Mr Bäckström looks at the Riksbank and financial system stability and comments on the LTCM case

Speech by Mr Urban Bäckström, Governor of Sveriges Riksbank, to the Swedish Economics Association in Stockholm on 25/2/99.

Financial stability is a topical subject in the light of events in the past year—a year that saw continued financial problems in Asia, the devaluation of the rouble and suspended payments in Russia, considerable turbulence in western financial markets and financial unrest in Brazil.

What happened last autumn, when it was considered that problems for a single player—the hedge fund Long Term Capital Management—might create grave difficulties for the financial system in the United States, highlighted risks of a new type. The LTCM case can be seen both as an extreme example of what could happen in Sweden's financial markets and as a serious reminder that the continuous development of financial markets is liable to give rise to new risks. The suspension of payments in Russia and its consequences should likewise lead us to reflect on the risks in the system.

Today I shall be discussing the problems behind last autumn's events in the U.S. market and the fact that a systemic crisis was judged to be imminent. First, however, I shall briefly sketch the background and explain stability's central importance for the Riksbank.

Background

There is nothing new about financial crises. Over the centuries they have repeatedly hit financial systems in the industrialised world, as well as in less developed countries.

A classic example is the tulipmania in the Netherlands, which ended in 1636 with the collapse of the market for tulip options. From the tulip crisis it is also clear that derivative instruments are not a recent innovation in financial markets. The world also saw numerous financial crises in the nineteenth century. As for the present century, what first comes to mind is the crisis in the wake of the stock-market crash in New York in 1929, with effects that left their mark on the global economy in the 1930s. There are various explanations for the Great Depression but it clearly involved widespread financial turbulence and the failure of many banks. In Sweden, too, there were serious bank crises in the early 1920s and '30s; on both occasions they were accompanied by a deep economic depression and serious deflation. The drop in output and the price level reached two-digit figures before the problems could be overcome.

In recent years the pace of financial market development has been rapid. As a result of innovations in communications and information technology, with the new instruments and methods they provide for risk management, the financial system is now more extensive and globalised than ever before. The system channels savings more effectively to those activities in the global economy that need them most.

The rapid pace of financial developments and their internationalisation are a logical consequence of arrangements for the production and international exchange of goods and services in the world economy. To cope with these arrangements, firms and households have required new financing facilities. The developments also stem from a deliberate post-war trend in economic policy—trade barriers have been removed and tariffs abolished. There are no grounds for supposing that the benefits from labour specialisation have been exhausted.

The ongoing globalisation of the production of goods and services, with increased international trade, calls for continued development and internationalisation of the financial system.

However, just because the financial system channels savings and spreads risks more efficiently today, it naturally does not follow that it functions sufficiently well in every respect. The recurrent financial crises are at least an indication of this. To some extent the problems may have stemmed from uncertainty about the future price trend in financial markets. But political errors or faulty risk assessments among market players may also have played a part.

While the crises in recent years have arisen in different ways, they all demonstrate the important part that a properly functioning financial system plays for a good real economic development. There have been some instances where a global increase in financial market unrest has arisen from a sudden deterioration in the macroeconomic conditions for a particular country. Last autumn, however, the causal relationships of the events in financial markets in the industrialised world were the opposite—it was problems in the financial markets that engendered fears of a serious shock to much of the global economy.

The Riksbank and financial stability

Much work is being done with a view to avoiding financial crises. The Riksbank is one of the participants in these endeavours. Our efforts have included the development of an intellectual framework for contributions to improving the stability of Sweden's payment system. In recent years it has become increasingly clear that the Riksbank has a main function that is probably just as important as maintaining price stability, namely promoting financial stability.

The financial system has a central function in the economy and performs three main tasks: *firstly,* it handles payments; *secondly,* it channels savings to investments with a good return for future consumption; and *thirdly,* it spreads and reduces economic risks in relation to the players' required returns.

A smooth functioning of all these activities facilitates economic growth in that the production of goods and services as well as employment are promoted by lower costs and risks. In this way the financial system contributes to increased prosperity.

In view of the financial sector's central function in the economy, the authorities are particularly active in monitoring and regulating developments in this sector. In Sweden, the work for financial stability was accentuated by the serious incidents in the early 1990s. Since 1989 the Riksbank had been required by law to "promote a safe and efficient payment system". The problems among Swedish banks naturally strengthened the Riksbank's determination to contribute to the work on stability so that similar events would not occur again.

As virtually all economic transactions involve some form of payment, one of the financial system's principal components is the payment system. This is clearly expressed in a statement in the main report from the Banking Law Committee, to the effect that concern for the payment system is the primary reason for supervising and controlling financial institutions.

