



# SPEECH

DATE 30 June 2004  
SPEAKER: First Deputy Governor Eva Srejber  
LOCATION: The Adam Smith Seminars – Thun, Switzerland

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## ■ What role do asset prices and credit play in monetary policy

I would like to begin by thanking you for inviting me for the third consecutive year to speak at the Adam Smith Seminars. Today I shall discuss the significance of asset prices and credit for economic stability. For several years now there has been a dramatic rise in many countries in the prices of owner-occupied housing as well as in household debt. In Australia, Spain and England, house prices have more than doubled since 1997. In Sweden, house prices have risen more than 70 per cent over the same period. Before the turn of the millennium it was mainly the sharply rising equity prices and highly indebted firms that were in focus. What has been driving these developments, what role has been played by monetary policy, and what are the possible future effects on the economy? These are questions I shall be discussing today.

A strong expansion in credit and increasing asset prices have preceded almost all banking crises and the majority of deep recessions in countries around the world over the past one hundred years or so. In many cases inflation has at the same time been low and stable before the crisis. This is why the developments we are seeing today are receiving so much attention.

Many of these issues were discussed before and after the crisis in the 1930s. Then, as now, emphasis was put on the importance of price stability, and monetary policy had therefore a prominent role in economic policy. For this reason, it can be interesting to look back at how economists in those days viewed the role of monetary policy.

However, due to the mass unemployment that resulted from the depression in countries such as the United States at the beginning of the 1930s, the theory published in 1936 by Keynes in his work "The General Theory of Employment, Interest and Money" came to dominate thinking in the area right up to the 1980s. The crisis had been preceded by steep rises in asset prices and a sharp expansion in credit, but without any increase in inflation. Those economists that had advocated a long-term focus on price stability and had a clearly non-activist

■ view of the ability of policy to reduce fluctuations in the economy were considered by many to share the blame for the fact that the depression in the United States was so severe and protracted.

In simplified terms, we can say that the dominant view among economists in the Western world at the beginning of the 1900s was that economic policy should be aimed fully at holding prices stable in the long term. Economists from the so-called Austrian School maintained that if the central bank attempted to stimulate the economy with an interest rate that was below a long-term equilibrium level, it would in itself give rise to sharp fluctuations in the real economy. They also claimed that periods of overinvestment, strong credit expansion and rising asset prices could not be avoided in a world characterised by major technological advances. Rather, it was a precondition for the dynamics that spurred growth. Should expectations of future profits prove to have been overly optimistic, the imbalances in the shape of high debt and unprofitable investment should be allowed to quickly unwind without any attempt through economic policy to soften the resultant fall in output.

#### **Discretionary stabilisation policy discredited**

After the Second World War, the dominant view instead was that *economic policy* should play an *active part to stabilise the economy*. Fiscal policy was therefore given a more prominent role, while monetary policy and the long-term aim of price stability were pushed into the background. During the first two decades stabilisation policy worked well in many countries. Unemployment fell, growth was robust and inflation was low. The US currency, which in turn was pegged to gold, served during the period as an anchor for inflation and exchange rates in mainly western Europe, where the majority of countries had joined the Bretton Woods system. However, at the beginning of the 1970s, the exchange rate cooperation collapsed because of the tensions that had built up due to high, variable inflation in and between the participant countries and that had largely originated from the growing US budget deficit. Efforts at the time to establish a new credible anchor for inflation failed. The following two decades were marked instead by high inflation and low growth in many economies.

From the end of the 1970s *the pendulum started to swing back slowly*, and an increasing number of economists again highlighted the importance of price stability for economic stability and long-term growth. Attempts to fine-tune the economy via economic policy to stabilise growth had resulted in burgeoning central government debt in many countries, partly because of the inability of politicians to tighten policy sufficiently during booms. The economic debate at the beginning of the 1980s centred therefore on the need for regulations and fixed limits to avoid this.

In Sweden, a last big devaluation in 1982 would first enhance the competitiveness that had been eroded for many years as a result of high inflation. However, it was intended that once the devaluation had got the competitive sector on its feet, the fixed exchange rate would thereafter serve as an anchor for an inflation

rate in line with other countries. The demands that this imposed on fiscal policy proved politically impossible to live up to, however. As a result, at the beginning of the 1990s Sweden and other Scandinavian countries were hit by both a banking and currency crisis. As before the depression in 1930, the crises were preceded by steep rises in asset prices and a very sharp expansion in credit. Reform of a tax system that had fuelled debt and that was changed in such a way that caused a rise in post-tax interest costs, contributed to deepening the crisis. The lack of experience at banks and supervisory authorities of acting in a deregulated environment, in combination with excessively expansionary fiscal policy, were other significant causes of the negative developments.

