

SPEECH



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■ Many dimensions to well-balanced monetary policy

Today, I will give an account of my stance at the latest monetary policy meeting in December. This will be a rather brief account, however, because I also want to find time to take up several important but difficult-to-assess factors in the recent monetary policy debate. For example, I would like to discuss different measures of monetary policy expectations and the risks that the development of household indebtedness and housing prices may entail in the long term. I will also say a few words about the concept of well-balanced monetary policy, and then conclude with some reflections on monetary policy decision-making.

What I wish to illustrate is that no matter how well-prepared the material we base our decisions on, we are nevertheless confronted with important deliberations that are difficult to assess and which we must take a stand on. All aspects must be discussed from several different perspectives. I believe that this kind of all-round discussion leads to better monetary policy decisions. And it is only natural that this can mean we do not always agree on the repo rate decisions. Monetary policy is not an automatic reading exercise; our assessments are necessary parts of the decision-making process.

Strong growth creates a need to gradually raise the repo rate

Most analysts agree that the Swedish economy is growing strongly and at a surprising rate. Production volumes, for example, are now largely back to pre-crisis levels. This is roughly one year earlier than we predicted in autumn 2009.

All of the members of the Riksbank's Executive Board make the same assessment of the strength of the economic upturn in Sweden. However, opinions differ when it comes to the repo rate. In December, the assessment of the majority of the members of the Executive Board, including myself, was that there was a need to increase the repo rate to 1.25 per cent, and then to continue gradually raising the rate more or less in line with the repo-rate path published in October.

■ My monetary policy stance at the latest meeting was based on my desire to take into account the potential imbalances that could be discerned towards the end of, or beyond, the forecast horizon. In the current situation, a well-balanced monetary policy entails weighing short-term imbalances against long-term imbalances. On the one hand, we could see in December that resource utilisation was still low and we assessed that underlying inflationary pressures would remain low for a further period, which justified continuing with an expansionary monetary policy. On the other hand, there were already signs that the opposite picture, with strained resource utilization and a risk of excessively high inflation, would emerge in the slightly longer term. This situation called for a normalisation of monetary policy. I believed that the repo-rate path presented by the Riksbank in December reflected such a balance rather well, which is why I chose to support it. It reduces the risk that we will be forced to make more drastic increases in the future. The repo rate path also means that households can gradually adjust to higher interest rates and it is reasonable that their borrowing will slow down. This should in turn reduce the risk of having to make painful corrections of financial imbalances further ahead.

It is difficult to identify monetary policy expectations

The fact that monetary policy expectations, as reflected in forward rates in the slightly longer term, are lower than the Riksbank's repo rate path has been discussed a great deal outside the Riksbank, but also within the Executive Board. During the drafting of the latest repo-rate decision and at the monetary policy meeting, we discussed pricing on the market and the problems it entails for drawing far-reaching conclusions about monetary policy expectations for Sweden and abroad.

Put simply, a market rate can be seen as the sum of expectations of the future interest rate plus a risk premium.¹ It is easiest to understand the role of market expectations if you take the so-called expectations hypothesis as your starting point; this says that a long interest rate is equal to the expected average short interest rate level during the period of maturity. The Riksbank can therefore by means of its monetary policy decisions, and in particular by publishing its repo-rate forecasts, influence market expectations and thus the interest rates offered to households and companies.

In practice, however, the expectations hypothesis hardly holds water and this is due to the risk premiums that reflect all the other factors also affecting interest rates. There is a notion that average risk premiums should be positive and increase as the period of maturity increases as investors want to be compensated for the price risk associated with holding long-term bonds.² In addition, risk premiums are affected by supply and demand on the bond market, which can have either positive or negative effects on risk premiums. In actual fact it is probable that risk premiums can be positive as well as negative and that they fluctuate a great deal over time in a rather irregular way. This makes it difficult to adjust market rates in a way that excludes the effects of risk premiums and reveals expectations concerning future interest rates. Normally, it may be pos-

¹The somewhat simplified term risk premium is used throughout instead of the more correct term maturity premium.

