Speech

Governor Urban Bäckström

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Five years with the price stability target

Swedish Economics Association

Thank you for the invitation to attend a meeting of your Association for the fourth time and discuss monetary policy. Our deliberations over the years have covered "Price stability and monetary policy" (1995), "The Riksbank and monetary policy" (1996) and "Unemployment and monetary policy" (1997). Today's agenda is headed "Five years with the inflation target", a reminder that it is now five years since the Riksbank's Governing Board first decided, on 14 January 1993, to focus Swedish monetary policy on an explicit inflation target. The Board announced that from 1995 onwards the change in the consumer price index was to be limited to 2 per cent, with a tolerance interval of ±1 percentage point. In 1993 and 1994 monetary policy would concentrate on preventing an increase in inflation's underlying rate.

When the Governing Board made this decision, there had not been much time for detailed analyses. The fixed exchange rate regime had finally had to be abandoned on 19 November 1992. It can now be said that the decision was prescient and that to date the new regime has essentially worked well. But after five years there is reason to have a look at some aspects of monetary policy's construction. In my talk this evening I shall be considering the following issues: The construction of the inflation target. Is there reason to reformulate the target? How should monetary policy be conducted so as to meet the target? To what extent can and should the Riksbank consider real economic factors like growth and employment? Why are clarity and transparency of importance in monetary policy? Has the inflation target been fulfilled? That will be followed by a brief account of monetary policy in recent years and then, finally, a forward-looking conclusion.

SVERIGES RIKSBANK

Telephone +46 8 787 00 00

Telefax +46 8 21 05 31

E-mail registratorn@riksbank.se

Inflation target historically rooted

The idea of focusing monetary policy on low inflation—price stability—is by no means new. One of Sweden's most renowned economists, Knut Wicksell, discussed it many years ago. This evening it is particularly apt to note that his discussion took place in this Association and was held exactly one hundred years ago, more exactly on 14 April 1898, when Wicksell read a paper on "The money rate's importance for commodity prices". He spoke in favour of price stability as monetary policy's objective. His address, based on a work that had been published in German, was the first presentation of his ideas to a Swedish public. Here are his opening remarks:

> *It does not take many words to demonstrate how important it is that the purchasing value of money, or—which is the same, just seen from the opposite side—the general level of commodity prices, is kept as constant and unchangeable as possible. After all, money already is and is daily becoming more and more the yardstick for all value, the basis of all wealth contracts: all goods are exchanged for money; besides which, we produce solely in order to trade and to trade for money. ... [It is] fairly certain that all interests would be best served if the standard for value were held as precisely constant as the standards for length, capacity and weight.*

The significant point made by Wicksell—and incorporated in today's inflation target— was that inflation and deflation should both be avoided. His views ultimately played a central role in economic research and in many respects in monetary policy, for instance in Sweden.[1]

More than thirty years later, when Sweden was obliged to leave the gold standard in September 1931, the Government and the Riksbank declared that the monetary policy objective would be to use "every available means to maintain the Swedish krona's domestic purchasing power". In this way the Riksbank became the first central bank to declare openly that price stabilisation was the norm for its monetary policy.

Against this background it can be said that the Riksbank's decision, in January 1993, to introduce an inflation target rested on a firm Swedish tradition. The strength of this foundation is confirmed by the observation that between 1830 and 1970 the annual rate of inflation averaged about 2 per cent.

Considering the measurement errors and other characteristics of the consumer price index, I do not think it would be a misrepresentation to speak of a *price stability target* instead of the *inflation target.* Moreover, 'price stability target' rings truer to the purpose of our target today. The aim is not to achieve a given rate of inflation but to avoid both inflation and deflation; in other words, to establish and maintain price stability. In the following, therefore, I will speak of a price stability target instead of an inflation target.

Sweden is not alone in using an explicit price stability target. This is also done in, for example, New Zealand, Australia, Canada and the United Kingdom. And to a growing extent, most of the other industrialised countries are also focusing

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[1]For a fuller account of Wiksell's price stability norm, the proceedings of the Swedish Economics Association and Swedish monetary policy in the 1930s, see Jonung (1989).

monetary policy on price stability, though this is done with the aid of intermediate targets such as a fixed exchange rate or a monetary variable.

