Lars E O Svensson: For a better monetary policy – focus on inflation and unemployment

Speech by Mr Lars E O Svensson, Deputy Governor of the Sveriges Riksbank, at Luleå University of Technology, Luleå, 8 March 2011.

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Sweden's economy has grown dramatically following a severe downturn (Figure 1). GDP is now more or less back to the level it was at three years ago (Figure 2). Since the summer of 2010, the majority on the Executive Board of the Riksbank has tightened monetary policy by raising the repo rate. According to the Riksbank's forecasts for the years ahead, CPI inflation will be higher than the target of 2 per cent over the next few years (Figure 3). However, the fact that CPI inflation is higher than the target is due to the Riksbank's own repo-rate increases. If we instead measure inflation using the CPIF index, which adjusts for the effects of these repo-rate increases, the forecast is on average lower than 2 per cent. The rate of unemployment will also continue to be high in the years ahead (Figure 4). Is increasing the repo rate and tightening monetary policy therefore the right thing to do? It means that CPIF inflation will be lower and further from the target and that unemployment will continue to be unnecessarily high compared to what it would be with a lower repo rate and a more expansionary monetary policy.

In this speech I would like to talk about three subjects. The first is that in my opinion the existing framework for monetary policy could be improved if monetary policy consistently focused on stabilising inflation measured in terms of the CPIF at around 2 per cent and on stabilising unemployment around a sustainable rate. This would make monetary policy simpler, clearer and more robust. In line with this I have entered a reservation in favour of a lower repo-rate path and a more expansionary monetary policy as this would lead to CPIF inflation increasing and coming closer to the target and to unemployment falling towards a sustainable rate.

Second, I believe that it is important that the Riksbank's decisions and communication in the future do not give the impression that monetary policy is focused on anything other than inflation and resource utilisation. There has been an intensive discussion in the media and in market newsletters about a new focus for monetary policy, for example on stabilizing house prices and limiting household indebtedness. And when, in the choice between two repo-rate paths, the majority of the members of the Executive Board choose a path that provides poorer target attainment for both inflation and resource utilisation, this may undeniably give the impression that monetary policy has more targets than inflation and resource utilisation.[1] If, in addition, repo-rate increases are justified with reference to factors such as high growth, house prices, household indebtedness, the low level of interest rates, possible financial imbalances in the future and so on, there is a risk that this impression will be strengthened. If so, monetary policy will become unclear.

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[1] At the monetary policy meeting in June 2010, the repo rate was increased despite the fact that the CPIF forecast was below 2 per cent and the forecasts for all the measures of resource utilisation were below a normal level. An unchanged repo rate would have entailed a CPIF forecast closer to the target and forecasts for resource utilisation closer to a normal level.

Third, I would like to explain in more detail why I entered a reservation at the latest monetary policy meeting and how I arrived at a significantly lower repo-rate path than the path in the main scenario.

The Riksbank conducts flexible inflation targeting – but what does this mean in practice?

In the Riksbank document Monetary policy in Sweden (2010) and in the introduction to every Monetary Policy Report it says that the Riksbank "in addition to stabilising inflation around the inflation target, also strives to stabilise production and employment around sustainable paths. The Riksbank therefore conducts what is generally referred to as a policy of flexible inflation targeting". We also usually express this by saying that monetary policy should stabilise inflation around the inflation target and stabilise resource utilisation around a normal level. The question then is which measures of the two target variables, inflation and resource utilisation, we should use. Although the inflation target is expressed in terms of the CPI, I believe that the most appropriate operational measure of inflation is the CPIF. I also believe that the most appropriate measure of resource utilisation is the unemployment gap; that is the gap between the actual rate of unemployment and the sustainable rate of unemployment. Let me explain why I think that the existing framework for monetary policy could be improved with these specifications.

The CPIF is the most appropriate operational measure of inflation

The Riksbank's inflation target is expressed in terms of the rate of change in the Consumer Price Index, the CPI. This has advantages as it is measured often and is seldom revised. It also means something to consumers as it corresponds to the price of an average basket of consumer goods. The CPI is also the measure of inflation that is most well-known to the general public. However, the CPI also has a well-known disadvantage, which in my opinion makes it less appropriate as a direct, operational target for monetary policy. This disadvantage is that the CPI is directly affected by interest rate changes through their impact on housing costs. This short-term effect also has the reverse sign to the medium-term effect. This means that the Riksbank's own repo rate increases contribute to an increase in CPI inflation in the short term but reduce it in the slightly longer term. The major interest rate changes during the crisis have led to considerable fluctuations in the CPI. I believe on the whole that it is better to consistently use the CPIF as an operational target for monetary policy and disregard the direct effects of interest rate changes on the CPI when assessing whether monetary policy is well-balanced. By stabilising the CPIF around 2 per cent, the CPI will be stabilised around the target in the slightly longer term. It would then be important to consistently use the CPIF to rank various monetary policy alternatives and not change back and forth between the CPIF and the CPI. If we sometimes refer to the CPIF and sometimes to the CPI, monetary policy will become unclear.

The unemployment gap is the most appropriate measure of resource utilisation

There are many ways of measuring resource utilisation, for example the output gap, the hours-worked gap, the employment gap, capacity utilisation or the Riksbank's RU indicator. As there are so many ways of measuring resource utilisation one might think that it would be appropriate to take a broad approach and make an "overall assessment" based on a large number of indicators when making decisions about monetary policy. It is, however, generally accepted that an inflation targeting policy in which target attainment is measured using a large number of different measures of inflation does not work very well. It is often possible to find a measure of inflation that is reasonably close to the target and almost any monetary policy can be justified with the help of a clever choice of index. Therefore, if the target and target attainment are to mean anything, one measure of inflation must primarily be used.

Similarly, I also believe that it does not work well to use a large number of different measures of resource utilisation. It is also often possible to find at least one measure that comes fairly close to normal resource utilisation and almost any monetary policy can be justified with the help of a clever choice of the measure of resource utilisation. This problem is in fact worse for resource utilisation than for inflation. This is because measures of resource utilisation also require us to make an assessment of the normal level for the measure concerned. For the output gap and the hours gap it is a case of determining the level and forecast for potential GDP and potential hours worked. This can be done using several different methods and assumptions. These are far from transparent and leave a lot of scope for arbitrary judgements. A particular monetary policy can therefore be justified by making a clever choice of both measures and the normal levels used. This is why we should mainly stick to one measure.