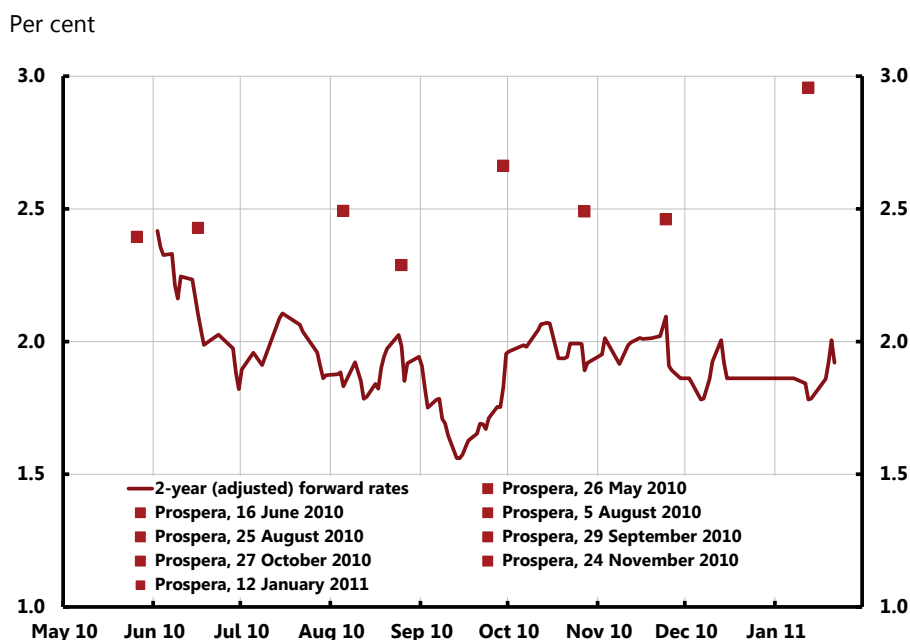
²The price gain made on a long-term bond if the short-term interest rate is lower than expected is, on the other hand, somewhat higher than the price loss that will be made if the short-term interest rate is to a corresponding extent higher than expected. This gives rise to something called convexity effects, which indicate negative risk premiums. These convexity effects are normally limited, but will grow if uncertainty about the future increases.

sible to come reasonably close using standard adjustments, but when, as in recent years, the markets are highly uneasy and uncertain at the same time as the central banks are actively influencing price formation using various unconventional measures, it is very difficult to reliably estimate expectations.

But is it important for us to be able to distinguish monetary policy expectations from the other factors that affect the interest rate? The answer is that it matters when evaluating the alternative courses of action for monetary policy. I and my colleagues on the Executive Board have, for example, discussed what would happen if the market's policy rate expectations were rapidly brought into line with the Riksbank's repo-rate path. If we assume an immediate alignment, then the upward effect on long-term rates would depend on what measure one sees as being representative of the monetary policy expectations. In the Prospera surveys in November, expectations were higher than those reflected in the forward rates but lower than the Riksbank's repo-rate path. If we assume that it is the Prospera surveys that best reflect expectations, rather than the forward rate curve, the upward adjustment will thus be smaller, as will the effect on the long-term rates.

Market expectations are thus clearly an item on the list of those factors that are difficult to assess and that monetary policy decision-makers must take a stance on. The assessment of market expectations was especially critical earlier in the autumn when the variation in different measures of market expectations was particularly great, with forward rates at a much lower level than other measures. When various indicators of monetary policy expectations provide such a mixed picture, it is not surprising that different analysts reach different conclusions.

Figure 1. Two-year forward interest rates and money market agents' repo-rate expectations two years ahead according to Prospera



Sources: Reuters EcoWin and TNS SIFO Prospera

Note. Forward rates have been adjusted for risk premiums and describe the expected overnight rate. Risk premiums include both credit risk and maturity premiums. The dates of Prospera's surveys refer to the dates the surveys were carried out.