The ongoing international tendency to concentrate monetary policy on long-term price stability reflects a growing consensus on three issues. *Firstly*, an awareness that there seems to be no long-term stable trade-off between inflation and real factors like production and employment; it follows that in the long run, the influence of monetary policy is confined to the level of inflation. *Secondly*, there is widespread agreement that to the extent that monetary policy has any influence on the real economy at all, it seems to be the case that price stability as such can contribute to long-term productivity growth. *Thirdly*, excessive short-termism in economic policy is considered to be conducive to a higher inflation trend.

At first sight, conducting monetary policy with a price stability target may seem relatively simple. It is basically a matter of adjusting the instrumental rate so that the available funds for final payments are kept at an "appropriate" level in relation to the value of total output. In practice, however, inflation is a complicated process and there is a long and variable lag before monetary measures affect the economy. Consequently the central bank can control inflation only indirectly. This raises a number of questions about the practical construction of a price stability target.

Constructing a price stability target

Basic considerations

The target variable should be chosen for maximum coverage of price formation in the economy. It should thus relate to the welfare of individuals and households and be familiar. It also needs to be published regularly, with a short lag, and not be liable to frequent revision. These requirements suggest that the consumer price index or some variant of this is preferable to conceivable alternatives such as the GDP deflator or a producer price index.

Moreover, monetary policy measures have however a limited ability to impinge immediately on transitory price movements occasioned by some kind of shock, for example sudden shifts in the exchange rate, indirect taxes and subsidies, or raw materials prices. Such price movements might be countered by drastic monetary measures but such action would also tend to destabilise the real economy. Consequently, countering the direct effects of such shocks is not desirable except when they influence inflation expectations and are thereby likely to have more permanent effects on the process of domestic price formation. Neither is it reasonable for monetary policy to try to counter the impact of the interest rate, for example on consumer prices. To do so would be equivalent to monetary policy chasing its own tail. Over the business cycle, interest rate effects on registered inflation tend to cancel out.

Thus, an ideal target variable should mirror the long-term inflation trend but not necessarily catch transitory price movements. It is not easy, however, to know which indicators will succeed in separating transitory price movements from more permanent inflationary impulses. In other words, the indicators that are found to have done this are difficult to identify in advance.

A further consideration in the choice of a target variable is that it should be suitable for international price comparisons.

Why the CPI?

The Riksbank chose the consumer price index (CPI) as the target variable from the start. This index, or some variant of it, is preferable, as I mentioned earlier, to other available indexes. If a measure of underlying inflation had been chosen instead, the special calculations involved in excluding transitory price movements would have made it unintelligible to the general public. But various measures of underlying inflation should still be analysed in inflation reports, for instance, so as to promote a better understanding of and insight into transitory effects in the inflation process. A step in this direction was taken in the December inflation report, which included a separate section on the transitory effects as well as a separate diagram showing the forecast for one of the underlying inflation indicators used by the Riksbank. The construction of monetary policy should focus, as mentioned, on the long-term trend in the inflation process.

Neither are there grounds at present for changing to the harmonised index of consumer prices (HICP), which is intended to become an instrument for international comparisons of inflation. The work of harmonisation is still in progress. Moreover, the HICP has such a short history that it is little known and has not yet been widely used as a measure of inflation.

Why just 2 per cent?

In 1993 the Riksbank chose 2 per cent as the price stability target. There is no scientific evidence that the most appropriate level for a price stability target is *exactly* 2 per cent, rather than 1.5 or 2.5 per cent, for example.

There are several reasons, however, for not setting the target below 2 per cent. *For one thing*, there are indications that in many countries the CPI overestimates actual inflation. *For another*, an excessively low inflation target may cause problems if, as is presumably the case, nominal wages display downward rigidity. In the absence of any inflation, adjustments to shocks then occur to an unnecessarily large degree via labour shedding because that is the only way of cutting the total wage bill.

The reason for not choosing an inflation target above 2 per cent is that the higher the rate of inflation, the more it harms the economy. Moreover, European countries are aiming for inflation at this level.

