Eva Srejber: Should monetary policy subdue inflated high debts and asset prices in an inflation-targeting regime?

Speech by Ms Eva Srejber, First Deputy Governor of the Sveriges Riksbank, at the Adam Smith Seminar, Thun, Switzerland, 28 June 2006.

References for the speech can be found on the Sveriges Riksbank's website.

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Introduction

Today I intend to discuss how central banks should react to debts and asset prices that increase at a rate which is not sustainable in the long term. When the Riksbank decided at the beginning of the year to raise its policy rate, saying that one of the reasons was the rapid rate of increase in household borrowing and house prices, this was perceived by some people as meaning that we had introduced a new objective for monetary policy. However, this is not the case. Our focus then – as on other occasions – was on inflation developments. Another factor was that we also wanted to avoid further pressure on the rate of increase in house prices and debts and thereby reduce the risk of a large fall in demand and a low inflation rate in the future.

How should central banks behave in a situation like this, when models and forecasts indicate an inflation rate that is on target, while there is some risk that sharply rising house prices and debts will jeopardise the target later on? There is no common view on this issue among either central banks or academics. Today I intend to give my views on these issues. I shall concentrate on the role played by elevated asset prices and indebtedness with regard to developments in demand and thereby price stability.

Let me begin with a brief summary of my speech:

- Many central banks are worried by rapidly growing house prices and lending over long periods of time. The historically very low interest rate levels could create unrealistically low expectations of interest rates in the future. However, it is difficult to determine whether this development actually increases the risks to demand and inflation and whether – and how – monetary policy can in this case take these factors into account.
- These risks cannot be captured by the traditional models and forecasting methods normally used by central banks, which means that opinions differ as to how the central banks should act. Should we react in advance to subdue possible negative effects, or should we wait until a possible correction takes place?
- My opinion is that we must make the best possible assessments and act in advance to try to prevent the risk of large corrections leading to significant falls in demand and to lower inflation further ahead.
- There are both cyclical and structural factors which could motivate high growth figures for loans and house prices in Sweden over a period of time. However, when the rate of increase remains at a high level, my concern increases that imbalances are being built up, which may later on check demand and inflation. This risk has been taken into account in the monetary policy decisions in recent years. The costs of increasing interest rates at a slightly faster rate than is motivated by the inflation forecasts made by traditional means must also be considered. My opinion is that when GDP growth has been strong, the risks in the housing and credit markets have carried greater weight in the decisions, and vice versa when the economy has been weaker.

Inflation is low and stable…

Let me begin by reminding you of why we have our current framework. The attempts during the 1970s and 1980s to keep employment up by means of a very active stabilisation policy led to sharply rising central government debts and high inflation. This laid the foundation for the current broad agreement that economic policy should not attempt to fine tune demand in the economy and that price stability should be the long-term objective of monetary policy. Price stability creates favourable conditions for

households' and companies' decisions. It contributes to channelling savings to economically profitable investments, which benefits growth in the long term.

In Sweden, as in the rest of the world, the rate of increase in consumer prices has been low for the past ten years, and inflation expectations have stabilised around 2 per cent in many countries. Thus, the price stability policy has in general been successful. In many countries this is due not only to monetary policy, but also to fiscal policy. A common fiscal framework within the EU, and in Sweden's case supplemented by a clearer national fiscal framework, have contributed to more orderly public finances. In Sweden this has led to a gradual decline in the central government debt as a percentage of GDP. We can look back on a decade of GDP growth where the annual average has been a half a percentage point higher than during the 1970s and 1980s. Inflation has been close to target, which can be compared with an average annual inflation rate of around 8 per cent during the two decades 1975-1995.