■ So, how should you go about assessing market expectations in such a situation? This is a difficult question and I have no complete answer. However, this should not stop us from trying to determine how to evaluate different measures of monetary policy expectations. Let me begin with forward rates. Forward rates have many merits. They reflect market expectations for many different time horizons and they can be observed continuously, which makes it possible to analyse how market expectations are affected by different events. Often, but not always, they also provide a fairly reasonable picture of market expectations. However, the problem with forward rates, as we have already seen, is that they are also affected by a range of other factors and this sometimes means that they provide a misleading picture of market expectations. The performance of Swedish two-year forward rates since the early summer illustrates this, see Figure 1.

We can see that two-year forward rates, adjusted for a risk premium³, at the beginning of the summer were at approximately the same level as the money market agents' two-year repo-rate expectations according to Prospera. Subsequently, however, there was a clear downward trend and from early June to mid-September the two-year forward rate fell by approximately 80 basis points. In my opinion, a substantial downward shift in monetary policy expectations in this period was hardly realistic given the fact that the Swedish economy was, at the same time, surprisingly strong. Later, during the autumn, two-year forward rates increased and were roughly half a percentage point below the expectations in the surveys.

An interpretation that I find more likely is that the development of forward rates in Figure 1 mainly reflects an international fall in risk premiums and, as so often in the past, it seems to be the development of interest rates in the United States that sets the tone. On this occasion it was probably the Federal Reserve's plans to purchase additional long-term assets that had a downward effect on risk premiums.⁴ My assessment is that risk premiums have been very low, and perhaps even negative, a view that is supported by a number of studies.⁵

I think the recent surveys have probably provided a fairer indicator of monetary policy expectations than forward rates. This is not to say that conducting a survey of expectations is the ideal way to measure monetary policy expectations.⁶ However, one advantage of surveys is that they constitute more direct and more robust measures of monetary policy expectations, as they are not affected by risk premiums, which have been more difficult to assess than usual recently. According to the Prospera survey, monetary policy expectations two years ahead were also below our repo-rate path during the autumn. However, the Prospera survey published after our repo rate decision shows that expectations of the repo rate are now almost entirely in line with the Riksbank's repo-rate path.

³ The forward rates in Figure 1 are adjusted using a constant risk premium of approximately 25 basis points, which is a rough estimate of the average size of the risk premium for this time to maturity.

⁴ There are studies showing that asset purchases by the Federal Reserve during the financial crisis put strong downward pressure on risk premiums, see J. Gagnon, M. Raskin, J. Remache and B. Sack, 2010. Staff Report No. 441, Federal Reserve Bank of New York, "Large-Scale Asset Purchases by the Federal Reserve: Did They Work?"

⁵ For example, risk premiums were negative in the autumn according to the method described in D.H Kim and J. Wright (2005), "An arbitrage-free three-factor term structure model and the recent behaviour of long-term and distant horizon forward rates, Board of Governors of the Federal Reserve, Finance and Discussion Series, 2005-33.

⁶ For a more detailed analysis of forward rates and surveys as measures of monetary policy expectations see Alsterlind, J. and Dillen, H, "Monetary policy expectations and forward premia", Sveriges Riksbank Economic Review 2005:2.

