Per Jansson: Time to improve the inflation target?

Speech by Mr Per Jansson, Deputy Governor of the Sveriges Riksbank, at Handelsbanken, Stockholm, 3 December 2015.

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I would like to thank Mikael Apel for helping me with this speech.

Since the global financial crisis, the world economy has entered an unusually uncertain and turbulent period. The recovery following the crisis has progressed surprisingly slowly in many countries, the European monetary union has been periodically exposed to major strains and there are currently a great number of questions surrounding the developments in China and several other emerging market economies, to name just a few examples.

When a storm is raging around you, it is a major advantage to be travelling in a reliable and robust vessel. In terms of an economy, this often means having well-designed economic policy frameworks and clear and credible ground rules which provide robustness and stability. I would argue that the Swedish economy has been such a vessel for a long time now, and that this has been highly beneficial to us, both from a longer-term perspective as well as during and after the financial crisis.

It is evident that the Swedish economy is currently regarded as fairly stable when studying the difference in long-term yields in relation to Germany. This difference has been small for almost twenty years, and has occasionally even been negative (see Figure 1). When compared to how the situation was previously, the difference is quite striking.

Fundamental reforms after the 1990s crisis provided stability

This is something which in many respects we can thank the crisis at the beginning of the 1990s for. The Lindbeck Commission, appointed in December 1992, noted that the Swedish crisis of the 1990s was not just a result of an unlucky combination of an international economic downturn, overly generous lending and individual policy errors, but in fact had much deeper roots.[1] In their assessment it was to a large extent a “political and institutional crisis”, which exposed weaknesses in the way the political system worked. What they meant by this was that there was an underlying “systemic error” in the Swedish economy – a built-in bias towards systematically overly expansionary economic policy, which meant chronic problems with excessively high inflation, recurring cost crises and growing national debt. The Lindbeck Commission therefore advocated a policy which followed certain predetermined principles, or a “rule-based” policy.[2]

Several important institutional and structural changes were implemented in connection with the crisis and in the following years to create greater stability and sustainability in economic policy. One of the more comprehensive reforms was that monetary policy was more directly focused on keeping inflation low and stable, instead of, as previously, indirectly by maintaining a fixed exchange rate. Sweden thereby became one of the first countries to adopt inflation targeting. The price stability target was later written into the law and the interest rate decisions were delegated to an independent Executive Board. Another very important change was the creation of a fiscal policy framework with an amended budget process. This framework and the new process aimed to get a grip on the evolution of public expenditures while also leading

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1 The Economic Commission (1993).

2 A debate about this had been taking place for a while at that point. The Swedish Centre for Business and Policy Studies (SNS) had been advocating a so-called norm-based stabilisation policy since 1985, see Heikensten and Vredin (2012) for an overview.

to an average surplus in terms of net lending. The overall aim was to ensure that fiscal policy would have the desired long-term orientation.

Flexible inflation targeting preferable – but improvements not ruled out

But even though these and other changes have made the Swedish economy more reliable and resilient to shocks, we too have been affected by the events of the past few years. The global financial crisis and surprisingly low inflation have meant that a number of previously accepted truths have begun to be called into question, and led to a debate about whether the economic policy framework developed prior to the financial crisis should be modified or potentially even replaced.

My view here is completely clear: it is important for us to think very carefully before we make any comprehensive changes to the Swedish economic policy frameworks. We know little about what the world will look like in the future, and we should be careful not to casually abandon something which has essentially worked well. It is easy to forget previous problems as time passes, and to take for granted that certain things are simply working. This is a dangerous approach, however, which can lead to setbacks. Dismantling a framework can be done quickly, but building one up takes a long time and often involves major adjustment costs.