Let me illustrate the problem of estimating potential GDP by comparing the Riksbank's estimate and forecast for Sweden's potential GDP with the estimate and forecast for the United States' potential GDP produced by the Congressional Budget Office (CBO). According to the CBO's estimate and forecast, potential output in the United States largely follows the previous trend for the United States' GDP (Figure 5).[2] The output gap between the United States' GDP and potential GDP is therefore large and negative for several years ahead.[3] According to the Riksbank's estimate and forecast in February 2011, Sweden's potential GDP is on the other hand curving downwards and is below the previous trend for Sweden's GDP. Sweden's output gap is therefore closing rapidly according to the Riksbank's forecast.

How can the estimates and forecasts for potential GDP in the United States and Sweden differ so greatly while the level now and forecasts for actual GDP are rather similar? Why should the development of Sweden's potential GDP be much worse than that of the United States? The United States has been subjected to structural shocks in the housing, construction and finance sectors and has major structural problems in these sectors. The United States also has substantial structural current account and budget deficits. Sweden has been exposed to a major demand shock with a collapse of exports and a loss of demand in the export sector. Exports are now recovering again. Sweden does not appear to have any structural problems in the finance sector, or in any other sector, and has no structural budget or current account deficits. This being the case, I think one could claim that the development of Sweden's potential GDP should in fact be better than that of the United States, not worse. The difference in potential GDP underlines the difficulties and the element of arbitrariness in these calculations.

Figure 6 compares the Riksbank's estimates and forecasts for potential GDP from two different points in time, namely September 2008 shortly before the investment bank Lehman Brothers went bankrupt and February 2011. The September 2008 forecast for Sweden's potential GDP is rather similar to the CBO's latest forecast for potential GDP in the United States in Figure 5. We can see in Figure 6 that the February 2011 assessment of potential GDP in the longer term is approximately 4 per cent below the corresponding assessment in September 2008. Why should a pure demand shock in the absence of structural problems lead to such a significantly lower potential GDP in the longer term?

My conclusion from this discussion of Figures 5 and 6 is that the estimate of Sweden's potential GDP is not reliable and that the output gap is thus not a reliable indicator of resource utilisation.

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[2] The Federal Reserve Bank of San Francisco has a forecast for the potential GDP of the United States that is very similar to the CBO's forecast, see Rudebusch (2011).

[3] The figure shows the Riksbank's forecast for the United States' GDP, but it is very similar to the CBO's forecast for the United States GDP.

I believe instead that the unemployment gap is the most appropriate measure of resource utilisation. There are several reasons for this. Unemployment is measured often and is not revised. GDP on the other hand is measured less often and is highly uncertain, and major revisions are made. Unemployment is also directly related to welfare – one of the worst things that can happen to a household is that one of the members of the household loses his or her job. Unemployment is also the indicator of resource utilisation that is best known and easiest for the public to understand. The preparatory works for the Sveriges Riksbank Act state that the Riksbank should support the objectives of general economic policy. One of the main objectives of economy policy in Sweden is to limit unemployment, for example by improving the functioning of the labour market and increasing the incentives to look for work.

The difficult thing about using the unemployment gap as an indicator of resource utilisation is to determine the sustainable rate of unemployment. However, this is not more difficult, in fact it is probably easier, than determining potential output and potential hours worked. On closer inspection, it can be seen that the sustainable rate of unemployment has several advantages compared to other measures of normal resource utilisation.

The sustainable rate of unemployment can be expressed as a stable percentage – for example 5.5 or 6 per cent. It changes slowly and lies within a limited range. Estimating potential GDP is, in comparison, like shooting at a moving target. It grows over time, and in the view of many, can be seen as a random process, similar to a so-called random walk with drift. The sustainable rate of unemployment can be determined using several different methods – structural search models similar to those developed by the Nobel prize-winners Diamond, Mortensen and Pissarides, so-called UC-models, DSGE models and NAIRU estimates. The results of these different estimation methods can be compared and their robustness and reliability assessed. We can then calculate the average of the estimates and weight this with the assessed reliability of the various estimates. When estimating the sustainable rate of unemployment it is also important to include the assessed effects of labour-market reforms (Forslund 2008).

Assessments of the sustainable rate of unemployment can be made and discussed in an open debate within and outside the central bank, with internal and external economists who are specialists in the field of labour market research using micro and macro methods. A major advantage in this context is that Sweden has a tradition of outstanding labour market research at universities and research and evaluation institutes.

It will also be simple and transparent to perform sensitivity analyses in the form of various assumptions about the sustainable rate of unemployment. If different members of the Executive Board of the Riksbank make different assessments of the sustainable rate of unemployment, they can simply and clearly explain how this affects their decisions.

It is of course inappropriate for the central bank itself to calculate the price index that is used to assess the attainment of the inflation target, and it is a major advantage if this index is calculated by another, independent organisation or authority, like Statistics Sweden in Sweden's case. For the same reason, it is inappropriate for the central bank to have a monopoly on calculating the normal level for the measure of resource utilisation used to evaluate target attainment. In practice it is impossible for outsiders (and most people at the Riksbank, including the members of the Executive Board) to verify and assess the calculations of potential production and hours worked that are performed. It is very difficult to determine whether the measures are reasonable and reliable. Compared to other measures of resource utilisation, the unemployment gap offers the best possibility for external and internal verification and assessment of the assumptions about, and the calculations of, the sustainable rate of unemployment.

One may ask, however, whether the independence of the Riksbank would be put at risk if external parties were involved in determining the right sustainable rate of unemployment. Nor would I go so far as to propose that another authority should decide on the appropriate rate of sustainable unemployment. I do, on the other hand, think that it would be a good thing if

the Riksbank's estimate of the sustainable rate of unemployment could be debated freely and assessed by external analysts, evaluators and authorities. This is in practice not possible with the other measures of resource utilisation.

The fact that the Riksbank tries to stabilise both inflation and unemployment does not mean that it disregards the fact that the inflation target takes precedence. As inflation is stabilised around the inflation target, inflation will on average be equal to the target. The Riksbank fulfils in this way its mandate to maintain price stability at the same time as it can be said to be supporting the objectives of general economic policy through its endeavours to stabilise unemployment around a sustainable rate.