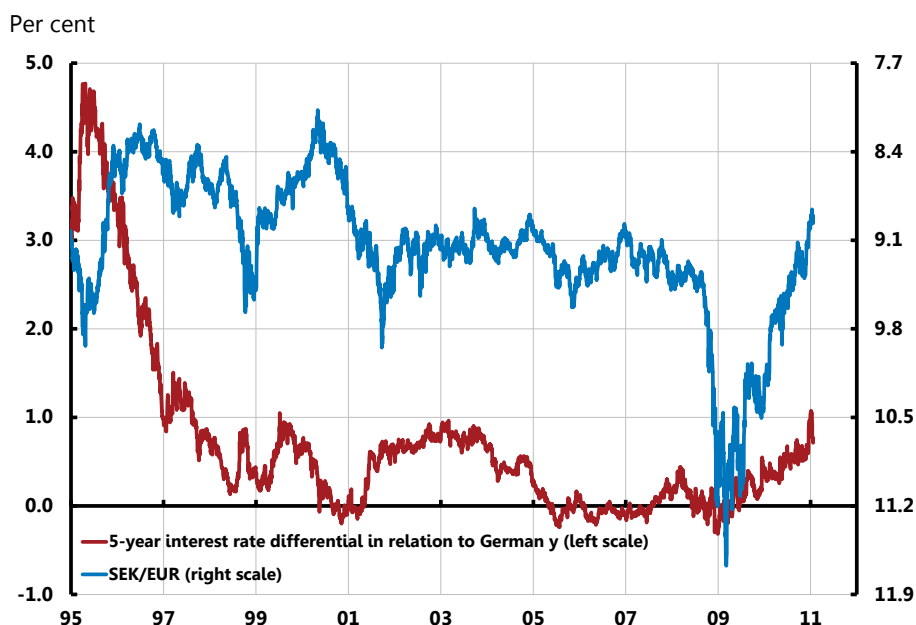
■ However, we should not limit ourselves to forward rates and surveys when trying to determine monetary policy expectations. Interest rate forecasts made by other analysts and model forecasts that reflect historical links are also useful indicators of expectations. These indicators also support the assessment that forward rates have been lower than other measures of market expectations over the last six months.

I have wanted to discuss this theme partly because it is current and relevant, and partly because it illustrates how we must adopt a stance in the course of our decision-making process even if clear and unequivocal background information is not available. As I see it, it is important to try to come to a decision on the basis of many different sources of information. Forward rates are an important source but we need to better understand risk premiums and their variations over time.

Monetary policy expectations and the krona exchange rate

The debate on the role of market expectations in monetary policy has also to a great extent concerned how they affect the Swedish krona. Economic theory says that when there is an upward shift in monetary policy expectations in Sweden then, all else being equal, the krona should strengthen at the same time as Swedish interest rates increase relative to interest rates abroad. We should, in other words, see a positive link between the strength of the krona and the difference between Swedish and foreign interest rates.

Figure 2. SEK/EUR exchange rate and 5-year interest rate differential in relation to Germany



Source: Reuters EcoWin

So, what form does the link between the krona exchange rate and the interest rate differential take in the data? Figure 2 shows the value of the krona relative to the euro and the difference between Swedish and German five-year gov-

ernment bond rates since 1995. If we only look at the past few years, the theory seems to apply rather well as the krona has strengthened against the krona at the same time as the difference between Swedish and German long-term rates has grown. On the other hand, the figure shows that there have been several episodes with both increasing and decreasing interest rate differentials in which the krona has not at all reacted in accordance with this simple view.

If we now concentrate solely on the most recent period, one may wonder why interest rate differentials appear to capture shifts in relative market expectations, while during the same period of time it was difficult, as previously pointed out, to directly interpret interest rate fluctuations in terms of market expectations? My interpretation is that both Swedish and German interest rates have been low because risk premiums have been under pressure and difficult to determine, which has made it difficult to interpret the interest rate levels as an expression of monetary policy expectations. However, the risk premiums largely cancel each other out when interest rate *differentials* are studied and they therefore manage to indicate shifts in the relative monetary policy expectations rather well. This interpretation thus means that monetary policy expectations in Sweden have shifted upwards relative to those in the euro area, which in turn reflects the fact that the Swedish economy has developed surprisingly strongly in comparison with the economy in the euro area.

The link between the krona exchange rate and interest rate differentials should therefore not be over-interpreted. For example, the krona has strengthened more than motivated by the increased in the interest rate differential. This could be because the krona weakened dramatically during the crisis and had not still not fully recovered at the beginning of the summer. Since then, the krona has continued to appreciate as the willingness to invest in krona assets has increased.