There is also a growing consensus among economists about the approximate level of inflation that it is reasonable to aim for. Stanley Fischer, the well-known economist who is currently deputy director of the International Monetary Fund, has summed up the prevailing opinion as follows:

> *"These arguments point to a target inflation rate in the 1 to 3 percent range; more specifically, they suggest that inflation should be targeted at about 2 percent, to stay within a range of 1 to 3 percent per year."*[2]

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[2]See Fischer (1996).

Tolerance interval

One important characteristic of a target variable its controllability. High controllability means that monetary policy can be conducted so that the variable's deviations from its target are small. Controllability is determined by the occurrence and degree of shocks of different kinds, together with the ability of monetary policy to counter these shocks. The degree of controllability should determine the width of the tolerance interval.

The formulation of the tolerance interval accordingly entails a difficult choice. On the one hand, a wide range means that monetary policy can be conducted with greater flexibility. Transitory inflationary impulses can simply be left to run their course without calling for a detailed explanation from the central bank. Shocks of other types that push inflation up or down more permanently need not be countered with sudden, strong reactions.

On the other hand, there are arguments which carry particular weight when credibility for a low-inflation regime is being established. A wide tolerance interval may be taken as an indication that the central bank is less committed to fulfilling its objective. This may result in inflation expectations being pitched above the desired level. When the expectations deviate from the target, the cost of maintaining long-term price stability may be greater in terms of growth and employment.

A high degree of short-run flexibility in monetary policy is generally considered to be an advantage. The central bank does not have to wield its instrumental rate so "strictly". Paradoxically, however, this flexibility may ultimately lead to a higher instrumental rate than otherwise because people base their behaviour on expectations of inflation above the rate at which the central bank is aiming.

Today there are no strong arguments for adjusting the width of the tolerance interval. In recent years it has essentially been transitory effects which have pushed inflation down below the lower limit. The period with a price stability target is still too short to draw any definite conclusions about the target variable's controllability. But it is important to clarify that the tolerance interval represents the range within which the target variable is *normally* expected to fluctuate and that it serves to *indicate* the target variable's controllability. At the same time, one cannot rule out the possibility of inflation moving outside the interval. If it does, it is all the more important that the Riksbank clearly presents its opinion of why this has happened and of how inflation will be brought back to the target.

How should performance be evaluated?

A matter with links to the width of the tolerance interval is the length of the period over which target fulfilment is subsequently assessed. The Riksbank has said earlier that the evaluation should be made in an "annual perspective".[3]

Extending the period over which target fulfilment is assessed is one way of increasing the likelihood that the target will be met. Keeping average inflation close to the price stability target is easier over a period of two years, for example, than it is over one year, mainly because transitory effects are smoothed out. A

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[3]The term "annual perspective" was first discussed at some length in Bäckström (1994).

disadvantage of a longer evaluation period, however, is that it could weaken the role of the inflation target as an anchor for inflation expectations. A longer evaluation horizon accordingly has advantages and drawbacks that are similar to those for a wider tolerance interval.

The conclusion from this is that the inflation target should continue to be evaluated "in an annual perspective". But the implications of this need to be clarified. The evaluation need not be restricted to calendar years. One possibility is to shift the horizon forward so that the evaluation continuously concerns a moving average of the most recent twelve consecutive 12-month change figures, regardless of whether or not they constitute a calendar year.

The inflation reports should be used for a continuous evaluation of monetary policy's implementation. Diagrams will be published to show how closely the target has been met. The earlier development and the degree of target fulfilment will be commented in particular. This should provide a good foundation for the discussion of monetary policy.

Allowance for real economic factors?

That the central bank is enjoined to strive for low inflation does not, of course, mean that this is the sole and ultimate objective of economic policy as a whole. The central bank is assigned this function because low inflation is a means of attaining economic policy's broader and more universal goals.

Monetary policy based on a price stability target is sometimes criticised for not making allowance for real economic variables like growth and employment. It is fundamentally incorrect, however, to say that, when its objective is price stability, monetary policy disregards the real economy. This is because a policy for meeting a price stability target does indirectly allow for growth and resource utilisation in many ways.