In Sweden it is the Riksbank that provides and is accountable for the central payment system. This RIX system handles 1,500 interbank payments a day with a total value of SEK 350 billion. While it is often the central bank that is responsible for a country's payment system, there is nothing to prevent this function being performed by some other player. In countries where that is the case, the payment system is not a central bank concern. Nonetheless, one reason for assigning the task to the central bank is the payment system's importance for the transmission of monetary policy. Another reason is that a central bank is in a unique position to provide the liquidity that the smooth functioning of the system constantly requires. Players are liable to need a temporary supply of liquidity in order to smooth the flow of payments with other participants.

The payment system can be said to consist in turn of two components: the payment infrastructure and the financial firms, mainly banks, with access to the system. The stability of the system is dependent on the proper functioning of both these components. The infrastructure must be constructed so that it does not exacerbate any problems that may arise. It needs to be capable of handling external shocks without any danger of collapsing.

However, the severe strains that arise from time to time in the payment system tend to be generated not so much by hang-ups in technical and administrative systems as by problems for one or several of the participating banks. Problems for one bank quickly spread to the rest of the payment system and may generate a *systemic risk*. This risk arises if problems with credit or liquidity prevent bank A from completing its payments to bank B, which thereby has difficulties in paying bank C. Banks B and C are then liable to fail solely because bank A cannot fulfil its commitments. The risk obviously varies with the size of the payments in question; the larger these are, the greater is the potential systemic risk.

The occurrence of systemic crisis threatens the whole or parts of the payment system, and if this ceases to function the entire financial system as well as the real economy will be affected. The crisis in Sweden in the early 1990s was associated with large systemic risks. Last autumn the U.S. Federal Reserve perceived considerable systemic risks in the domestic financial market. In neither of these cases, however, was there a full-blown systemic crisis.

In the event of a systemic crisis, the payment system needs a large supply of credit. As a last resort the law therefore allows the Riksbank to provide financial support for banks that are viable but in temporary difficulties. The provision of credit is a very important instrument in the management of systemic crises.

The Riksbank focuses on the banks, particularly the largest ones, because one of the main systemic risks stems from problems with the settlement of large-value payments. It is therefore important that the Riksbank analyses the overall stability of the bank sector in order to identify banks that may encounter temporary difficulties. In this way, our oversight of the payment system is extended to include much of the financial system.

The continuous analysis of the financial system by the Riksbank currently focuses on three aspects:

1. Each institution's efficiency and earning capacity, as this is liable to influence the institution's risk behaviour.

2. Credit risks, particularly those connected with the payment system, that is, *counterparty and settlement risks*. The analysis of these risks is intended to give the Riksbank a general picture of the whole system and enable the timely detection of any problems in some stage of the payment process.

3. Systemic risks from factors outside the payment system. Problems may be caused by uncertainty and a lack of confidence in the financial system. This involves other players besides the banks. Historically, it is *macroeconomic imbalances* that have caused confidence to decline in this way. Examples of such imbalances are highly volatile asset prices, fluctuations in the rate of price increases and a growing household debt ratio. Macroeconomic indicators accordingly play an important part not only in the assessment of future inflation but also in the analysis of payment system stability. Experience has shown that a balanced macroeconomic policy and stable prices reduce the risk of shocks that threaten financial stability.

Analyses of these three aspects are presented twice a year in our Financial Market Report.

The Riksbank is accountable for *oversight* and the Financial Supervisory Authority for *supervision*. This means that the Riksbank is primarily concerned with the development of a system or a market, while the FSA considers the situation in each institution as well as the system's overall stability. But as the dividing line between these two functions is blurred in practice, it is important that these two authorities cooperate closely. Such cooperation is indeed a hallmark of our interaction, from senior management down to divisional staff.

Note, therefore, that while oversight is an important Riksbank function, the direct supervision of Sweden's financial system is not our concern. Our legislators have assigned the latter role to the Financial Supervisory Authority, which accordingly has the possibility of directly pointing to shortcomings in particular institutions.

The Riksbank may nonetheless detect problems at an early stage because they are likely to leave their mark on the payment system, which is the Riksbank's concern. Our chances of influencing the course of events then lie in contacting the bank's executives and informing the Financial Supervisory Authority. Our Financial Market Report can no doubt also play an important part in exerting a more continuous influence. In the longer run, the Riksbank can also contribute to stability through international collaboration, as well as by participating in Sweden in legislative work and the structural adjustment of various systems.

Undervalued credit risks—a recurrent phenomenon

One aspect of the Riksbank's oversight of financial stability in Sweden has been the analysis of the run-up to the bank crisis here and the possible causes of crises in other parts of the world.

The causes and course of the various crises have differed in some respects but they do present many similarities. Many of them were preceded by a period of rapidly rising asset prices and a strong expansion of credit. This period ended with an abrupt reassessment—a jolt that altered risk assessments and led to heavy losses for those involved. Signs of economic problems meant that the supply of credit virtually ceased. It seems that the stronger the credit supply in the first period, the more serious were the effects in the second phase, with decreased production and rising unemployment.

