

# Preparations for the year 2000 transition

*Virtually all Swedish financial institutions have satisfied the regulatory requirements connected with year 2000 preparations and contingency planning. Even though it is the responsibility of the individual institutions to prepare for the transition, the Riksbank has worked with its own systems and also with financial market participants so that the payment system and all of its components will work during the millennium transition without serious disruptions. During the second half of 1999, financial institutions and market authorities have focused their attention on questions connected with liquidity and contingency planning. The Riksbank's contingency planning has as its goal to ensure that services vital to the payment system such as securities pledging will function.*

## Liquidity in the bank system over the millennium transition

Testing and preparations to ensure that the transition to the next millennium will be as smooth as possible have been completed. There is every indication that business will continue as usual over the millennium transition. However, market authorities and financial institutions both at home and abroad are nonetheless taking precautions to handle any problems, which may arise due to technical problems at the yearend or in case the public or market participants change their behaviour.

One question which has been discussed is whether or not there is a risk that banks may have a shortage of liquidity around the end of the year and if this is the case how they would manage this. Uncertainty about the supply of liquidity around the end of the year has led some financial institutions and companies in Sweden and abroad to increase their stock of liquid assets and to enter into forward

loan agreements that run over the millennium transition.

One way to quantify the liquidity premium for funds around the end of the year is to calculate the butterfly spread over the year-end. The starting point for calculating this butterfly spread is the interest rate on the three-month forward rate contract settled in December, that is to say the expect rate on a three month loan running from the middle of December over the millennium transition to the middle of March. Since this contract provides liquidity over the transition period, its interest rate should include the liquidity premium. The average of the interest rates on the September 1999 contract and those on the March 2000 contract are subtracted from the rate on the December contract to calculate the spread. The average of those two rates should reflect market expectations for interest rate developments but since the two contracts do not run over the millennium transition their rates should not include the millennium liquidity premium. The difference between the December contract and the average of the

rates on the contracts surrounding it should isolate the risk premium associated with the changeover. The butterfly spread in Sweden has followed the same pattern as the spreads in other major markets. They increased over the summer and then fell again in September. The spread in Sweden fell to 4 basis points in September while the average over the last 12 months has been 11 basis points.

The butterfly spread decreased steadily as market participants have learned that the financial sector has successfully completed preparations for the millennium transition and gained greater confidence in the liquidity situation. The banking system as a whole can have a liquidity deficit when the public has increased its demand for banknotes and the banks do not have enough eligible securities to use as collateral to borrow the amount needed in the Riksbank. An increased demand for banknotes is the only reason why the banking sector as a whole can have too little liquidity and must borrow from the Riksbank.

Banks, which have access to the central bank's large value payment system, the RIX system, have the right to automatically borrow as much as they need against collateral. Other financial institutions can in turn borrow from these banks. The total stock of securities which can be pledged with the Riksbank is relatively stable and has during the last four years amounted to SEK 1700 billion. The banking sector's cash holdings plus their stock of securities, which are eligible to be used as collateral in the payment system has averaged about SEK 200 billion during the last two years. Ordinarily, banks use securities worth about SEK 50 billion pledged at the Riksbank to obtain intraday credit in the RIX system.

The Riksbank has opened channels of communication with central banks in those countries where Swedish banks have branches or subsidiaries. This will facilitate the provision of liquidity to these entities should year 2000 related infrastructure problems make it difficult for the Swedish bank to provide liquidity.

## THE SWEDISH FINANCIAL SECTOR'S PREPARATIONS

In its report to the government on September 30, 1999, Finansinspektionen, the Swedish financial supervisory authority, concluded that preparations for the millennium transition in the financial institution have progressed satisfactorily during the year and therefore it is not probable that the financial sector will experience serious disruptions as a result of the millennium transition. Finansinspektionen received a government mandate to monitor the preparations of the financial sector in June 1998. Finansinspektionen have focused on two groups of financial institutions. The first group consists of 15 prioritised institutions, of which 6 are insurance groups, 5 are bank groups and 4 are stock exchanges, clearing houses or payment processing institutions. The second group consists of the institutions deemed to have a moderate impact on the financial system in the context of the millennium transition. Finansinspektionen's monitoring has followed institutions accounting for more than 99% of the market.