A clear example of this is the policy target, 2 per cent, which means that avoiding deflation is no less important than preventing inflation. In that the underlying inflation process is normally governed by resource utilisation, monetary policy then almost automatically tries to prevent resource utilisation from becoming excessively low, just as it aims to avoid so high a level that this threatens to boost inflation. Over time, this normally creates conditions for the economy to expand along its long-term growth trend.

Another consideration with a bearing on the development of resource utilisation and the degree of short-run fluctuations in demand and growth is the length of the target horizon. This forward-looking concept denotes the future period within which monetary policy aims to meet the price stability target.

An excessively short target horizon may mean that adjustments in the instrumental rate have to be large in order to meet the target. With such large adjustments, the fluctuations in real economic activity may be undesirably large and monetary policy may risk being perceived as too erratic. On the other hand, while an excessively long target horizon may confer greater short-run stability in growth and employment, it can allow inflation to fluctuate more. This in turn may weaken confidence in the low-inflation policy, so that over time the instrumental rate is higher than would otherwise have been necessary. While there is no long-term trade-off between inflation on the one hand and growth and employment on the other, a choice clearly exists between the *variability* of inflation and the *variability* of real economic factors.

The very concept of a target horizon implies consideration for real factors like growth and employment. Trying to meet the price stability target at a rather short horizon would call for large interest rate adjustments and abrupt monetary policy realignments. There are several grounds for preferring a longer horizon and adjusting the monetary stance more gradually.[4]

Against this background the Riksbank has opted for a target horizon that is one to two years ahead. Much the same perspective is accordingly used in the analysis of inflation prospects in our inflation reports. A longer target horizon could be warranted in the event of a strong supply shock, for example a sizeable increase in international crude oil prices. A financial disturbance in some part of the world might likewise lead to inflation being temporarily outside the tolerance interval. The Riksbank must then clearly explain why and in what way inflation can be expected to return to the targeted rate. Otherwise there is a risk of inflation expectations rising and the inflation process being affected.

Importance of a transparent Riksbank

A great advantage of a monetary policy regime with an explicit price stability target is that it can be combined with transparency in the Riksbank's actions. It is comparatively clear how the policy functions, which should help the efforts to gain public support for the target. Market agents can obtain a good picture of what is influencing the Riksbank. The price stability target is a means of stabilising expectations about monetary policy reactions. Transparency is therefore important for monetary policy's effectiveness. A lack of transparency and clarity makes it more difficult for inflation expectations to sight the target and this in turn can obstruct the attainment of high, stable growth.

In view of this, in recent years the Riksbank has been working for greater transparency. Some of the work is internal. The better the analytical foundation, the easier it is to formulate, motivate and explain the resultant policy. The Riksbank is therefore investing resources in research and advanced development work. But the Riksbank is also using various external activities to promote insight into and knowledge of the Bank and its policy. Examples of this are the participation in hearings arranged by standing committees of the Riksdag (Sweden's Parliament), the inflation reports, speeches, articles and discussions, and various forms of seminar and expert papers. These efforts have made market agents as well as a broader public more aware of how monetary policy works. It is gratifying that surveys commissioned regularly by the Riksbank show very strong popular support for the price stability target and, indeed, majority support for the direction of monetary policy in general.

The future need of transparency will be even greater on account of the Riksbank's more independent status. Five of the parties in the Riksdag have agreed to give the price stability objective statutory force and strengthen the Riksbank's independence. In the public debate, this increased independence is sometimes confused with "unaccountability". In fact, however, the Riksbank will continue to be

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[4]For a further elaboration of the arguments for a gradual adjustment, see Svensson (1997).

an authority under the Riksdag. But increased independence and a clear delegation to the Riksbank do presuppose insight into and an evaluation of the Bank's activities. The construction of monetary policy must be perceived to be legitimate.

This means that the process towards increased transparency should be carried as far as possible. There is reason, for example, to consider publishing the minutes of the new executive board's meetings, albeit with some lag. A somewhat similar arrangement has already been adopted in the United States and the United Kingdom; so far, at least, it seems to have worked well. It would be up to the Riksdag, as the Riksbank's principal, to decide whether such a procedure should be statutory or left to the new executive board.