But large financial imbalances had already accumulated before the crisis was triggered. This occurred without the anchor for inflation, that is the nominal exchange rate, giving sufficient indications in time. In spite of the fact that the overheating resulted in a real appreciation of the krona against other currencies due to inflation, confidence in the fixed exchange rate regime appeared to be fairly stable for a long period. This led to substantial, partly short-term, capital inflows increasing demand for the krona at the same time as a growing current account deficit reduced krona demand. The demand for the krona was partly due to Swedish firms demanding loans in foreign currency. Consequently, monetary policy, which targeted the exchange rate, was not tight enough to prevent the build-up of the imbalances.

History has shown that *inflation measured in terms of consumer prices has not always signalled when imbalances in the economy have been building up*. Many of the countries that were hit by depression and banking crises during the 1930s had beforehand witnessed steep rises in asset prices and a sharp credit expansion without any increase in inflation. In Japan, the recession that followed in the wake of a strong credit expansion and rising asset prices during the second half of the 1980s proved, as we know, very severe and protracted. Neither in Japan had inflation provided signals in time that large imbalances were building up. Also during the latter part of the 1990s we have seen examples of crises with a similar course of events, for example in Thailand and other parts of Asia. Banking crises are not a necessary condition for countries to be hit hard after such a development. This is shown by what happened in the United States and England at the beginning of the 1990s.

### **Focus on price stability and financial stability**

During the 1990s, confidence in an economic policy aimed at achieving price stability seems to have strengthened in earnest in large parts of the world. World inflation is now back to the levels reached before the 1970s, and monetary policy is again playing the leading role in stabilisation policy.

Modern neo-Keynesian<sup>1</sup> research based on theories of nominal rigidities has shown that not only real shocks but also monetary shocks can temporarily affect

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<sup>1</sup> E.g. Woodford, Claridas

■ the real economy. According to these theories there is some scope for monetary policy to take account of the output gap without necessarily threatening price stability in the slightly longer term. An important condition for this, however, is that there is considerable confidence in the central bank's aim to focus on long-term price stability. In the long run, monetary policy cannot determine the real interest rate but in the short term the real interest rate can be influenced and deviate from its long-term equilibrium position.

An increasing number of central banks have adopted inflation targets during the 1990s. The introduction of statutory price-stability objectives, independent central banks, transparency and - not least - regulations that give long-term sustainability in the public finances have also been important means for increasing credibility for the ability of economic policy to maintain price stability.

In Sweden, the Riksbank adopted an inflation target as early as 1993. According to this target, inflation measured in terms of the change in consumer prices should be 2 per cent per year, with a tolerance for deviations of +/- 1 percentage point. As monetary policy does not have an immediate impact, interest rate decisions are normally governed by forecasts of inflation one to two years ahead. To avoid the economic costs of excessively sharp fluctuations in economic activity, the Riksbank many decide not to take account of price effects that are judged to be temporary. So, it could be said that the Riksbank conducts a flexible policy of inflation targeting<sup>2</sup>. In addition, the Riksbank's remit includes promoting financial stability.

### **Low inflation but sharp fluctuations in asset prices and credit**

At the same time as inflation in the world economy has now stabilised at low levels, fluctuations in asset prices have increased. Furthermore, debt levels among households and firms have continued to display large cyclical variations. Rising asset prices and the increase in debt that occurred in many countries at the end of the 1990s, and which has continued as regards house prices and households, has given rise to concerns in many countries over the stability of the economy and inflation in the slightly longer term.

That asset prices and debt levels appear to vary more now than ten or fifteen years ago should, at least in part, be due to the deregulation and evolution of the financial markets. Here, credit and liquid secondary markets can quickly create money that can be transferred around the world to investments with the highest expected return. However, so far the low-inflation economy appears to have lessened cyclical fluctuations and changed the cycles' shape. It seems as though the cycles have been longer and flatter than before, particularly during expansionary phases.

