



The Euro in the Swedish Financial Sector – Situation Report 5



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FOREWORD

The third stage of economic and monetary union (EMU) was launched on January 1 1999. During the period of over a year since then, the euro – the single currency – and the common monetary policy have had a considerable impact on the structure and development of financial markets in the euro area. Among the greatest changes are the rapid integration of the money markets into a single money market for the euro area and the emergence of corporate bonds in euros.

In Sweden, the euro has arrived as a new foreign currency. Private individuals and enterprises have opened euro accounts and make payments, save and borrow in euros. The foreign payments made by the large Swedish companies through banks are usually made in euros instead of the previous national currencies. Mortgages and securities trading in euros and savings in euro-related funds are other euro services that are now being offered. As of last autumn, there were 15,000 euro accounts in Swedish banks.

It is still uncertain whether Sweden will join the currency union. In order to maintain the freedom of action with regard to EMU for which the Swedish Parliament has voted, Sweden's financial sector has devoted a great deal of effort in 1999 to studying the adjustments that would be necessary in the event of transition to the euro in Sweden and how long such measures might take. *The Euro in the Swedish Financial Sector – Progress Report 5* presents a supplementary and deeper analysis of the lead times for Sweden's financial sector which were outlined in the previous progress report (October 1999).

The progress reports are produced within the framework of the cooperation between Sveriges Riksbank and the financial sector that takes place continuously in a forum known as SIFS (Consultation and Information Exchange with the Financial Sector). The authors of the present report are: Ann Elvhult, Björn Hasselgren, Eva Julin, project leader, Peter Kvist, Helena Sjögren and Åsa Sydén, all of Sveriges Riksbank. Pär Karlsson and Tomas Tetzell (the Swedish Bankers' Association), Hans Wahrolén (Association of Swedish Finance Houses), Göran Ahlberg (Finansinspektionen/Swedish Financial Supervisory Authority), Hans Isaksson (Swedish National Debt Office), Linnéa Perttu (Swedish Insurance Federation), Vigg Troedsson (Swedish Securities Dealers Association), Leif Vindevåg (OM Stockholm Exchange), Lars Egstam (Securities Register Centre) and Harriet Magnusson (Swedish Mutual Fund Association) also contributed to the report. I wish to thank them, the SIFS steering committee and all those who have contributed useful comments and assisted in other ways with the preparation of this report.

Stockholm, March 2000

Eva Srejber, Deputy Governor of the Riksbank



INTRODUCTION

On January 1 1999, the euro was introduced as the single currency in eleven of the EU's fifteen Member States. Following Parliament's resolution of December 1997, Sweden does not participate in the third stage of EMU (currency union). The Government Bill *Sweden and Economic and Monetary Union* (1997/98:25) declares that Sweden will maintain the greatest possible freedom of action with regard to possible Swedish membership of the currency union "both by maintaining the position of economic strength that has been achieved and by carrying on with the practical preparations at the national level, so as to implement a possible future transition to the euro in an appropriate manner". The cooperation between the Riksbank and the financial sector is one way of maintaining preparedness.

Following the introduction of the euro, Sweden's financial sector now offers a number of services in euros, for example payments, deposit and lending services and securities trading. However, to introduce the euro as Sweden's currency would require much more radical changes, both in the financial sector and in the economy as a whole, than those that have been made so far. SIFS (see fact box 1) devoted most of 1999 to analysing the need of changes in connection with a possible Swedish membership of the currency union and how long the lead times (the transition period) would be in the financial sector.

Fact box 1. SIFS (Consultation and Information Exchange with the Financial Sector)

- Since 1996, cooperation on EMU and euro issues in the financial sector has taken place under the leadership of the Riksbank in a forum called SIFS (Consultation and Information Exchange with the Financial Sector). SIFS also takes part in the Government's general organization for national preparations for the introduction of the euro. These preparations relate not only to the financial sector, but also to the business sector, the public sector, and legal and consumer issues, and are coordinated by a Euro Coordination Group at the Ministry of Finance.
- SIFS consists of a steering committee and six working groups. The steering committee is headed by Deputy Governor Eva Srejber and includes representatives of the Swedish Bankers' Association, OM Stockholm Exchange, the Securities Register Centre (VPC), the Swedish National Debt Office, the Association of Swedish Finance Houses, the Swedish Securities Dealers Association, the Swedish Mutual Fund Association, the Swedish Insurance Federation, the Ministry of Finance and Finansinspektionen. In addition, the chair of the Euro Coordination Group at the Ministry of Finance and the chair of the Euro steering group of the Swedish Bankers' Association are permanently coopted. The steering committee discusses matters connected with the practical preparations for the introduction of the euro in the financial sector as a whole.
- The SIFS working groups include Riksbank experts in various fields and representatives of various parts of the financial sector. The working groups deal with euro-related matters of common interest to the Riksbank and the financial sector in the following areas: the payment system, the interest rate control system, notes and coins, statistics, law and information.
- The progress reports on the euro in the Swedish financial sector are the forum used by SIFS to report on the status of preparations for the euro in the financial sector and other matters relating to EMU and the euro that are of interest to the financial sector. The first report was published in 1996. Including the present report, five reports have been published so far.



The Euro in the Swedish Financial Sector – Progress Report 4 presented a first outline of lead times in the financial sector¹.

The report noted that the lead times for technical and practical changes in connection with a possible transition to the euro would vary for different financial players, depending, inter alia, on the complexity of their computer systems and the extent to which legislative and regulatory changes must be made before the necessary changes are implemented. Several players stated that they could change over to the euro within one year of a decision to join EMU.

The analysis of these issues has continued (up to January 2000), with a view to a more uniform presentation of the lead times in the financial sector, broken down into measures that must be carried out *before* Sweden joins EMU² and measures that could be undertaken during the transition period and the currency substitution period. The purpose of the present progress report is to increase understanding of the preparations and adjustments that will be necessary in Sweden's financial sector if Sweden decides to join EMU, and the lead times involved. The report aims to provide comprehensive documentation of the adjustments that remain to be made in the financial sector prior to Swedish participation in EMU and how long it will take to complete these measures.

The first chapter describes the transition process in Sweden in general terms, as well as from the point of view of the financial sector. It also contains a section on the status of the euro from the point of view of the financial sector. The next chapter contains a summary of lead times in the Swedish financial sector as a whole, and a progress report from the Riksbank and other financial players on the status of the technical and practical preparations for the introduction of the euro in their respective fields. The Riksbank has concentrated on providing information about the legal status of the euro and the production of notes and coins, since these issues have not been dealt with in previous progress reports. The report concludes with a summary and conclusions.

¹ *The Euro in the Swedish Financial Sector – Progress Report no. 4* also described current trends in the euro markets and the extent to which the euro was used in Sweden up to September 1999.

² The report uses the terms "membership of EMU" and "EMU countries" synonymously with "participation in the currency union" and "participating countries". All these terms refer to participation in the third stage of EMU and to the eleven countries that have introduced the euro as their currency and pursue a common monetary policy.

From the krona to the euro

Joining EMU and replacing the Swedish krona by the euro would require very far-reaching changes in the Swedish economy as a whole. For example, the moment Sweden joined EMU it would be covered by the common monetary policy in the euro area. The use of the euro as the Swedish currency would also make it easier to compare Swedish prices and costs with those in the euro area, which would probably increase competition in the Swedish market. The exchange risk to which Swedish enterprises are exposed today when doing business with enterprises in the euro area would also disappear. A Swedish changeover to the euro would make it necessary for the business sector both to adjust business strategies and undertake technical modifications. Strategies, administrative routines, computer systems etc., would also have to be adapted to the euro in all other sectors.

Apart from the general adjustments that would have to be made in all sectors of the economy, some sectors would face specific challenges. The financial sector (which is the only sector dealt with in this report) would play a key role in the transition to the euro since a large part of the financial infrastructure would have to be adjusted to the euro *before* Sweden joined EMU, while other sectors could adjust during the transition period. This chapter opens with a review of the foreseeable stages in a Swedish transition process. This is followed by a description of

the status of the euro during a transition period. The chapter concludes with a presentation of some critical factors in the changeover to the euro in the financial sector.

A Swedish transition process

The question of whether or not Sweden will join EMU will be preceded by a domestic political process resulting in a decision whether or not to submit a Swedish application for membership. The Government Bill *Sweden and Economic and Monetary Union* (1997/98:25) states that if the Government concludes at a later stage that Sweden should join EMU, the question will be put to the Swedish voters for a decision, either in a referendum, a general election or an extra election³. If the voters decide in favour of participation in EMU, the Government will draft a bill proposing that Sweden should apply for membership, which will be discussed and voted on by Parliament.

After an application has been submitted, the European Commission and the ECB will examine the situation in Sweden to see if the country meets the economic and legal criteria for membership that are laid down in the Treaty on European Union⁴. As

³ An extra Social Democratic Party congress on March 10-12 voted in favour of a referendum on participation in EMU.

⁴ See fact box 2 on the procedure for admission of Member States with a derogation.

regards the criteria for exchange rate stability, it has not been finally determined whether participation in ERM2 is a requirement for participation in EMU, and in that case how long a country must participate in ERM2 prior to entry. The Resolution on the establishment of an exchange-rate mechanism in the third stage of economic and monetary union (97/C 236/03) states, however, that Member States with a derogation are expected to join the mechanism. A Member State which does not participate from the outset in the exchange-rate mechanism may participate at a later date. The Swedish Government has stated that if Sweden applies for participation in EMU, a logical step would be first to link the krona to ERM2. Should the Government decide to join ERM2, negotiations would take place between Sweden and the other Member States on the central rate to be fixed

for the euro and the fluctuation bands that would be applicable⁵.

It is the Ecofin Council (the Council of the EU's economy and finance ministers) which will decide, on the basis of the evaluation of Sweden's fulfilment of the convergence criteria, after consulting the European Parliament and taking into account the views of the EU's heads of state and government, whether or not to admit Sweden as a member of EMU. If Sweden's application is accepted, negotiations will take place on the Swedish transition scenario, i.e. the date of entry, the exchange rate at which the krona will be fixed against the euro, the period of transition, the currency substitution period etc. It probably lies in Sweden's political interests to become a member as soon as possible after taking the decision to join EMU (for one thing, so as to be able to take part in political

Fact box 2. Admission procedure for Member States with a derogation

The EU countries that do not meet the convergence criteria for participation in EMU, i.e. at present Sweden and Greece, are referred to as Member States with a derogation. (Denmark, which was granted a derogation in a protocol to the Maastricht Treaty, belongs to the same category). According to the Treaty, countries with a derogation are to be examined by the European Commission and the ECB at least once every two years, or at the request of the country concerned. The examination procedure is the same as that applied to the present EMU countries prior to membership. The Commission and the ECB will make an assessment of the Member State's fulfilment of the convergence criteria. The European Parliament will then comment on the Commission's and the ECB's reports, after which the EU's heads of state and government will discuss the Commission's proposal, and the Ecofin Council will then take a decision.

The conversion rate between the euro and the applicant country's currency must be fixed before the country can join EMU, as was the case for the present members. Following negotiations between all the members and the applicant country, the Council decides, on a recommendation from the Commis-

sion and after consulting the ECB, to adopt the conversion rate.

The legal basis for the introduction of the euro in the present EMU countries is provided by the Euro Regulations. The Regulation on certain provisions relating to the introduction of the euro deals with the continuity of contracts, conversion rules and rounding rules. The Regulation on the introduction of the euro deals with the details of how the euro will replace the national currency, how the substitution of banknotes is to take place etc. However, the timescales specified in that Regulation only apply to the present EMU countries.

The provisions of the Euro Regulations will probably be applied to future candidate countries too, although new Regulations will also probably be adopted for the purpose of the admission of new participants in the currency union. The applicant countries will also prepare national transition scenarios for the practical implementation of the currency changeover, just as the present EMU countries did within the framework of the reference scenario that was adopted at the European Council in Madrid in December 1995.

⁵The central rate in ERM2 would probably subsequently be the fixed conversion rate used at the time of entry to EMU, since this was the case for the current EMU members. Negotiations on the central rate take place in the Economic and Financial Committee, on which both the Riksbank and the Ministry of Finance are represented. The decision is taken by mutual agreement between the ECB, the EMU finance ministers, the governors of the central banks and the finance ministers in Sweden and the other ERM2 countries. At present, the standard fluctuation bands in ERM2 are $\pm 15\%$.

