Stefan Ingves: Inflation targeting – the Swedish framework and experiences

Speech by Mr Stefan Ingves, Governor of the Sveriges Riksbank, at the Reserve Bank of India, Mumbai, 15 November 2006.

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Let me begin by thanking you for the invitation. The theme of my speech today is the Riksbank's monetary policy strategy and our experiences of inflation targeting. As you may know, the Riksbank belongs to the group of central banks that has a specific inflation target. This is a group that has increased in number in recent years. This of course reflects the fact that, on the whole, experiences of monetary policy with an explicit inflation target have been good. So good, in fact, that this policy has become an interesting alternative even for already well-functioning economies.

When Sweden changed over from a fixed exchange rate to inflation targeting and a floating exchange rate in 1993, the situation was entirely different. We were in the midst of a deep economic crisis, where a total reform of the entire stabilisation policy framework was necessary. Monetary policy based on inflation targeting was at that time a relatively new phenomenon and there was considerable uncertainty as to whether it would work in Sweden. For those of us who were around during the crisis years, it is particularly pleasing to see how well the Swedish economy has developed over the past ten years, compared with the previous two decades. Naturally, one cannot ascribe all success to the changeover in stabilisation policy – the general economic developments have also been favourable. But there is no doubt that the new regime with an inflation target for monetary policy has given a steadiness and stability to economic policy that was lacking before.

There have also been significant developments in the monetary policy framework during the ten years or so since we have practised inflation targeting. As deputy governor during the years 1994 to 1998, I was involved during the first years when the course was set and the work on building up competence and analysis tools for the bank's main tasks, monetary policy and financial stability, began. Other important tasks we were facing at that time were improving communications and increasing transparency, both internally and externally.

Since my return to the bank at the beginning of this year, I have been able to note that these processes have continued since 1998. In many ways the Riksbank of today is a different bank from the one I left. The most fundamental change is that the Riksbank has gained increased independence in relation to the Swedish parliament since 1999 and it is now managed by an Executive Board consisting of six persons who make all of the strategic decisions. The price stability target has also been stipulated in the law text since 1999. The Riksbank's monetary policy strategy has been developed and modified. We do not think, act or communicate in the same way today as we did when the inflation targeting regime was new. The driving force behind the changes has come partly from practical experiences, both in Sweden and other countries conducting inflation targeting. Academic research has also played an important role.

Before I go into greater detail on how the Riksbank's strategy has developed and how it looks today, let me begin by describing the background to the establishment of an inflation target in Sweden.

Background to the introduction of an inflation target in Sweden

On Sunday, 19 November, the Swedish krona will have been floating for exactly fourteen years. The date 19 November 1992 will always have a special significance for the Riksbank, as it was the day that we were forced to abandon the fixed exchange rate, under dramatic circumstances and following a dogged defence of the krona against speculation. This happened in the midst of the most serious economic crisis in Sweden since the 1930s – a crisis that can generally be described as a tragic climax to almost twenty years of stabilisation policy problems.

The economic policy conducted during the 1970s and 1980s tended for various reasons to be overly expansionary and it proved difficult to maintain price rises and wage increases at a reasonable level. The idea behind the fixed exchange rate policy was to ensure that inflation in Sweden would be in line with our most important trading partners' inflation rates and that the fixed exchange rate would function as a nominal anchor. Instead, price and wage developments repeatedly came on a collision course with the fixed exchange rate and Sweden suffered cost crises. To rectify this situation, the krona was devalued a total of five times during a period of seven years. However, the trend increase in domestic prices and wages continued to rise, so the fundamental problem was still there in the background.

The result was modest economic growth, poor productivity growth and more or less stagnant real wages. This performance was markedly weak both compared with earlier periods and in relation to other countries. During the crisis years at the beginning of the 1990s the situation deteriorated even further. Unemployment increased fourfold in the course of a few years and the central government finances deteriorated dramatically. Long-term interest rates rose and the interest rate differential vis-à-vis Germany, for example, occasionally came to several percentage points.