The mean squared gap: a measure of stability

A well-balanced monetary policy normally thus entails achieving a balance between the stabilisation of inflation and the stabilisation of resource utilisation. But what is meant by a lesser or greater stability of inflation and resource utilisation? Determining this requires a quantitative measure of stability, the mean squared gap. The mean squared gap for inflation measures how much the inflation forecast deviates from the inflation target. The mean squared gap for unemployment measures how much the rate of unemployment deviates from the sustainable rate. A smaller mean squared gap entails better stability.

Panel b in Figure 7 shows the mean squared gaps from the latest monetary policy decision. They are calculated by taking a mean value of the sum of all the squared deviations for the respective target variables and calculating the size of them. The closer to zero the mean squared gap is, the better the stabilisation of the respective target variables; that is, the better the target attainment.

Normally, it should be the case that it is not possible to stabilise one of the target variables better without stabilising the other variable less well. Otherwise, monetary policy is not "effective". Which interest-rate path is chosen then depends on the relative importance one attaches to stabilising the respective variables. Different members of the Executive Board may attach different levels of importance to the two variables and thus advocate different repo-rate paths. The point of the mean squared gaps is that they give us clarity and transparency regarding the various monetary policy alternatives.[4]

The mean squared gap takes into account target attainment throughout the forecast period and not just target attainment at a certain horizon, for example 8 or 12 quarters. This is an advantage. This is reasonable as focusing on target attainment at a certain horizon leads to a classic time-consistency problem which means that monetary policy is not consistent over time.[5]

Monetary policy must not become unclear

Many analysts seem to believe that, in practice, Riksbank monetary policy now focuses on more things than just stabilising inflation and resource utilisation. It is also undeniable that other factors have been referred to in our press releases and minutes, for example growth, housing prices, household indebtedness, financial imbalances and interest rate levels. In the media and market newsletters, there has been a keen discussion of a new focus for

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[4]   For a more detailed description of the mean squared gap see Svensson (2010a, d).

[5]   This is a time-consistency problem that has been discussed in a classic article by Strotz (1955–56). It differs from the time-consistency problem discussed by Kydland and Prescott (1977) and by Barro and Gordon (1983).

monetary policy on factors other than inflation and resource utilisation.[6] In several cases, repo rate increases have been applauded with reference to the fact that they would help to stabilise house prices and indebtedness.

What I am objecting to here is not that the forecasts are adjusted with assessments that take into account factors that affect the forecasts but are not captured in the usual models. On the contrary, I have always advocated such an approach and have even discussed how this can be done more systematically in a number of research papers.[7] I think that it is quite correct to take into account house prices, indebtedness, imbalances and so on to the extent that they affect the forecasts for inflation and the real economy. All information that affects the forecasts is relevant. The problem arises when one allows these factors to undermine target attainment for inflation and resource utilisation. In practice, this gives them the status of separate targets for monetary policy. This makes monetary policy unclear and hard to understand. Moreover, as I see it, the Sveriges Riksbank Act and its preparatory works do not provide scope for any other targets for monetary policy than inflation and resource utilisation.[8] I believe that it is important that the Riksbank's decisions and communication in the future do not give the impression that monetary policy is focused on anything other than inflation and resource utilisation.

In their 2006 evaluation of Swedish monetary policy in the period 1995–2005, Giavazzi and Mishkin (2006) also say that the Riksbank's statements on housing prices led many people to perceive the Riksbank's message as confusing, which made things unclear and undermined confidence in monetary policy.[9, 10]

Growth has certainly been high over the last 12 months, so isn't this a reason for tightening monetary policy? Here it is important to remember that monetary policy does not aim to stabilise growth. It aims to stabilise inflation and resource utilisation. The impact of increased growth on monetary policy depends on the impact of this growth on the forecasts for inflation and resource utilisation. Whether high growth indicates higher or lower resource utilisation depends on the reasons for the higher growth. In this respect there is no difference between growth and other indicators of the state of the economy. The extent to which they affect monetary policy depends solely on how they affect the forecasts for inflation and resource utilisation.

If monetary policy is well-balanced in the initial position – a strong assumption – and growth shifts both the inflation forecast and the resource-utilisation forecast upwards, then increased growth is a reason for tightening monetary policy. However, if monetary policy is not well-

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[6] See for example Dagens Industri (2011), Eklund and Svensson (2010), Financial Times (2011a, b) and Frisén (2010).

[7] See Svensson (2005) and Svensson and Tetlow (2005).

[8] One possible exception may be if the repo-rate path were to pose a threat to financial stability and there were no other means that could be used to tackle the problem. See the discussion in Svensson (2010b, c).

[9] See Giavazzi and Mishkin (2006) and Mishkin (2010).

[10] I also believe that the policy rate is an inappropriate instrument for handling problems relating to rising housing prices and indebtedness. There are several other, more appropriate instruments, for example loan-to-value ceilings, limiting tax deductions for mortgages, property taxes and so on. Extensive research has also shown that the costs to the real economy will be unreasonably high if one attempts to reduce housing prices with the help of the policy rate. In addition, there are no signs that Swedish housing prices constitute a bubble, that is that they are incompatible with fundamental factors such as high demand and low supply as a result of limited construction. It can also be demonstrated that the current level of indebtedness is not a problem in relation to the household's ability to service their debts and to their assets. For a more detailed discussion, see Svensson (2010b, c).

balanced in the initial position, for example if it appears that both inflation and resource utilisation will be too low, then increased growth is not a reason to tighten monetary policy.[11]

Growth can lead to bottlenecks and a shortage of labour in some sectors. Are these reasons for increasing the repo rate? Yes, but only if they increase the inflation forecast. Circumstances such as bottlenecks and shortages are important when it comes to assessing the effects on wages and inflationary pressures, and to forecasting wages and inflation. However, it is important to distinguish between the role of resource utilisation as a target variable and its role as an indicator of inflationary pressures. With regard to its role as target variable, it is the unemployment gap between the rate of unemployment and the sustainable rate that is relevant. But with regard to its role as an indicator of inflationary pressures and as a basis for forecasts for wages and inflation, various short-term situations, shortages and bottlenecks may be significant, but will not normally affect the sustainable rate of unemployment. One way of expressing this is to say that the unemployment gap in relation to the sustainable rate of unemployment is a target variable, but that the gap in relation to the short-term equilibrium rate of unemployment may be an indicator of inflationary pressures that is important in forecasting the inflation gap, the other target variable.