…but asset prices are fluctuating considerably

However, at the same time as inflation has been low and stable around the world since the mid-1990s, there have been substantial fluctuations in asset prices. The fact that debts and asset prices appear to vary more now than they did 10-15 years ago should, at least in part, be due to the deregulation and evolution of the financial markets. In efficient markets, it is the price system that provides guidance to ensure that resources are steered to where they will provide the greatest benefit. For instance, equity prices in industries with considerable growth potential should rise as a result of profits being expected to increase there. Savings capital is attracted to this and these industries can thereby grow and provide jobs to replace those lost in industries that are declining. This means that equity prices on average and across a business cycle should increase at the same rate as potential GDP-growth plus the risk premium required by investors.

However, we know from experience that periods when households and companies have increased their borrowing at a rapid rate and asset prices have risen substantially have often preceded large falls in growth and capacity utilisation in the economy and even led to financial crises. It is only with hindsight that we have been able to note that imbalances had built up. Regulation, fixed exchange rate policy, insufficient supervision and deficiencies in accounting systems have often contributed substantially to imbalances being able to accumulate over a long period of time. However, asset price and credit cycles also appear in many cases to have been exacerbated by exaggerated optimism and speculation, what is known as bubbles. This over-optimism often begins because equity prices in a sector, perhaps as a result of a technological advantage, have risen over a period of time and the optimism then spreads.

The problem for those of us responsible for monetary policy is that inflation – measured as consumer prices – has often remained relatively unaffected during these periods. It is difficult to distinguish bubbles from economically-motivated fluctuations in advance, which partly is because we have insufficient experience of credit and asset price cycles in deregulated financial markets. 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 appreciable increase in inflation. We have seen a similar development in Japan in the late 1980's. 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.

Countries can suffer considerably from adjustments made in asset prices and debts - even if they do not suffer a crisis in the entire banking system. This is shown by what happened in the United States, Spain and England at the beginning of the 1990s. Corrections after long periods of credit booms and increases in asset prices there led to private savings rising substantially, investment declining and it took a long time for demand to recover. A tighter monetary policy than was motivated by the inflation rate or by the exchange rate when this was the guiding factor could perhaps have reduced the fluctuations in the real economy.

Structural reforms reduce the risks but provide no guarantee against financial imbalances.

Several of the measures taken in recent decades have probably reduced the risks of seeing a similar development recur:

- The aim of the policy towards price stability, stable public finances and deregulated markets

- Extensive international efforts to develop standards and regulations regarding supervision, accounting and auditing.

So far, so good. However, at the same time, transition countries and previously strictly-regulated countries inspired by planned economies such as China and India are playing an increasingly important role in the world economy. While the adjustment towards market conforming economies is moving at a rapid pace, there is still a long way to go until conditions in the domestic markets are the same as those in the old industrial nations. Fixed exchange rates, undeveloped credit markets and a high level of domestic saving in emerging economies can, for instance, delay price adjustments and thereby push down both short-term and long-term interest rates in the international capital markets. Increased competition from low-price imports coupled with low import prices for clothes, for instance, have already kept inflation down for several years in many parts of the world and contributed to the interest rates determined by monetary policy being very low. There is thus some risk that demand for credit and asset prices in many countries have been pushed up by expectations of lower interest rates in the future than is sustainable in the long term.

We thus find ourselves in a situation where the inflation rate has been pushed down by increased competition from low-inflation economies at the same time as asset prices and indebtedness have increased rapidly. A dilemma ensues here. Is it worth accepting slightly weaker demand and thereby inflation over the coming years if the economy develops as we have assumed in our forecasts in order to perhaps reduce the effects of possible corrections following inflated asset prices and loan stocks? Before I get into a discussion of this dilemma, I would like to give a brief reminder of how central banks with price stability as their objective take into account developments in the real economy.

Flexible inflation-targeting policy requires openness and clarity

In the short term, monetary policy can affect demand in the economy. Most countries with an inflation-targeting policy use this possibility and conduct what is known as flexible inflation-targeting policy, which means that some consideration is given to short-term fluctuations in the real economy. However, in the long term growth is essentially determined by factors outside of the control of monetary policy, such as technology and population growth. As I mentioned earlier, monetary policy's best contribution is to ensure that inflation is low and stable, which requires confidence in the target. This sets limits as to how much consideration can be given to short-term fluctuations in the real economy, but also limits the uncertain negative effects on inflation and the real economy that in some cases risk arising from a strong growth in asset prices and loans.

