Speech

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The significance of risk management

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First a word of thanks for the invitation to attend this forum and discuss future risk management. I shall be talking about the socioeconomic aspects of financial risks and what the authorities are doing in this field.

Why is the financial sector so important?

What makes the authorities so concerned about the financial sector? Why don't they focus to the same extent on, say, the forest industries, car manufacturing or even on other service industries? The reason, of course, is that the financial sector—banks in particular—performs such special and central functions in a modern economy.

It is not the case that parliaments, governments, supervisors and central banks around the world are particularly concerned about individual banks. What matters is the part that financial institutions play in sophisticated modern systems for credit and payments. Virtually every economic transaction involves a payment service of some kind; it can take the form of bank notes, payments on account or the provision of credit. It follows that if the facilities for payments by households and firms are seriously disrupted, the consequences for the real economy may be disastrous. So disturbances in credit and payment systems can be costly for society and the costs are not primarily the direct consequences that measures of support will have for government finances. The essential consideration instead is the costs that a collapse of credit and payment systems may entail *indirectly* in the form of decreased production and higher unemployment. When payments and the supply of credit do not function efficiently, the rest of the economy also suffers. That is the

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main reason why governments are more concerned about the bank sector than they are about other service industries.

To appreciate what happens when credit and payment systems are disrupted, one can just take a look at what happened as a result of the financial crises that occurred around the world in the last two decades. There are, unfortunately, numerous examples that can serve as illustrations. The International Monetary Fund has estimated that since 1980, serious problems in the bank sector have arisen in three out of four of its 180 or so members. This has been case in the industrialised world, where one example is Sweden in the early 1990s, as well as in emerging markets.

Bank capital bases relatively small

There is a variety of factors that could be cited as possible causes of these disturbances. They include shortcomings in economic policy, inadequate supervision and, in many instances, poor risk management by the players themselves. But the roots of the problem go deeper than this.

The basic issue is the financial system's vulnerability to unforeseen events. Take, for example, the bank sector's solvency, measured as the ratio of equity capital to the balance-sheet total. This amounts to only a few per cent, whereas the level in non-financial firms is 20, 30 or even 40 per cent. So a simple way of solving the bank sector's vulnerability would be to raise the capital base to what is customary in other companies. Banks would then be in a better position to cope with unexpected disturbances in the financial markets.

Maintaining a large reserve of equity capital for unexpected events is, however, costly and someone would have to pay for this. The solution would therefore lead to expensive credit and low interest on deposits. Projects that are not exceptionally profitable would not obtain finance and the level of saving in the economy would be low. With little investment and low saving, growth would ultimately falter and prosperity would suffer. From this it will be readily understood that unduly tight capital adequacy requirements for the bank sector can be very costly for the entire economy.

So if the whole economy would be liable to suffer because the banking system opts for or is coerced into holding a sizeable capital reserve, one can say that this is not a viable remedy for ensuring the financial system's stability. But how, then, are financial crises to be prevented?

After the global crisis in the Thirties, the path that was chosen up to around the 1970s (its duration varied from country to country) was regulation. Credit and exchange controls were reintroduced. In Sweden, the credit system had been liberalised in the middle of the 19th century but after 1930s it was regulated once more. The risk of serious financial crises was countered by controlling the domestic credit supply in detail and more or less prohibiting cross-border capital movements that were not directly connected with trade in goods and services. But these controls also had the effect of hampering the financial system's development. If the costs of this period of regulation could be identified and estimated, we would probably find that they were considerable.

What this amounts to is that high capital requirements for banks are costly, not just for the banks but for the entire economy, and the same applies to controls on credit and foreign exchange.

As this was recognised by more and more countries, national policies in this field were realigned in the course of the 1970s and '80s. Controls were abolished and domestic capital markets were opened up for cross-border capital flows.