Has the target been met?

Another advantage of an explicit price stability target is that the implementation of monetary policy can be evaluated. That should be done, as mentioned, in an "annual perspective". One alternative is to use a moving average of consecutive 12-month change figures for the CPI. This is illustrated in Diagram 1 together with a measure of "underlying inflation" calculated in the same way.

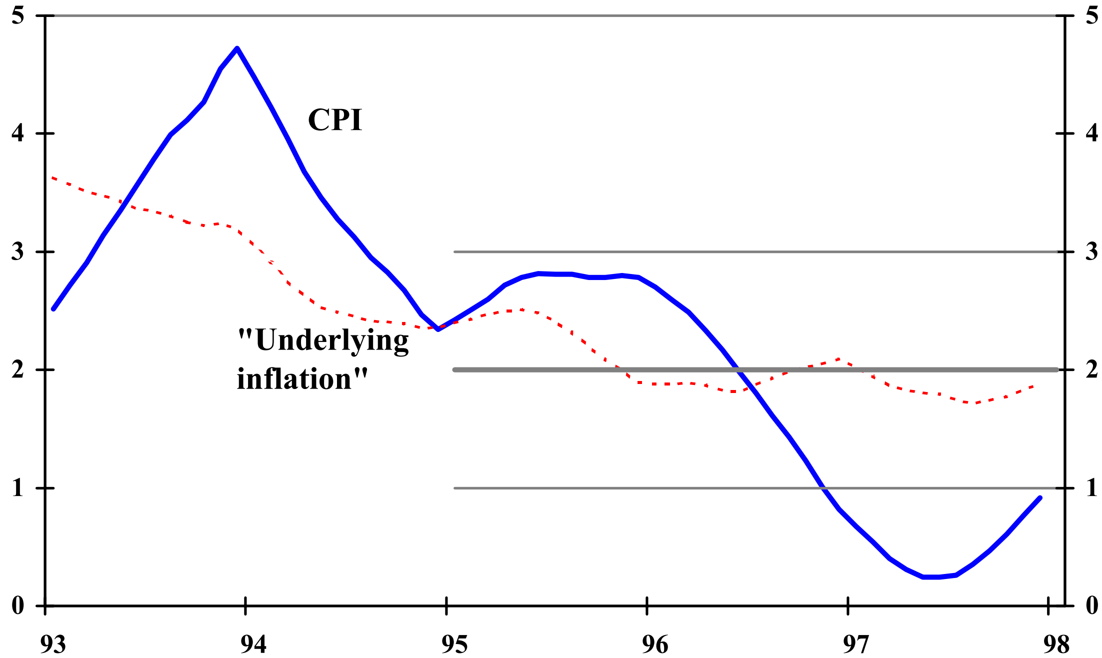
Diagram 1 shows that during 1993 and 1994 underlying inflation fell successively, which was in line with the objective that the Governing Board had set up for those years.

Since 1995, when the target was first formally in force, CPI inflation has averaged 1.5 per cent. The outcome for these three years is accordingly relatively close to the target and well inside the tolerance interval. During 1997, however, the moving average rate of inflation was outside the lower tolerance limit. It can therefore be said that in that year the Riksbank did not meet the price stability target. At the same time it must be acknowledged that the deviation from the target was almost exclusively a consequence of clearly identifiable transitory effects. This is evident from the path of underlying inflation. It is also confirmed by the fact that, as expected, CPI inflation has recently risen fairly rapidly as the transitory effects have begun to drop out of the 12-month change figures. Overall inflation has thus moved closer to the underlying rate.

There has been some discussion about whether or not the Riksbank acts symmetrically. In other words, is under-shooting the target as important to prevent as exceeding it? The answer is definitely "Yes". The Riksbank aims to keep the rate of inflation at 2 per cent, neither more nor less.

In that monetary policy is readily evaluated, in practice the Riksbank could not get away with an asymmetric approach to the price stability target. That would be disclosed in the subsequent evaluation. After only three years with a price stability target it is, of course, too early for a final evaluation of policy. But when allowance is made for transitory effects, the notion that the Riksbank has acted asymmetrically is difficult to support.