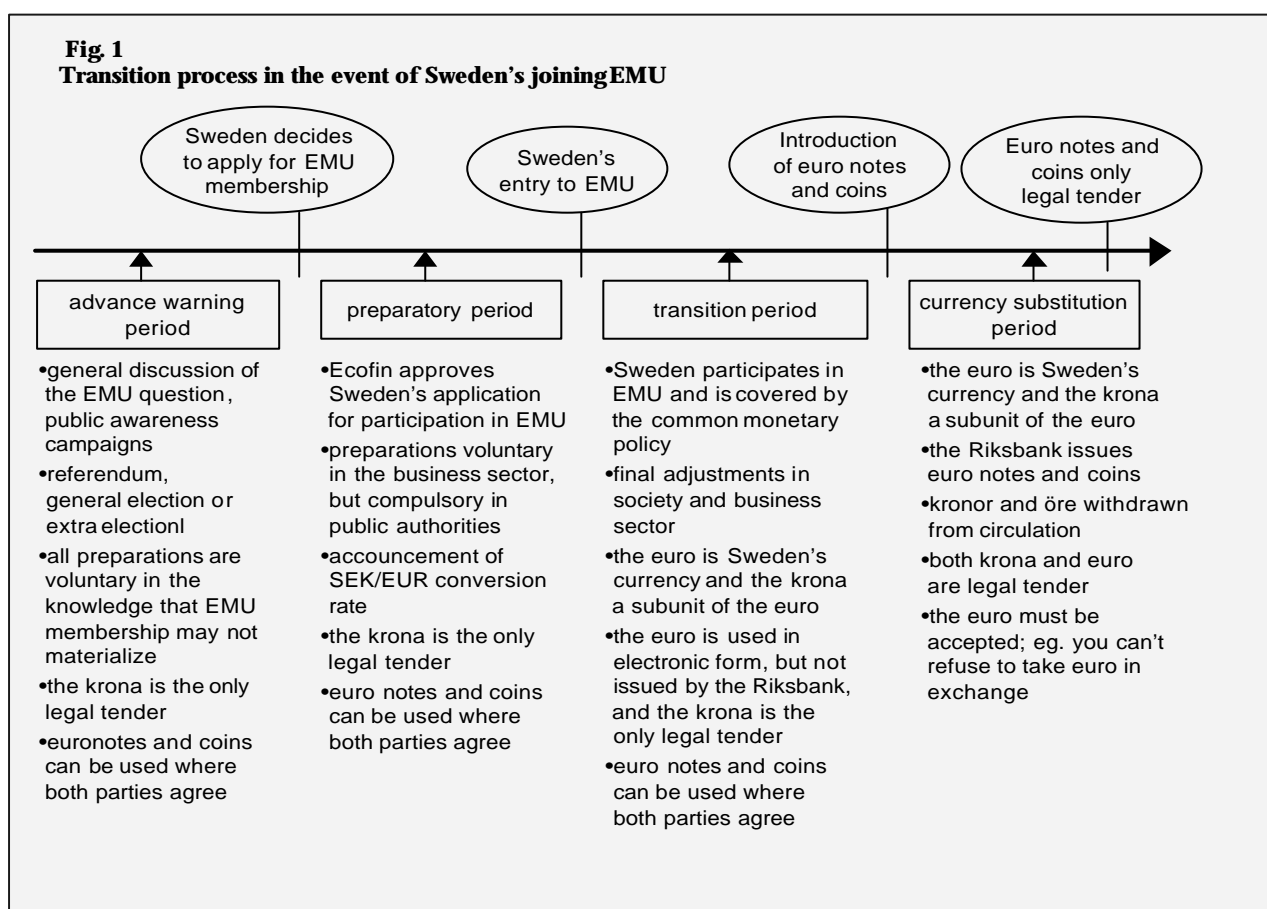
decisionmaking in the euro area). However, in connection with the negotiations on the date of entry, the progress made on technical and practical preparations in various sectors will have to be taken into account. The lead times in the financial sector are particularly important in this connection, since a large part of the financial infrastructure must be adjusted *prior to* entry. This is described in further detail in the chapter on lead times in the Swedish financial sector

Assuming that Sweden's application is accepted, a number of critical dates and periods can be foreseen in a Swedish transition process. See below and under figure 1.

The *advance warning period* will usher in the process leading up to an application for Swedish participation in EMU. The pros and cons of joining EMU will be debated, and it

will become increasingly clear that a decision ~~on whether or not to join will be taken soon~~⁶. Preparations for a changeover to the euro will take place on a voluntary basis during this period, and as the time approaches for Sweden to take a decision on membership preparations will be intensified, particularly in the business sector, but possibly also in certain public authorities.

The *preparatory period* is the period following a Swedish decision to join EMU, and will last up to the date of entry. During this period the Ecofin Council will decide to accept Sweden's application on the basis of the reports submitted by the ECB and the Commission. The date of entry will also be decided and the conversion rate between the krona and the euro may also be announced. Active preparations will commence during this period in all sectors, particularly in the



⁶ See note 3.

financial sector, which must be in a position to offer a working financial infrastructure in euros from the first day of membership.

On the *date of entry to EMU* the euro will be introduced as Sweden's currency, and the irrevocably fixed conversion rate between the euro and the krona will formally enter into force. From that date the krona will become a subunit of the euro.

The *transition period* is the period following entry to EMU during which the euro and the krona will be used side by side and the use of either currency will be optional in contracts, transactions etc., provided that the parties concerned are agreed. The final preparations for a complete changeover to the euro will take place during this period. The first eleven members of EMU have a three-year transition period. As yet, the euro is still only an electronic currency in these eleven countries. Euro notes and coins will only be introduced at the end of the transition period, i.e. on January 1, 2002. During a transition period in Sweden, euro notes and coins will probably already be in use in the euro area, which makes it important to define the status of the euro in Sweden during the period up to the substitution of euro notes and coins for Swedish kronor. (See the section below on the status of the euro during the transition period). During this period the Riksbank assume only notes and coins issued by the Riksbank to be legal tender.

The *introduction of euro notes and coins* will be the date on which the euro becomes legal tender, which means that it must be accepted as a means of payment in Sweden.

The *currency substitution period* will follow the transition period and start on the date when euro notes and coins are put into circulation. Notes and coins in kronor will be withdrawn as means of payment during this period. Throughout the period both the euro and the krona will be legal tender, but when the period ends the euro will be the only legal tender in Sweden.

The status of the euro during the transition period

The term 'currency'

Currency is normally understood as the unit of money used by every state, such as the krona in Sweden. Should Sweden decide to join EMU, the euro will be introduced as a currency in Sweden on the date of entry, when the fixed conversion rate between the euro and the krona will come into force. The krona will then be a subunit of the euro and will represent a non-decimal expression of the euro. Sweden's currency will be the euro, and the krona will be a currency unit.

Since the present EMU countries have a three-year transition period in accordance with the Regulation on the introduction of the euro, Sweden should also have a transition period of up to three years, if it so wishes. As for the present members, the use of the krona or the euro in contracts, transactions etc. should be optional in Sweden too. This means that the use either currency is neither compulsory nor prohibited, the aim being to give all sectors the chance to make a gradual changeover to the euro. The alternative – compulsory use of the euro in all transactions from the date of entry – is referred to as the Big Bang.

The difference in Sweden, compared with the present EMU countries, is that in all probability euro banknotes would already be in circulation by the time Sweden joined EMU. However, this should make no difference to the rules governing Sweden's currency. Sweden's currency will be the euro, and the krona will be a subunit of the euro. As in the present EMU countries, the euro would function as an electronic currency in payments between banks, for example, or by means of credit or payment cards. The euro would also replace the krona in the Riksbank's accounts and in the RIX system from the date of entry. Furthermore, part of Sweden's national debt would be redenominated, i.e. converted from the krona to the euro.

The term 'legal tender'

However, the question of legal tender would arise in a situation where euros were already in circulation in Europe and there would thus be an influx of euro notes and coins into Sweden. Assuming that Sweden was granted a transition period similar to that for the present EMU countries, the situation would probably be as follows.

Pursuant to chapter 5, section 1 of the Sveriges Riksbank Act (1988:1385), notes and coins issued by the Riksbank are legal tender. Chapter 5, section 2 of the Act stipulates that banknotes may be issued in various denominations of the krona and coins in various denominations of kronor and öre. Since the Act restricts legal tender to the actual notes and coins issued by the Riksbank, notes and coins in the currency unit kronor would be legal tender in Sweden until euros are issued by the Riksbank. For the Governing Board of the Riksbank to decide on the design of the reverse face of the euro coins that it will issue, a legislative amendment will be necessary to allow coins to be issued in euros and cents. Other legislative amendments and associated transitional provisions will be necessary before the Bank will be able to issue euro notes and coins.

During a transitional period, when the use of the krona or the euro will be optional in contracts, transactions etc., only notes and coins in kronor and öre will be legal tender in Sweden, i.e. people in Sweden will only be obliged to accept payment in kronor and öre issued by the Riksbank. For payment to be made by other means, for example with euro banknotes or coins, it will be necessary to ask the opposite party if he/she accepts such a means of payment. If the euro were to be the only legal tender from the date of entry to EMU, this would mean that everybody, including the "tobacconist on the corner", would have to handle euros from that date.

Euro notes and coins as voluntary means of payment during the transition period

Since euro banknotes and coins will in all probability already be in circulation by the time

Sweden joins EMU, it may be difficult for the public to understand that, although Sweden's currency is the euro, and the krona is only a currency unit, Swedish kronor, and not euros, will be the legal tender in Sweden. For example, Swedes will have euro banknotes with them when they return to Sweden from visits to EMU countries in Europe, and foreign visitors from the EMU countries will have euros when they come to Sweden and will naturally want to use them for payment. Whether or not this will be possible will depend entirely on whether post offices, banks and the retail trade agree to accept such payments. In many cases payment in euros will probably be accepted, since it will be in the interest of shopkeepers, for example, to do so. However, they will not have the unconditional right to pay with euros, and the use of the euro will depend on whether the recipient accepts them. It is important that the public should be fully informed on this matter.

The euro as legal tender

When the Riksbank introduces euro notes and coins, these will also be legal tender in Sweden. For a short period, therefore, both the euro and the krona will be legal tender until all notes and coins in kronor have been withdrawn. This currency substitution period, the length of which will be negotiated in the same way as the duration of the transition period, should preferably be as short as possible in view of the practical problems associated with the use of two currencies side by side. The EC Regulation that applies to the present EMU countries stipulates a period of not more than six months. In practice, the countries concerned have agreed to implement the changeover much faster, in about 4-8 weeks (see fact box 3).

The reason for making the period of co-existence of the euro and the krona as short as possible is that post offices, banks etc. and shops will have to handle two separate currencies, which may be very costly. The need to duplicate price information is another factor that would involve high costs for the retail trade.

Fact box 3. Speedier introduction of the euro in EMU countries in 2002

Following the introduction of euro notes and coins on January 1 2002, the process of substituting euros for the national currencies will take two months at most. The economy and finance ministers in the eleven EU countries that joined EMU on January 1 1999 adopted common guidelines on currency substitution on November 8 1999. The Regulation on the introduction of the euro lays down that notes and coins in national currency units will be legal tender up to June 30 2002 and that it is up to each Member State when to implement final withdrawal of the national currency. The finance ministers, keen to speed up the introduction of the euro, declared in their joint statement that the period during which their national currencies and the euro coexist should last between four weeks and two months. At the

beginning of March 2002 the competent national authorities will facilitate the conversion of the previous notes and coins that are still in circulation. The ministers also considered it necessary that banks, the retail trade and certain transport companies should have access to euros before January 1 2002 in order to ensure that sufficient quantities of euros are issued by the first days of January. Furthermore, the ministers intend to distribute coins in small quantities to vulnerable population groups, such as the elderly and the vision impaired, even before this, in December 2001. The agreement is applicable to all the countries in the euro area, i.e. Belgium, Germany, Spain, France, Ireland, Italy, Luxembourg, the Netherlands, Austria, Portugal and Finland.

SOURCE: ECOFIN'S OFFICIAL STATEMENT IN "EUROPA UTAN GRÄNSER", No. 1-2000.

At the end of the currency substitution period, when all Swedish banknotes and coins have been exchanged, the euro will be the only legal tender in Sweden. However, the Riksbank will, during a transitional period, continue to exchange notes and coins in kronor previously issued by the Bank for euros at the fixed conversion rate.