It is important to note that the analysis above refers to the development of the krona in the past and says little about how the krona will develop in the future. Interest rate differentials primarily influence the krona exchange rate when they change because the market agents revise their view of interest rates in Sweden or abroad. It is one thing to note that such revisions have affected the historical development of the krona. It is quite another to forecast such revisions and to allow this to influence the forecast for the krona. In my view, the assessment of interest rates abroad on which the analysis in the latest Monetary Policy Update was based was largely in line with market expectations. This means that my view of the future development of the krona in December was based on the assumption that the market would not significantly revise its view of interest rates abroad.

Housing prices and household indebtedness may lead to financial imbalances

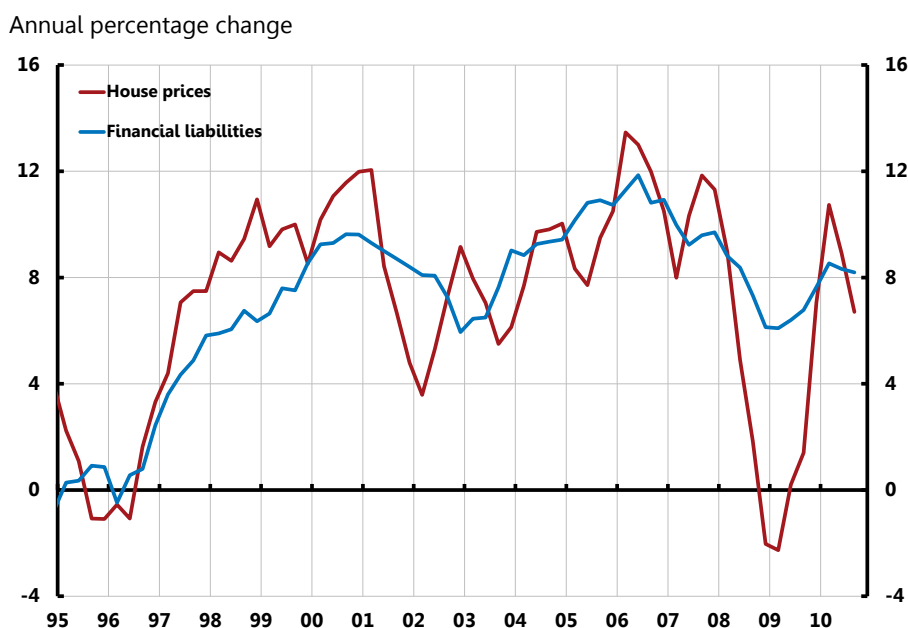
Another important but difficult-to-assess factor that we as monetary policy decision-makers have to take a stance on is the rapid increase in housing prices and household indebtedness that we have observed for some time now. I am among those who are somewhat concerned about this situation. The debate on the role of housing prices in monetary policy has been slightly unclear. As I see it, it is not a question of steering housing prices or other asset prices towards a set target. Nor is it a question of trying to puncture a price bubble by means of

drastic repo rate increases. Nor do we assess that financial stability is threatened by the build-up of household debt. This can be seen, for example, if you read our latest Financial Stability Report, which was published in December.

The question is that quite a number of Swedish households risk building up financial imbalances, which, when corrected, may have painful consequences for individual households and the Swedish economy, which in turn may make it difficult to attain the monetary policy targets.

Swedish housing prices have increased by an average of eight per cent per year over the last 15 years, see Figure 3. This can be largely explained by fundamental factors⁷, but there is a risk that it relates to over-valuation. This is difficult stuff, and I feel humble in the face of the difficulties in making this type of assessment. Parallel to this rise in prices, household indebtedness has increased and is now at an all-time high. There may therefore be a risk that many households have taken loans on the basis of a far too optimistic assessment of the repo rate in the future.

Figure 3. House prices and households' financial liabilities



Source: Statistics Sweden

I have said on several occasions that monetary policy must manage risks and that we must also raise our sights beyond the forecast horizon to assess the consequences that today's monetary policy decision may have.