The fixed exchange rate lost credibility and had to finally be abandoned in November 1992, following large currency outflows and extreme interest rate hikes in an attempt to defend the krona. The nominal anchor that was to hold down inflation and inflation expectations in the economy had loosened. To pin it down again and bring the Swedish economy onto a better track required drastic measures. The solution was what might be called a shift in stabilisation policy regime, where the tasks of both monetary and fiscal policy were essentially redefined. We were given a clear division of roles in economic policy. Previously, fiscal policy had often been overly expansionary and contributed to high inflation. Now it was subjected to requirements for long-term stability and sustainability in the public finances. A floating krona meant that the main task of monetary policy was to directly act to ensure inflation remained at a low and stable rate.

In January 1993 the Riksbank specified this task as ensuring that inflation remained at two per cent a year. This target would formally begin to apply with effect from 1995, but monetary policy would also be aimed at directly steering inflation during the interim period without intermediate goals, such as the money supply. This created a new norm for monetary policy and Sweden then became one of the first countries in the world to conduct monetary policy with a floating exchange rate and a specific inflation target.

One interesting fact in this context is that Sweden actually had a specific target for prices during one period in the 1930s - this was the first and as far as I know the only time a country has attempted this. When the gold standard was relinquished in 1931 and the krona started to float, as a crisis measure the Riksbank was given the task of maintaining a constant purchasing power for the krona, that is, establishing a constant price level. It all functioned relatively well to the extent that the economic recession of the 1930s was not as severely felt in Sweden as in other countries and the recovery was unusually strong[1].

Economic developments during the inflation-targeting period

How has the period with an inflation target worked? Well, looking back on the developments in the past ten years, it is difficult to come to any other conclusion than that the new stabilisation policy regime has lived up to the expectations. The high inflation economy with recurring cost crises, high interest rates and an unstable economic development is a thing of the past. Inflation has instead been low and stable. GDP growth has on average been higher and also more stable than in the 1970s and 1980s, and real wage growth considerably more favourable. Productivity growth has been surprisingly robust – stronger than in the rest of the EU – and there now seems to be broad consensus that the economy's potential growth rate has been raised. Growth in employment has not been quite as good, but it is nonetheless worth pointing out that the situation today is far better than it was in the mid-1990s.

It is also interesting to study inflation expectations. Although inflation has on average remained fairly close to target, there have of course been both shorter and longer periods where inflation has deviated significantly from the target. How have inflation expectations been affected by this? Even though inflation expectations can be measured in different ways, I believe that the overall picture is clear. From around 1996-97 expectations about inflation a couple of years ahead have been in line with the target. In the shorter term, of course, they have sometimes fluctuated in line with the actual inflation rate. But seen over a longer period of time, expectations have been neither significantly higher nor

[1] See Berg, C., and L. Jonung, (1999), "Pioneering Price Level Targeting: the Swedish Experience 1931-1937", Journal of Monetary Economics, 43, 525-551.

significantly lower than the target. This is a much better development than many people expected when the new monetary policy regime was introduced in the early 1990s.

It must also be pointed out that the change in stabilisation policy regime involved not only monetary policy. Compared with other countries that have implemented similar reforms, it is perhaps primarily the changes in fiscal policy that distinguish Sweden. In the mid-1990s a vigorous consolidation programme and a framework with an expenditure ceiling and a balance target were introduced. The comparatively sound central government finances have been a great strength for our country over the past ten years.

Finally, I must in all fairness add that in addition to the shift in stabilisation policy regime there have also been a number of significant changes in other areas that ought to have contributed to the favourable developments over the past decade. I mentioned productivity growth earlier – the strength of this has surprised most economic analysts and forecasters in Sweden. It can probably be attributed to a combination of several factors. For example, a rapid development in both the production and use of information technology has probably contributed to improved productivity. Other factors may include deregulation of various markets and increased competition – the latter stimulated by EU membership and the increasingly interlaced world economy.

The Riksbank's monetary policy framework and strategy

Let me now, with this as background, move on to describe our monetary policy strategy in slightly more detail[2].

The inflation target

The statutory objective of the Riksbank is to maintain price stability. We shall also promote a safe and efficient payment system. In connection with the introduction of this wording on the Riksbank's tasks into the Sveriges Riksbank Act of 1999, the Riksbank was also given greater independence, as I mentioned earlier. Monetary policy is now formally the task of the Riksbank and the six members of the Executive Board are expressly forbidden to, as it says in the act, seek or take instructions when fulfilling their monetary policy duties.