The transition process in the financial sector

Although the Swedish financial sector has already carried out a number of adjustments in order to be able to deal with the euro as a foreign currency, several major changes remain to be made before it will be possible to substitute the euro for the krona as Sweden's currency⁷. Examples of technical and practical adjustments that must be made in connection with entry to EMU are the adjustment of computer and accounting systems (introducing the euro as the base currency), as well as changes in price lists, forms and other information, personnel administration, training etc.

The strategic challenge for Swedish banks and other financial market players will be to maintain their competitiveness if the Swedish financial market is integrated into the euro financial market. The ECB's January report⁸ notes that the number of credit institutions in the euro area decreased by almost 5% in 1999. While it is true that consolidation of the financial services sector has been in progress for more than a decade and is driven mainly by factors such as technological developments, deregulation, globalization etc., the euro is an additional driving force. For example, it may be noted that in *the money market* in the euro area there has been a concentration on management of liquid assets, that competition is now keener, that individual banks now have a larger number of counterparties and that liquidity has improved in the secondary markets. Furthermore, the eleven national *bond markets* became more closely integrated in 1999, which in turn substantially increased competition between the issuers in the public sector. When the exchange risk between the krona and the euro disappears, economies of scale will therefore probably influence the choice of business strategy among the Swedish financial players as well. Several public authorities have already undertaken major adjustments in order to make it

⁷ All such measures must however not be completed before Sweden enter EMU. See the next chapter for information on the lead times estimated for various sectors before and after entry.

⁸ European Central Bank, Monthly Report, January 2000.

possible to handle the euro on a large scale from the very start of EMU. The Riksbank, for example, joined Target, the common EU payment system, on January 1, 1999⁹. Swedish participation in EMU would, however, also make it necessary to have systems and routines for monetary policy and the administration of national debt that are adapted to those that already exist in the euro area, and the payment system would have to be fully adjusted to the euro.

As was mentioned in the fourth progress report on the euro in the financial sector, the interest rate control systems used by the Riksbank are quite similar to those in the euro system¹⁰. One important difference as regards the monetary policy instruments used is that the euro system applies minimum reserves, which the Riksbank abandoned in 1994. Therefore, minimum reserves will have to be reintroduced and a minimum reserve account for each institution will have to be set up in the Riksbank's payment system prior to Swedish participation in EMU. Several other changes relating to the interest rate control system must also be made prior to entry, i.e. as regards the securities that can be used as collateral, the counterparties in monetary policy transactions etc.

If Sweden joins EMU, new issues of national debt will have to be denominated in the euro. Outstanding debt will also have to be redenominated in the euro. Both these measures relate to government securities registered by the Securities Register Centre (VPC). Most of the present EMU countries elected to take investors' holdings as their starting-point and redenominated these in cents. Another alternative in connection with redenomination is to convert the amount for each outstanding security or to round to

⁹ Target was set up to make it possible to implement a common monetary policy in the EMU area. But the system also offers unprecedented opportunities for the banks to effect large euro payments, in particular, speedily and safely. Target thus offers an alternative to traditional payments through correspondent banks. Target's participants can transfer and receive both cross-border and domestic euro payments. The system also permits euro payments in real time, i.e. a few seconds, while payments through correspondent banks usually take at least two days.


¹⁰ The euro system consists of the ECB and the national central banks in the eleven EMU countries.

whole euro units. Consultations are in progress between the Swedish National Debt Office and the Swedish Bankers' Association etc. as to which method of redenomination should be used in Sweden.

As will be seen from the above remarks, a large part of the financial infrastructure will have to be in place prior to a Swedish entry to EMU. In the existing euro countries the final changeover to euros in the financial markets took place during the "conversion weekend". Preparedness was high. The changeover to the euro had been preceded by several years' technical and practical preparations and by thorough tests of systems and reserve routines during the last six months prior to introduction. When the time came to introduce the euro during the New Year holiday, about 50,000 staff worked in banks and brokerages in different parts of Europe, entering the irrevocable conversion rates in all their systems and converting securities and other assets into euros to ensure that monetary transactions, payments and securities trading could start on the very first weekday of the New Year, i.e. January 4 1999. In four days the national debt of all the EMU countries was converted into the euro, after which the bond and securities markets in the euro area changed over to the euro.

A similar conversion weekend or conversion period should also be planned in Sweden, should it decide to join EMU. It will also be necessary to carry out thorough tests of the euro-adjusted financial structure, as well as tests of the interfaces between the financial sector and the public authorities that regularly make large payments. These authorities have met on two occasions to discuss issues of common interest with regard to these interfaces. To meet the Swedish financial sector's stringent requirements for collaboration and coordination it will be necessary to prepare for the conversion process in good time.

Since the changeover to the euro in the financial sector must largely be complete by



the date of entry, most of the financial players wish to use the euro as the base currency in their contacts with Swedish authorities immediately after entry. The public sector's ability to offer the financial sector the possibility of using the euro for tax and accounting transactions with public authorities (the "full euro option") during the transition period has been studied by twelve large government agencies on behalf of the Government Offices. Their analysis was presented to the Ministry of Finance on

March 1. A full euro option would mean, among other things, that Swedish companies could present their tax returns, withholding statements and other statistical data, and also pay taxes, in euros from the date of entry¹¹. With a full euro option it would also be possible to use the euro for tax statements and refunds made by the tax and customs authorities. This would probably be organized by setting up "wrapper systems" around the existing systems and providing additional exchange services.

¹¹ The agencies that mainly have dealings with the general public would not, however, offer a full euro option. Any grants or subsidies made by the Government during a transition period would be paid out in kronor, including those to enterprises.

Lead times in the Swedish financial sector

As mentioned earlier, the financial sector would play a key role if Sweden decides to join EMU. To ensure that preparedness in the financial sector is sufficient to ensure a smooth introduction of the euro as Sweden's currency, the operations and areas that are affected by a changeover to the euro, as well as the need of changes and of resources, must be identified.

The fourth progress report on the euro in the financial sector presented a review of necessary adjustments and lead times in various parts of the financial sector. Planning and preparations have continued since then¹². In this chapter the various participants in SIFS describe the adjustments that will be necessary in their fields of activity in order to replace the krona by the euro, and how long these measures will take. Specification is made, wherever possible, of measures that must be taken *prior to* entry, and measures that can wait until the transition period or the currency substitution period.

The chapter starts with a section on the Riksbank's lead times for various areas. This is followed by reports from the Swedish National Debt Office, the Swedish Bankers' Association, the Swedish Securities Dealers Association, OM Stockholm Exchange, the Securities Register Centre (VPC), the Association of Swedish Finance Houses, the Swe-

dish Insurance Federation, Finansinspektionen and the Swedish Mutual Fund Association. The aim is to give an *overview* of the measures that remain to be taken before the Swedish financial sector is completely euro-compatible and of the timescale for the completion of these measures. See the fourth progress report on the euro in the financial sector for a more detailed description of the measures that remain to be taken.

Sveriges Riksbank

The Riksbank has worked for several years on internal practical preparations for a possible Swedish participation in EMU. This work covers eight main areas, which basically corresponded to the ECB's committee structure. In 1999 the Bank has focused on studying all the subprojects that must be carried out in order to take the Bank from the present situation to participation. Most of these projects are related to computer systems. One important aspect has been the need to assess the duration of the projects and at what point in time they must be implemented. The Riksbank has based its identification of the remaining preparations for the euro on two entry scenarios, i.e. (1) Sweden joins EMU on January 1, 2002, which has been assumed to be the earliest feasible date for a Swedish entry to EMU, and (2) Sweden joins after that date. We have also

¹² The present report deals mainly with the status as of January 2000. More recent data have been used where they were available.

worked on the basic assumption that the Riksbank will cease to be responsible for clearing in kronor from the date when Sweden joins EMU and that Parliament and the Government would, following a decision to join EMU, want to participate in the economic policy cooperation within EMU as soon as possible. We have also assumed that the Riksbank is not likely to issue euro coins with a reverse face produced by some other country. Some other assumptions that concern the production of coins are described below in the section on notes and coins.

Below follows a brief account of what remains to be done before the Riksbank is fully prepared to handle euros in the event of Sweden's joining the currency union. The relevant subjects are treated under separate headings, and an approximate timescale and the date when each change needs to be made are given for each subject.

The interest rate control system

Extensive preparations have been in progress for about two years in the field of interest rate control. To start with, the work consisted in designing the common interest rate control system in the future currency union together with colleagues from other central banks. In 1999, the main task was to continuously update our knowledge of the function and development of the interest rate control system in the euro system.

The interest rate control system in the euro system is broadly similar to that used by the Riksbank. The main difference is that the Bank will have to reintroduce minimum reserves if Sweden joins EMU¹³. A large number of computer systems will also have to be adjusted so that they can handle transactions in the ESCB environment.

The overall adjustment process that will have to be completed before Sweden joins EMU is estimated to take about 18 months, including a testing period for all the systems which will

last about 6 months. The systems must be operational by the time Sweden joins EMU, which means that all the preparations must be complete before the start of the transition period.

The payment system

The Riksbank has participated in the Target system ever since the start of the currency union in January 1999. Consequently, most of the EMU adjustments that relate to the payment system have already been made. At present, the Bank operates two settlement systems, one in kronor, K-RIX and one in euros, E-RIX, which is connected to Target. The remaining adjustments involve a changeover to a single system in connection with participation in EMU, with settlement in the euros alone. This system will need to be completed to be able to deal with the minimum reserves used by the ECB in its monetary policy and with a number of standing facilities for deposits or lending in the Riksbank. Examples of necessary changes in this connection are the introduction of minimum reserve accounts, communication systems and routines for payments, calculation of interest and follow-up for both direct and indirect participants in the system.

All preparations relating to the payment system must be complete before Sweden joins EMU. The time needed for these preparations is estimated to be 12 months at most. In addition, a testing period of up to six months will be necessary, which means that the total time needed for preparations is 18 months.

Notes and coins

The Riksbank's internal preparations for EMU have included a study of how long it would take for Tumba Bruk, a Riksbank subsidiary, to produce euro banknotes and coins. For this purpose the Riksbank has used two scenarios: the first is based on entry to the currency union in 2002, the year in which the EMU countries will introduce euro notes and coins, and the second on entry at a later date, by which time the members of the currency union will already have changed

¹³ See the fourth progress report on the euro in the financial sector for a detailed explanation of the differences between the interest rate control systems used by the Riksbank and the euro system.

over to euro notes and coins. In the first case, other European mints are not likely to have spare capacity before January 1, 2002, while such capacity might be available after that date, since the EMU countries will have introduced euro notes and coins by then, and this capacity could be utilized to supplement Sweden's own production. The assumption here, as in all other preparations connected with the euro, is that Sweden would want to enter the third stage of EMU as soon as possible after a political decision to join. It is also assumed that Swedish coins with national characteristics on the reverse face should be available from the start of the currency substitution period. Sweden, like the present EMU countries, will need a period of about two months in which to substitute notes and coins.

The Riksbank's analysis does not include planning of the final substitution of currency. PSAB Pengar i Sverige AB is currently studying possible procedures for the distribution of euro notes and coins. Responsibility for this distribution will subsequently be the subject of an agreement between the Riksbank and PSAB Pengar i Sverige AB.

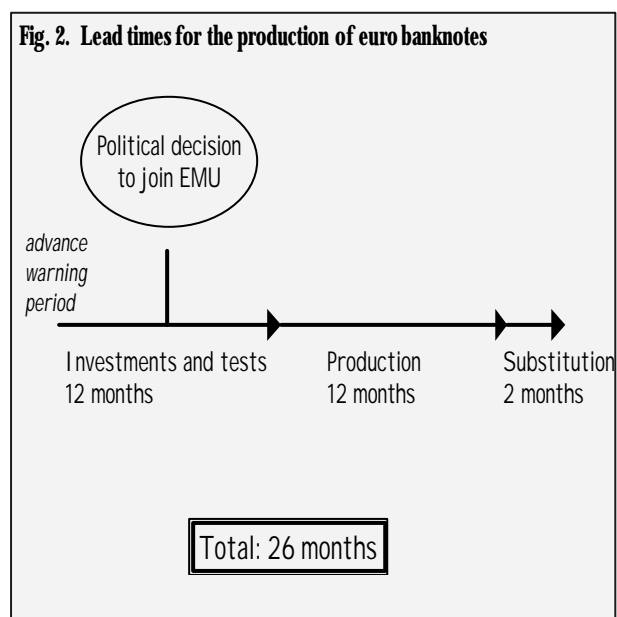
One conclusion drawn in the Riksbank's study is that it will *not* be possible to introduce euro notes and coins *simultaneously* with a Swedish entry to the currency union in January 2002. Even if Sweden were to join

after 2002, the study indicates that it would be difficult to introduce euro notes and coins by the date of entry. One of the reasons for this is that the legislative amendments that are necessary to enable the Riksbanken to issue euro coins can only be made when there is no longer any doubt that Sweden will join the currency union. As it now stands, the Sveriges Riksbank Act would not permit the Governing Board of the Riksbank to adopt a design for the national face on euro coins.