Diagram 1. Actual and underlying inflation 1993–97 in an "annual perspective"
Moving average of consecutive 12-month change figures, per cent



Sources: Statistics Sweden and the Riksbank.

Note. Underlying inflation is represented here by one of the indicators (UNDINH, i.e. underlying domestic inflation) used by the Riksbank; it shows the CPI excluding changes in indirect taxes and subsidies, house mortgage interest costs and prices of goods and services that are mainly imported. Its inclusion in the present context does not signify that it is particularly significant or the best approximation of underlying inflation in every case; it serves instead as a measure that also excludes import prices, the reason being that the exchange rate fluctuations mainly reflected sharp swings in the degree of confidence in the consolidation of government finances. A drawback with this indicator is that more long-term structural effects that stem from foreign trade are disregarded.

The picture of 1996 and 1997 shows that CPI inflation may sometimes diverge from the target and even move outside the tolerance interval. It is then important that the Riksbank explains what has happened. In such a situation we must make it credible that inflation will gradually return to 2 per cent. If the divergence has been caused by transitory effects, the Riksbank should demonstrate this. As I mentioned earlier, this should normally not alter the conduct of monetary policy provided inflation expectations have not been affected. But if the deviation from the target—and the tolerance interval—has been occasioned by more permanent effects, then the instrumental rate should be deployed to pilot inflation back to the target rate in the time frame within which monetary policy operates.

Recent years' monetary policy in perspective

In the five years since the price stability objective was first announced, the primary task for monetary policy has been to establish the credibility of the price stability target and the new regime. The degree of credibility in this respect is a function of public confidence that the rate of inflation will be permanently in the vicinity of the target.

A lack of credibility has various effects. *For one thing*, the monetary stance has to be more restrictive than would otherwise be necessary, and resource utilisation accordingly lower, in order to counter inflationary impulses occasioned by the high inflation expectations.[5] *For another*, insufficient credibility restricts the scope for stabilising real factors such as production. Attempts to this end may be perceived as a lower central-bank commitment to the price stability objective in the medium and longer term. This in turn can impair credibility still more, push bond rates up, have a negative effect on wage negotiations, etc. If the central bank still persists in disregarding the problem of credibility and implements an expansionary monetary policy, so that the inflation target is exceeded, curbing inflation expectations will prove even more difficult in the future.

Considering the real economic costs that a lack of credibility entails, it is essential that inflation expectations are brought into line with the price stability target as quickly as possible.

Actual inflation and inflation expectations among employee organisations in recent years are presented in Diagram 2. In 1995 these organisations envisaged that in the coming five years the annual rate of inflation would be up to almost 4 per cent. Expectations among other groups showed a similar picture. Since then, inflation expectations have gradually fallen into line with the targeted rate and credibility has accordingly grown. While the exact level of inflation expectations cannot, of course, be derived from survey data, there are plenty of other indications that it was high initially and then moved gradually towards the target. Two of them are bond rates and implied forward interest rates relative to other countries. The higher outcome of the 1995 wage negotiations and the somewhat lower outcome to date in the current round is another, and so on.

The policy aim of successively strengthening the credibility of the new regime has been essential during the past years. Besides being a matter for monetary policy, this has self-evidently been a concern for economic policy in general. The confidence in the work of consolidating government finances has had a decisive impact on the conditions for monetary policy in different phases. The five-party agreement on the future status of the Riksbank has also been of importance.