The most recent decision

The reason I chose to enter a reservation against the repo-rate path chosen by the majority at the latest monetary policy meeting is that, in my opinion, it does not represent a well-balanced monetary policy. This is because the repo-rate path adopted by the majority entails a CPIF forecast under the target and an unemployment forecast higher than a reasonable sustainable rate throughout almost the entire forecast period. I believe that target attainment can be improved for both inflation and unemployment with a lower repo-rate path.

The repo-rate path chosen by the majority does not meet the well-known necessary but not sufficient condition for a well-balanced monetary policy formulated by the Deputy Governor of the Norwegian central bank Jan Qvigstad (2005). Applied to inflation and unemployment, this condition means that the inflation gap (the difference between inflation and the inflation target) and the unemployment gap should have the same sign. As the inflation gap is negative and the unemployment gap is positive for the majority's repo-rate path for most of the forecast interval, this condition is not met. With a lower repo-rate path, on the other hand, the gap for both would be reduced and target attainment for both inflation and unemployment would thus increase.

The fact that monetary policy is not well-balanced for the majority's repo-rate path is clearly demonstrated if one uses mean square gaps to measure target attainment as in Figures 7 and 8. Figure 7 shows the forecasts for the CPIF and unemployment that are compatible with the main scenario's repo-rate path and the higher and lower repo-rate paths published in Chapter 2 of the Monetary Policy Report in February. Panel b shows that the repo-rate path of the main scenario does not meet the Qvigstad condition. Neither is it effective, as a lower repo-rate path stabilises both inflation and unemployment better. Figure 8 shows the main scenario's repo-rate path and the lower path that Karolina Ekholm and I advocated at the meeting. The forecasts for inflation and unemployment are calculated under an assumption

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[11] At the monetary policy meeting in September 2010 I criticised "the revisionist argument", that is that monetary policy is governed by revisions of the assessment of the state of the economy. This implies that the previous monetary policy decision and the previous repo-rate path have been accepted without criticism and that the repo-rate path has then been shifted upward or downward depending on whether the development of the economy and inflation have been above or below expectations. No monetary policy decision is perfect. Each decision includes greater or smaller errors. Allowing revisions to govern means allowing new errors to be added to the existing ones. In my view, the previous repo-rate path should not be unreservedly taken as the starting point. Every monetary policy decision should stand on its own two feet and not lean on the previous decision.

that we believe to be more realistic and more compatible with how the exchange rate is determined. This assumption is that foreign exchange rates will develop in line with prevailing market rates (more specifically in line with the paths indicated by foreign implied forward rates). We can see in panel b that the lower repo-rate path leads to a better stabilisation of both inflation and unemployment.

The mean squared gaps in Figures 7 and 8 are calculated assuming a sustainable rate of unemployment of 5.5 per cent. This is currently my best assessment of the sustainable rate of unemployment in Sweden after having read a number of papers on the subject and having discussed the issue with several specialists in the field of labour market economics.[12] The lower repo-rate path is also better if one assumes a level of 6 per cent.[13]

At a press meeting on 3 March, the Minister of Finance, Anders Borg, announced that the Ministry's assessment of the equilibrium rate of unemployment has been revised downwards from 6 per cent to approximately 5 per cent by 2015.[14] The Ministry of Finance plans to publish its calculations in a ministry memorandum in connection with the spring budget bill 2011.

One could perhaps object that it is not certain that the lower repo-rate path in panel a of Figure 8 is necessarily the best repo-rate path. It does, however, appear to fulfil the Qvigstad condition in that the inflation gap in panel c is mainly positive and the unemployment gap in panel d is also positive (for the entire forecast period if the sustainable rate of unemployment is 5.5 per cent and for most of the forecast period if it is 6 per cent). One can show that an even lower repo-rate path leads to a lower mean squared gap for unemployment but to a higher mean squared gap for inflation. It is thus no easy matter to stabilise both better. However, a somewhat different profile for the low repo-rate path may perhaps provide a better result. It is possible that reasonable weights for the stability of inflation and resource utilisation justify higher inflation and lower unemployment. Due to the limited resources available it has not been possible to investigate these factors prior to the monetary policy decision. In my opinion, however, one should not engage in too much fine-tuning. The best should not become the enemy of the good. The important thing here is that the lower repo-rate path clearly leads to a better target attainment than the path in the main scenario.

The path that Karolina Ekholm and I advocated at the meeting in February is somewhat higher than the path we advocated at the meeting in December. The main reason for this is that foreign interest rates shifted upwards between December and February. It is natural that the repo-rate shifts along with foreign interest rates to some extent to limit the effects on the exchange rate. I discussed the role of foreign interest rates for monetary policy in more detail in the speech I gave in November 2010 (Svensson 2010b).

Summary

To summarise, the arguments I have presented today are thus based on the document Monetary policy in Sweden, which stipulates that the Riksbank should pursue flexible inflation targeting in which monetary policy focuses on stabilising inflation around the target and resource utilisation around a normal level. I believe that the existing framework for

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[12] See for example Forslund (2008).

[13] It may appear to be a problem that the lower repo-rate path gives a level of CPIF inflation of around 2.5 per cent at the end of the forecast period. The CPIF forecasts in these simulations in the Riksbank's model Ramses have, however, been calculated under a standard assumption of a sustainable rate of unemployment of approximately 6.5 per cent, which I believe is too high. A lower sustainable unemployment rate gives lower inflationary pressures at the end of the forecast period and shifts down the CPIF forecasts somewhat, which would increase the advantage of the lower repo-rate path.

[14] Ministry of Finance (2011).

monetary policy can be improved by making the operational measures of inflation, resource utilisation and their stability more precise. For several reasons, I think that only one operational measure of inflation and only one operational measure of resource utilisation should be used. The inflation target is formulated in terms of the CPI, but I believe that the most appropriate operational measure of inflation is the CPIF. This would entail the stabilisation of the CPI in the slightly longer term. I also believe that the unemployment gap between the actual rate of unemployment and the sustainable rate of unemployment is the most appropriate measure of resource utilisation. Moreover, I believe that the mean squared gap is the most appropriate measure of the stability of inflation and resource utilisation.

In my opinion, making the monetary policy framework more specific in this way would make monetary policy, simpler, clearer and more robust. The preparations before each policy meeting could focus on calculating forecasts of CPIF inflation and unemployment for different repo-rate paths. These forecasts, together with an assessment of the sustainable rate of unemployment, would summarise all the information the members of the Executive Board would need to make their decisions and choose between the various repo-rate paths. The decisions would be easy to explain and the explanations would be clear. This would also make it easy to evaluate monetary policy. It would become more robust because all the information and all the assessments that affect the forecasts and the sustainable rate of unemployment could be incorporated into the decision-making process in a systematic way.