The various steps leading to the production of euro banknotes and coins are described below.

Euro banknotes

Euro banknotes will be issued in seven denominations (500, 200, 100, 50, 20, 10 and 5) and will have a common design that meets stringent security specifications. The different stages of production are as follows. Tumba Bruk will make certain investments in printing and quality control machinery, after which tests and trial printing can start. These preparations are expected to take about a year. After that it will be possible to launch the production of euro banknotes. As described in the first progress report (1997), the Riksbank's printing works took part in the first trial printing of euro banknotes; Tumba Bruk printed trial euro banknotes in accordance with the ECB's specifications for the purpose of technical comparisons of banknotes printed in different countries. One object of this exercise was to maintain a high level of preparedness and freedom of manoeuvre in the event of Swedish participation in EMU, but it was equally important for Tumba Bruk to be able to supply banknotes of higher quality in order to meet future demand for such banknotes in Sweden and in its export business. Apart from the trial printing of euro banknotes within the framework of ESCB cooperation, an investment programme has been adopted for banknote production and will be implemented at the discretion of the board of Tumba Bruk. If the programme is implemented, Tumba Bruk will be able to pass the numerous quality tests for euro



banknotes.

All in all, this means that if the ongoing preparations continue and some of the tests, trials and investments are made during the advance warning period, euro banknotes may be available for introduction about 18 months *after a decision* to join EMU. Whether the date of entry is 2002 or later will not significantly affect the lead times. The combined lead time for the production and substitution of euro banknotes will be about 26 months. See fig. 2 on previous page.

Euro coins

Coins will be produced in denominations of 1, 2, 5, 10, 20 and 50 cents and 1 and 2 euros. The Riksbank assumes that it will only be necessary to produce very small quantities of 1- and 2-cent coins. Sweden is likely to apply rounding rules similar to the ones it applies today. Any changes in these rules will be a matter for pre-entry negotiations. It is estimated that about one billion coins will be needed in connection with the introduction of the euro. In addition, the Governing Board of the Riksbank will have to adopt the design of the national face on euro coins before the coins can be produced, and this will in turn necessitate an amendment of the Sveriges Riksbank Act. The proposed design will first have to be approved by the Governing Board and then, if the royal family or the

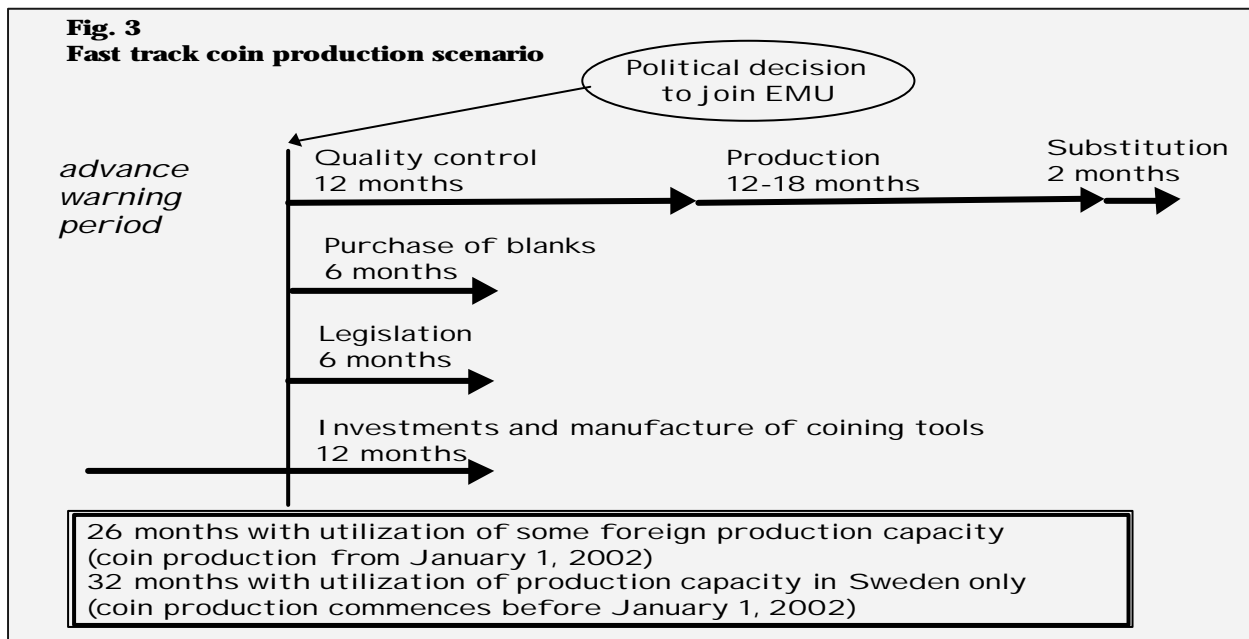
national coat of arms is depicted, by the Court. Experience of the production of other coins indicates that this procedure may take up to six months. It may be possible for the Government to present a separate bill proposing an amendment of the relevant provision of the Act in order to speed up the process.

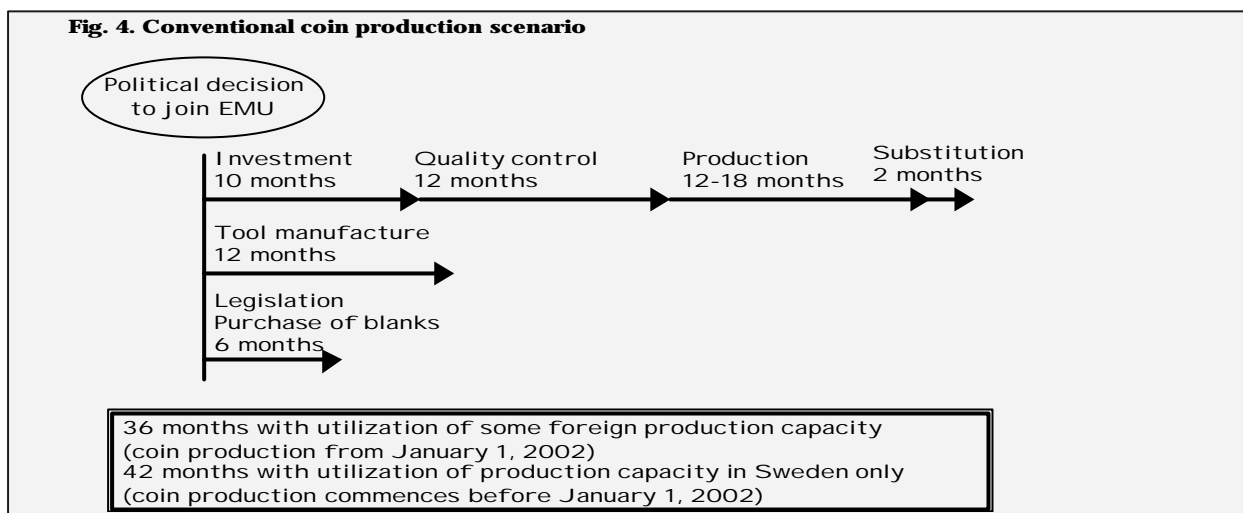
The main steps in the coin production process are: investments in machinery for Tumba Bruk plant and quality tests, as well as some staff reinforcements and training. It may be assumed that the legislative amendments that are necessary for the production of the national face of the coins have already been passed, so that the face can be designed. Blanks will then be purchased and coining tools made. Coins will be struck and subjected to quality controls, and production can then begin.

Since the coin production process is a long one, the Riksbank has studied two extreme alternatives, one in which the lead times are speeded up as much as possible, and which involves some commercial risk for the Bank if Sweden does not subsequently decide to join EMU, and an alternative that is free from commercial risks.

Fast track coin production scenario

The fast track scenario is based on the as-





sumption that the national face of the coins has been designed and that the design can be used for preparations well in advance of the formal adoption of the design by the Governing Board. In this scenario Tumba Bruk would also have had time to make some preparations in advance, including manufacture of the coining tools using the preliminary reverse face as a master. The manufacture of the coining tools is estimated to take about a year.

This scenario would require some extra investment and temporary personnel reinforcements at Tumba Bruk's mint before a decision to join EMU is taken. It is assumed that it will be possible to mint about 500 million coins in Sweden and about 400-500 million in other mints. It will probably be possible to produce the remaining coins necessary for complete substitution during the year when substitution starts. Quality testing is expected to be carried out in parallel with production.

This means that in the fast track scenario a start would be made on manufacture of the coining tools and some investments would be made during the advance warning period. Following a political decision to join EMU, the relevant legislation will be amended, the Governing Board will decide on the design of the national face, the investments will be completed and coining tools manufactured. In this scenario the estimated timescale for this process is about one year. Minting will then begin. If production capacity is available

both in Sweden and other countries, this will take about a year. If Sweden must rely entirely on its own production capacity, it will take about 18 months. In this scenario, therefore, the total time from a political decision in Sweden to the production of the necessary quantities of coins, including an estimated currency substitution period of two months, would be about 26 months if both Swedish and foreign production capacity is used and about 32 months if production takes place in Sweden alone. See fig. 3 on previous page.

Conventional coin production scenario

If the Swedish Mint delays its main investments until a formal decision is taken to apply for participation in the currency union and the process of designing the national face of the coins does not start until the necessary legislative amendments have been enacted, the lead times for coin production, including substitution, will be longer, i.e. 36-42 months. In that case, quality testing would not take place in parallel with coin production, but before production started. The legislative process, the purchase of blanks and the investments would all be undertaken simultaneously, but only after the formal application decision is taken. The coins could be produced in Sweden or abroad. If Sweden must rely entirely on its own production capacity, it would take at least 18 months to produce sufficient quantities, otherwise about 12 months. See fig. 4 above.

Statistics

The Riksbank's production of balance of payments and financial market statistics has undergone radical changes since Sweden joined the EU. The ECB considers it necessary to have access to reliable statistics in these two key areas in order to conduct a common monetary policy. The central banks must be able to compile statistics on the development of the money supply, which is a reference value used by the ECB in formulating monetary policy, and statistical data that make it possible to calculate the minimum reserves and obtain an accurate and up-to-date picture of the status of the euro area in relation to the rest of the world, which is relevant, inter alia, to an analysis of changes in the exchange rate.

The ESCB has continuously presented new statistical requirements. These relate, for example, to statistics on interest rates in various submarkets and advanced statistics on securities. Generally speaking, the ECB's statistical requirements, which largely coincide with those of the EU, have increased the need to break down the data into maturities and counterparties, and this makes the statistics more complex. In Sweden, statistics are collected jointly by the Riksbank, Finansinspektionen and Statistics Sweden. These changes make substantial demands both on the authorities and the reporting institutions involved.

Since the ECB's requirements and the EU's guidelines on statistics often coincide, most of the adjustments have already been made, but further steps will have to be taken in the next year to satisfy future ECB requirements. Some of these requirements must be fulfilled to make it possible to join EMU, in particular, as regards the statistics on minimum reserves. Other statistics must of course be adjusted as soon as possible, but they are not an essential condition for participation in EMU. The Riksbank's assessment is that the necessary adjustments with respect to statistics will take about 18 months. A detailed timescale for the adjustments will be established in 2000. The adjustments that

represent an essential condition for membership, i.e. statistics on minimum reserves, can be made within a 12-month period from the decision to join EMU.

Accounting and computer systems

At present, the Riksbank applies accounting rules that are broadly similar to those used in the euro system. In some areas, however, changes will be necessary to enable the Riksbank to report to the ECB. These areas include revaluation of foreign currency, the treatment of securities, the use of accrual accounting, accounting procedures for derivatives, new instruments, notes and coins, and conversion into euros.

In addition, the accounts in all the systems will have to be converted into euros and some changes will have to be made as regards processes and staffing in connection with reporting.

With regard to computer systems in general, some changes in hardware and software may be necessary to make it possible to install necessary ECB systems. All the changes that relate to accounts and most of those that relate to computer systems must be completed before Sweden joins EMU.