It is not the case that I personally believe that the risks associated with household borrowing constitute an immediate threat to the economy, or that housing prices are dramatically overvalued and that a rapid downward adjustment is on the cards. But I do believe that there are risks further ahead if household borrowing continues to increase at a much higher rate than incomes for an additional extended period. And if monetary policy continues to be too expan-

⁷ See the article "Housing prices in Sweden" in the Monetary Policy Report published in October 2009.

■ sionary for too long, these risks will increase even further. I also believe that this is roughly the view of the majority of the members of the Executive Board.

It is not possible to exactly determine at what level household borrowing will reach the "critical point". As long as economic activity is favourable, the labour market is improving, incomes and wealth are increasing and the households have confidence in the future everything is hunky-dory. But in a different economic situation with increasing uncertainty on the labour market the behaviour of the households may change; they may begin to consolidate their balance sheets. This would reduce their consumption and reinforce the downward tendencies in the economy. The higher the debt burden the greater the risk of significant consequences. If housing prices fall in such a situation, households' assets will be undermined while their debts will still remain. Households would therefore want to amortise rather than borrow, which would dampen demand. The unwillingness to take new loans could persist to a great degree even if the Riksbank tried to counteract the fall in demand by conducting an expansionary monetary policy. In this case we would experience what is sometimes referred to as a balance sheet recession⁸. It could also mean that the banks would find it very difficult to fund their operations. Once such a process has begun it is difficult to stop it by easing monetary policy; this is shown not least by the example of the United States. Once you are in it then it is too late! It should therefore be avoided.

It is perhaps unlikely that the scenario I have presented here will actually occur, but *if* it does the consequences will be extremely costly.

As I mentioned earlier, my assessment is that our forecasts for inflation and resource utilization, that is highly "conventional" monetary policy arguments, are already arguments for an increased repo rate. It is also reasonable to assume that gradual repo rate increases will help to dampen household borrowing and this will reduce the risk of having to make painful corrections of financial imbalances further ahead. I think this is a good thing, even though in my view repo rate increases are already justified for other reasons and this is not a necessary justification.

Unfortunately, our models are not very good at determining the significance of financial imbalances for fluctuations in economic activity. A lot of exciting development work remains to be done in this respect. The fact that the effects of financial imbalances on the macro economy may lie beyond the forecast horizons that we work with in monetary policy must not mean that we ignore them. We must monitor the development of housing prices and household indebtedness carefully and to the best of our ability analyse any indications that threatening financial imbalances are building up and take these into account in our monetary policy considerations.

What characterises a well-balanced monetary policy?

Ultimately, a monetary policymaker is forced to take a stance on different courses of action for monetary policy on the basis of difficult assessments of

⁸ The term balance sheet recession was introduced to explain the problems that Japan struggled with during the 1990s, see Koo, R.C., *Balance Sheet Recessions: Japans Struggle with Uncharted Economics and its Global Implications*, Wiley 2003. Lars Nyberg discusses the balance sheet channel in more detail in the speech "After the crisis – new thoughts on monetary policy" published on 6 December 2010.

economic trends. Are there then any guidelines that can be of help? And what is it really that characterises a well-balanced monetary policy? It is normally a question of finding an appropriate balance between stabilising inflation around the inflation target and stabilising the real economy. It is difficult to translate what can be considered a well-balanced monetary policy in any given situation into precise and practical monetary policy. The intention behind stabilising inflation is relatively easy to understand, but the significance of stabilising the real economy is not so clear. In practice it is often interpreted as stabilising resource utilisation around its normal level. I think that is a fairly reasonable interpretation and it is not easy to argue for anything entirely different.

At the Riksbank we approach the concept of a well-balanced monetary policy by forecasting such things as inflation and resource utilisation for different monetary policy actions. After this we try to select the course of action associated with the best possible forecast outcome; in other words the forecasts where inflation is best stabilised around the inflation target and resource utilisation around a normal level. This may sound simple and obvious but in practice is not that easy.