Another factor in many cases has been that the country had a fixed, but adjustable, exchange rate regime that lacked credibility. With such a regime, the central bank seemingly absorbs exchange risks, which gives private investors an incentive to utilise the interest rate differential with the rest of the world that characterises a situation where domestic inflation expectations are higher than in other countries. Loans were therefore obtained in foreign currency for investment in domestic assets. The maturities of the financing instruments often differed from those of the investments—the funds were borrowed short and invested long.

When the exchange rate ceased to be perceived as sustainable and the risk of an adjustment grew, the earlier capital inflows turned into massive outflows. This accentuated the pressure on the exchange rate and created an acute currency crisis. If the capital inflow had been channelled through the banking system, the lack of confidence during the acute phase of the crisis often led to severe repercussions on the financial system.

The course of events of this type is essentially dependent on the supply of credit. The problem has lain in widespread lending losses and it seems that the banks have repeatedly made much the same mistakes. This applies to their generosity in financing asset investment by private players as well as to the willingness of international banks to supply foreign currency to domestic counterparties. Situations of this type often involve a high concentration of credits and the credit risk assessments appear to have been rather superficial.

What are the reasons for this? One is probably the difficulty, for banks as well as supervisors, in assessing the risks in loan portfolios. The management of credit risks is cumbersome and neither is it easy to obtain a good picture of the players' portfolios. Genuine difficulties in making assessments are thus one explanation; another is that in certain cases the banks seem to have hunted with the pack instead of making independent risk assessments.

Undervalued credit risks accordingly seem to be a recurrent theme in these crises. It is therefore essentially the banks that must construct sounder credit policies in their institutions. These policies must include the scrutiny of everything from the work of the individual credit officer up to the more general strategies of the executive management and board of directors.

A great deal of international work has also been done to rectify these problems. Authorities and financial agents are working together on the formulation and introduction of international principles—core principles—for the proper functioning of banking systems and supervision. One aspect of these efforts is the construction of capital adequacy rules that are more suited to the banking system's present situation—the current rules were formulated in the light of the financial situation in 1988. Efforts are also being made to achieve a higher degree of transparency and clearer accountancy.

The recurrent crises in financial markets unmistakably show that the work of reinforcing the system is a continuous process that must not be neglected. Developments last autumn made it clear that the work the banks had already initiated to improve risk management did not suffice to prevent renewed financial turbulence. The pattern of risks differed somewhat from earlier periods with problems. Instead of the familiar difficulties with the banks' loan portfolios, in large measure it was a matter of risks that certain highly leveraged players would generate problems through large positions in the repo market, for example.

A drastic example—LTCM

The problems in the U.S. hedge fund Long Term Capital Management can be seen as a drastic example of how systemic risks can arise if the banks' counterparty risks and concentration risks become unduly large. A single player, seemingly far removed from the payment system, threatened to generate a systemic crisis in the U.S. financial system, with the risks of contagion that this might involve.

LTCM, which had been operating since 1994, based its strategy on the use of statistical and mathematical models to identify temporary price differentials between similar financial market assets. This involved speculating, for example, in narrowing interest rate spreads in the U.S. bond market. In simple terms, a limited capital input was used to combine forward purchases of U.S. corporate bonds with forward sales of U.S. federal bonds. The combination of countervailing positions meant that the outcome would not be affected by the general development of interest rates. It was only the relative paths of the two asset categories that mattered—a narrowing interest rate spread would result in a profit.

Similarly, the fund took large countervailing positions between different asset markets as well as between markets in different geographical regions. To begin with the strategy was notably successful; high profits were obtained with a low capital input. In 1995 and 1996 the annual profit was over 40 per cent. This performance and the confidence that the fund management enjoyed made many banks willing to provide loans or invest in the fund.

In time, however, the financial markets moved in the opposite direction to what LTCM—and others—had expected. Russia's debt moratorium on 17 August was followed by markedly increased financial turbulence as investors became more nervous and withdrew from other markets that could be perceived as risky. A uniform tendency developed, with falling share prices, widening interest rate spreads, growing unrest and decreased liquidity. There was a flight to quality of a kind that had not been observed before in the financial markets. Instead of narrowing, interest rate differentials became markedly wider. The diversity of risks on which LTCM had relied ceased to provide protection. The market movements were such that, if anything, it was a source of increased losses.

The rumours of problems in LTCM contributed in turn to even greater turbulence in the financial markets. In that market prices would be depressed by a winding-up of positions, investors tried to close positions in those markets where they feared that LTCM was also involved. It can be mentioned, for example, that Risk Magazine estimated that LTCM's positions in the interest swap market totalled 5 per cent of the global market, which says something about the size of the fund's positions. The flood of closures, almost amounting to a panic, caused a further widening of interest rate spreads.

