

Year 2000—a threat to financial stability?

Preparations in the financial sector for the turn of the millennium appear to be proceeding largely as planned. This matter is important to the Riksbank as the promoter of a safe and efficient payment system. During 1999 the Riksbank will be increasingly engaged in the preparatory work of the financial sector, since the time would have come to test how different segments of the financial system function together.

The discussion of risks to financial system stability usually focuses on *financial risks*, such as credit and liquidity risks. Various *legal risks* have also been discussed from time to time, for instance with reference to the construction of netting systems. The risks connected with the technical and administrative infrastructure—*operational risks*—are debated less frequently. Considering the high degree of technical complexity of today's activities in the financial system, in a way this is surprising, particularly as there are practical examples of occasions when operational risks have struck and had tangible effects. A clear example with which many are familiar is the crisis in the Bank of New York in the autumn of 1985, when a computer failure meant that the Bank's credit requirement rocketed in the course of a single day and necessitated intervention by the Federal Reserve Bank of New York.

There are grounds, in other words, for stability risks of this type to be analysed, perhaps more than has been the case to date, by central banks and supervisors. At the present time there happens to be a particular operational risk that is generating intensive activity in the financial and central-bank worlds—a risk that is unique in that it applies to everyone simultaneously and at a time that is known in advance. This is the risk involved in the transition to a new millennium.

What does Year 2000 stand for?

Problems with the transition into 2000 would arise if IT facilities are not capable of interpreting the new millennium digits correctly. This is not a complicated matter in itself; the problems lie in the vast and incomprehensible number of computer programmes involved and the fact that there is little time left to deal with them. Part of the difficulty in surveying the extent of the problems and diagnosing them correctly lies in the fact that the chips which are now incorporated in so many applications—machinery, hospital equipment, home electronics and lifts, for example—often have embedded functions that are controlled by the date. Tracing and diagnosing all these circuits is time-consuming work and in this context time is short.

Financial market enterprises have been working on Year 2000 conversion for several years. They are now approaching the phase in which linkages and functions with various external systems are to be tested and assessed. For more than a year now, the Financial Supervisory Authority has been following this work closely and actively on behalf of the Government. Specific standards have also been for-

mulated for the management of the Year 2000 problems by these institutions and their boards. In the international field, central banks and supervisors in the G-10 countries have stepped up their activities appreciably during 1998 and have initiated the formation of the Joint Year 2000 Council as a forum for these issues. The Riksbank has been working on the analysis and conversion of its internal systems for more than a year and is likewise planning tests together with external participants; tests of the RIX system are scheduled for March-April 1999.

There is now a widespread international discussion of problems with the transition to Year 2000 and assessments differ greatly as to the probability of disruptions and their likely effects for particular sectors and total economies, in both a national and a global perspective. There is some agreement that the Anglo-Saxon world has made more progress in readiness work than Continental Europe and that the financial sector is ahead of most other economic sectors. Opinions differ widely, on the other hand, when it comes to the extent of possible disruptions; there are some observers who are talking in terms of depression and chaos. Others, who appear to be in a majority, consider that while the effects may have clear consequences in certain areas, they will be entirely manageable and relatively transitory.

The transition into 2000 will be costly for individual enterprises as well as for national economies.

Without being alarmist, it can be stated that in any event the transition into 2000 will be costly for individual enterprises as well as for national economies; in an economic sense Year 2000 can be seen as a "natural disaster" that destroys parts of an economy's capital stock. It therefore calls for increased investment inputs, not to expand or improve production capacity but just to keep it intact; these expenditures will thus have to be made even if the actual transition occurs without disruptions, a matter that is strongly dependent in turn on such replacement investments being sufficiently extensive and timely. Assessing the likely level of the aggregate costs

is a very hazardous business. Some estimates indicate a level of one to four per cent of GDP, with a variation between countries. In Sweden the Year 2000 costs for the major banks have been judged to be of the order to SEK 2.5 billion. All this indicates that in any event the amounts are economically substantial.

A similar operational risk could exist in connection with the conversion of the EMU countries' currencies into euro at the turn of 1998. This conversion involves numerous changes in various financial systems. Sweden will not be participating in the euro area but Swedish banks will still have to be capable of handling euro and will probably also be affected by any problems in other countries. The Riksbank has therefore started a discussion with banks and other players about this, and the necessity of having a high state of readiness.

The situation at present

As indicated above, in the past year central banks and supervisors all over the world have appreciably increased their Year 2000 activities. This applies at the national level and, not least, in fora for international cooperation. The activities of the Joint Year 2000 Council, with a Secretariat provided by the Bank for International Settlements, include collecting and distributing material, providing guidelines for assessments, arranging meetings and seminars and building up networks for contacts that can facilitate the transition.

