy prices, taxes or other external disturbances may influence consumer price inflation over the policy-relevant medium-term horizon, rather than taking for granted that any difference between headline CPI inflation and measures of underlying inflation are pure transitory disturbances.

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Appendix

Extract from Bank of England:

MINUTES OF THE MONETARY POLICY COMMITTEE MEETING 12 AND 13 JANUARY 2011

Publication date: 26 January 2011

These are extracts of the minutes of the Monetary Policy Committee meeting held on 12 and 13 January 2011. They are also available on the Internet

<http://www.bankofengland.co.uk/publications/minutes/mpc/pdf/2011/mpc1101.pdf>

The Committee considered the case for an increase in Bank Rate at this meeting. The domestic and global recovery had proceeded at least as well as expected. And the most likely prospect was for continued growth, despite the downside risks that remained. For most members, the balance of risks to medium-term inflation relative to the target had moved upwards over the past few months, reflecting the recent and prospective buoyancy of import prices and the possible impact of higher near-term inflation on public inflation expectations. That would suggest that a lower level of demand might be consistent with hitting the inflation target in the medium term, and so might argue for a withdrawal of some of the current monetary stimulus. Moreover, an increase in Bank Rate at the current juncture might lessen the risk that a larger increase became necessary at a later stage if inflation persisted above the target. Members noted that a small increase in Bank Rate at this meeting would still leave monetary policy highly accommodative, and would not preclude the Committee from increasing the policy stimulus in future if that became necessary.

The Committee also considered the arguments for maintaining the current level of Bank Rate. Inflation had been boosted by the past depreciation of sterling, and increases in VAT and energy prices. These effects were large and – in the view of many members – could more than account for the current deviation of inflation from the 2% target. This suggested that the margin of spare capacity had exerted downward pressure on inflation, and would continue to do so while demand growth remained insufficient to reduce that margin materially. Moreover, material downside risks to demand remained. The impact of the fiscal consolidation on spending was uncertain. And euro-area sovereign debt problems remained capable of delivering a significant jolt to UK export demand, as well as to the international banking system and confidence more generally. In addition, while Bank Rate had been reduced to an exceptionally low level, the effective stimulus had been offset by the reduced supply of credit: since the onset of the financial crisis the interest rates faced by many households and businesses had fallen by less than Bank Rate, and in some cases had increased. On this view, the balance of risks continued to suggest that inflation would fall back to around the target once the impact of the factors boosting it had dissipated.

Some members also noted that an increase in Bank Rate at this meeting might be misinterpreted as a signal that the Committee would attempt to bring inflation back to the target excessively rapidly, which could cause expectations of a relatively sharp tightening of monetary policy that could have a detrimental impact on confidence and activity.

There was a spectrum of views among Committee members about how much weight to place on the arguments for and against a change in the policy stance.

For most members, recent developments implied that the risks to inflation in the medium term had probably shifted upwards. For some of those members, the decision this month was finely balanced. The analysis that fed into the forthcoming February *Inflation Report* projections would provide an opportunity to assess fully the developments since the previous *Report*, and to evaluate more thoroughly the risks to inflation in the medium term. The publication of the *Report* would also give the Committee the opportunity to explain fully its assessment of the outlook and its policy decisions.

For two members, the evidence suggested that the balance of risks was already sufficiently clear to warrant an immediate increase in Bank Rate. The continued elevated rate of inflation, which was forecast to persist, posed a significant risk to inflation expectations and hence to the medium-term outlook for inflation. This made more powerful the case which had been building for some time for a gradual rise in Bank Rate.

For one member, the balance of risks to inflation continued to warrant an expansion of the Committee's programme of asset purchases, financed by the issuance of central bank reserves, because it was likely that inflation would fall to below the target in the medium term. This member acknowledged that a sustained upward trend in commodity prices or in global demand prospects, or a shift in sentiment against sterling, could outweigh the domestic forces pushing down on inflation. But this member did not see this risk as yet large enough to require a policy tightening.