Finansinspektionen could confirm in its report that

the prioritised institutions had met supervisory requirements for year 2000 preparations. The institutions with a moderate impact on the financial system were on track to complete their preparations by the end of October.

Contingency planning in the financial institutions was the focus for much of Finansinspektionen's work during the summer and autumn. Institutions were enjoined to comply with supervisory requirements for contingency planning which meet the standards set by the Basel Committee on Banking Supervision and the Joint Year 2000 Council. Finansinspektionen confirms that the prioritised financial institutions have contingency plans meeting the requirements. The institutions with a moderate effect on the financial system have satisfactory contingency plans or will have by the end of October. This judgement is based on the reports of specially appointed auditors who examined the plans as of 30 June. Specifically, the plans are based on an analysis of the year 2000 related risks to the institutions' business activities. Furthermore, the plans include contin-

gency measures to cope with the failure of an internal system, a counterparty or the malfunctioning of basic services such as electricity. Finally all of the plans include a contingency organisation with the personnel necessary for both business and technical matters. What

remains is continued training of personnel and testing of the contingency plans.

Finansinspektionen will keep monitoring the institutions to ensure that nothing happens to affect their Y2K status.

## The millennium transition and retail customers

The public's demand for banknotes during the millennium transition is important for the liquidity in the banking system and the public's confidence in the banking system plays an important role in the decision about how much cash to withdraw. Factual information about the millennium transition and the preparations of the financial sector are vital to the public's confidence in the financial system.

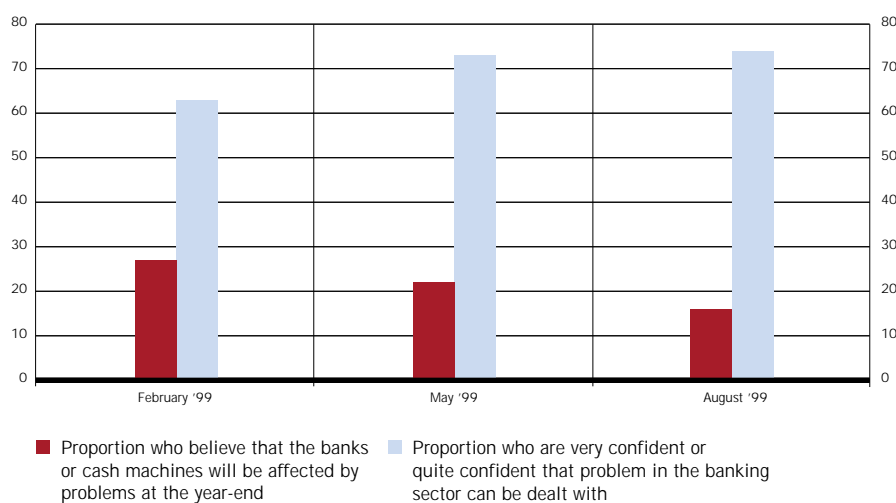
The National Board for Psychological Defense<sup>41</sup> has been investigating the public's information and concerns about the millennium transition throughout 1999. The most recent survey was completed in August. The number, who do not believe that the millennium transition will cause problems for themselves or for society as a whole increased to 41% in

August 1999. The survey provides evidence that a majority of the Swedish public, 74%, has very great or great confidence that the banking system can handle any problems that arise in connection with the transition. At the same time, 16% believed that the banks or ATM's may experience problems during the transition. Confidence has increased steadily during the year (see figure 4:1).