In order to avoid monetary policy being unclear in the future, I believe that the Riksbank's decisions and communication should not give the impression that monetary policy has any objectives other than stabilising inflation and resource utilisation.

On this basis, I entered a reservation at the latest monetary policy meeting and advocated leaving the repo rate unchanged and then a lower repo-rate path than the path in the main scenario, as such a lower path would better stabilise inflation measured in terms of the CPIF and resource utilisation measured in terms of the unemployment gap.

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Figure 1. GDP growth for Sweden, the euro area, UK and US
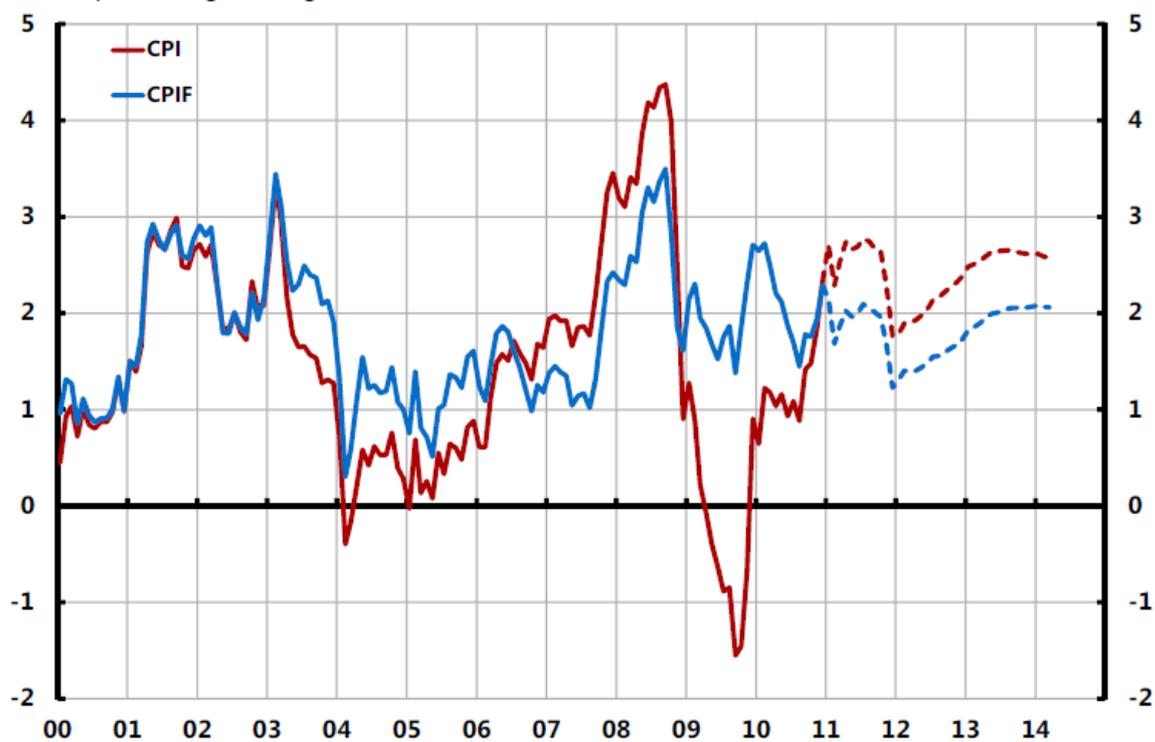Quarterly changes in per cent, annual rate, seasonally-adjusted data
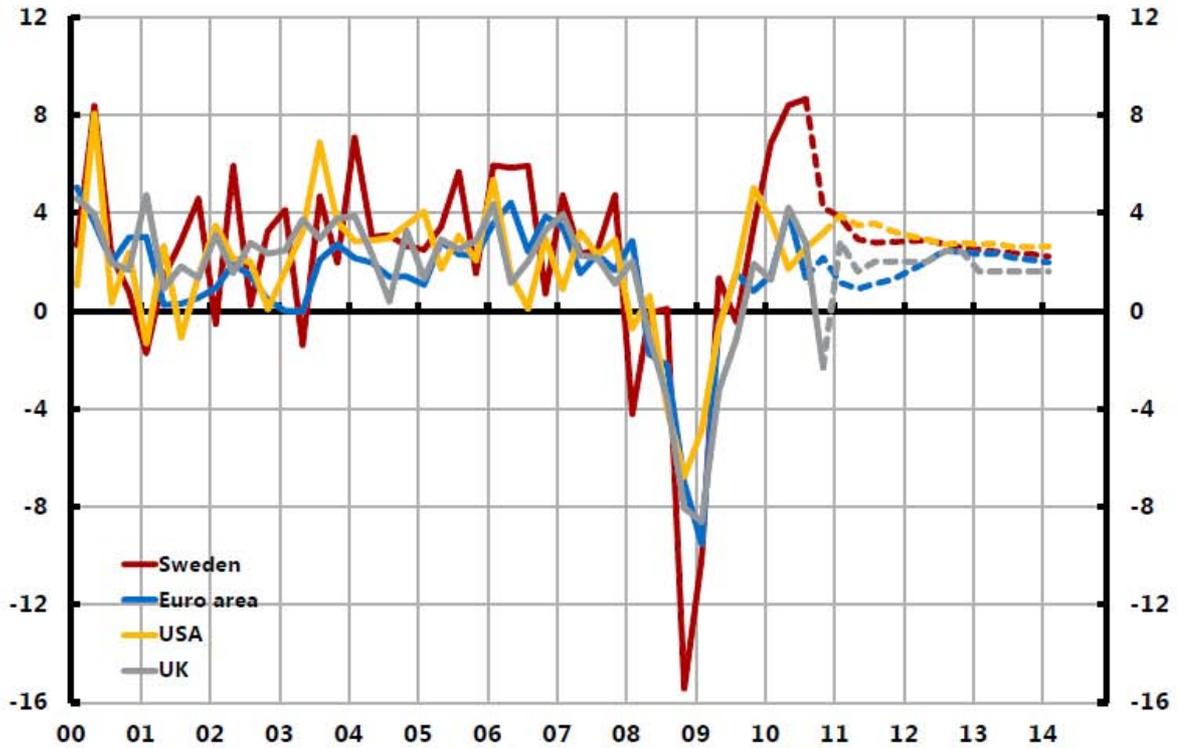
Sources: Bureau of Economic Analysis, Eurostat, Statistics Sweden and the Riksbank