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<sup>2</sup> Heikensten, L. & Vredin, A. (2002), "The art of targeting inflation", *Sveriges Riksbank Economic Review*

## Can a build-up of imbalances be prevented through a different monetary policy?

The focus on price stability, as well as considerable efforts to develop norms and regulations within the field of supervision have undoubtedly reduced the risk of imbalances being able to accumulate over a long period. The question, however, is whether a monetary policy that is normally governed by forecasts of inflation in the short or medium term will be able to prevent the kind of imbalances that I have discussed from building up? If not – is there then any other way to improve the operationalisation of the target for a monetary policy aimed at achieving price stability without abandoning the goal that the decisions be rule-based and transparent? In countries that have experienced long periods of high, fluctuating inflation, discretionary stabilisation policy has been greatly discredited.

First, we must point out that even if it is possible with hindsight to say that equity prices, debt levels and investment have been fuelled by over-optimistic expectations of future growth, the central bank cannot possess perfect knowledge of the future. Rising asset prices and a sharp expansion in private credit could be a sign of increased confidence in the economic policy aim of achieving price stability, as well as of reduced risks in the future. Lower public debt, which has been part of this policy, could in that case be reflected in higher private debt and in rising asset prices. Technological advances can also contribute to increasing expectations of future profits and income, and is mirrored in rising asset prices and high debt levels. Were central banks via tighter monetary policy to attempt to stop such a fundamentally motivated development, it could instead prove costly to the economy.

## Do asset prices and credit play an independent role for the real economy?

Having said this, we must ask ourselves the following questions:

- (1) Is there reason via monetary policy to reduce disturbances that can be expected to have a substantial impact on the macroeconomy if this did not affect the forecasts of inflation in the medium term?
- (2) Is there any information in asset prices and debt levels that is systematically not taken account of when forecasting inflation?

Allow me to begin with the *first question*. Besides the task of maintaining price stability, most central banks also have a role as regards financial stability. If systemically important banks are hit by a crisis or by losses large enough to cause a sharp decrease in the credit supply or a disturbance in the payment system, this results in considerable macroeconomic disturbances. If financial stability is threatened by a credit expansion in such a way that systemically important banks have not heeded a macroeconomic risk that has been identified by the central bank, this could therefore need to be taken into account when taking interest rate decisions. Other measures such as so-called moral suasion, whereby the problems are pointed out to the banks and the financial sector, could then also come into question.

■ It is also reasonable for central banks to take some responsibility for real economic developments in addition to those that are judged to affect inflation in the medium term, even if financial stability is not under immediate threat. As I mentioned, the Riksbank has decided to take account of this by disregarding temporary effects on inflation. We also discuss developments beyond the target horizon that normally governs monetary policy. A successful, flexible policy of inflation targeting leads to lower fluctuations in output without giving rise for that reason to higher average inflation. And that is the essential aim of the price stability target.

The *second* question, however, is considerably more difficult to answer. Forecasts of resource utilisation and inflation can be systematically inaccurate because the models and assessments used do not take account of the independent role that asset prices and debt can play. Also, as a result of structural changes, historical relationships may have changed, thus causing the central bank, for example, to come to incorrect conclusions about the output gap and potential growth. This could, for instance, result in a monetary policy that pushes up asset prices and debt too high.

For example, the traditional models, which are grounded in an analysis of the real economy, are based on assumptions of rationally behaving households and firms, efficient capital markets and linear relationships. That households and firms are rational means that there are no systematic errors in their expectations. If these assumptions are a reasonable description of how the economy functions, there is likely to be less reason for the central bank to attach any great importance to debt levels and asset prices in terms of economic stability. In that case, debt levels and asset prices mirror the same behaviours that are described in theories and models based on the real economy and do not therefore contain any new information.

But there are many studies of, and observations from, the financial markets that could suggest that the forecasts do not capture the behaviours that can lead to a build-up of the kind of imbalances that I have discussed. Here, I shall confine myself to a few examples.

Studies have shown that asset prices and credit expansion give rise to each other and therefore play an independent role for the course of events in the cycles. Bernanke, Gertler & Gilchrist, for example, have shown with their financial accelerator theory that rising asset prices make it cheaper to borrow and at the same time increase the supply of credit. Lower financing costs boost investment and equity prices, which reduce the financing cost, and so on. They show also that the effect of the financial accelerator is asymmetric, having greater significance during an economic decline than during an upswing.