The Riksbank has chosen to specify an explicit target for inflation. The target is for the annual rate of change in the CPI to be 2 per cent, with a tolerance for deviations of plus/minus 1 percentage point. The decision to define the target for monetary policy in terms of a specific figure was of course partly due to the desire to create a nominal anchor that everyone could recognise and base their expectations on. However, another important reason was that a specific target would facilitate assessments of the Riksbank's activities and make it easier to hold the Riksbank accountable, which was important when it had been granted so much independence.

Inflation can be measured in many different ways. The Riksbank chose the CPI as target variable partly because it is a broad price index that represents typical purchases made by consumers and the index is familiar to the general public. But the development of the CPI cannot always indicate what monetary policy is needed at a particular time – no single inflation measure can do this. The Riksbank therefore uses various measures of underlying inflation to describe the trend rate of inflation and to justify the monetary policy conducted. Our most commonly used measure, with the not so pronunciation-friendly name UND1X, consists of the CPI adjusted for certain items that are very directly affected by fiscal and monetary policy.

So, there are educational gains with using measures of underlying inflation. However, one disadvantage of using different inflation measures in different situations is that it can create uncertainty as to how the inflation measure is defined, even when you try to be clear as to why a particular measure has been emphasised at a particular time. The Riksbank has some experiences of this, which have given us reason to consider ways of reducing the need for different underlying inflation measures. One possibility could be to make forecasts covering longer periods. For the Riksbank the need to emphasise alternative measures of inflation has declined since we, a while back, started to

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[2] A description of the Riksbank's goal and strategy for monetary policy can be found in the document "Monetary Policy in Sweden", which can be downloaded from the Riksbank's website www.riksbank.com, or ordered as a booklet.

publish forecasts of developments three years ahead instead of two years ahead. With a longer forecast horizon it is possible to illustrate more clearly when various shocks have effects that are temporary and how they dissipate over time without having any lasting impact on inflation. This makes it easier to explain whether the interest rate needs to be changed or not[3].

The target horizon and real stability

When the inflation target was announced in January 1993, the Riksbank also formulated a tolerated deviation interval of plus/minus 1 percentage point. One of the purposes of this was to illustrate that it was not possible for monetary policy to maintain inflation at exactly two per cent all of the time. Changes in the policy rate, known as the repo rate in the Riksbank's case, are a blunt instrument with regard to steering inflation in the short term. It takes time before interest rate changes have an effect and monetary policy must therefore be based on forecasts of the inflation rate a couple of years ahead. In addition, there is uncertainty over how the economy functions. It is therefore impossible to parry all shocks that affect the economy and temporary deviations from target will therefore arise.

The tolerance interval also provides scope for temporary deviations from target that may be justified with reference to the stability of the real economy. Let us say that a shock occurs that makes inflation deviate from target. By not aiming to restore inflation to target as quickly as possible, scope is created to conduct monetary policy in such a way as to dampen fluctuations in, for instance, growth and employment. However, for the inflation target to retain its credibility, the deviations cannot be permitted to become very large or prolonged. To create greater clarity, monetary policy is guided by the principle that the Riksbank's ambition is normally to bring inflation back on target within two years. One might say that this two-year horizon is a restriction that the Riksbank has placed upon itself to maintain credibility for the inflation target.

We have chosen a two-year horizon for monetary policy because this is considered to give sufficient scope in most cases to ensure acceptable developments in the real economy. However, the exact rate at which inflation should be brought back on target within this horizon will of course depend on the shocks the economy has suffered[4]. Sometimes the deviations from target can be so large that there is reason to allow inflation to return to target beyond the normal two-year horizon. In these cases, we shall explain this clearly in connection with our decisions.

These thoughts on how to take into account developments in the real economy are of course not unique to the Riksbank. Although the formal guidelines may vary slightly from country to country, I believe it is correct to say that all central banks with an inflation target conduct flexible inflation targeting, that is, they give some consideration to real economic activity. In other words, we are not "inflation nutters" to borrow Mervyn King's famous expression. Our aim is not in all situations to bring inflation back on target as quickly as possible and at any cost.

At the same time, flexibility is part of the strategy that has gradually changed during the period with an inflation target. This is only natural as this type of flexible application of monetary policy assumes that there is considerable confidence in the inflation target – confidence that must first be won. Immediately after the inflation target was introduced in 1993 the Riksbank's rhetoric and probably the actual policy were most strongly focussed on the development of inflation. The underlying factor behind this was probably concern over credibility problems. However, from the mid-1990s stabilisation of the real economy has increased in scope and the Riksbank has in various ways made clear that we give consideration to developments in the real economy. This was, for instance, one of the main points in the brochure "Monetary Policy in Sweden", which we published in May[5].