It should be possible to complete these preparations within a 12-month period. This will be followed by a testing period lasting up to six months, which will also have to be virtually complete prior to entry. Adjustments in these areas will be undertaken on a continuous basis in order to maintain a high level of preparedness.

Legislative adjustments

The Riksbank's study shows that the necessary legislative adjustments are of two kinds. First, the Riksbank will have to adopt the ESCB's rules in various areas. This applies both to rules relating to the Bank's external counterparties and rules applied internally in the ESCB system between the ECB and the national central banks. These rules apply, for example, to the functioning of the Target system, the exercise of monetary policy,

the management of currency reserves, notes and coins, and statistics. In connection with the introduction of the euro, the relevant Swedish legislation will also have to be amended in several areas, e.g. the Riksbank Act and all legislation in which reference is made to the krona as Sweden's currency. It is also possible that the existing copyright legislation will have to be revised in view of the need of copyright protection for euro notes and coins. The Government has stated that the provisions in the Instrument of Government on the Riksbank's exclusive right to issue notes and coins in Sweden will not have to be changed until the euro is introduced. But a draft amendment of the Instrument of Government will have to be presented to Parliament in connection with entry to the currency union.

Legislative amendments and amendments of the Riksbank's internal rules will be necessary to make it possible for Sweden to join EMU. These amendments and adjustments will take about 18 months to complete (except for possible amendments of the Constitution Act). Most of them will have to be completed prior to entry. Perhaps it will be possible to amend some internal Riksbank rules later.

As far as the Riksbank is concerned, it is the introduction of notes and coins that will require the longest lead times. But unlike the other preparations that the Riksbank will have to make, most of the preparations for the production of notes and coins can be made after entry. Consequently, the long lead times for the production of notes and coins will not be very significant in practice. Only if the transition period is extremely short will it be difficult to produce sufficient quantities of euro notes and coins in time for introduction. Apart from this, the changes in computer systems will take most time, since adjustment of the Riksbank's accounting systems to the euro as a base currency and the other changes in accounting principles that are required by the ECB will require a great deal of work. One area where substantial changes will be necessary, but where the timetable is beyond the Bank's

control, is the revision of the Riksbank Act and associated legislation that will have to be made prior to joining EMU. The Bank is keeping a close watch on this area, which is the responsibility of the Government Offices.

The Riksbank's overall assessment is that, apart from the production of euro notes and coins, adjustment to the euro would take about one year from the political decision, to join EMU (provided that certain preparations can be made during the advance warning period).

The Swedish National Debt Office

Lead times

The preparations that need to be made by the Swedish National Debt Office (SNDO) for participation in EMU consist in analysing necessary changes in systems and rules, assessing the potential effects on the SNDO's operations, and planning training and information measures etc. It will not be possible to make a start on these tasks until Parliament has decided to apply for participation in EMU, and therefore all concrete work with development and change in the SNDO remains to be done.

The SNDO's analysis identifies various problems and also presents proposals for solutions, where necessary in consultation with other market players, which should make it possible to limit the time needed for concrete preparations. On the basis of its analysis, the SNDO estimates that it will be able to complete its own preparations within a period of 12 months. In other words, within 12 months after a decision by Parliament to apply for participation in the currency union, *all* the SNDO's departments should be prepared to handle the euro, alongside the krona, during a transition period. The SNDO's borrowing operations in the money and bond markets and in the household market could probably change over to euros even sooner. Exactly how soon this could take

place would depend, however, on how soon the other players in the financial market can complete their preparations for the euro.

If Sweden joins EMU, the SNDO will have to build up a system of “wrappers” around several of its computer systems prior to the date of entry. These wrappers will make it possible for the SNDO, although the accounting systems, which are an integrated part of the Government’s accounting systems, are still based on the krona, to convert outstanding krona loans into euros and subsequently to borrow in euros instead of in kronor. As regards private individuals’ national savings accounts, the SNDO takes the view that it would be better not to convert existing monthly savings accounts into euros, but to use euros for new savings accounts. The system of wrappers would also make it possible for the SNDO in all its contacts with counterparties (customers) to express amounts in both euros and kronor, or only in euros or kronor as the case may be. The SNDO can complete its own preparations as regards borrowing operations in less than 12 months. In the SNDO’s other operations, i.e. guarantee operations and internal bank operations, which are directed towards the central government sector, a changeover to the euro will probably only take place at the end of the transition period. The SNDO’s different operations will thus adjust to the euro at different times. Nevertheless, the SNDO plans to convert outstanding debt into the euro immediately after entry, i.e. at the start of the transition period.

Legislation

To be able to convert outstanding debt in kronor into euros with sufficient accuracy, the SNDO will need the support of specific legislation. This legislation should supplement the Euro Regulation which lays down that the conversion from the national currency into the euro will be defined with six significant figures. The necessary legislation should also enable the SNDO to change the interest calculation convention that it uses for existing loans in kronor to the standard applied to euro loans. The

proposed legislation should apply not only to the SNDO’s loans, but also to the loans of other issuers in the money and bond markets. In connection with the conversion of outstanding loans the SNDO intends to lower the minimum nominal amount (denomination) of bonds and treasury bills so that the market can create manageable trading lots by trading in odd lots. In its prospectus the SNDO has reserved the right to change the denomination of loans, but the other issuers will perhaps need legislative support to implement such changes. See fact box 4 on next page for more information about redenomination of national debt.

Interfaces

The Swedish National Debt Office has interfaces in its borrowing operations with the Riksbank, the VPC, Penningmarknadsinformation PmI AB (PmI) and the bank system. The SNDO’s internal bank and guarantee operations have interfaces with the central government sector, but also with private companies. The SNDO’s forecasting operations and accounting systems are linked to the government payment system and the national accounts. Action must also be coordinated in connection with conversion operations and with tests of interfaces between their respective systems. Coordination needs are being analysed in the studies undertaken both by the Swedish National Debt Office and other players in the financial market and the Government. As mentioned earlier, the links with other parts of the government sector and the national accounts will make it necessary for the SNDO to build up internal wrappers systems to make it possible to adjust borrowing operations, in particular, to the euro. These wrappers systems will make it possible to use the euro as the base currency in borrowing operations, while the base currency in the central accounts will continue to be the krona until the government sector as a whole changes over to the euro.

Key areas

The most critical area for preparations will be computer systems. The Swedish National

Fact box 4

Council Regulation 974/98 provides the legal basis for the conversion of national debt and of other issuers' bonds and money market instruments.

According to Council Regulation 1103/97, the value in euros resulting from conversion may be rounded to the nearest whole cent, in other words with an accuracy of two decimals. An obvious complication is that conversion must take place at two different levels but still lead to the same result. The total amount of debt, as entered in the Swedish National Debt Office's books, should correspond to the sum of the value of all the holders' portfolios or the sum of all the bonds or treasury bills issued. Due to rounding in the various calculations at conversion the total debt will normally not correspond exactly to the subitems that have been converted and added together.

Among the present EMU countries, France and the Netherlands elected to round to the nearest euro in connection with conversion. France decided consistently to round *down* to the nearest euro and pay out the rounding difference in cash (at market value). The Netherlands, on the other hand, decided to round all portfolio values *up* to the nearest euro. The rounding of portfolio values resulted in a lack of correspondence between the value of the aggregated portfolios and total debt. This difference had to be paid by the banks. The Dutch banks and the Amsterdam stock exchange cannot handle decimals for securities in their systems and preferred the solution described above to redesigning their systems.

Redenomination – change of currency – may necessitate *renominalization* and *reconventioning*:

Renominalization involves changing the (minimum) value of the securities concerned. As explained above, redenomination means that the value of a portfolio or a bond is given to the nearest cent (or euro). This value can be deemed to consist of a trading lot and an odd lot. To create trading lots by means of transactions in such odd lots, the minimum denomination must be fixed at one cent (or one euro).

Reconventioning means changing the interest calculation convention. Prior to the third stage of EMU, various European trade organizations agreed on a European standard for the calculation of accrued interest, i.e. act/360 for bills and act/act for bonds. "Act" means the actual number of days during the period instead of calculating in standardized 30-day months ("30/360"), which is the standard used in Sweden.

SOURCE: SWEDISH NATIONAL DEBT OFFICE

Debt Office will have to undertake substantial changes in its systems. This work will include the build-up of various wrapper systems which will be capable of providing statistical series in euros or kronor that are based on historical data which may consist of a mixture of the two currencies. The necessary in-house training is not expected to present any insurmountable problems, but it will probably be necessary to allocate substantial resources for external information.

The SNDO is not involved in any cash operations and would therefore not be directly affected by imports of euro banknotes during the transition period. But the SNDO could be affected indirectly in the sense that wide use of euro banknotes during the transition period might encourage households to start saving in euros.

The Swedish Bankers' Association

The Swedish Bankers' Association's Euro Management Group has the main responsibility for the banks' joint planning prior to Swedish participation in EMU. A number of working groups are also studying various matters related to EMU and the euro. During the winter of 1999 the Association and the banks collaborated on a project concerning banking issues connected with Swedish participation in EMU. They analysed, for example, how long the various phases in the transition process should be, the measures that would have to be taken by the bank sector and legal aspects. They also analysed the need of information regarding measures that will have to be taken by the bank sector if Sweden joins EMU.

Lead times

The Swedish Bankers' Association estimates that the preparatory period for the adjustment of the banks' computer systems would be 18 months. During this 18-month preparatory period it will also be necessary to implement legislative adjustments and

information measures. The Association's assessment is that the Swedish bank system will have to provide complete euro functionality in all product and service areas from the date of entry. The duration of the preparatory period is therefore crucial to the bank system's ability to deal with the changeover to the euro.

In the Association's view, the transition period should preferably last 6-12 months. A long period during which the two currencies coexist would cause handling problems and increase costs and might necessitate special legislation. A certain transition period will, however, probably be necessary to carry out adjustments in the private market, for example the customers' changeover to the banks' euro products and conversion of accounts from kronor into euros. Further information measures and possibly legislative amendments will also be necessary.

However, the length of the transition period is not such a critical factor for the banks as the preparatory period. This is because the banks intend to use wrapper systems even if the transition period is very short. This means that the banks' central systems for the handling of transactions, borrowing and lending will be connected to preliminary systems which can convert between kronor and euros whenever necessary. The wrapper function will make it possible for all banks to choose the time for converting central systems at their own discretion. This will help to avoid any risks associated with a simultaneous conversion of all the banks' systems.

The bank sector's existing agreements and rules on multilateral transaction exchanges will also apply during the transition period. These agreements and rules do not generally specify any particular currency. The following agreements apply to the handling of transactions during the transition period:

- The *wrapper model* will make it possible for all banks to accept all types of transactions in all common interfaces in both euros and kronor from the first to the last day

of the transition period. All the banks will be able to transmit all types of transactions in either currency.

- The *original currency model*, which means that transactions must not be converted from euros to kronor or vice versa, will apply to transactions via non-bank giro institutes.
- *The rule of information about the original currency*: if a bank converts a transaction, which is then transmitted to another party, the transaction must always be accompanied by information on the original currency and the original amount.

Continuing collaboration between the banks will focus on the adoption of necessary standards and on drafting plans for implementation and tests.

The Swedish Bankers' Association estimates that the currency substitution period will last about two months.

Legislation

The legal preparations undertaken by the banks include the drafting of contracts and conditions for the euro services marketed by them. The principle of the continuity of contracts in connection with a change of currency is laid down in Community law and in several important financial centres in other parts of the world, and it seems to be generally accepted, so that existing contracts should not be affected by the changeover to the euro. The legislative changes that have been made in most of the EMU countries, for example with respect to the redenomination of bonds, the rules on changes in the reference interest rates (e.g. the interbank rate, the minimum lending rate etc.) referred to in various contracts and to no par value shares are likely to be implemented in Sweden too. It may also be necessary to consider whether there is a need to issue any rules over and above the Euro Regulations – apart from changes in the dates and periods specified there – in connection with Swedish participation in EMU; such rules might have an impact on the bank sector. It may also be noted that several central agencies have been

instructed by the Government to analyse practical matters prior to possible Swedish participation in EMU, including identification and analysis of the need to change rules in the areas of responsibility of the respective agencies. The results of these analyses may necessitate further measures in the bank sector. Furthermore, developments in the EMU countries and in various financial markets need to be monitored in order to identify any problems that arise and measures that need to be taken.

Interfaces

It will be necessary, within the framework of continuing collaboration between the banks, to adopt standards for transaction exchanges in common interfaces. Plans will also be made for the implementation and testing of euro transaction exchanges in these interfaces.