In terms of the monetary policy framework, I am convinced that the flexible inflation targeting pursued by the Riksbank and most other central banks today will continue to be the most effective approach for the foreseeable future. This does not mean, however, that I oppose all forms of change and necessarily think that everything should remain exactly as it is today. If we want something to endure, we must be prepared to change it. To continue with the metaphor I used at the beginning: it is important to constantly maintain the vessel and make any adjustments and improvements required for it to keep functioning well, even under new circumstances.[3]

I would today like to highlight a few areas of the Swedish monetary policy framework about which there are grounds to open up a discussion, based on the experiences we have gathered over some twenty years of inflation targeting.[4] It is perhaps mainly the experiences gained after the financial crisis which have increased the need for a serious discussion. If this discussion were to eventually conclude that it is appropriate to make certain changes within the areas I raise, then this would not have drastic consequences for the monetary policy framework as such. Rather, it would mean adjustments and improvements which could be accommodated well within the existing framework of flexible inflation targeting.

Before I continue, I would like to underscore one important thing: the members of the Executive Board always give their own views in their speeches. The ideas I express here are therefore entirely my own. The issues I raise are issues we in the Executive Board have discussed off and on, but it is an ongoing discussion and we have not yet drawn any conclusions. What I say here should therefore not be interpreted as the Riksbank's official view on these issues.

I would like to highlight two aspects of the monetary policy framework – the target variable and a potential interval, or band, surrounding the target.

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[3] In Canada, this work has been formalised in that the monetary policy framework is reviewed every five years. This results in an "Inflation-Control Agreement" between the Bank of Canada and the government.

[4] The evaluation of Swedish monetary policy by Marvin Goodfriend and Mervyn King on behalf of the Committee of Finance (Riksdagen, 2014), which is assessing different areas of the monetary policy framework, will undoubtedly further stimulate the discussion. This evaluation will be presented in January.

Important to follow the international debate

One aspect which has been debated a great deal both in Sweden and internationally, and which I do *not* intend to highlight here, is the level of the inflation target. That issue has recently been discussed quite thoroughly by some of my colleagues, and I do not have much more to add.[5] I would just like to say briefly that if we are going to discuss a change in the target level, then I, like my colleagues, have greater sympathy for the argument in the international debate that central banks should *raise* their inflation targets than for the argument in the Swedish debate that the inflation target should be *lowered*. The main reason for this is the motive usually stated as the main justification for a rise – that if the target is too low, or if inflation expectations are permanently too low for some other reason, then the policy rate will hit its lower limit more often and for longer periods.[6] This means that monetary policy in the future would find it harder to counteract a recession. However, it is too early today to draw the conclusion that 2 per cent is too low a level for the inflation target, and the discussion needs to continue.[7]

Nor do I intend to say anything about the issue debated both in Sweden and internationally as to whether monetary policy should be used to actively attempt to counteract the accumulation of financial imbalances. I also do not intend to comment on the principally international debate as to whether inflation targeting really is the best monetary policy framework, or whether a target for nominal GDP would be preferable, for example. As I have already mentioned, I think that flexible inflation targeting is the preferable framework, both now and for the foreseeable future.

In general, however, it is important for us to follow the fairly intense international discussion about how monetary policy should best be conducted. We want to avoid ending up with rushed and home-cooked solutions that we eventually regret and find it difficult to change. However, the areas I will focus on here – the target variable and a potential interval – primarily refer to the Swedish debate and are things that we ought to be able to change, should we wish to, without a risk of major negative consequences.

The target variable

Let me therefore begin by discussing the target variable. Since the inflation target was introduced in January 1993, it has been formulated in terms of the consumer price index, CPI. The reason the CPI was chosen as the target variable was mainly due to the fact that it was, and still is, the most well-known measure of price developments in Sweden. The CPI also has the advantages that it includes a large part of household consumption, it is published regularly and has well-known statistical properties.

However, using the CPI as a target variable has occasionally led to a number of pedagogical difficulties, not least in recent times. The reason for this is that household mortgage rates are included in the CPI. For example, when the Riksbank lowers the interest rate to bring inflation up, mortgage rates will fall. The short-term effect on the CPI therefore heads in the “wrong direction”, that is, the interest rate cut makes inflation fall further (see Figure 2).