Figure 2. GDP for Sweden, the euro area, the UK and the US
Index 2007 quarter 4 = 100
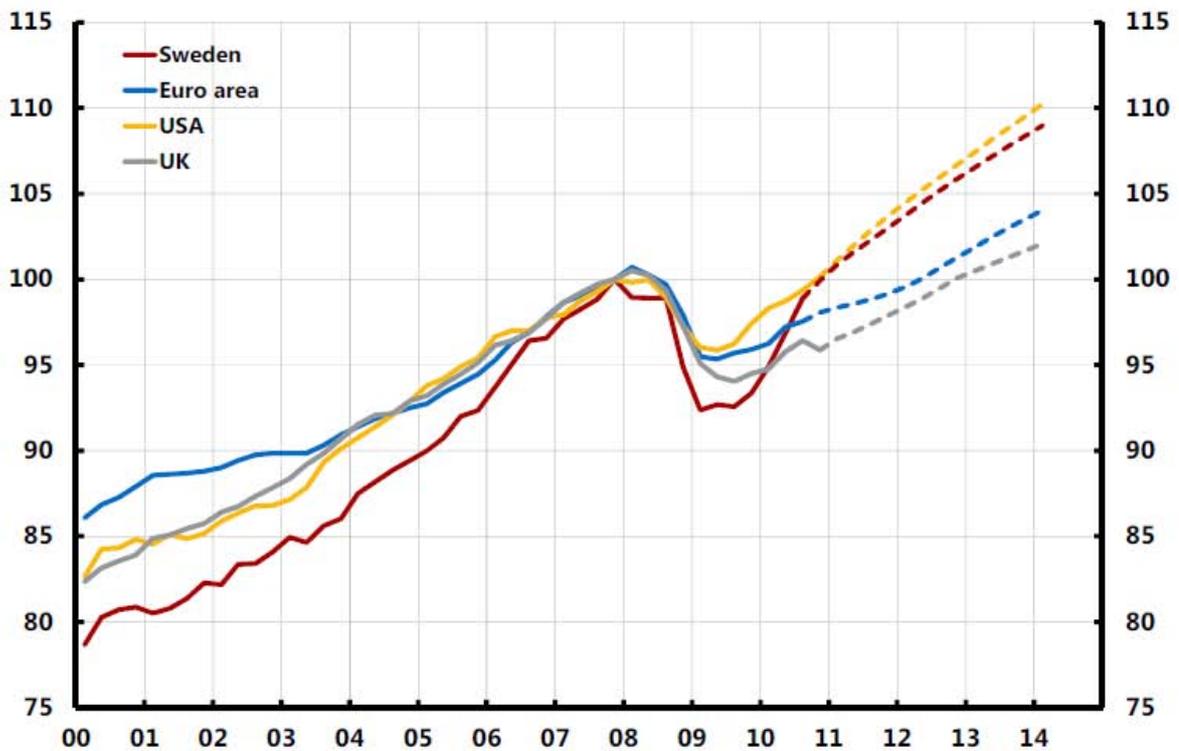
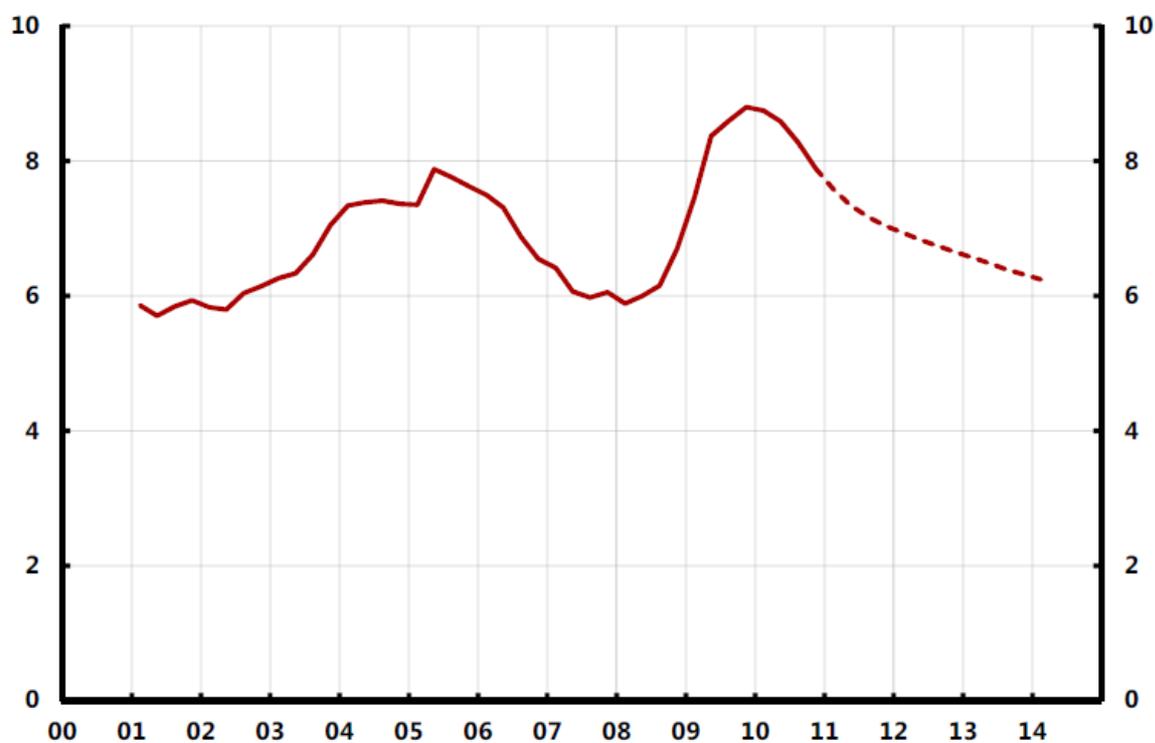Sources: Bureau of Economic Analysis, Eurostat, Statistics Sweden and the Riksbank