But in many instances the financial system was unprepared for a freer environment. The era of regulation had lulled many banks into a false sense of security. Moreover, supervision concentrated on the wrong issues and was by no means appropriate. Neither did economic policy observe the discipline that a deregulated financial system requires. And the gold standard, which had functioned as a highly disciplined system for monetary policy, was a thing of the past. New, costly problems were encountered, as is clear from the numerous bank crises that occurred around the world in the 1980s and '90s.

It is in the light of these experiences that we are now engaged in erecting, step by step, a new financial architecture that will work in a world where capital adequacy requirements for banks are relatively limited at the same time as the financial system is rather free and open.

Increased importance of risk management

One function of a bank's capital base is to act as a buffer for absorbing various types of disruption and risk. The greater the difficulty a bank has in identifying the numerous types of risk involved in financial activities, the larger its capital base needs to be. Otherwise, a sudden increase in risk may quickly render the bank insolvent. By the same token, the lower the stipulated capital requirement for financial operations, the more important it is to have efficient systems for risk management.

The capital base in banking has, in fact, been strengthened to some extent in the past decade. When minimum capital adequacy standards for banks were specified in the Basle regulations in the late 1980s, they were met by protests from banks in Sweden as well as elsewhere. One of the criticisms was that the regulations would be costly. Today, all the Swedish banks have voluntarily strengthened their capital bases by more than the Basle regulations require. Banks in many other countries have done the same.

At the same time, the concept of bank sector solvency has been increasingly undermined. Many risks are not on the balance sheet. It is therefore more relevant to consider the ratio between total risk exposure and the capital base.

With the expansion and growing complexity of financial market operations, it has become increasingly important that banks are capable of managing the risks in their business. The financial turbulence in recent years has underscored this and banks are also more determined to have such a capability. The capacity to understand, monitor and control internal risks is thus featuring more and more prominently in the organisation of financial enterprises.

A major aspect of this work has been the development of more advanced methods for the quantitative measurement of risks. As one might expect, most progress has been made in the measurement of *market risk*; the extensive trading in

financial instruments provides a good supply of price statistics and this is a considerable help when it comes to estimating market risks.

Much work is now being done in many places to construct models for a better management of *credit risks*, which are still by far the largest risk category for banks. The difficulties here, however, are far greater than in the case of market risks. The estimation of key parameters for models is obstructed by a lack of statistics. And even if individual default probabilities can be estimated reasonably accurately, it is still rather difficult to combine them into portfolio assessments, partly because not enough is known about the interaction between variables. The models therefore tend to rest on a large number of simplified assumptions based on subjective judgements.

Still, sector players are displaying a strong determination and creativity in their efforts to surmount the obstacles. The rapid progress in this field was evident from the discussions last June in Stockholm at the conference on credit risk modelling that was arranged jointly by the Riksbank and the Swedish Financial Supervisory Authority.

Recently, moreover, some advances have been made in the estimation of *operational risks* (the risk of losses arising from technical problems or inadequate internal controls). Previously, operational risks had attracted less attention than, for example, credit and market risks. It is changes in the nature of banking operations that have brought them more to the fore. The significance of operational risks for an individual institution is evident, not least, from the case of Barings Bank.

The development of quantitative risk measurement is an interesting and important matter and many speakers today will no doubt be talking about these methods' technical aspects. I therefore want to draw attention to the need for a holistic approach; instead of relying solely on statistical models, it is necessary to combine them with sound judgement and common sense.

It must be borne in mind that models are no more than a highly simplified and limited image of the real world. While their simplicity does make them very useful in the work of identifying risks, it is also perhaps their chief disadvantage. Models fail to catch a great deal of what is happening in a dynamic and complex environment.

Events in the autumn of 1998 and the problems at that time in connection with the American hedge fund LTCM are a telling example of the limitations of risk models, or perhaps rather of errors in the ways they are used.

Firstly, there was the evident difficulty in separating the management of market risks from credit risks. As a result of major shifts in market prices, the credit risks, which had seemed to be negligible initially, suddenly became considerable.

Loans are often provided against collateral in the form of securities; the securities are not pledged for their full value, which leaves a margin for unforeseen events. This buffer, however, is often relatively small. Additional collateral, it is said, can always be called for if market prices make this necessary. Alternatively, the existing collateral can be realised.