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5 See, for example, Skingsley (2015) and Flodén (2015).

6 When the inflation target is very low, say, 1 or 0 per cent, inflation will vary around that level. The nominal interest rate will also be lower on average for a lower target. The lower the interest rate is in normal conditions, the less scope there is to lower it before it hits its lower limit and can no longer be used to stimulate the economy. Another problem with permanently low inflation is that because it has proved to be difficult to lower nominal wages in practice, it can be difficult to adjust real wages between individuals at a company and between different sectors.

7 Simulations by Dorich, Labelle, Lepetyuk and Mendes (2015) using a model for the Canadian economy indicate that a target of 2 per cent leads to a result that is almost as good as if the target were raised to 3 or 4 per cent, given that the policy rate can be complemented by quantitative easing as well as active and credible supporting communication.

Major direct impact of interest rate changes makes Swedish CPI unique

This direct impact of interest rate changes on inflation is quite unique to Sweden. The reason for the effect is that we include household mortgage costs in the CPI in a slightly different way than most other countries with inflation targets. More specifically, we attempt to measure households' costs for living in an owner-occupied property, where interest expenditure is an important component.[8] The CPI is calculated according to roughly the same principles in Canada, for example, but in practice the interest rate changes have a much smaller impact on the CPI there than here in Sweden.[9] In Australia and New Zealand, interest rate changes also previously had a major direct impact on the CPI, but the method for calculating CPI changed in both countries at the end of the 1990s in a way that eliminated such effects.[10] They now apply a method which is principally based on following price developments of new housing, a so-called net acquisition approach. In other countries, for example the United States and Norway, costs for owner-occupied housing are approximated to the cost for renting a comparable property – and this is far less affected by interest rate changes. In the euro area and the United Kingdom, the target is formulated in terms of the HICP index (harmonised index for consumer prices) which does not include costs for owner-occupied housing, only operating costs.[11]

As Swedish CPI inflation has this characteristic, the Riksbank has, since the introduction of the inflation target, calculated several different measures of inflation and has also regularly let inflation indices other than the CPI guide interest rate decisions. The price index which has played the biggest role in recent years is the CPIF, or the CPI with a fixed interest rate. Unlike the CPI, the CPIF is not directly affected by changes in mortgage rates. CPIF inflation, with energy prices also discounted at times, has functioned as a "steering" variable in such a way that the Riksbank has normally aimed for it to be close to 2 per cent within the forecasting horizon.

Major interest rate changes lead to substantial and long-term effects on the CPI

Despite this, the target has been formulated in terms of the CPI. As interest rates sometimes go up and sometimes down, the idea has been that the differences in inflation according to the CPI and the CPIF will level out over time. The long-run average of the two inflation measures will be the same, and if the Riksbank aims to stabilise CPIF inflation around 2 per cent then CPI inflation will on average also end up at the target. Deviations between both measures were not expected to be too great or lasting, and if they were to occasionally differ and CPI inflation were far below the target, then this could be dealt with by clear communication from the Riksbank. So it was thought at least.

However, even though the "long term" in this case is not so long that we will all be dead, to paraphrase Keynes, it is long enough for the difference between the CPI and CPIF to pose problems. Interest rate developments over the past few years have led to major deviations between the CPI and the CPIF, both upwards and downwards (see Figure 3). The period of cuts which began in December 2011, and which is currently the longest continuous period of

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[8] See Johansson (2015) for a description of how interest rate changes impact the Swedish CPI and a review of the methods used for measuring costs for owner-occupied housing in different countries.

[9] See Palmqvist (2013).

[10] See Reserve Bank of Australia (1998) and Reserve Bank of New Zealand (1999).