Both the Riksbank and the banks have provided information to help customers understand the nature of computer problems during the millennium transition, banks' preparations and the activities of market authorities. The Riksbank's brochure entitled *Dina pengar försvinner inte vid millennieskiftet* (Your money

41 National Board for Psychological Defense, *Citizens, authorities and the media on Y2K, September 1999.*

**Figure 4:1.**  
The public's attitude to the banking sector in connection with the millennium transition.  
Per cent



Source: National Board for Psychological Defense, *Citizens, authorities and the media on Y2K, September 1999.*

will not disappear at the millennium transition) explains the measures which the banks have taken to safeguard information about customers' accounts and that the common consumer payment methods will function as usual. This information has also been spread in speeches, and articles.

During the critical year-end period the Riksbank and Finansinspektionen, the Swedish financial supervisory authority, intend to keep the public informed and to immediately disclose information about any problems which may arise.

---

During the critical year-end period the Riksbank and Finansinspektionen, the Swedish financial supervisory authority, intend to keep the public informed and to immediately disclose information about any problems which may arise.

---

Nonetheless, the Riksbank and the banking system expect that withdrawals of cash during the 1999 Christmas holiday season may be somewhat higher than previous years. Cash withdrawals are always high around the holidays and this year the buoyant consumption trends together with millennium celebrations should increase the need for cash. All institutions involved in the provision of cash are preparing for such an increase. The responsibility for ensuring that the public has access to bank notes lies with the individual banks.

Providing for an increased withdrawal of cash requires both that the Riksbank have a sufficient supply of notes and coin and that PSAB, the Riksbank's subsidiary, sees that the cash is distributed where it is needed. A reasonable hypothesis is that households may withdraw an additional couple of thousand kronor which means additional withdrawals of about SEK 10 billion. As in the last *Financial Stability Report*, the value of the total supply of bank notes, both those in circulation and those in stock, is SEK 170 billion. This is more than sufficient to cover any increase in withdrawals. The banks' liquid assets are about SEK 200 billion (see previous section) which means that the banks can meet any increase in withdrawals.

Finansinspektionen has monitored the testing and contingency planning in Bankgirot and Postgirot. Both have met regulatory requirements for internal tests, external tests and contingency planning. With these systems and a good supply of bank notes, no serious problems with retail payments are expected.

## Financial markets and the millennium transition

The Swedish financial markets are expected to function as usual around the millennium shift. However, traders have long expected that there will be less trading than a usual year-end. Discussions between the Riksbank and major market participants suggests that they have a realistic view of the types of problems which may arise in conjunction with the millennium transition and are working to insure smooth operations and good liquidity in the markets. One indication that the markets have confidence in the financial sectors preparations for the millennium transition is the fact that the butterfly spreads for the critical period have decreased (see figure 4:2).

Participants in both the foreign exchange markets and the money markets are considering changes to routines and agreements to reduce the stress on clearing and settlement systems. Some simple procedures such as getting paper work done correctly and on time so that no corrections or backlogs need to be handled over the critical period will help to reduce settlement flows. Moreover, participants in the foreign exchange market have reached a consensus to reduce volumes in spot trade during the weeks around the end of the year. A convention has been established for currency based forward agreements which means that contracts entered into during 1999 which ordinarily would have been settled in the beginning of January will be settled on the fourteenth of January. These adaptations will not affect the overall functioning of markets and customers will be able to enter into any transactions, which they choose during this period. In the money market, the

need to maintain market liquidity is paramount. Participants will attempt to reduce settlement volumes while maintaining liquidity in the markets.

For markets to function on a business as usual basis, computer support for the entire transaction chain from striking a deal through settlement must work. It is particularly important that the transactions which the Riksbank uses for monetary policy and for fine tuning liquidity can be carried out. The Riksbank and a group of major market participants have examined the systems which are necessary to carry out each stage in these transactions to determine if additional tests were necessary.<sup>42</sup> This examination showed that all of the vital transactions and computer systems have already been tested or will be tested. Therefore, there is no reason to believe any disruptions should occur in these necessary transactions.