In Sweden, the Financial Supervisory Authority has presented two reports to the Government this year that describe the current situation on the basis of survey data from financial institutions and other material. The first report was published on March 31st and the second on October 1st.

The gist of these reports is that the major institutions have made good progress in work on the transition—they are up to schedule and consider that they will be able to cope. The reports also note, how-

ever, that some smaller institutions have made a late start and may encounter problems with the transition. But if they do, it is unlikely that this would constitute a threat to financial system stability because the players that might have problems are of relatively marginal importance in the financial markets. In general, then, the situation looks good. At the same time it must be noted that the aggregate effects on the financial system cannot be assessed with any certainty until the external tests, involving contacts between institutions and authorities, have been carried out. Most of this testing is scheduled for the spring of 1999.

With reference to its reports, the Financial Supervisory Authority has therefore called on the institutions to intensify their preparations still more, analyse the financial risks they face and produce readiness plans. During the autumn, moreover, the Authority will be conducting in-house studies at the institutions which are considered to have key functions, in order to monitor and assess their preparations in detail.

Role of the Riksbank

The Riksbank's statutory function of promoting "a safe and efficient payment system" includes ensuring that the financial market infrastructure functions properly and safeguarding the pathways for financial transactions, matters that are also crucial for monetary policy's implementation. In addition, widespread disruptions on account of Year 2000 problems could have negative consequences for the real economy in a wide sense.

In view of all this, it is only natural that the Riksbank is playing an active part in mapping and assessing the situation for the total financial system as regards the Year 2000 transition and is doing this at the present time, when the systemic aspects are becoming more visible. The aim is to assist in identifying and solving any remaining problems that are relevant for the functioning of the financial system.

This is a matter of avoiding risks and also building up a readiness to manage any disruptions that may occur in spite of all the preparations.

The role of the Riksbank in relation to the financial sector in this context is basically the same as in the context of preparations for European Monetary Union. It amounts to assistance in the coordination of activities, the distribution of information and acting as a catalyst to facilitate the transition.

Some main issues

There are two main aspects to the question of what will happen in the financial sector in the transition from 1999 to 2000:

- how the institutions manage their internal systems and routines
- the nature and force of 2000 disruptions from external sources—customers and suppliers, financial institutions and markets outside Sweden, the general infrastructure (electricity, telecommunications and transportation, for example) and the functions of different authorities.

The disruptions from external sources can likewise be divided into two components: disruptions that spread directly through technical systems and indirect disturbances that arise, for example, from difficulties in obtaining information, borrowers' problems with profitability, general uncertainty that has destabilising effects and so on.

All this means that a bank with large credit exposures to enterprises whose production technology or other factors render them particularly vulnerable to disruptions of this type will then have to cope with the fact that the credit risk is higher than it had expected. This could entail growing loan losses and the associated problems for the bank or, if the bank is not prepared to accept the increased risk, a demand for additional collateral or the cancellation or renegotiation of the loan. In the latter case the problems

would rest with the borrowers, with negative effects on the real economy if such problems were widespread. A similar situation applies to country risks — given that certain countries will have greater difficulties than others in coping with the transition, both the former and/or institutions with sizeable activities there are more likely to be hit.

Risks of such “exogenous” disruptions cannot, in principle, be influenced by the institutions but the institutions can and must identify these risks in order to reduce their *exposure* to them and also have methods and readiness for coping with them if they should arise. This also applies to external disruptions connected with the public infrastructure, such as electricity and telecommunications. In this respect, however, the possibility of mitigating the exposure to risk is no doubt very limited.

The risks that can and must be managed directly and which the Riksbank naturally focuses on, concern the functioning of the sector and its institutions in three main respects, in each of which it is necessary to consider both the practical aspects and the question of confidence.

■ *Safeguarding deposits and accounts*

If people fear that their accounts may be wiped out at the transition to 2000, or at least be inaccessible for a time, they will probably want to withdraw their

money. If such fears are widespread and the amounts substantial, this could lead to problems with bank

liquidity and affect financial system stability.

It is therefore important that the banks are convinced that no such problems will occur and communicate this in a convincing way to the public.

■ *Safeguarding interbank systems for trading, clearance and settlement*

The second respect that is particularly relevant for the Riksbank is the functioning of the financial infrastructure. The interfaces of banks and other institutions with these systems—the Stockholm Stock Exchange, OM, the Central Securities Register (VPC), the bankgiro system (BGC), Data Clearing, the RIX system—must function separately as well as together.

■ *Safeguarding retail payment systems*

The third main task for the Riksbank is to avoid a situation in which payments arranged through giro systems, card systems and so on are replaced for a shorter or longer time by the use of cash. While the Riksbank does have a good state of readiness to cope with an increased demand for banknotes, a greatly increased turnover and handling of cash involves problems with costs as well as security that should be avoided as far as possible.