Figure 3. CPI and CPIF
Annual percentage change

Note. The CPIF is the CPI with a fixed mortgage interest rate.
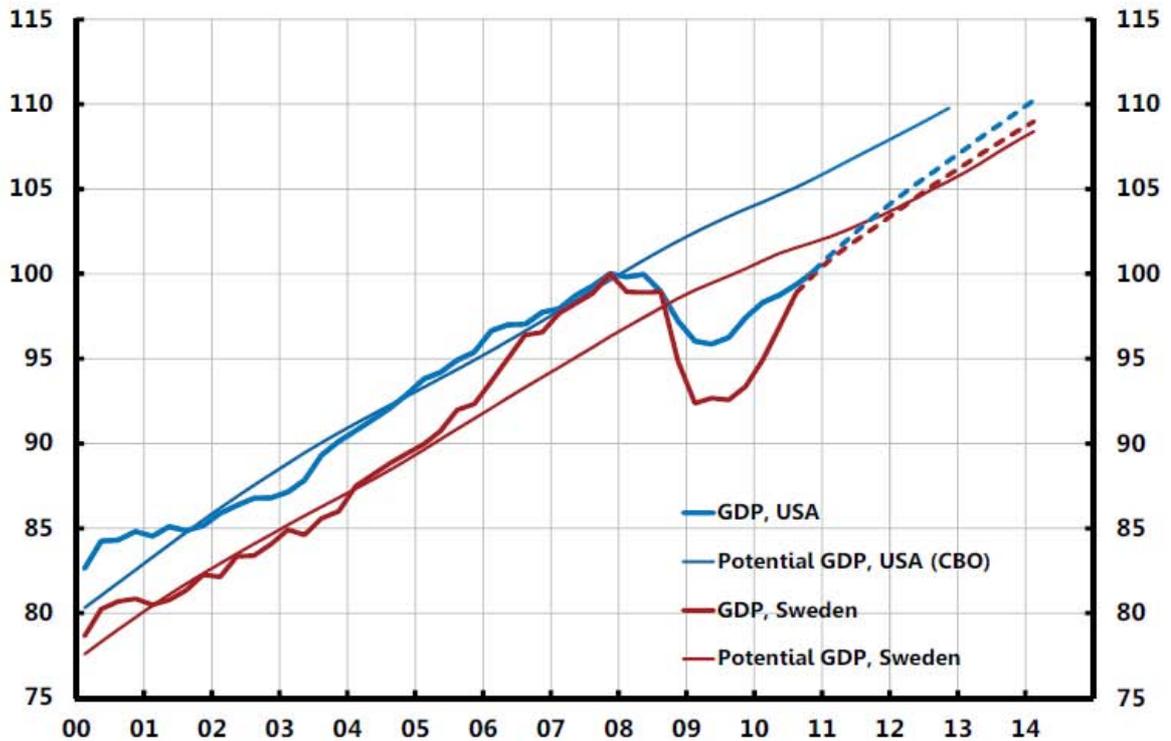
Sources: Statistics Sweden and the Riksbank

Figure 4. Unemployment
Percentage of the labour force, seasonally-adjusted data

Sources: Statistics Sweden and the Riksbank

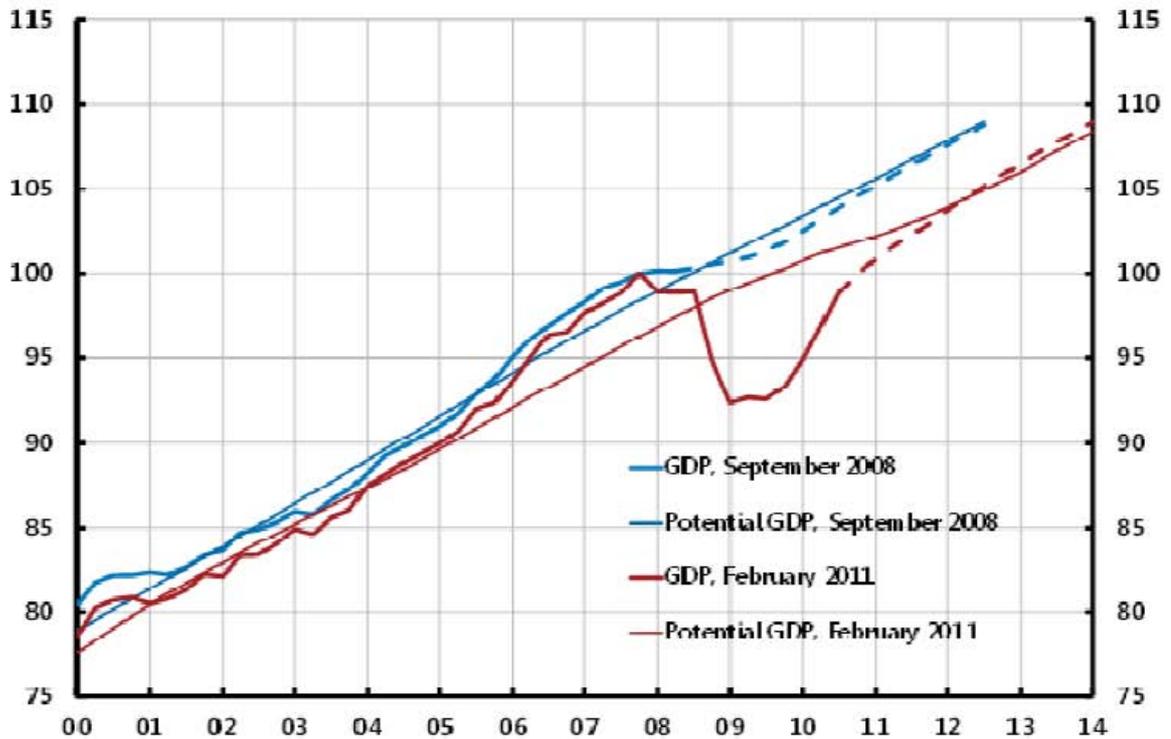**Figure 5. GDP and potential GDP in Sweden and the US**
Index 2007 quarter 4 = 100