Key areas

In its planning during the autumn of 1999 the bank sector identified a number of measures that are necessary for a smooth transition to the euro. Most of these measures have to do with adjustments of the banks' computer systems.

Apart from this, information measures will be necessary in connection with the introduction of the euro. The bank sector is likely to play an important part in giving the public information about the introduction of the euro. For obvious reasons, the main target groups will be the banks' customers, mainly private customers and small and medium-sized enterprises. At present, the need of information is expected to be greatest during two different periods, i.e. about 6-12 months prior to the date of entry and about 3-6 months before the introduction of euro notes and coins.

The bank sector's preparations will continue to be based on a broad dialogue with the financial players and with other sectors. The bank sector will learn about the experiences and planning in these countries through continuous contacts with the EMU countries

and other EU Member States that have not joined EMU.

The Swedish Securities Dealers Association

Euro trading (parallel trading in euros and kronor) has already started at OM Stockholm Exchange (see also OM Stockholm Exchange's contribution). The low trading volume indicates that each instrument should only be traded in one currency. A gradual transition to the euro in the securities market would, according to the Swedish Securities Dealers Association, create uncertainty and undoubtedly give rise to many misunderstandings. The procedure adopted for the changeover to the euro, among countries joining EMU, at the beginning of 1999 was based on a realization of the obvious advantages of a simultaneous and complete changeover to euro trading. Trading and clearing simultaneously, and in large volumes, with both kronor and euros would probably lead to improvisation and ad hoc solutions that might be more costly than otherwise. All this suggests that the best course would be a quick changeover at one swoop, i.e. a complete changeover to the euro for all securities trading and clearing by the securities firms, the VPC and the stock exchange.

Therefore, the Swedish Securities Dealers Association favours a changeover in securities trading in accordance with the Big Bang principle on the date of entry; in other words, all trading should take place in euros from that date. Customers' ordinary deposit accounts should preferably also be converted into euros on the same date, which would facilitate the changeover process, since it would then not be necessary to open new accounts. The need of openness vis-à-vis our customers is also a strong reason for keeping normal opening hours (and not closing for the purpose of implementing the changeover) and normal settlement times for both equity trading and trading in the money

market. This would mean that trading would take place in kronor during the last bank days prior to entry, but be cleared after entry in euros. This would apply both to the stockmarket and the interest rate market.

Although the volume of securities trading in euros has been low, it has nevertheless necessitated some adjustment of systems, interfaces and routines. Consequently, all the interfaces and functions needed by the securities market for trading and clearing in euros are already in place. This applies especially to the interfaces between the stock exchange, the members of the stock exchange, the VPC and the Riksbank. The process of adjustment to euro trading is far advanced in many quarters, although some members of the stock exchange still need to make substantial internal adjustments.

Lead times

The most pressing need now is to adopt the measures with respect to regulatory frameworks, the conversion of client holdings, legislative support, consensus-building etc. that are necessary in connection with entry to EMU and to decide how euro trading is to be regulated to ensure that the necessary conditions are in place for stable and reliable trading.

The starting-point when it comes to planning for the changeover in securities trading is the Riksbank's statement that all clearing in kronor will cease on the day when Sweden joins EMU. This means that any unsettled business after the changeover will have to be settled in euros. There has been some uncertainty during the preparations for possible participation in EMU as to the competent authorities' requirements and support measures with regard to securities trading. The Ministry of Finance has stated that it is currently analysing the implications of a "full euro option". From the point of view of the securities dealers, the best solution would be to allow the euro to be used for withholding statements and tax payments from the date of entry. It should also be made clear whether the full euro option also extends to private

transactions, for which withholding statements must be submitted, and to the statutory withholding tax for private individuals.

Generally speaking, securities firms can provide a euro-adjusted infrastructure for securities trading and clearing within a preparation and adjustment period of about 18 months. In fact, several firms believe that the necessary work can be done even faster. However, securities trading is intimately associated with the banks' deposit systems, and according to other assessments these systems will require an adjustment period up to 18 months. Therefore, since the systems used in securities trading are not independent of other systems, the period of adjustment for securities trading systems will be 18 months too. It may also be mentioned in this connection that the Swedish Security Dealers Association has studied the possibility of a spontaneous changeover to the euro in some securities trading sectors. This is a conceivable scenario in the event of a protracted transition process prior to entry to EMU. However, it is likely to require just as much preparation in the securities market as full participation. For one thing, it would mean that all customers would have to open new deposit accounts in euros. In conjunction with entry to EMU, the procedure would be much more simple, since the change of currency could be effected automatically for existing accounts.

Legislation

The terms of issues, usually confirmed in prospectuses, trading rules, traditions etc., have hitherto provided a stable platform for trading and settlement in kronor. In the event of a general changeover to the euro, it is therefore important quickly to create a new stable platform to facilitate and support euro trading. In order to avoid uncertainty and, at worst, disputes and other problems, legislative support will probably be necessary. It is also important for the continuing process that the legal aspects should be clarified as early as possible so that continued planning and preparations can be carried out

in a rational and efficient manner. Clarification at a later stage might even make lead times longer than those estimated above.

The key areas where legislative support is necessary are the introduction of new principles for the calculation of interest (interest rate conventions), the necessary changes in nominal amounts (renominalization), the redenomination of all interest-bearing debt instruments and the procedure to be applied for that purpose, and the rounding of customers' nominal holdings in connection with redenomination. Another important consideration is that security traders would want to be able to submit all withholding statements and pay all preliminary withholding taxes, including those for private individuals, in euros from the date of entry. The Swedish Security Dealers Association also assumes that it will be possible to use the euro from the date of entry for withholding statements relating to private individuals' transactions and for payment of any preliminary withholding taxes on their taxable income.

Interfaces

The existing infrastructure for securities trading makes it quite clear when trading and clearing are to take place in kronor or euros. The Swedish Security Dealers Association sees no reason to change or supplement the existing descriptions of interfaces with securities firms, the VPC, OM Stockholm Exchange and the Riksbank in connection with a changeover.

OM Stockholm Exchange

Euro trading was established in Europe's stock exchanges in 1999. The 11 countries that now participate in EMU accounted in their domestic markets for 60% of the spot trading in shares in Europe during the year. In the London market, in total accounting for 30% of Europe's turnover, foreign stocks are traditionally quoted in the currency of the issuing country. Consequently, shares

from the EMU countries are traded in the euro. From this we can conclude that some two-thirds of Europe's stock trading is euro denominated.

Since the beginning of 1999 it has been possible to register companies for trading in euros on OM Stockholm Exchange. The company itself must notify the stock exchange of its desire to change to euro trading or to parallel trading in euros and kronor. In 1999 the stock exchange applied a three-month "advance warning period" for such changeovers, but it would be technically possible to change the trading currency at shorter notice.

As of December 31 1999, parallel trading in euros took place in four companies: Electrolux, Nordic Baltic Holding, Meto AG and Stora Enso. The trading volumes have so far been very small owing to low liquidity in the euro order books, see fact box 5 below.

Fact box 5. Equity trading in euros on the Stockholm stock exchange

Since the currency union came into operation on January 1 1999, issuers of shares traded on the Stockholm stock exchange can request that shares be quoted and traded in parallel in kronor and euros, or exclusively in euros. Parallel trading in euros commenced in 1999 in the shares of the following companies: Electrolux, Nordic Baltic Holding, Meto AG and Stora Enso. The shares that are traded in the euro are grouped in a special section at the top of the stock exchange report, i.e. before the group of most traded shares. Parallel trading in kronor is reported in the same section as before. Euro trading takes place in accordance with the same routines and the same settlement time of T + 3 days as for krona-based equity trading on the stock exchange. The order books for euros and kronor are kept separate, however.

The volume of trade in euro paper was low in 1999, which is probably due to the fact that investors recognize that equity trading in internationally traded paper does not involve any long-term currency risk or need for hedging. The fact that trading in kronor predominates is therefore due to the fact that liquidity in the order book in this currency is usually much higher than in the euro order book. No company has yet requested a changeover to exclusive euro trading.

Lead times

As a result of the adjustments that have been made to the stock exchange's new trading system SAXESS, and those carried out by the VPC, the changes that need to be made for a complete changeover to euro trading on Sweden's entry to EMU have essentially already been carried out. Revisions and preparations are in progress for the associated changeover from kronor to euros as regards historical statistics etc., in the same way as in the countries that are already participating in EMU. The previous section on securities trading makes it clear that the major changes will have to be carried out by the members of the stock exchange. The present very limited trade in euros is still mainly carried out manually, which would not be possible if there were a sharp increase in the number of transactions. All in all, OM Stockholm Exchange considers that the remaining preparations will take 3-5 months

No euro trading took place in 1999 in derivatives related to Swedish shares or Swedish indices in Stockholm. There has been so little euro trading in Swedish shares that it has not affected the OMX index, which continues to be an exclusive SEK index. However, the intention is to offer standardized options etc. in the most traded companies where the underlying shares are traded in EUR. OM Stockholm Exchange is therefore preparing for the introduction of euro-denominated options etc. and for the changeover to a euro-based OMX. It would be possible to speed up this process, and it is therefore not likely to affect or delay a general changeover to euro trading on OM Stockholm Exchange.

The Securities Register Centre (VPC)

Prior to the introduction of the euro in 1999, the Securities Register Centre (VPC) made a number of adjustments to its systems, mainly in order to be able to handle currencies other than the Swedish krona in

its main systems. The VPC's clearing and settlement system was opened to foreign currencies, and measures were taken to permit issues of securities in currencies other than the krona. After these enhancements of the functionality of its systems the VPC can create securities in the euro and administer the clearing and settlement of several currencies at the same time. In 1999 the VPC completed the adjustments that remained from the end of 1998. For example, it implemented the necessary measures for complete separation of clearing in different currencies and its project for the development of a new payment system. The new system enables the VPC's issuing clients to make payments, usually dividends or interest payments, in currencies other than the krona. The system has been in operation since 1999 and it is therefore capable of making payments in euros. This means that shareholders who only have krona accounts can have dividends paid to their accounts in kronor even if a company has elected to pay its dividends in euros. When it comes to establishing conditions and routines for net clearing in the euro in the money market, the VPC discussed proposals for routines and rules with the market players on several occasions in 1999, and on February 1 2000, when adjustment of the relevant rules and routines was complete, it started net clearing operations in the euro for the money market.

Lead times

In most respects the VPC is already prepared for a changeover to the euro. Most of the necessary preparations have already been made, as described above. The measures that remain to be taken mainly relate to redenomination of Sweden's national debt. In the VPC's view, these measures must be taken prior to entry, since it may be assumed that the loans issued in kronor by the Swedish National Debt Office and other issuers will be redenominated in euros on that date. Therefore, the VPC does not envisage the need to make any further adjustments after the date of entry.

In the VPC's view, the remaining preparations, i.e. modifications of systems in order to allow redenomination, renominization and, possibly, new interest calculations in euros for loans originally issued in kronor could be completed in 12 months at most (6-9 months would probably be sufficient). Some of this work would be done during the advance warning period. The details of a decision to join EMU do not affect the VPC and it can therefore decide, more or less on its own initiative, when to start making the remaining adjustments. This task cannot be completed, however, until it is decided what rules are to apply to the redenomination of a loan in kronor. Discussions on this matter are in progress and will hopefully be concluded in the first months of 2000.

For the reasons mentioned above, the VPC does not consider that a very short preparatory period, e.g. 3-5 months, would present any serious problems.

The Association of Swedish Finance Houses

The status of adjustment to the euro varies greatly among finance companies. Some companies have elected to continue to concentrate on the Swedish market and financing in the krona, while others have taken the necessary measures and can already offer services in euros. The latter companies can invoice in both kronor and euros. Some companies also provide credit direct to borrowers in other EU Member States, and in such cases financing in the euro is the main alternative. Other members of the Association are undergoing a transitional process and expect eventually to be capable of providing efficient financing solutions in the euro. Companies that provide financing in the euro also refinance themselves in the euro. This is necessary in order to avoid currency risks. There is also a group of members which does not intend to offer financing in euros unless and until the euro becomes legal tender in Sweden.

Lead times

In view of this heterogeneous background, it is not possible to say what measures remain to be taken by the members of the Association for the purposes of a complete changeover to the euro or to say what resources will be needed for such a changeover. The relevant administrative systems will have to be modified before our members can offer financing services in the euro. Generally speaking, however, our members do not consider that a changeover will present any problems.