To be able to maintain confidence, it is necessary that the inflation target has strong support from the general public, the politicians and the financial markets. This requires that the central bank is independent and has clarity and openness with regard to the conditions on which interest rate decisions are based.

Can we judge when asset prices and debts are exaggerated?

In order to be clear and open, it is important that there is an overall framework for how monetary policy shall be conducted, based on accepted economic theories. Central banks have long used models based on empirical estimates to make forecasts of economic development. More powerful computers and more developed econometric methods have made it easier to use models in the regular work. In general, the use of models contributes to consistency in the assessments over time. This should create good conditions for clarity in communication with financial agents and the general public. Forecasts and simulations based on models also provide a common point of departure for discussions between central banks and academics and make it easier for us to benefit from previous experiences.

Many central banks, including the Riksbank, are now developing dynamic, stochastic, general equilibrium models, DSGEs, as an aid for monetary policy. The Riksbank normally aims to attain the inflation target within two years, as monetary policy's impact has a time lag. The two-year time horizon provides some scope for taking fluctuations in the real economy into consideration. However, under certain circumstances, deviations from the inflation target can be so large that it is reasonable to allow inflation to return to target beyond the normal two-year horizon. The Riksbank makes forecasts of GDP and inflation three years ahead. For some time now, the forecasts have been based on the assumption that the repo rate will develop according to market expectations as expressed in implied forward rates. The forecast results from the DSGE model comprise a central element, but are modified

by assessments from sector experts, who in turn make use of partial models and various types of economic indicators.

It is important to base forecasts on theories from modern economics with regard to how companies' and households' behaviour creates equilibrium in different markets. The DSGE models used are based on utility- and profit maximising households and companies basing forward looking decisions on rational expectations. This means that the model assumes that the economy is always at/or approaching equilibrium. Nominal rigidities mean that monetary policy has an effect on the real economy during a particular time. One important implication of the assumptions made is that financial imbalances caused by households or companies making decisions based on non-rational expectations which must sooner or later be corrected are not built up in the model. Examples of irrationality are if households believe that interest rates will remain at the low level they have held in recent years and if they then borrow more money than they would have otherwise done if they had more realistic expectations of interest rate developments.

Models are thus unable to capture everything that happens in reality and it is also necessary for practical and pedagogical reasons to make simplifications. To evaluate forecasts it is necessary to understand what these forecasts are based on. Solely model-based forecasts mean, for instance, that there is only one interest rate, linear relationships, that the household sector is represented by one household and that imperfections in the financial markets are not picked up. The fact that there is only one interest rate means, for instance, that the effects of unusually low long-term real interest rates are not included. The fact that the relationships are linear means, for instance, that the model will never be able to forecast abrupt falls in demand following a shock.

So how should a central bank judge whether there is a risk that lending and asset prices are increasing too quickly if the inflation forecasts provide no signals of this? What one wishes to avoid are abrupt corrections in asset prices leading to a large fall in demand and low inflation in the future. Although it is possible to extend the forecast horizon, as the DSGE models are based on rationality, they provide no opportunity to quantify such a risk scenario or to answer the question of whether an interest rate increase now would be able to reduce imbalances. The central bank must nevertheless make decisions and in some way take into account the risks it envisages. In the description of the framework for the Riksbank's monetary policy, which we published recently it says:

"The Riksbank routinely takes into consideration changes in asset prices and other financial variables (exchange rates, house prices, share prices, household and corporate indebtedness, etc.) in monetary policy decisions. This should not be interpreted as introducing targets for different asset prices or other financial quantities. However, situations may arise where the consequences for the real economy and inflation of the development of different financial variables threaten to become very unfavourable and serious without it being possible for that reason to quantify or capture this type of risk in the normal analytical and forecasting work. This means that there are risks of sharp corrections in the future which in turn affect the real economy and inflation. It may be necessary to take these risks into account in monetary policy decisions in a different way than in the normal approach, where the forecasts for inflation and the real economy for the next two years serve as the foundation."