[11] In 2003 the United Kingdom decided to rename HICP CPI. The EU's statistics office Eurostat is currently investigating the possibility of including owner-occupied housing costs in the HICP in line with the net acquisition model, but it is unclear whether or when this will happen. It is worth pointing out – against the background of proposals of taking rising housing prices into account in the inflation measure – that changes in housing prices in all methods only have a limited impact on the index, or no impact at all. How monetary policy should be affected by changes in housing prices (or other asset prices) is therefore an issue which must principally be handled separately from the actual measure of inflation.

interest-rate cuts since the inflation target was introduced, has contributed to CPI inflation falling substantially below CPIF inflation and remaining near zero for three years.

Correspondingly, CPI inflation will be pushed upwards and exceed the target when the repo rate approaches historically more normal levels in the future. An extremely low rate of increase in CPI inflation therefore tends to be followed sooner or later by an unusually high rate of increase, and these periods can sometimes be relatively protracted. This could look something like Figure 4, for example. One could say that major, protracted interest rate movements lead to substantial and long-term surges in CPI inflation – more substantial and long-term than we previously believed would be the case.

Risk of misleading image and uncertainty about the inflation target

This has caused some difficulties, and will likely continue to do so in the future, not least in terms of monetary policy communication. One problem is that the focus on CPI inflation – which in itself is not entirely unnatural – has led to flashy headlines in the media from time to time over the years about Sweden being in a state of deflation. When CPI inflation is negative, this is obviously correct in a purely technical sense, but the story behind the headline often fails to explain that it is to a large extent a result of the Riksbank lowering the interest rate, and that CPIF inflation typically is considerably higher. Foreign commentators in particular have therefore often come to the conclusion that the Swedish economy is in a highly critical situation and that the state of the real economy is deflationist as well, with very weak growth in production and employment. It cannot be ruled out either that this kind of media reporting can, at least to some extent, affect economic sentiment. It is of course unfortunate if this kind of misleading image takes hold simply because the Swedish CPI is calculated in the way it is.

A potentially more serious problem is that even if CPIF inflation were reasonably close to 2 per cent, the formal target variable, CPI inflation, could be relatively far from the target for fairly long periods of time. Even if upward and downward deviations were to level out in the *really* long term, there could be long periods where CPI inflation deviates from the target – long enough for there to be a risk of confidence in the inflation target being shaken. To put it differently, participants in the economy could begin to question whether the Riksbank will truly also stabilise CPI inflation around the target by stabilising CPIF inflation around 2 per cent. And they would have fairly good grounds for doing so, not just based on past events but also if we look ahead. If we assume in Figure 4 that CPIF inflation will continue to be around 2 per cent after 2018, then CPI inflation would overshoot the target for a long time, based on reasonable assumptions about the development of the repo rate. Even if the repo rate did not continue to rise to levels considered normal before the crisis, but instead slowed to the average of 2.3 per cent seen over the period 1998–2015, CPI inflation would overshoot the target for around five years in total. If the repo rate did continue to rise, it would take even longer, all things being equal, for CPI inflation to return to 2 per cent.[12] Of course it is problematic if the formal target variable deviates from the target for such long periods, even if this is a result of a conscious policy.

Time to start a discussion about the target variable

Set against this background, it is my belief that it may again be time to open up a discussion about the target variable. One option, which I personally find appealing and fairly natural, is to face up to the consequences and allow an inflation measure upon which interest rate changes do not have such a direct impact to not only be the "steering" variable but also the target variable. The indices which come to mind first in that case are the CPIF and HICP. One

[12] The exact course of the policy rate path is obviously crucial in terms of how much and how long CPI inflation will deviate from CPIF inflation. A policy rate rise implemented more quickly leads, all things being equal, to a greater but briefer deviation than an equally large but more protracted policy rate rise.

advantage of the latter index is that it is an internationally comparable measure, but the differences compared with the CPIF are quantitatively not particularly large.

It is worth pointing out that this would not lead in practice to any particularly major change in monetary policy. After all, the Riksbank already typically aims for a CPIF inflation rate of around 2 per cent within the forecasting horizon.