It affects those credit cycles that are usually described by roughly the following course of events. During an economic boom, rising asset prices facilitate increased borrowing through the higher value of collateral in the form of financial assets, houses and apartments. When the situation then turns, most likely associated with a tightening of monetary policy, the value of these assets falls and households' financial situation

deteriorates. If, in addition, the valuations have been over-optimistic, the price falls can be dramatic. The banks will in any case respond to the deterioration of both their own balance sheet and that of their borrowers by contracting their lending. During the following period of consolidation, inflation and economic activity will decrease. In a worst case scenario the banks' loan losses will be large enough to threaten financial stability. Apart from the risk that expectations have been irrational, however, this kind of credit cycle is considered to be part of a normal adjustment process, which should be a component of forecasters' informal and formal models. However, as the theory of credit cycles is not especially well-developed in the standard models that are taught in the field of economics, there is reason to suspect that the relationships are underestimated by forecasters.

Other economists have pointed out that rises in asset prices that initially are justified by fundamentals, also attract short-term investors who contribute to pushing up prices. The longer the price rises continue, the greater the significance the speculators will have for price developments since investors with a longer investment horizon will no longer buy the assets. Finally, it is only the speculators that are fuelling the rise in prices. While they know that the price increases are exaggerated, they do not know when the situation will turn. The slightest signs of an imminent change lead to large-scale sell-offs, and prices plunge. In well-developed markets, participants that judge the price increases to be excessive always have the possibility to make a profit by taking offsetting positions. Uncertainty over when the situation will turn, coupled with reward systems that encourage short-term gains, are likely to result in an insufficient number of investors taking offsetting positions. Financial accelerator effects most likely lead to a situation where rising asset prices, regardless of whether they are being driven by short-term investors, also affect the real economy and thus can contribute to overinvestment. As regards house prices, the risk of a purely speculatively driven rise ought to be lower. This is true especially of economies such as the Swedish one, where regulations make it very difficult to own and let houses and apartments for speculative purposes.

Empirical studies also indicate that the risk propensity of investors and lenders appears to increase according as economic activity strengthens, while it decreases markedly during economic declines. So, when economic activity has been improving over a long period, investors appear to interpret this as meaning that growth will continue to rise at the same high rate, without taking account of the risk of a slowdown. Low risk premiums, possibly based on irrational expectations of future profits, can contribute to overinvestment.

In a recent study<sup>3</sup> Carsten Detken and Frank Smets show that those financial cycles that have preceded periods with large falls in output, unlike the other financial cycles, have been characterised by rapid growth in the real stocks of money and credit at an early stage of the cycle, as well as by a sharp rise in property prices. They also find that monetary policy has been relatively looser at an earlier stage during the expan-

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<sup>3</sup> Detken C and F Smets: Asset price booms and monetary policy. Paper presented on 11 December 2003 at the Workshop on "Asset prices and monetary policy", European Central Bank.

■ sionary phase of such “high-cost cycles”, compared with other cycles. So, it seems as if the central bank at an early stage of the cycle is sometimes led to conduct an overly loose policy and in that way contributes to supporting unsustainable developments in the prices of financial assets and property.

*Structural changes* can, as I mentioned, also result in the forecasts of inflation not showing that imbalances are accumulating. Forecast models, formal and informal, are based on experiences obtained from data covering a long period of time. This is generally an advantage, but during periods of large structural change there is a risk that formal models will be inaccurate as regards extrapolating short-term tendencies.

For example, there are many factors that can result in actual inflation not behaving as assumed in the formal forecasting methods. Some can be attributed to the shift to a low-inflation regime. Increased credibility for an inflation target can lead to inflation not being as sensitive to variations in resource utilisation as before. Low inflation in itself is considered to make it less appealing to raise prices often due to the costs that are associated with such rises. The inflation rate becomes more persistent, which means that it doesn't react as strongly to variations in resource utilisation as when inflation was higher. Low inflation can, for example, result in misjudgements of the output gap as well as in overly accommodative monetary policy.

Other factors that can contribute to restraining inflation are more a result of “bubble phenomena”. Rising asset prices can increase corporate profits and thereby also companies' ability to narrow their profit margins so as to cope with stiffer competition. Another factor that can temporarily dampen inflation when asset prices rise is the currency appreciation that can occur when foreign investors invest their money in the country's equity market in the hope of continued price rises.