Although it is difficult to quantify the risks related to strong and long-term growth in asset prices and debts using normal methods, there is a fairly large flora of research into how different types of imperfections can cause and reinforce the types of imbalances I have discussed. One research area, for instance, is based on psychological factors being able to lead to expectations becoming an independent driving force behind fluctuations in the real economy. If, for instance, the real return on a financial asset has been high over a long period of time, this may, according to some research results, affect expectations so that many believe that the return will be as high in the future, despite fundamental factors indicating a lower return. In efficient financial markets, the agents with forward-looking rational expectations should be able to earn money by taking offsetting positions, but an unwillingness to take risks, difficulties in finding financing or regulations can mean that this is not possible to a sufficient extent.

There are for example empirical studies indicating that investors appear to disregard the fact that an economic upswing is usually followed by a downswing and vice versa, which leads to them tending to take greater risks than they should in an upswing and vice versa in a downswing. Another research area concerns imperfections in the credit markets, which lead to the current income and balance sheet having significance for consumption and investment, as lenders and borrowers have different amounts of information regarding the borrowers' future ability to pay. Borrowers with wealth can thus gain access to more and cheaper loans than others. If asset prices increase, this leads to an increase in

their opportunities to borrow, which can further push up asset prices. If asset prices rise because of over-optimism that these developments will continue, the accelerator effect may contribute to large imbalances being built up before a correction occurs.

One can express this as, if many imperfections impact at the same time, it could lead to substantial financial imbalances. Empirical research confirms that asset prices and loans can increase substantially over a long period of time and my impression is that the mechanisms I have indicated have contributed to this. While debt and asset price levels have built up slowly over a number of years, price corrections have occurred quickly. The entire cycle from start to finish, from asset price and credit expansion until the repercussions of price falls and debt reductions have waned can take up to a decade. The IMF, for instance, reports in a study that the repercussions alone from a share price crash take on average two years to wane, while it takes approximately four years for the effects of a house price crash to fade.

Can and should monetary policy subdue the growth of bubbles?

Even if we as monetary policy decision-makers assess that there is reason to feel concern that debts and asset prices have been pushed up by over-optimistic households and companies, it is not self-evident whether and how this will affect the decisions. There is always some uncertainty as to whether it really is a question of an imbalance. And, as I have said, it is not easy to quantify a risk scenario, both with regard to the probability that it will occur and the effects it can have for inflation and demand. It is thus uncertain how the total effect will be if one tries to reduce the growth of the imbalances via monetary policy. A higher interest rate than would be motivated if the risk of imbalances were not weighed in, dampens not only credit expansion and asset prices but also real demand and inflation in the short term. It is necessary to find a balance between these, even if it is based on an uncertain foundation.

With regard to reducing growth in a bubble on the stock market, it may not be possible for an individual central bank in a small country to do very much, as the stock market is so internationalised. However, higher interest rates nevertheless lead to less inflated balance sheets when loans become more expensive. This may alleviate the real effects of the corrections following from a stock market bubble. With regard to subduing exaggerated price increases in the housing market, monetary policy should have a greater impact as the housing market is more local and as loans play such a major role in house price developments.

History shows that mistakes have been made when one has disregarded the information provided by growth in credit and the money supply. This applied, for instance, during the depression in the United States in the 1930s, when the large credit crunch was not sufficiently taken into account in monetary policy, and to the period prior to the high peacetime inflation rate during the 1970s and 1980s, when the money supply expansion was not taken into account. If 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 and then counteracting the fall in demand.