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3 See Lars Heikensten's speech, "Thoughts on how to develop the Riksbank's monetary policy work", at the Swedish Economics Association on 22 February 2005.

4 See, for example, Apel, M. et al, (1999), "Different ways of conducting inflation targeting – theory and practice", Sveriges Riksbank Quarterly Review, 1999:4, 13-42, Svensson, L. (1997), "Inflation forecast targeting: Implementing and monitoring inflation targets", European Economic Review, 41, 1111-1146, and Batini, N., and E. Nelson, (2001), "Optimal horizons for inflation targeting", Journal of Economic Dynamics & Control, 25, 891-910.

5 See footnote 2 for details. "Monetary Policy in Sweden" replaces the clarification of monetary policy published in 1999, see Heikensten, L. (1999), "The Riksbank's inflation target – clarifications and evaluation", Sveriges Riksbank Quarterly Review, 1999:1, 5-17.

In this context, let me also mention something about risks. More specifically, the risks connected to rising asset prices and credit expansions. This is a question that has been much discussed in recent years, both between central banks and within the academic world, as house prices have risen rapidly in many countries including Sweden. This debate could in itself be the topic of a speech so let me just briefly say that the position of the Riksbank is that we do not consider it to be reasonable to entirely ignore these risks, even though it might be difficult to take these risks into account in the usual forecasting process. We have therefore acted to reduce these risks and to contribute to a calmer adjustment in house prices.

The inflation forecast and future interest rate developments

One of the recent changes in our strategy was the assumption regarding the development of the policy rate, which is used as a base for our forecasts. Like most central banks with an inflation target, the Riksbank previously made forecasts under the assumption that the policy rate would not change during the forecast period. Since October last year we instead use an assumption that has gained in popularity among central banks, namely that the policy rate will develop in line with market expectations, as reflected in implied forward rates.

The earlier assumption had the advantage that it illustrated in a simple manner when there was reason to change the policy rate. If inflation two years ahead was expected to be lower than two per cent, this was a signal that the interest rate needed to be cut, and if it was expected to be higher, the rate needed to be raised. Of course, this rule could not capture all of the nuances in the monetary policy considerations, but it provided a rough explanation of the monetary policy decisions.

However, there were also disadvantages. In normal cases it is not, for instance, particularly realistic that the policy rate would remain unchanged a couple of years ahead. The fact that the forecasts were based on this assumption made it difficult to assess our forecasts and to compare them with those of other forecasters. Nor was it easy to implement the assumption of a constant rate in a consistent manner in the forecasting process. These problems would have been aggravated when we extended our forecast horizon.

The transition to the new interest rate assumption at the same time meant that the simple policy rule used to explain monetary policy had to be abandoned. This rule was easy to understand and was therefore a good educational tool: if the forecast of a constant repo rate showed inflation close to target the interest rate would be held unchanged. However, it gradually became clear that this rule could sometimes form an obstacle in our communication. It created an exaggerated focus on the current interest rate decision and on the inflation forecast exactly two years ahead. The gradual shift towards more flexible monetary policy led to a greater need to illustrate the fact that it is the entire expected sequence of events for inflation and the real economy a few years ahead that is important to monetary policy decisions, and not merely the levels we foresee two years ahead. And the focus should be on not only current interest rates, but also expectations of future interest rate changes[6].

Now we instead use an assumption that the policy rate will develop in line with financial market expectations. This means that the monetary policy discussion can now be based on a relatively realistic development of the interest rate throughout the forecast period. This makes it easier to assess our policy, to compare our forecasts with those of other forecasters and it enables clearer communication with regard to future policy. If inflation is expected to be close to target in a two-year perspective, this could indicate that market expectations of interest rate developments are reasonable. However, to determine this we must also take into consideration the expected sequence of events for inflation and the real economy that would result from this interest rate path.