It is also worth emphasising that the purpose of changing the target variable would not be to make it easier for the Riksbank to hit the inflation target. That would hopefully be a positive side-effect, but the main purpose would be to rectify the problems with the CPI as a target variable which have gradually become more and more evident.

Naturally, a change of target variable must be preceded by a thorough analysis of how and when the replacement would take place and what consequences it could potentially have. My aim here is simply to highlight the issue and initiate a discussion.

Of course, a new target variable would not solve every problem and be the only measure the Riksbank would have to look at. We would need to continue to analyse different measures of inflation to get as complete a picture as possible. For instance, as oil prices, and energy prices in general, often vary greatly, there are reasons on many occasions to study inflation measures where these prices are excluded. However, I believe the biggest problem would still be solved if interest expenditure were excluded from the target variable once and for all.

Before I continue, I would like to make a comment about the target variable in relation to wage formation. This is connected to my assertion that the significance of interest expenditure for the CPI means that an extremely low rate of increase in CPI inflation tends to be followed sooner or later by an unusually high rate of increase. As we have seen, these periods can also be fairly protracted. If wage formation places a lot of focus on the current level of CPI inflation, I see a risk that this could create instability in the wage formation system. A situation similar to the one in the 1970s and 80s could then ultimately occur, whereby wage developments varied substantially from year to year depending on the current inflation rate, which also varied extensively. It would therefore be better if wage formation were based on a less volatile inflation measure than CPI inflation.[13] A new monetary policy target variable could hopefully take on that role.

A band surrounding the target

When the General Council of the Riksbank decided to introduce an inflation target of 2 per cent in January 1993, it also decided that there should be a tolerance band surrounding this target of 1 percentage point both above and below.[14] The aim was to clarify that the Riksbank does not have the ability to control inflation exactly in the short term, but that it also aims to limit deviations from the target – that it does not intend to "tolerate" deviations greater than 1 percentage point. The size of the interval was determined by what intuitively appeared to be reasonable. It was not possible to rely on any past experience as the monetary policy regime was entirely new and inflation had varied considerably during the old regime which had a fixed exchange rate. The Riksbank expected that inflation would now vary less, but was unsure as to how much.

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[13] It could be argued that wage formation should be based on inflation always being 2 per cent, as periods below and above the target should cancel each other out in the long term. However, if inflation deviates significantly from the target for a long time, it can be difficult for wage setters to stick to this. Therefore, wage formation would be facilitated if the inflation target were formulated in term of CPIF or HICP inflation rather than in terms of CPI inflation.

[14] Until 1999, when the Executive Board was established, monetary policy decisions were made by the General Council of the Riksbank.

The interval remained a part of the monetary policy framework for a long time, but was finally abolished in 2010. The reason for this was that the Riksbank assessed at that time that it had fulfilled its role and was not serving any practical function. In the memorandum published in connection with the decision, it was noted that: “There is considerable understanding for the fact that inflation commonly deviates from the target and that the deviations are sometimes larger than 1 percentage point. Inflation can thus be outside the tolerance interval without threatening the credibility of the inflation target. Such deviations have proved to be a natural part of monetary policy.”[15]

So as a few years now have passed, it may be justified to evaluate the period where there has been no interval. Personally, I am not entirely sure that it has been as trouble-free as the Riksbank expected, even though I too thought that the decision to remove the interval was quite natural when it was taken.

Debate about the interval – but a different kind than before?

The question of whether the inflation target should be surrounded by an interval has recently gained some attention again in the Swedish debate. There appears to be differing views on what function an interval would fulfil, however. The previous tolerance band was first and foremost a pedagogical tool intended to illustrate that we must accept certain, though not too large, deviations from the inflation target of 2 per cent – the point target the Riksbank is always aiming for.