The Association's assessment is that there will be an increase in the next few years in financing in the euro. This will apply not only to the financing of loans in other countries, but also to borrowers in Sweden, e.g. companies that themselves invoice in euros. These companies have customers in other EMU countries or are subcontractors for domestic companies that use the euro as their internal currency. The Association has sent out a questionnaire to its members to find out about their preparations for EMU and how long the adjustment process will take. However, the response did not provide the necessary data for any estimation of lead times, nor even for an estimate of the maximum period required for a changeover to the euro. But our members have stated that time will not be a problem in the adjustment process, and that the same applies to their relations with their customers.

Legislation

Any legislative measures necessary to make it possible to use the euro in contacts with public administration should preferably be carried out as soon as possible. It would also appear to be necessary to review all legislation containing references to the krona.

Interfaces

The question of interfaces and the associated need of common solutions and tests is of particular importance, since most important communications are now transmitted by electronic means. This applies, for example, in connection with taxes, payment orders and

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mortgage deeds. Each competent authority should be responsible for identifying and solving any problems in its respective field.

Any similar problems in the private sector should be resolved by the sector itself. The Association does not envisage any particular problems that would require intervention by the authorities.

Key areas

In the Association's view, the areas that relate directly to operations and the measurement of results as the most critical. It is particularly important that administrative and accounting systems should function smoothly in these areas during the changeover. The Association's members do not handle banknotes or coins. This aspect of the changeover may be a problem in other sectors, but not for our members.

We would also consider it an advantage if the period of coexistence of both currencies were as short as possible and if the euro could be used in contacts with authorities (e.g. in connection with taxes, pensions, insurance, accounting etc.) as soon as possible following entry. If it is only possible to use the krona in such cases, at the same time as the euro is used for business purposes, this is likely to cause substantial extra costs. The use of parallel currencies also increases the risk of errors, which could be serious.

The Association fears that significant adverse effects may arise the longer it takes for the public sector to change over to the euro. It is aware that this will involve a large amount of work on adjustment, but this work is a necessary consequence of the introduction of the euro and the Government should seek to complete the adjustment process as quickly as possible.

The Swedish Insurance Federation

The insurance companies vary greatly in size and structure, and consequently there is also great variation in the level of planning and preparations that are necessary for a possible transition to the euro. The largest insurance companies set up project groups a long time ago to review various aspects of their operations. The process of adjustment to the euro has made substantial progress already in the capital management sector. Insurance policies are also issued in the euro for large international companies, both in direct business and reinsurance. Planning is in progress in the insurance and property sectors with respect to various system technologies and the legal aspects of changes in contracts etc. Moreover, the insurance companies have political and economic analysis groups and are learning from the experience of the present EMU countries and group subsidiaries that are located in countries in the euro area. The companies are also planning to provide customer information and staff training on euro-related issues. However, many companies will wait to commence concrete preliminary studies until a political decision to join the currency union appears imminent, and such companies emphasize the importance of being given information about legislation, e.g. with respect to accounting and taxes, for the purposes of their planning.

Lead times

Generally speaking, the overall lead times in the insurance sector are estimated to be 18-30 months. Insurance companies expect that it will be necessary during the preparatory period to prepare their systems so that they contain information on prices in both kronor and euros for certain types of customer documents. Information and training measures for the staff and the provision of information to customers will also have to be completed during this period. A common denominator for the shortest preparatory period would be 6-18 months.

Several of the larger companies expect to continue to use the krona as the group currency during the preparatory and transition periods and therefore plan to adjust their computer systems for complete euro compatibility only when the transitional period is over. Other companies have stated that they will probably want to handle the euro in all their business operations from the date of entry to EMU. They also emphasize that a short period of adjustment will require substantial resources and involve high costs. A longer preparatory period would give the companies the chance to implement several important measures in connection with other projects, and this would reduce the bill for euro adjustment. "Short and broad" projects bring lower synergies than longer projects in this area.

Legislation

The practice adopted for rounding after the end of the transition period is a major issue when it comes to modifying computer systems. Unlike many other European countries, Sweden has abandoned the use of decimals in its reporting and economic transactions. This also applies to some Swedish authorities, e.g. the National Tax Board. The rules for conversion to the euro require an accuracy of two decimals. When the transition period is over there will be no European rules or common European practice as regards the required accuracy in connection with payments and reporting. Rounding euro amounts to one decimal is roughly equivalent in terms of accuracy to the current Swedish practice of rounding to the nearest krona. The Swedish Insurance Federation considers it important to adopt Swedish recommendations as soon as possible, in order to clarify whether the Swedish practice will be to allow rounding to the nearest euro or what degree of accuracy will be required. Swedish laws and contracts often refer to factors such as base amounts, consumer price indices and other indices. A study should be made of the consequences for such factors.

As regards the insurance companies' capital management operations, the most important question is at what point there will be

equivalence between the krona and the euro for the purposes of investments of assets corresponding to technical provisions. This will be determined both by statutory provisions (the Insurance Company Act) and rules issued by Finansinspektionen. Capital management operations are subject to the rules concerning debt cover, i.e. currency matching etc.

Studies should also be made of the rules for deduction and the application of taxation rules by the tax authorities and the National Tax Board, as well as Finansinspektionen's requirements with respect to information and currency handling vis-à-vis the companies' customers.

Interfaces

Many insurance companies have interfaces with a large number of external players, such as client companies, banks, authorities, insurance brokers and other insurance companies. In some cases companies will be dependent on such players' completion of their preparations. This applies in particular to the bank and payment system, the VPC and the tax authorities. It will be necessary in the near future to discuss and test software solutions for contacts with the National Tax Board, Finansinspektionen, the Riksbank, the National Social Insurance Board, banks, the bank and postal giro systems and other insurance companies.

The insurance companies are very keen for the public sector to apply the "no compulsion – no prohibition" principle and to apply the full euro option in its dealings with the business sector during the transition period.

Key areas

The insurance companies will have to undertake extensive preparations in the field of analysis and design, changes in insurance products, customer documents, accounting systems, information to customers and computer systems. It will only be possible to take these measures when rules have been adopted for currency conversion, rounding, decimals and the authorities' requirements

with regard to insurance companies and their products. As mentioned above, a period of 18-30 months will be needed from the date of a decision by Sweden to join EMU in order to complete all the remaining adjustments to the euro.

Finansinspektionen (The Swedish Financial Supervisory Authority)

Finansinspektionen has in previous progress reports identified key areas in which it has undertaken preparations for a changeover to the euro. These areas are: accounting, the Supervisory Authority's adjustment of its computer systems, amendments of rules and general recommendations, the financial institutions' reporting to the Supervisory Authority, monitoring of the institutions' progress with their preparations, customer and consumer aspects and training of the Supervisory Authority's personnel. These are the areas that mainly need to be taken into account in an assessment of lead times and the work that will have to be carried out by the Supervisory Authority if Sweden joins the currency union.

Lead times

The work of adjusting computer systems comprises planning, problem inventory, the setting of priorities, decisions, requirement specifications, design, testing, implementation etc. The item that will take most time for the operational units is the checks that they will have to carry out at the institutions. Information on timescales, work, new rules etc. will have to be provided for the personnel on a continuous basis. Computer and accounting training will also have to be arranged for the personnel. External information campaigns will be necessary in a number of areas. These are the areas which require most attention in assessing lead times and the work that will have to be done by the Supervisory Authority if Sweden joins EMU.

The Supervisory Authority's best estimate is

a preparatory period of 12-18 months and a transition period of 12 months. It estimates that the measures that will have to be taken prior to entry to EMU when it comes to adjusting rules, reports and working practices will take 6 calendar months. In addition, it will take time to inform the institutions concerned and the institutions will need time to adapt to the changes before they enter into force. All in all, the time needed for adjustment of rules, information to the institutions concerned and the institutions' adjustment measures will be 12-18 calendar months. The Supervisory Authority's own preparations with respect to computer systems will probably take 12-18 calendar months. Consequently, the Supervisory Authority should be able to complete its preparations within a period of 12-18 calendar months from the date when Sweden decides to join EMU. Modification of computer systems is the most critical and costly feature of the Supervisory Authority's preparations. In order to be able to offer a full euro option from the start of the transition period, the Supervisory Authority will therefore need a preparatory period of 12-18 calendar months. It should also be possible to complete most of the other necessary preparations within this period.

From the point of view of the Supervisory Authority's computer systems, the best alternative would be to join EMU on January 1, since any other date for the beginning of the transition period would involve disadvantages in terms of resources and costs. As regards accounting, the preparation of the Supervisory Authority's annual accounts might pose a problem, and as regards personnel, problems might be expected with the presentation of tax, pension and withholding statements to both employees and authorities if entry takes place at any other time. For the rest of the Supervisory Authority's operations the question of joining EMU at any time other than the beginning of the year would not pose any significant problems. In assessing the work, resources and costs involved in a changeover to the euro, the Supervisory Authority has

assumed that Sweden would join EMU at the beginning of the year.

Legislation

The changeover is not expected to require any substantial changes in the Supervisory Authority's regulations and general recommendations. However, more far-reaching changes will be necessary in the field of accounting. The introduction of a single currency would, in the Supervisory Authority's view, only have a limited impact on the existing rules for the institutions' *financial accounting* (annual reports and interim reports). The basic valuation rule for foreign currency in the present accounting legislation is that valuation is to be made at the closing day rate. Countries that do not apply this approach may have to adopt special rules for currency valuation, but this will not be necessary in Sweden. It may, however, be necessary to consider special rules establishing the date on which annual and consolidated reports and interim reports are to be drawn up and expressed in euros, and also for the reporting of comparative figures in such reports. It may also be necessary to consider regulating certain other matters, in particular hedge accounting in connection with entry to EMU, the valuation of non-cash items at acquisition value in insurance companies and the valuation of loans and material assets in leasing operations.

Interfaces

The Supervisory Authority has studied the interfaces used in public authorities' systems vis-à-vis other authorities and external accounting systems and vis-à-vis payment intermediaries such as banks. These studies also cover the extent of interfaces with private enterprises, organizations and the public. In its accounting and salary systems, the Supervisory Authority has interfaces with the Riksbank, the Swedish Patent and Registration Office, the National Government Employee Pensions Board and some other interested parties. These systems will be adjusted by the Financial Management Authority, and therefore no measures will need to be taken by the Supervisory Authority, although some

technical assistance, training etc. may be required. Continuous economic data relating to the financial institutions are transmitted between the Riksbank, Statistics Sweden and the Supervisory Authority. Coordination of these transmissions between the three authorities is therefore essential in order to avoid misunderstandings as regards the currency denomination of the amounts. The periodic reports on the basis of which data are collected from the financial institutions will have to be adjusted to the euro prior to the changeover. The Supervisory Authority's insurance market department has an interface with Eurostat and all the supervisory authorities in the European Economic Area (EEA). It also has interfaces with national authorities such as Statistics Sweden, Sveriges Riksbank, the Swedish Patent and Registration Office, the Enforcement Service, the tax authorities, the National Criminal Investigation Department and the Swedish Consumer Agency. Apart from these authorities, information is also sent to the Swedish Insurance Federation. No significant problems have been identified in connection with the preparatory work in the department's interfaces with other authorities. Their credit and securities market departments have important interfaces with the Riksbank and Statistics Sweden. The question of interfaces is addressed within the framework of continuous cooperation with those authorities. The accounts department has interfaces with the National Tax Board as regards tax accounting and the Financial Management Authority as regards business accounting. Loans are handled in relation to the Swedish National Debt Office, and this interface will necessitate the conversion of the loan amounts, which may cause difficulties. The personnel department has interfaces with the National Tax Board, the Swedish Patent and Registration Office, the Financial Management Authority, the Swedish Agency for Government Employers and Statistics Sweden. There are a number of interfaces with the bank sector, inter alia, for reporting. Coordination with our

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counterparts in the abovementioned interfaces is obviously of great importance.

Key areas

The question of computer systems is crucial to the Supervisory Authority's preparations for the euro. The introduction of the euro would affect many of its computer systems. The Supervisory Authority has analysed all its operational systems and made a rough assessment of the potential need for modifications in connection with a changeover to the euro. A first review was carried out in 1997 in connection with a study of the consequences of the millennium shift. A second assessment of the need for changes was carried out in 1999. Training, in particular in information technology, and the regulations and recommendations concerning accounting issued by Supervisory Authority to financial companies are other key areas in the preparation process.