There has been a tendency to disregard both the potential credit risk in arrangements of this type and the possible refinancing and liquidity risks. What happened with LTCM in the autumn of 1998 showed that market value can deteriorate so rapidly that there is not enough time for calling in and receiving additional collateral. Neither could the securities be sold without further ado in order to realise the existing collateral. Under these circumstances, the market risk was transformed into credit risk. In the case of LTCM, the banks had made a proper credit assessment and scrutiny of their counterparties. The end result, as we know, was that the banks were obliged to take over the fund and contribute additional capital.

Secondly, we were reminded that Value-at-Risk and similar assessments must be used prudently. Looking back, it can be said that too much faith was put in estimates that had been made while the sun was shining and which proved less watertight when it suddenly started to rain. The parameters on which risk calculations are based—standard deviations and correlations, for example—are usually estimated on the market's historical performance together with some simple assumption—for instance a normal distribution—about the underlying pattern of probabilities. Shocks of the kind that occurred in the autumn of 1998 pulverise the conditions behind such calculations and make Value-at-Risk less meaningful as an indicator of the risks that actually apply.

As with any innovative activity, there is an element of trial and error here that we must aim to tackle by developing new methods at the same time as we try to learn from mistakes.

The hard-earned lesson for the authorities as well as for market players—not least the executive managements of financial institutions—has been that, to make them functional, statistical measurements require additional techniques.

An important component for risk assessment is provided by analysing sensitivity, using what are often referred to as stress tests. This involves assessing the consequences that a more dramatic course of events would have for a particular exposure. Instead of considering the scenarios that are most probable, these tests refer to the worst possible cases. The information is very valuable for those who ultimately have to decide about the risks that are to be taken.

The work of the authorities

Developments in the financial system obviously affect the work of the authorities that are responsible for the system's stability. This applies to rules as well as supervision.

Financial legislation and regulation need to be sufficiently flexible to accommodate the rapid pace of developments in the financial sector. It tends to take considerably longer to amend rules than it does to create new financial products. But there has to be a foundation of minimum requirements for such matters as capital bases and risk management.

In addition, the authorities must be increasingly involved in ensuring that institutions themselves possess a basic competence in and understanding of the risks that have to be managed, as well as adequate systems for their management, rather than issuing detailed risk management instructions.

In other words, it has become more important to inspect systems, defined in a wide sense, than to scrutinise particular commitments or market risks. Some supervision, moreover, can be carried out with the market's assistance. By this I mean that authorities can prescribe as well as encourage a more open presentation of the institutions' risks and profitability in different operations. Such a transparency accentuates the banks' demands on each other as well as what customers require of their banks.

These developments do, of course, call for new forms of competence and resources for the authorities. The transition from an administrative organisation to one that inspects sophisticated risk-management systems in a wide sense is something of a cultural revolution. That is what central banks and financial supervisors around the world are working on intensively at present. Some have come a good way, others have more to do.

Basic minimum standards for solvency and risk management, more active supervision with a stronger focus on risk, and increased transparency are also the foundations of proposals that have been presented both by the Basle Committee on Banking Supervision and by the Swedish Committee on Bank Legislation.

In this context I want to draw attention in particular to the international work that the Director General of the Swedish Financial Supervisory Authority, Claes Norgren, is doing as chairman of the Basle Committee's Capital Task Force, as a part of the cooperation in the Bank for International Settlements, and in the Banking Advisory Committee of the European Commission.

Claes Norgren will be talking later on about the proposals for new rules. I should like to acknowledge that the task of achieving such a far-reaching reform of the international capital adequacy standards is by no means easy. Quite apart from the exceptional technical complexity of the substantive issues, it is not always evident how the political and cultural differences that nevertheless exist can be reconciled. I know that Claes Norgren's international efforts have been most valuable and appreciated around the world. Permit me to conclude by congratulating the Director General of Sweden's supervisory body on his successful work.