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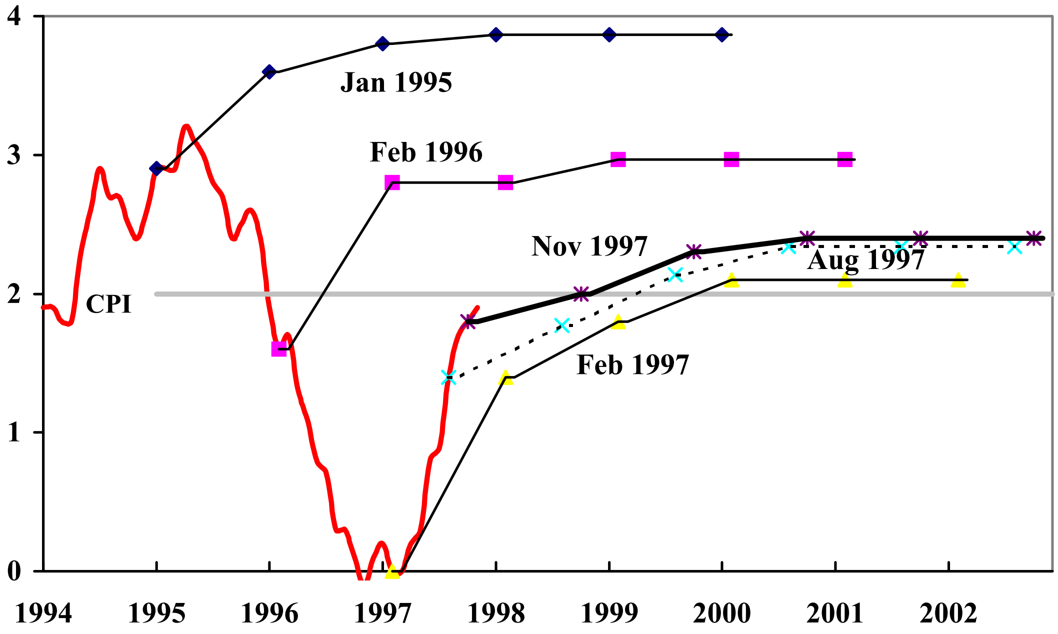
[5]This is easily shown in terms of the familiar augmented Phillips curve. With a zero output gap, this model states that inflation is constant and equal to its expected rate. In other words, if the expected rate of inflation is 2 per cent, in this situation actual inflation will also be 2 per cent. If, instead, expected inflation is 4 per cent, output has to be below its potential level in order to achieve an actual inflation rate around 2 per cent.

Diagram 2. Inflation and employee organisations' inflation expectations



Sources: Statistics Sweden, Prospera Research and the Riksbank.

The initial lack of credibility in this period made a tight monetary policy necessary. Moderate demand growth was needed to prevent resource utilisation from rising sharply, in which case the inflation expectations round 4 per cent might have led to the price stability target being exceeded. That would probably have prolonged the period of insufficient credibility, with negative consequences for interest rates and long-term growth.

Summary

To sum up, it seems to me that to date the regime with a price stability objective and a flexible exchange rate has worked well. Neither is there any cause at present to reformulate the target in any respect.

During 1993 and 1994 the underlying rate of inflation fell, which accorded with the objective set up by the Governing Board. In the period during which the target has formally been in force, annual CPI inflation has averaged 1.5 per cent. This outcome is relatively close to the targeted rate and well inside the tolerance interval. During 1997 in particular, however, inflation did move outside the lower tolerance limit. It can accordingly be said that during this period the Riksbank did not meet the target. But it must also be acknowledged that the divergence came almost exclusively from clearly identifiable transitory effects.

During the five years since the price stability objective was adopted, the primary task for monetary policy has been to establish the target's credibility. To do this, monetary policy has to be tighter than would otherwise be necessary in order to meet the target. Under such circumstances, moreover, the scope for stabilising the real economy is limited. Credibility has been strengthened in recent years and inflation expectations in general have converged on the target.

The first stage of achieving price stability has been completed. It is now a matter of maintaining this stability. With better conditions in the form of enhanced credibility, broader public support and the five-party agreement's clear delegation of monetary policy accountability, the Riksbank is well equipped to tackle this task. Having said this, it must be added that the road ahead is not devoid of challenges. The establishment of the monetary union, which Sweden has chosen not to join for the time being, is in full swing in Europe. This will not diminish the demands on Swedish economic policy in general and monetary policy in particular. The Riksbank will therefore have to persist in its efforts for price stability. That will lay a good foundation for growth and employment. Domestic stability is also a basis for external stability. With inflation in line with the target in Sweden, there are good reasons for expecting that in time the Swedish krona will become a stable currency in an international perspective.

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