Normally, Finansinspektionen's new or amended regulations and general recommendations enter into force in January 1. The date of a changeover from kronor to euros would therefore have some relevance, and the question of the importance of the timing of the changeover should be investigated further. Before computer systems are modified it must be established whether all periodic reporting will be in kronor up to a specific date, and subsequently in euros, or where the use of kronor or euros will be optional during a transition period.

The Swedish Mutual Fund Association

Most of the members of the Swedish Mutual Fund Association are associated with owners such as banks, insurance companies or securities firms. Their forward planning for a transition to the euro is therefore the same as that described by the various categories of owners in their reports to their own trade organizations.

Consequently, the Association broadly agrees with the previous assessments presented earlier in this report by the Swedish Bankers' Association, the Swedish Insurance Federation and the Swedish Securities Dealers Association.

Lead times

The Association carried out a questionnaire survey among all its members in December 1999. Judging by the response, 6-12 months is quite sufficient for adjustment and a changeover to the euro in the mutual fund sector since preparations have already been made in connection with trading in funds quoted in euros. The work that remains to be done consists in adjusting accounting and computer systems, designing forms and planning tests.

The Association regards the lead times envisaged for the political decisionmaking process as quite sufficient. The sector has, however, made it clear that it would prefer the changeover to take place at the turn of the year.

Summary and conclusions

The Swedish financial sector is well-prepared for a changeover to the euro. Preparations for possible Swedish participation in EMU have been in progress since the mid-1990s in several organizations and institutions. Following the introduction of the euro in 1999, the Swedish financial sector offers the option of saving in euros, trade in shares quoted in euros, and clearing and settlement in euros. According to the sector, the interfaces between the players in the financial market are already in place in most cases. The work that remains to be done consists of final tests before completing their adjustment to the euro.

The report shows that several financial players, such as OM Stockholm Exchange, the VPC and some market players, have already completed most of their adjustments to the euro and only need a short time to complete the final adjustments that would be necessary if Sweden joined EMU. For many other players major adjustments still remain to be made before they are ready for a final changeover to the euro. The report also shows that most of the adjustments that remain to be made in the financial sector relate to computer systems. The need for legislative changes has also been recognized, in particular in connection with conversion of the national debt (in order to make it possible to change the interest calculation convention from that applicable to the krona to the standard for euro loans), renominalization (changing

nominal amounts), the rounding of nominal holdings in connection with redenomination, the rounding of retail prices (in order to avoid using the smallest cent coins) and matters relating to the issue of notes and coins. These amendments are beyond the control of the sector itself. This report has attempted to identify the changes that remain to be made before the financial sector is ready for the euro and the time that such changes would take. Fig. 5 on next page gives a graphic illustration of the remaining lead times in the financial sector for a complete changeover to the euro.

The chart of lead times in the financial sector shows that for several of the financial players it would take up to 18 months to complete the adjustments that still remain to be made. The Swedish bank system, the securities dealers, the insurance companies and Finansinspektionen would all need about 18 months' to adjust to the euro in preparation for entry to EMU. The Swedish National Debt Office would need about one year. The Riksbank would also need about a year from a decision to join the currency union to complete its adjustment to the euro, provided that some of the necessary preparations could be carried out during the advance warning period. The production of euro notes and coins would take longer, however. The Riksbank's analysis indicates that the preparations for the production of euro banknotes would take about two years.

As regards the production of coins, the Riksbank analysed two alternatives, a fast track scenario involving some commercial risk for the Riksbank and a risk-free conventional scenario. In the fast track scenario, production of the necessary quantities of coins could be completed in 24 months, while it would take 34 months in the slower scenario. In addition to these lead times a two-month currency substitution period was considered necessary. The analysis also shows that it would not be

possible to introduce euro notes and coins simultaneously with a Swedish entry to the currency union on January 1, 2002 (the earliest feasible date of entry). Even if Sweden were to join after 2002, it would be difficult to introduce euro notes and coins on the date of entry. However, the lead times for the Swedish transition process as a whole are not affected by the time needed to produce notes and coins, since a large part of the preparations could be undertaken after entry.

Fig. 5 Essential lead times in the financial sector for a complete changeover to the euro

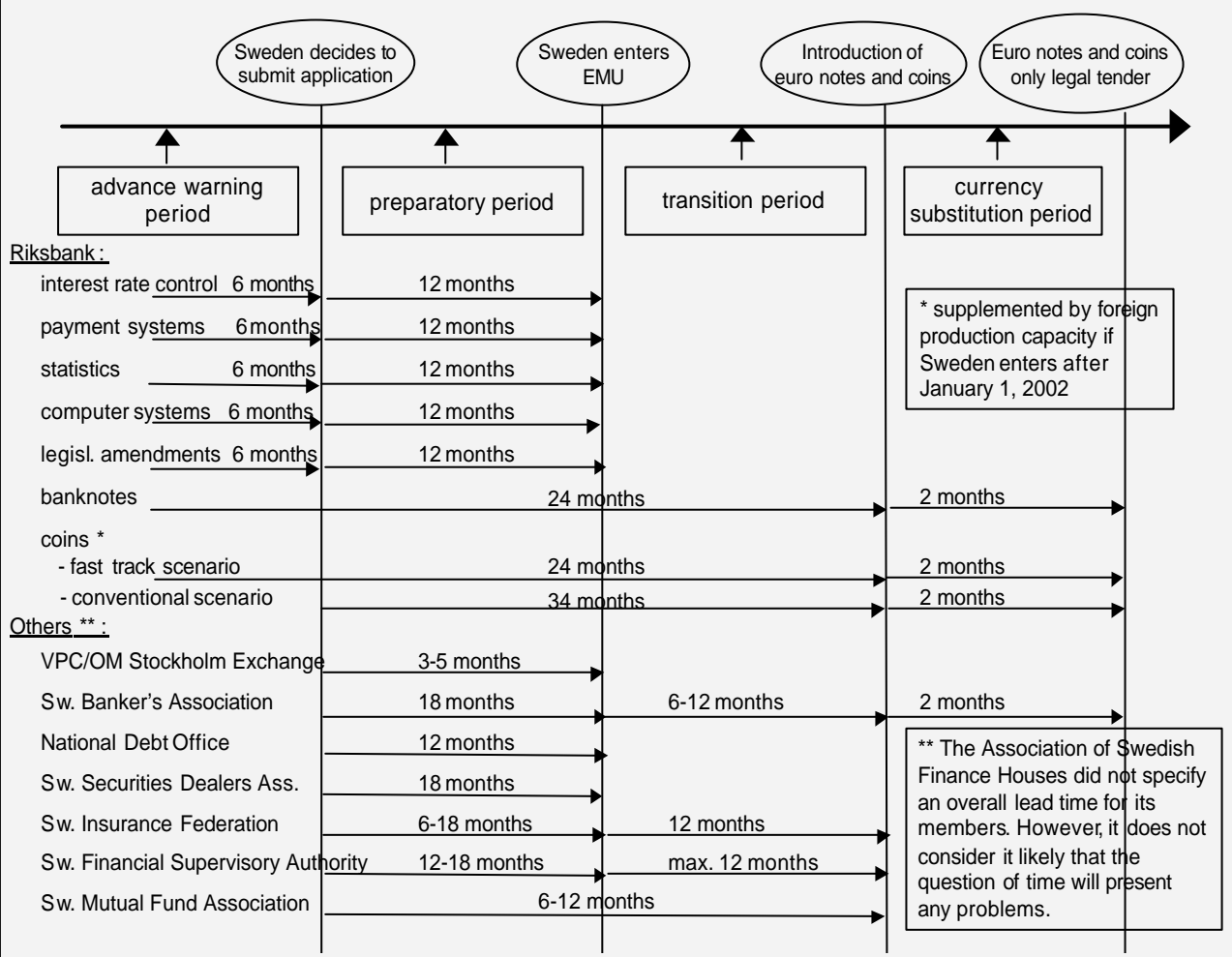
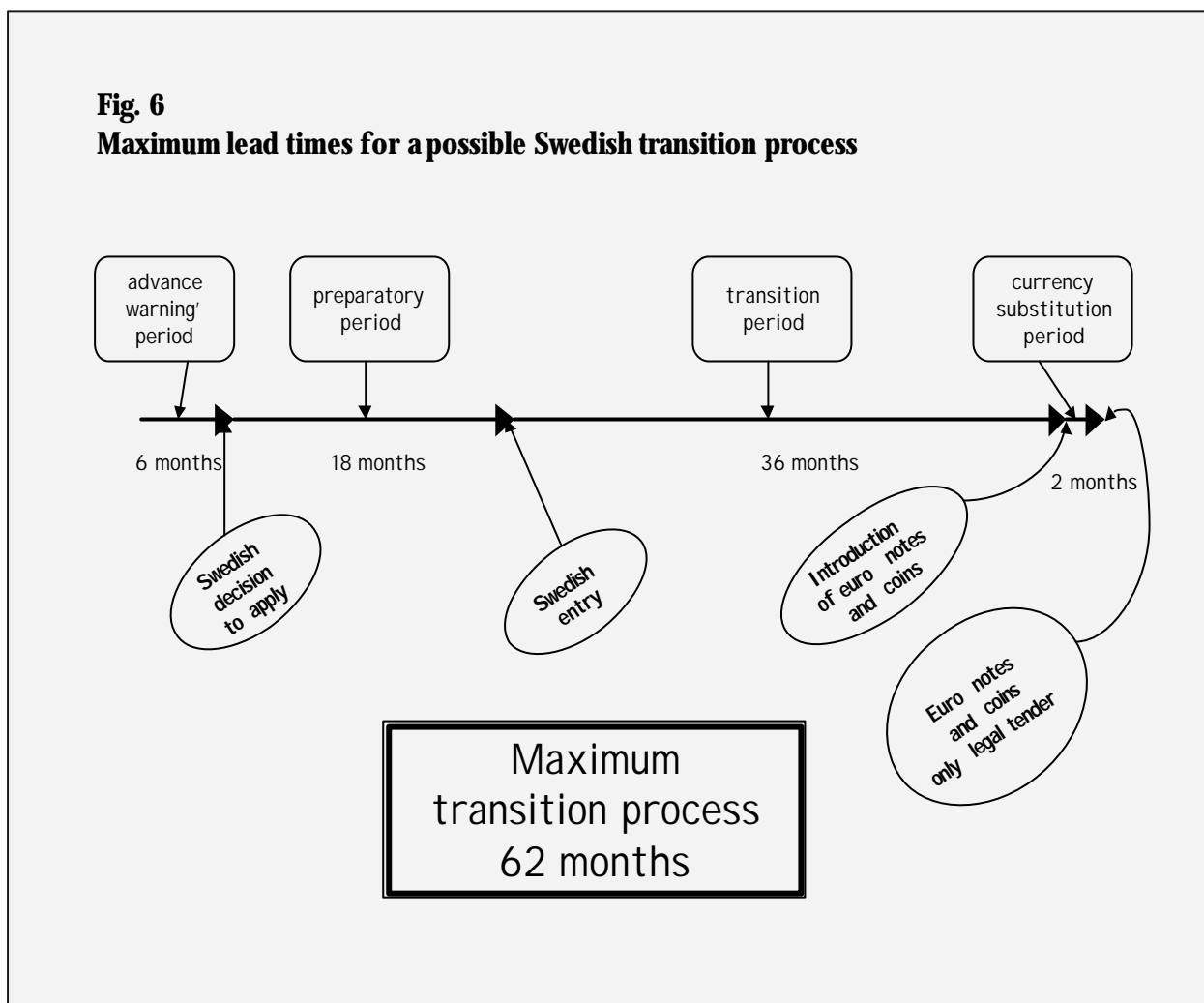


Fig. 6
Maximum lead times for a possible Swedish transition process



Lastly, it should be mentioned that the financial sector differs from other sectors in that most of the preparations in this sector would have to be complete before Sweden joined EMU, whereas other sectors could in many cases adjust to the euro after the date of entry. For the financial sector, therefore, the length of the transition period is not such a critical factor as the preparatory period. Several of the players in the financial sector favour a short transition

period. Even when the longer lead times for the production of euro notes and coins are taken into account, the financial sector would not need a transition period of more than about two years to complete the measures needed to adjust to the euro. If, however, Sweden opted for a three-year transition period like the present EMU countries, the total transition period in Sweden would be over five years¹⁴ (see fig. 6 above¹⁵).

¹⁴ The financial sector can handle a shorter transitional period and the sector do not recommend a three year long transitional period. It is just an example of maximum lead times.

¹⁵ Assuming a three-year transition period and a currency substitution period lasting two months, as for the present participants.

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