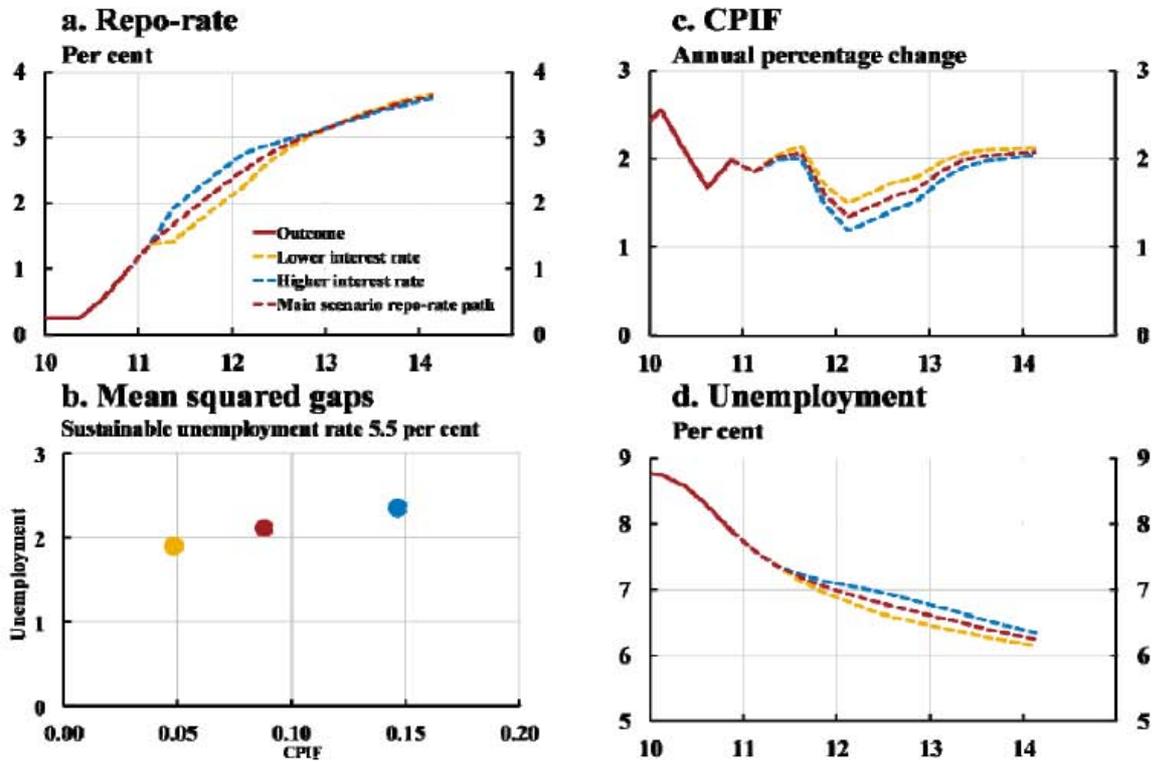Sources: CBO, Statistics Sweden and the Riksbank

Figure 6. GDP and potential GDP in Sweden, September 2008 and February 2011
Index 2007 quarter 4 = 100

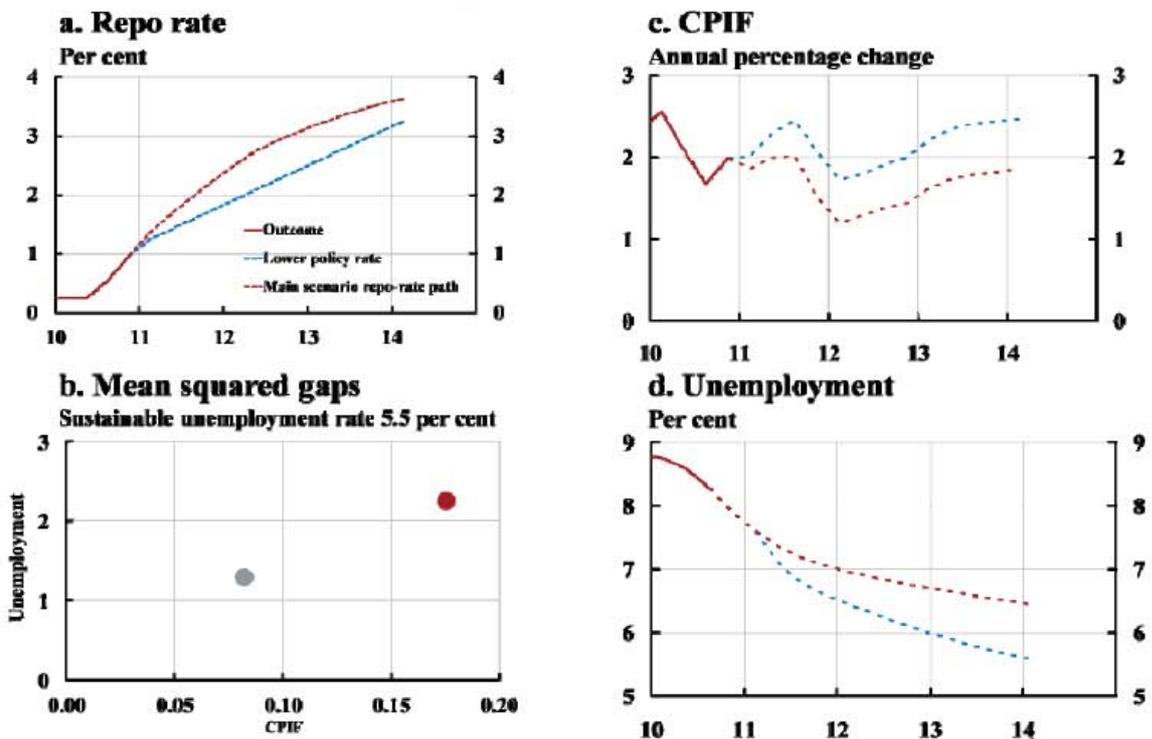Sources: Statistics Sweden and the Riksbank

Figure 7. Monetary policy alternatives February 2011

a. Repo-rate
Per cent

Legend:
- Outcome
- Lower interest rate
- Higher interest rate
- Main scenario repo-rate path

b. Mean squared gaps
Sustainable unemployment rate 5.5 per cent

c. CPIF
Annual percentage change

d. Unemployment
Per cent

Sources: Statistics Sweden and the Riksbank

Figure 8. Monetary policy alternatives February 2011

Foreign interest rates according to implied forward rates

a. Repo rate
Per cent

Legend:
- Outcome
- Lower policy rate
- Main scenario repo-rate path

b. Mean squared gaps
Sustainable unemployment rate 5.5 per cent

c. CPIF
Annual percentage change

d. Unemployment
Per cent

Sources: Statistics Sweden and the Riksbank