The interval that a number of commentators have been advocating recently appears to be of a different kind, however. They would prefer what could be called a *target range*, or in other words the *target* itself is 2 percentage points wide and not an exact figure.[16] A target range implies that monetary policy is focused on inflation falling within the range of 1–3 per cent within a couple of years, but there is no requirement for it to reach the midpoint of the interval. Inflation of just over 1 per cent or marginally under 3 per cent is equivalent to inflation of 2 per cent. If there were a *tolerance band*, inflation of just over 1 per cent, or below 3 per cent, instead would be “tolerable” if unforeseen events meant that inflation ended up there, but it would not be something to consciously aim for.

The idea that many commentators seem to have is that a target range would mean the Riksbank would feel less forced to bring inflation up to 2 per cent, which in turn would mean that monetary policy would not need to be as expansionary and the risks linked to such a policy could be mitigated.

Difficult to pursue another policy even with an interval

I would like to point out here, without commenting on the pros and cons of a target range in general terms, that this idea appears to be based in part on a misunderstanding of the motives behind the Riksbank’s policy. The reason the Riksbank is eager to get inflation to rise is not that we have a rigid fixation with achieving exactly 2 per cent inflation all the time. It is due to the fact that the period in which inflation has been below the target has gradually become longer, and that long-term inflation expectations have shown a falling trend and still remain below the target. For the reasons I noted a moment ago when discussing the level of the inflation target – that the interest rate hits its lower limit more easily and it becomes difficult to counteract a recession – it is important to avoid inflation and inflation expectations falling too far and get stuck at a level that is too low.

This would be the case even if we had had a target range of 1–3 per cent. Inflation and inflation expectations which creep downwards and get stuck near the lower limit of this range could be

[15] The Riksbank (2010).

[16] See for example Fromlet (2015) and Lars Jonung in Svenska Dagbladet (2015).

as problematic as if the inflation target itself had been lowered. It is thus difficult to see that the Riksbank would have pursued a notably different policy even if there had been a target range, or that there would be grounds to adjust the current policy if a target range were to be introduced tomorrow.[17]

This is probably also the reason why central banks in countries which have a formal target range, such as Canada and New Zealand, usually aim for the midpoint of the range.[18] After all, the safest way to prevent inflation and inflation expectations beginning to slide out of the range is to attempt to keep them in the middle of it. In this sense, there is no great practical difference between a target range and a point target with a tolerance band.

Interval good for illustrating uncertainty

I believe there are still grounds for discussing whether the Swedish monetary policy framework should be complemented once again by some kind of interval. As I see it, the main reason would be to remind people that monetary policy is pursued under considerable uncertainty, and that the Riksbank is not able to fine-tune the economy and inflation. It could be seen as paradoxical that it is needed, as the justification for the interval being removed before was that there was widespread understanding for this being the case. My impression, however, is that there is a lingering perception that monetary policy is a tool with a relatively high level of precision and that most things can be managed using well-calibrated policy rate changes. In the discussion about monetary policy, many seem to assume that there are relatively precise relations between the interest rate, inflation and unemployment, a perspective that does not receive much empirical support.

This is something to which the Riksbank itself probably has contributed somewhat, as some analyses in our reports could have given this impression. For example, we used to regularly present different interest rate scenarios in the monetary policy reports which were based on the effects of policy rate changes on the economy and inflation being calculated relatively mechanically and with seemingly good precision. The fact that the effects of monetary policy are surrounded by major uncertainty and cannot be calculated with good precision is something we probably need to remind people of more or less constantly, and in that case an interval can be useful.

The most obvious approach in this case would perhaps be to reintroduce a tolerance band around the inflation target. If this route is chosen, it is important of course that it is given a practical significance and fulfils some kind of function, in contrast to the interval removed in 2010. One possibility could be that the Riksbank undertakes to explain in a special report why inflation has ended up outside the interval whenever this occurs – in roughly the same way as the Bank of England writes an open letter to the Chancellor of the Exchequer. On the one hand, this could lead to deviations outside the band being seen as slightly dramatic, but on the other hand it could also make deviations within the interval less dramatic. I believe the latter would be an advantage seen against the background of what I have just said about monetary policy not being able to fine-tune inflation.