Many in the central bank world consider that interest rate policy should not react to asset prices and credit expansion in an upswing phase, over and above their estimated consequences for inflation and real stability in the short term. The arguments they bring out are that it is difficult to make an accurate evaluation and that it is uncertain what effect an interest rate increase will have. Other objections are that it may be difficult to be clear with regard to what has affected the interest rate decision and that confidence in the price stability target may therefore be undermined. Those who advocate a more preventive strategy meet this criticism by saying that there are nevertheless theories regarding asset price and credit cycles and some methods for calculating when large deviations from equilibrium levels are building up. According to these advocates, it should not be more difficult to use existing knowledge to assess when a financial imbalance is being built up than it is, for example, to calculate the output gap. And many central banks today calculate the output gap to make assessments of inflation.

The argument that it is difficult to determine how large interest rate changes are necessary is usually met by saying that a higher interest rate in any case subdues credit growth and thereby also indirectly asset prices. By conducting tighter monetary policy than is required to keep inflation on target in the short term when asset prices and debts begin to accelerate, we can certainly have slightly lower inflation and weaker demand than is desirable, but one also reduces the risk of negative effects on production and inflation from a collapse in asset prices later on. For example, the Bank of Japan has

been criticised in recent years for not having conducted a sufficiently tight monetary policy 15-20 years ago when the bubbles in Japan were building up.

Those who 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 a correction of abnormally high asset prices is a fact and take action then. Many believe that it is important in such a case to act forcefully so as to prevent a deep recession. However, in my opinion and that of others, 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 will begin again. When the situation turns next time in other asset markets, there is a greater risk of reaching the zero-interest rate level. Many central banks have acted in this way, which may be the reason why a house price bubble has been created some time after a share price bubble.

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 the effects on growth and inflation of inflated asset prices and credit expansion in its decisions. One reason for this is the high costs connected with the risk of achieving the zero-interest rate level if one waits until asset prices and indebtedness are corrected and demand is severely subdued before taking interest rate measures.

Monetary policy after the stock market bubble

The share price bubble at the end of the 1990s is an example of a financial imbalance that was built up despite low and stable inflation. The stock market upturn was probably pushed up initially by fundamentally motivated expectations of future profits and growth in the IT and telecom sector, but also by the fact that technology was generally considered to create the conditions for higher growth over a long period of time. However, there soon appears to have arisen a general over-optimism regarding the durability and strength of the expected future increases in income. Low interest rates as a result of low inflationary pressures contributed at the same time to an increase in companies' and households' indebtedness in many countries. Investment growth was high in many sectors. When the share bubble burst, it was followed by an economic downswing, where high indebtedness created a requirement for consolidation in the corporate sector. This led to demand for goods and services being subdued, together with an increase in precautionary saving in many households.

To avoid a deep economic recession and a further decline in inflation, the central banks cut their policy rates from the already low levels. However, growth in investment and employment was a long time coming, as instead of new recruitment and expansion, companies chose to rationalise their production and achieve scope to reduce their debt ratios through lower costs and to meet the increased competition from low-cost countries. The low interest rates thus did not seem to have any immediate effect on consumption and investment, but gave further stimulation to household sector demand for housing and loans in many countries. The unusually low long-term interest rates, combined with low interest rate differentials towards government bonds with a high rating provided further stimulation.

Developments in the housing market have thus brought to the fore the debate on what role household indebtedness and house prices should have in monetary policy. At the end of the 1990s there was a similar discussion – but then it mainly concerned companies' balance sheets and inflated share prices. Then as now it was a question of whether and in what way monetary policy should weigh together the requirements made by the inflation-targeting policy if the economy functions as normal, with the risks of a severe dampening of inflation and demand that could result from a correction of the imbalances in the financial markets. In practice this concerns evaluating whether it is worth accepting slightly weaker demand over the coming years in order to alleviate the effects of an uncertain but severe effect of corrections in financial imbalances at some point in the future.

The current situation in Sweden

Before I go on to speak in more detail of how I see the risks of Swedish households' debts and high house prices today, I would like to say a few words about the Riksbank's other task. This means that we also act to promote stability in the financial system. When household indebtedness and house prices are discussed in this context, the focus is on the risk of a crisis in the banking system. It is important for the Riksbank's financial stability task to assess households' ability to pay and whether the collateral taken by banks and mortgage institutions in the form of houses and apartments risks

declining in value. In my speech today, however, I am concentrating on the role played by inflated asset prices and indebtedness with regard to developments in demand and thereby price stability.