## Contingency planning

There is no reason to expect any significant problems caused by the millennium transition. However, small glitches in computer systems occur from time to time although the public is usually not aware of them. Similar disturbances may well occur over the

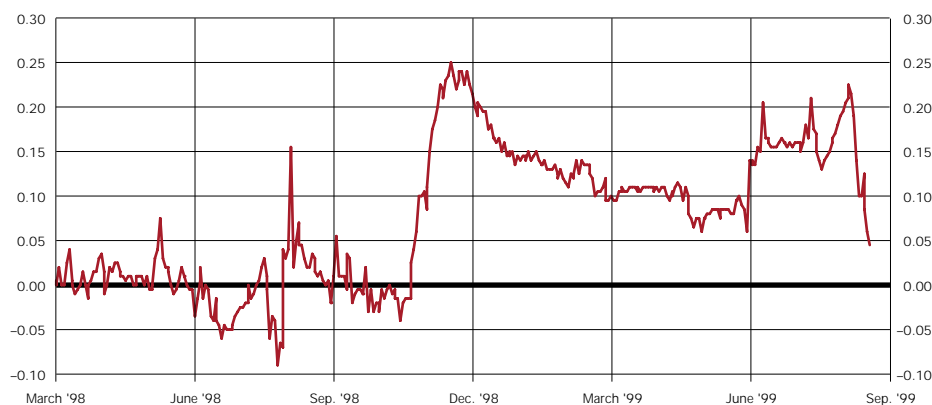
millennium transition. Financial institutions routinely maintain and test contingency plans to manage problems in their computer systems. In connection with the millennium transition, these plans must be extended to allow for simultaneous problems in a number of institutions or in a number of markets as well as problems with public services such as electricity and telephones.

Clearly the functioning of the financial markets is dependent on the operation of telephone lines and electricity. Independent investigations of these sectors carried out by the Year-2000 delegation concluded that the millennium transition should not increase the risk of disturbances. The financial sector should be able to count on fully functioning infrastructure during the transition.

Finansinspektionen appointed special auditors who were required to review the contingency plans at all important financial institutions by 30 June 1999. Finansinspektionen can confirm that all institutions whose malfunctioning would have a significant impact on the financial system will have a contingency plan meeting supervisory requirements by the end of October 1999.

42 See Financial Stability Report 1999:1.

**Figure 4:2.**  
Millennium Butterfly Spread  
in SEK three-month forward  
rates (FRA IMM).  
Interest rate differential in  
percentage points



Note: The spread is calculated as the interest rate on the December 1999 contract minus the average of the rates on the September 1999 and March 2000 contracts.  
Source: Reuters.

For business as usual over the year 2000 transition, it is essential that the large value payment system, the RIX system be able to settle payments and provide liquidity. The goal of the Riksbank's contingency plan is to enable the financial system to provide a necessary level of payment services even if operational problems arise. This means that the Riksbank must be prepared to remedy any problems in the RIX system itself and to smooth over or contain any problems in which may arise member banks.

---

The goal of the Riksbank's contingency plan is to enable the financial system to provide a necessary level of payment services even if operational problems arise.

---

The contingency plan for the RIX system has been developed to cover all eventualities from failure of a major participant to electricity failures in the Riksbank. Should problems arise, participants will be able to enter payments from dedicated computers run on reserve electricity. In the worst case, clearing will be carried out manually. The Riksbank has also obtained information about the contingency plans of those infrastructure providers, which are essential to the payment system. The banks have also expressed a willingness to pledge a significant portion of their securities stock in the Riksbank over the critical period. This would allow for a supply of buffer liquidity even if the technical infrastructure that supports pledging should not function smoothly at the beginning of the new year.