Naturally it is also important that the breadth of any band matches the variations in inflation in a meaningful way. It could be questioned whether this was the case for the previous tolerance

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[17] One possibility could be that long-term inflation expectations would have been anchored better if there had been an interval. The debate about target deviations could possibly have been less intense for example, which in turn could have led to a smaller fall in expectations. This is far from certain, however. 2 per cent does not represent a clear guideline in terms of a target interval, and regardless of whether the interval is a target or tolerance interval, inflation has now been so far below the lower limit for such a long time that expectations would likely have been severely affected in any case.

[18] The Bank of Canada aims for inflation to be "at the 2 per cent midpoint of a target range of 1 to 3 per cent over the medium term", while the Reserve Bank of New Zealand aims to get inflation near "the 2 percent target midpoint" on average.

band. It is worth emphasising that the choice of target variable is important when choosing the breadth of the band. A reflection from Figure 3 is that the interval of 1–3 per cent would have much better suited a target variable upon which interest rate changes do not have a direct effect – that is to say CPIF or HICP inflation – than was the case for CPI inflation. The periods outside the interval for these measures are more short-lived and the deviations are smaller. A number of reports would still have needed to be written, but there would have been fewer than with the CPI, and above all they would have contained more meaningful explanations as to why inflation was outside the tolerance band than that households' interest expenditure in the CPI has been influenced by the Riksbank's altered repo rate.

But once again – my aim here is mainly to contribute to the discussion. How an interval would be designed, and whether we should have one, is something that we will of course need to look further into. However, this is also a change I believe we could make without turning the monetary policy framework as it is inside out.

The policy of inflation targeting does not need fixing, but can potentially be improved

Let me now briefly summarise what I have said here today. One of my most important messages is: "if it's not broken, don't try to fix it!". In our eagerness to bring about change, we can often do more damage than good. The aspect I believe is not broken and therefore does not need fixing is the policy of flexible inflation targeting, which in recent decades has developed into something of an international standard. This is not to say that I think it is without problems and cannot be improved. I have highlighted a couple of areas for which I believe there are grounds for consideration as far as Sweden is concerned. One is the target variable, in which case I believe we should consider changing to an index upon which policy rate changes do not have such a major direct impact as on the CPI. Another is an interval surrounding the target. The main reason for considering a reintroduction of an interval is the need to constantly remind people that monetary policy is pursued under significant uncertainty and that the Riksbank is not able to fine-tune the economy and inflation. I look forward to continued discussions about these issues.