LTCM's situation deteriorated rapidly; by the end of September the fund had lost almost 90 per cent of its capital in the course of nine months. The U.S. Federal Reserve had initiated a meeting with some of LTCM's counterparties and on 23 September fourteen banks with claims on the fund agreed to take over LTCM as a joint venture and try to wind up the positions in a more orderly manner.

The Federal Reserve's motivation for initiating a solution to the problem was not the sizeable losses that might have been incurred by many of the banks concerned. Its concern instead was the financial system in general. If the banks that had provided loans were to close their large positions spontaneously in a market that was already illiquid and turbulent, other agents who were not directly involved would be hit. The steep price fall would probably have paralysed the financial markets for a time and this might have triggered a vicious circle of declining confidence and further closures—the Fed perceived a large systemic risk. The ultimate consideration was, of course, the potential hazard for the global economy.

It is difficult to say what might have happened if the Federal Reserve had not acted. The banks that were involved had a strong interest in achieving a controlled settlement of their commitments and would probably have acted at some stage. In such a crisis, however, prompt action is vitally important. The central bank initiative contributed to this.

Lessons

Swedish banks were never directly involved in these problems, though they did feel certain effects of the developments in U.S. financial markets. Even the Swedish market became less liquid.

However, the involvement of Swedish banks might have been greater and that is why the Riksbank needs to analyse the origins of such problems. Our function of promoting a safe and efficient payment system cannot be performed properly without a good capability for analysing and understanding the implications of the crises that occur around the world. The results can lead to conclusions that underpin the stability of Sweden's financial system. The Riksbank has in fact been working on these matters for a long time; risks of the type that caused problems last autumn were considered in the Financial Market Report that was published in November.

In the case of LTCM, the threat of a systemic crisis came from the *combination of extensive counterparty risks and a high risk concentration*. Counterparty risks occur when there is uncertainty about the ability of counterparties to meet their commitments.

One of the problems was the large number of banks that had provided loans to LTCM. This gave a concentration of risks to a particular counterparty, which had large positions of its own. Such a concentration can have several causes. The high profits—probably also the reputable status of executives—no doubt made the fund attractive as a counterparty. Banks were therefore willing to approve credits in order to establish a relationship with such a profitable customer as LTCM. At the same time, the fund's reticence about its risk profile made it difficult for creditors to form an accurate picture of the total risks. The banks were evidently unaware of the size of the credits that other players had provided, which by itself is remarkable. Neither did they fully appreciate what the large positions might have for consequences if the collateral had to be called. In other words, the banks ought not to have relied to such an extent on the collateral, in the form of securities, they had accepted for their loans. Lending of this type requires that even the banks obtain a picture of the borrower's total situation. Had they done so in the case of LTCM, the outcome would certainly have been different.

The problems last autumn also revealed shortcomings in current risk models and the management of certain types of risk. The banks must pay more attention to how the models work in the event of a pronounced change in market conditions. The markets moved to such an extent that historical estimates of co-variations ceased to apply.

The crisis accordingly offers several lessons:

- In the light of what happened in international financial markets last autumn, all participants in the financial system must improve their credit policies.

- Relying solely on securities as collateral is not enough; a picture must also be obtained of the borrower's total commitments.

- The LTCM crisis demonstrates that credit assessments must include a larger element of readiness for extreme events. Models based on historical events were incapable of foreseeing the debt moratorium in Russia and the resultant slump in virtually every market. Neither could they envisage that market liquidity would dry up to such an extent that the banks would not be able to dispose of their loan collateral without eliciting a very steep price fall. The banks need to augment their risk models with stress tests—assessments of the direct and indirect effects that unusual market developments would have on their current positions.

- Banks must improve their risk management and knowledge of different forms of risk but so must the supervisory authorities.

- A further question concerns the adequacy of existing laws and regulations. Are there things we have missed? As I mentioned earlier, intensive efforts are being made to improve the rules.

Having said all this, we must also recognise that the extensive work that is continuously being done to strengthen the financial system does not mean that the system will be made completely immune to crises. The work must focus on mitigating the effects and trying to ensure that crises which do occur are less extensive and socially costly than those we have experienced in recent years.

The competent parties must endeavour to find solutions that combine the necessary market regulation and supervision with the advantages inherent in capital mobility. A completely regulated market reduces capital flows and generates large fluctuations in market prices, leading in turn to welfare losses. But neither is a market without any common rules and supervision an ideal remedy. Operations in financial markets need some degree of supervision but this must not paralyse the potential for developments that can contribute to higher prosperity in the global economy.