The Riksbank has a standing contingency plan for handling problems with banks that are members of RIX. This plan is being supplemented to cover the special problems that may arise in connection with Y2K. The current plan specifies the division of responsibilities, channels for the dissemination of information and the decision process in the event of a crisis. These basic working procedures could also be implemented for Y2K problems. However, the current contingency planning assumes that all Riksbank systems will function or can be duplicated at a back-up site. The year 2000 plans cannot make that

assumption. This means that the contingency plan includes routines so that the RIX system can function without computer back-up.

During the autumn, the Riksbank and Finansinspektionen continued work to harmonise their contingency plans. This work included the measures that they would take should problems arise in the financial sector in connection with the changeover. This work will culminate in a final joint contingency exercise in the middle of November.

The Riksbank and Finansinspektionen are co-ordinating an information exchange with financial institutions at critical times during the millennium transition. The results of this exchange will be spread to the general public by organising information to the press at each critical juncture in the transition process.

## International preparations

International preparations for the millennium transition are progressing satisfactorily. Large financial firms with significant international business have made good progress in adapting their systems. This was the conclusion of a meeting of the Joint Year 2000 Council in July 1999. The Joint Year 2000 council co-ordinates and disseminates information about financial market preparations and best practice in year 2000 adaptations among members of the global financial supervisory and central bank community. This group has provided recommendations on testing activities, information contingency planning and supervisory methods for the millennium adaptation.

Many emerging markets exhibit a lower level of preparedness for the millennium switch. However, economies with relatively little computerisation of financial services will be less vulnerable to problems. Moreover, countries with a low level of preparedness tend not to have many links to the international financial markets. Roger W. Ferguson Jr., Chairman of the Joint Year 2000 Council and Member of the Board of Governors of the Federal Reserve System, said in a speech on July 29, 1999 that he

would expect "any international disturbances to be limited in terms of the number of institutions and countries affected." Swedish banks have taken precautions against any effects of year 2000 problems abroad affecting their business in Sweden by examining their business relationships particularly with countries whose preparations are reputed not to be well advanced.

Some analysts suggest that this may mean that banks in emerging markets experience a bigger flight to safety than is expected in developed economies where preparations are well advanced. For this reason developed economies may have an increase in liquidity over the millennium.

Both the Riksbank and Finansinspektionen have an established network of contacts with their counterparts in other countries. This will ensure that information about conditions in those countries around the millennium transition is communicated to the Swedish markets and public.

## Conclusions

Swedish financial institutions finished all testing and adapting of computer systems for the year 2000 before last summer. Finansinspektionen has studied special reports on institutions' contingency planning and concludes that all major Swedish institutions have established plans which meet the recommendations of the Basel Committee on Banking Supervision and the Joint Year 2000 Council.

The financial markets and the general public are well aware of the types of problems that may occur in connection with the millennium transition. Market participants have reached a consensus on mea-

asures to reduce unnecessary settlement and clearing volumes over the critical period. These measures will not affect the market's ability to handle the full range of transactions which counterparts may request; however, they will reduce the stress on vital components of the financial infrastructure during the transition.

Banks in Sweden, which have access to the central bank's large value payment system, the RIX system, have the right to automatically borrow as much as they need against collateral. In as much as these banks have substantial stocks of securities, which can be pledged, liquidity should be available.

The Riksbank is completely prepared for the transition. The RIX system has been fully tested and gives no evidence of any 2000 related weaknesses. This means that the basic payment systems will work without problems. Furthermore, the Riksbank has an adequate supply of cash and streamlined distribution routines to insure that those individuals who choose to withdraw extra cash can do so.

---

The Riksbank anticipates that the activities in the Swedish financial system will continue as usual.

---

The Riksbank anticipates that there will be no significant problems arising as a result of the millennium transition. Because the adaptations to correct any year 2000 related problems are very complex and all encompassing, it is reasonable to assume that there will be glitches. These may lead to minor disruptions of a limited duration. The responsibility that transactions continue as usual and that the clients have access to the services they demand are the banks. With the reserve routines which financial market participants have in place, the Riksbank is confident that the financial system's business will proceed as usual in Sweden.