In the first place, the best measure of resource utilisation is far from obvious and we Executive Board members may have slightly different opinions on this.⁹ We are constantly working to improve the measures of resource utilisation and this is important. But as I see it we cannot give any single measure prime position as representing the one and only truth. It is wisest to continue using several different measurements as a guide.

In the second place, situations sometimes arise where there is a conflict between stabilising inflation and normalising resource utilisation and different decision-makers may make different assessments. However, this has not been a problem recently as both underlying inflationary pressures and resource utilisation have been low.

In the third place, in my opinion economic trends beyond forecast horizons should be taken into account, though it is not possible to make thorough forecasts covering long periods. Let me briefly explain my argument.

As I mentioned earlier, the assessments in the latest Monetary Policy Update can be said to paint a long-term picture in which resource utilisation is coming under pressure and there is a risk of high inflation, in other words the reverse of the current macro picture. However, up to a point I was willing to accept these long-term tendencies, since I must take into consideration the need to use expansive monetary policy to offset the low inflation and relatively weak resource utilisation expected for the time being. In the current situation monetary policy considerations mean supporting continued recovery while preventing long-term overheating tendencies from becoming too strong. If we entirely disregard the imbalances in the longer run, there is a risk that we will later be forced to reconsider our monetary policy, which in the prevailing situation could entail drastic repo-rate increases further ahead.

⁹ For a more detailed discussion of how resource utilisation can be measured, see the speech "Potential GDP, resource utilisation and monetary policy" by Svante Öberg held on 7 October 2010, and the article "The driving force behind trends in the economy can be analysed using a production function" in the Monetary Policy Report of October 2010.

■ *Some concluding reflections on monetary policy decision-making*

Each monetary policy decision is preceded by a long drafting period that follows a well-set schedule. Models give consistency and stability to forecasting but the element of judgement is unavoidable. The economists on the staff contribute their judgements; we on the Executive Board contribute ours. In actual fact the decision-making process is quite complicated and everyone involved must be prepared to compromise.¹⁰As you all know, no two economists think exactly alike. So the final product that emerges, that is the forecasts for the real economy, inflation and the associated repo rate path, cannot match everyone's assessment 100%. You might be doubtful about some parts, or want to present a more nuanced view of some aspects of the analysis and so on. But in the end each and every one of us on the Executive Board must commit and make a decision. If your own assessment differs very much in some important respect from the assessment in the decision-making material you can enter a reservation.

In this speech I have highlighted some factors that are difficult to assess, such as monetary policy expectations and the view of a well-balanced monetary policy, which have figured in recent monetary policy discussions. The conclusion is that however good the decision-making material is, it can never be comprehensive or unequivocally interpreted. I have mentioned previously that developments in the financial sector and the effects on the real economy cannot be easily captured. I have also, in connection with the discussion on household borrowing, mentioned how we can assess effects in the longer term. Since we cannot make meaningful forecasts for an unlimited period of time, we must restrict the forecast horizon. But this is not set in stone in the sense that it should prevent us from considering problems that may arise in a few years' time.

Moreover, there are risk scenarios that are difficult to capture in terms of forecasts. Even if your ambition is to base the monetary policy decision on what are termed unbiased forecasts, in which upside and downside risks are balanced, you should be aware of the difficulties involved. In practice, however, such forecasts have difficulties in capturing everything perfectly. In practice, you may wish to guard against some outcomes that you consider to be particularly harmful and that should therefore be avoided at all costs. For example, an unfavourable scenario in which a burst asset bubble leads to a deflationary situation that is hard to overcome will be assigned greater importance than a high-inflation scenario. Experience from Japan in the 1990s illustrates this. Assessments of this type must be taken into account in the monetary policy decision.

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

¹⁰ For a description of how decision-making data for monetary policy decisions are prepared, see the speech "The monetary policy decision-making process" by Irma Rosenberg held on 13 June 2008.

- on monetary policy at the Riksbank and not just externally. I believe that it leads to better monetary policy decisions.