In our communications we point out that the assumption that our policy rate will follow implied forward rates is not a commitment from the Riksbank that the repo rate will actually develop in this way. Each time we make a decision, we take a stance on the interest rate path, on the basis of the information available at the time. Our considerations can and should be altered if the economy develops in a

[6] See Jansson, P., and A. Vredin, (2004), "Preparing the Monetary Policy Decision in an Inflation Targeting Central Bank: The Case of Sveriges Riksbank", in the conference volume Practical Experience With Inflation Targeting, the Czech National Bank, Woodford, M. (2005), "Central-Bank Communication and Policy Effectiveness", paper presented at the FRB Kansas City symposium 'The Greenspan Era: Lessons for the Future', Jackson Hole, Wyoming, August 25-27, and Faust, J., and D. W. Henderson, (2004), "Is Inflation Targeting Best-Practice Monetary Policy?", Federal Reserve Bank of St Louis Review, 86(4), 117-143.

different direction than we had expected. We also emphasise that the assumption that the repo rate will develop in line with financial market expectations does not imply any standpoint as to what interest rate path the Riksbank considers most desirable.

One possible further development could be to follow the examples of central banks like those in New Zealand and Norway and actually publish our own views on future interest rates, instead of using market expectations as a basis. This is a possibility we are currently considering. Personally, I look positively on such a change. My experiences of increased transparency have been only positive.

Openness, clarity and communication

This brings me on to the final point that I intend to take up today with regard to the Riksbank's strategy: openness and communication. Openness and clarity are important when justifying our monetary policy decisions so that confidence in price stability can in the long term be combined with flexible inflation targeting. It is also a necessary condition for retaining the legitimacy of our activities and our independence[7]. Moreover, it contributes to greater efficiency and quality in our internal analyses. Openness was therefore given high priority right from the start when the new monetary policy framework was introduced, and it is no coincidence that the Riksbank is usually ranked high in international comparisons of monetary policy transparency in central banks[8].

Let me mention some concrete measures we have taken to increase openness. Three times a year the Riksbank publishes Inflation Reports which include the analytical base for the interest rate decision made at those points in time[9]. Moreover, after each monetary policy decision a press release is published, giving the motives for the decision made, and a press conference is organised. The discussion at the monetary policy meetings is reported in separate minutes published approximately two weeks after each meeting. The minutes contain the arguments put forward and show whether any reservations were made against the interest rate decision. The Governor of the Riksbank appears before the parliament's Committee on Finance twice a year for a discussion of the monetary policy conducted. In addition, we Executive Board members hold around thirty speeches every year, where we can describe our views of economic developments.

This all means that there are good opportunities for the general public to find out how monetary policy decisions are made. This openness from the Riksbank makes it possible for all those who are interested to follow our policy and see whether we live up to our principles. I am convinced that transparency has been a central issue in gradually building up confidence in the Riksbank and the inflation target.

Conclusion

To summarise, let me observe that the changeover in economic policy in Sweden at the beginning of the 1990s, and to which I have described the background, has worked well. The inflation target for monetary policy has contributed to providing a stability in economic policy that was lacking in the Swedish economy during the 1970s and 1980s. There have also been significant developments in the monetary policy framework during the period we have practised inflation targeting and I hope that I have been able to give you some insight into how our monetary policy strategy has developed and how it works. How it works now, I should perhaps add. The strategy and framework are of course something we are constantly working on to refine and improve.

This is something that will probably be discussed in the future economic debate in Sweden. In two weeks' time an in-depth assessment will be published of Swedish monetary policy during the period 1995-2005, that is, the ten-year period during which the inflation target has been the official anchor for Swedish monetary policy. This report, which is written by researchers Francesco Giavazzi and Frederic Mishkin, will deal with the formulation of the inflation target, to what degree the monetary

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7 Chapter 1 in Blinder, A. S. (2004), The Quiet Revolution – Central Banking Goes Modern, Yale University Press, contains a discussion of political and economic cases for central bank transparency.

8 See, for example, Eijffinger, S., and P. Geraats, (2006), "How transparent are central banks?", European Journal of Political Economy, 22, 1-21.

9 See Leeper, E. (2003), "An Inflation Reports Report", Sveriges Riksbank Economic Review, 2003:3, 94-118, for an evaluation of the Riksbank's Inflation Reports.

policy conducted by the Riksbank has contributed to attaining the target during the period, and the bases and forms for monetary policy decisions. I and my colleagues on the Executive Board are very much looking forward to the analyses and debates this assessment will inspire.

Thank you.