In the period between 1995, when the upturn began, and up to today, Swedish households' debts and house prices have increased by almost three times as much as household incomes. The rates of increase have not yet been subdued and this year both house prices and household debt have increased by 13 per cent on an annual rate. On average, household debts now amount to 130 per cent of disposable incomes, which is as high as prior to the property crisis in 1992. In the long term, it is reasonable to assume that house prices will not increase at a more rapid rate than incomes. Studies show that if house prices increases deviate from income growth, the discrepancy tends to be corrected.

When we assess the rate of increase in Sweden over the past 10 years, however, we must bear in mind that the upturn began in the mid-1990s, from a very low level following the crisis years at the beginning of the 1990s. Much of the upturn can be explained by the interest rate decline that has taken place since the mid-1990s at the same time as confidence in the inflation-targeting policy has become established. Stable inflation expectations have probably led to households feeling less uncertain about future interest rate developments. Lower nominal interest rates coupled with the fact that the banks now appear to accept loans payable in full at maturity have further reduced the debt service ratio and probably increased demand for loans. Despite the fact that the debt/equity ratio is as high as in 1992, interest rate expenditure after tax corresponds to just under 4 per cent of household income[1], which should be compared with 11 per cent when the situation was at its worst in the early 1990s. In addition, many loans are now repayable in full on maturity. Increased competition in the banking sector, coupled with more efficient credit risk management can also have increased the supply of loans as well as making them cheaper.

There are thus many factors that may motivate households' indebtedness being higher than it has been historically. However, the more time that passes without growth rates in house prices and debts slowing down, the greater the concern that households are borrowing more than is sustainable in the long term. Corrections in inflated house prices and debts may thus subdue demand and inflation in the long term. The historically very low interest rates could create expectations of unrealistically low interest rates in future too and lead to households taking excessively large loans. Low inflation and amortisation-free loans will also lead to households being indebted for a long period of time. Households that have financed an expensive home through loans may therefore become very sensitive to corrections in house prices for a long period to come.

How have we taken these risks into account so far? It may be useful to compare our decision in June 2005 with our decision at the beginning of 2006. In June 2005 we had been concerned for a long time over the future effects of increases in house prices and debts in Sweden, but when we saw that the national accounts data showed that growth in demand was not as broad and strong as we believed, consideration to growth and inflation 1-2 years ahead outweighed this and we cut the repo rate. At the beginning of 2006, however, it was clear that growth was broader and stronger than we had earlier believed and that inflation would thereby gradually rise towards the target. Concern over the future effects of exaggerated increases in house prices and debts then contributed to the arguments in favour of an interest rate increase outweighing those against and we raised the repo rate. The strong growth in the housing and credit markets was also taken into consideration in the most recent monetary policy decision, which can be seen in press release 2006-06-20.

Conclusion

As I observed to begin with, the claims that the Riksbank has introduced new parallel targets in addition to the inflation target are wrong. The fact is that the Riksbank conducts a flexible inflation-targeting policy and within the framework for this we take into account risks of large fluctuations in the real economy and inflation over a long period of time. Historically, low interest rates over a long period of time risk leading to households borrowing too much, which pushes up house prices. Abrupt price corrections later on may subdue real demand and inflation. To reduce the risk of such imbalances building up, we can choose to raise the interest rate slightly more quickly than is warranted by the inflation forecasts. The positive effects in the form of a lower risk of future abrupt corrections must be

[1] The interest rate burden for indebted households was just over 5 % in 2004.

balanced against the losses in the form of lower demand and inflation that will arise in the short term. However, one problem is that such risks cannot be quantified. This increases the difficulty for a central bank to be open and clear regarding the bases for its monetary policy decisions. Maintaining confidence in the inflation-targeting policy is a central bank's most important task and it sets limits as to how many considerations monetary policy can take.