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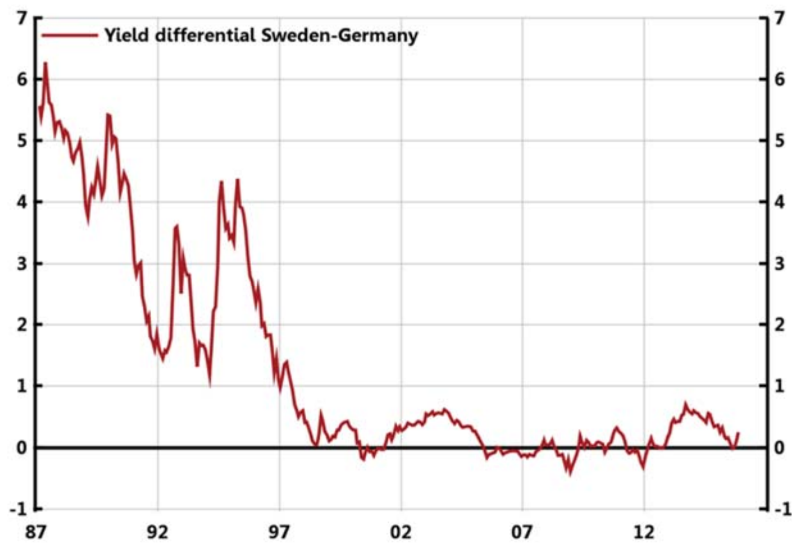
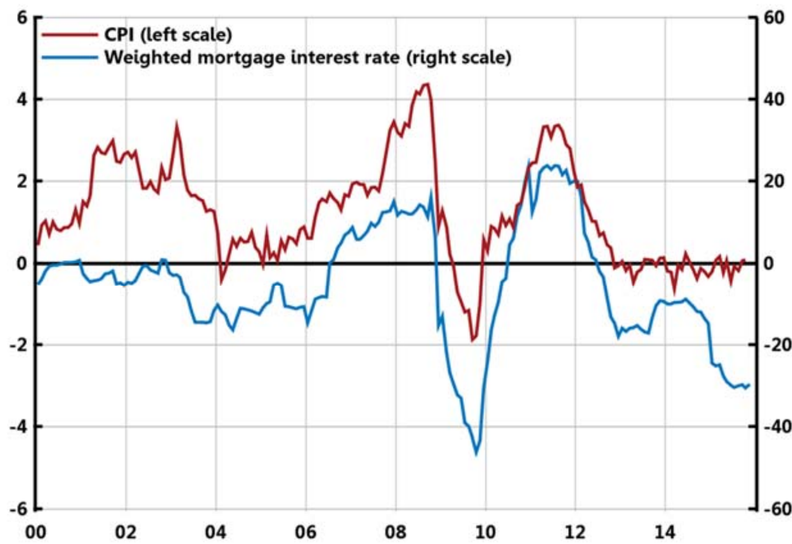
Figure 1. Stable Swedish economy



Note: The yield differential refers to 10-year government bonds, monthly data.
Sources: Thomson Reuters and the Riksbank

Figure 2. Major direct impact of interest rate changes on CPI inflation

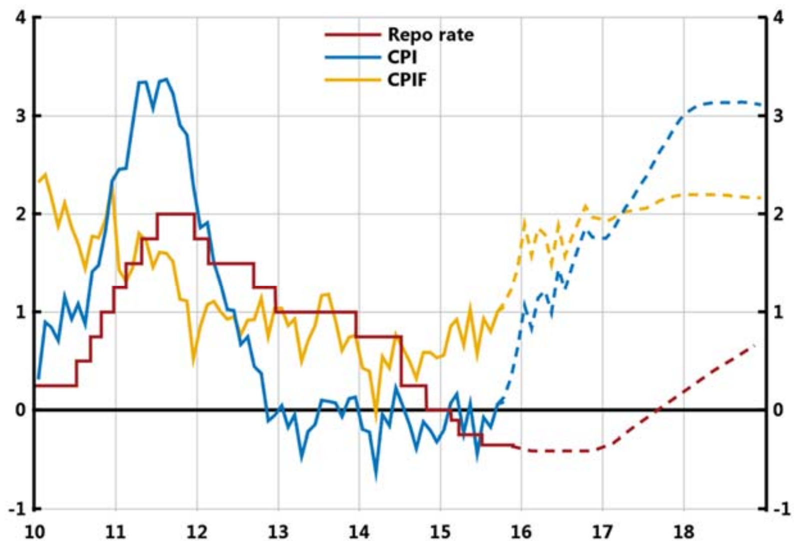


Note: Weighted mortgage rate is chained in December 2014 due to an altered measurement method.
Sources: Statistics Sweden and the Riksbank

Figure 3. CPI inflation varies a lot more than CPIF and HICP inflation

Note: The CPIF is the CPI with a fixed mortgage rate. HICP refers to the EU-harmonised index for consumer prices.
Sources: Statistics Sweden and the Riksbank

Figure 4. CPI inflation deviates significantly and for a long time from the inflation target



Note: The CPIF is the CPI with a fixed mortgage rate.
Sources: Thomson Reuters and the Riksbank