### **How should monetary policy react?**

To sum up, I have pointed to studies and empirical observations that could lead to a situation where central banks with a monetary policy that is mainly governed by medium-term inflation forecasts do not observe in time when asset prices and credit developments are indicating that large macroeconomic disturbances could be triggered later on.

But even though we don't have sufficient knowledge to be able to identify a development that may result in future macroeconomic disturbances, we have to make monetary policy decisions. If, without being certain, we judge that developments might lead to substantial disturbances, the choice lies between attempting in time to avoid the accumulation of large imbalances and waiting until the situation turns.

Many within the central bank world believe that interest rate policy should not react to asset prices and credit expansion over and above their estimated implica-



tions for inflation and real and financial stability.<sup>4</sup> The reasons are that it is difficult to evaluate correctly the price of an asset and that it is uncertain what level of interest rates would be necessary in a given situation to correct asset prices. Those that advocate a more preventive strategy meet this criticism by arguing that, firstly, models for asset prices exist and that it should not be more difficult to use these than to estimate the output gap, for example, which the majority of central banks make use of today. Secondly, by raising interest rates at an early stage when asset prices are starting to accelerate and before the expansion in credit has become too sharp, the central bank can indeed achieve somewhat lower inflation than is desirable in the short term. But one avoids a subsequent collapse in asset prices that could lead to considerably lower output and inflation in the longer term. Thirdly, somewhat tighter monetary policy than otherwise would be able to counter an over-optimistic pricing of financial assets and properties. The second argument is therefore based on the idea that the central banks' normal forecast horizon of two years is too short, while the third argument is based on the assumption of irrational expectations. Lengthening the forecast horizon is relatively simple in principle, but in practice it is more difficult of course. Especially if the models used have some of the shortcomings I mentioned earlier. The third argument regarding irrational expectations is more difficult to adopt a position on. If we seriously believe that it is relevant, a large part of the foundation for the analysis and recommendations on which central banks today base their policy collapses at the same time.

However, "Irrational expectations" could be a result of insufficient availability of information. Therefore, it cannot be ruled out that central banks, by pointing out potential problems associated with high debt levels, can contribute to reflection among those agents that otherwise would undertake commitments that they would not be able to meet when conditions change or in banks that otherwise would take on excessive credit risks. Influencing behaviour in this way by spreading information is an important idea behind the Riksbank's Financial Stability Reports.

Those that maintain that there is too much uncertainty to dampen a price rise via interest rate adjustments are thus of the opinion that it is better to wait until asset prices start to decline. Many believe that it is important in such a case to act forcefully so as to prevent a deep recession. However, the risk of such an approach is in overdoing it and thereby delaying a necessary adjustment of balance sheets and debt levels. New imbalances in other markets could then arise and the process begin again. When the situation turns next time, there is a greater risk of quickly reaching the zero-interest rate level.

## Conclusion

In my opinion, the economic costs in the shape of sharp fluctuations in demand are likely on average to be higher if the central bank does not take account of

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<sup>4</sup> For references to the literature, see Dillén, H. and Sellin, P. "Financial bubbles and monetary policy", *Sveriges Riksbank Economic Review* 2003:3.

■ asset prices and credit expansion in its decisions. One reason for this is the costs associated with reaching zero interest rates. However, the decisions must be based on an analysis that takes advantage of the knowledge that we nevertheless possess about the importance of asset prices and debt in the transmission mechanism. More in-depth knowledge of this area is necessary, however. Research must be intensified regarding credit cycles, risk behaviour and method development for identifying when rises in asset prices and credit expansion can be judged to increase the risk of a sharp fall in output. There may also be reason, based on the insights and techniques that we have today, to evaluate and develop the theories expounded by the monetary economists from the Austrian School, for example.

To conclude, I would like once again to point to the need to increase our knowledge of how money, credit and asset prices interact with the real economy. We have said that stable inflation does not always lead automatically to stable asset prices and stable credit expansion.

The regulations that have been created in the past ten years are in many ways more robust than before. Their aim has been to reduce costly fluctuations in the economy. A focus on price stability and fixed rules for economic policy enables decisions to be evaluated and lowers the risk of arbitrary decisions. But this must not prevent a discussion of alternative ways to formulate decision-making rules that, without damaging the confidence in the aim of price stability, also take account of the risks associated with excessive credit expansion and elevated asset prices.

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