



The Euro in the Swedish
Financial Sector – Banknotes and Coins
– Progress Report 7

Additional copies can be ordered from:
Sveriges Riksbank, Förrådet, SEK-103 37 Stockholm
Fax: +46 8 21 05 31,
e-mail: forradet@riksbank.se or www.riksbank.se

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Preface

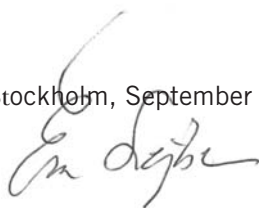
On 1 January 2002 the euro will be introduced as actual banknotes and coins in the 12 countries of the euro zone. The current 12 national currencies will be withdrawn at around the same time. This will complete the implementation of the economic and monetary union (EMU) in these countries. The euro has been used as an electronic currency since 1 January 1999.

Sweden is not participating fully in the monetary union and will not replace its domestic currency in January 2002. Nevertheless, in accordance with a decision by the Swedish Riksdag in autumn 1997(1997/98:25), the Riksbank and the Swedish financial sector are working on preparations to maintain readiness for a possible Swedish EMU membership at a later date. These preparations are co-ordinated by what is known as the SIFS group (Consultation and Information Exchange with the Financial Sector).

This is a presentation of Progress Report 7 from the SIFS group. It describes how the introduction of banknotes and coins in euro will be carried out in the euro zone and how this will affect Sweden. In addition, there is a presentation of the Riksbank's plans for production of, and a potential changeover to, banknotes and coins in euro in Sweden in the event of Swedish membership of the monetary union.

This report has been compiled within the framework of the cooperation in the SIFS group. Björn Hasselgren and Solveig Staffas at the Riksbank have co-ordinated the work.

Stockholm, September 2001



Eva Srejber
Deputy Governor of the Riksbank

Introduction

On 1 January 1999 the euro was introduced as currency in eleven of the EU's fifteen member states. On 1 January 2001 the euro was also introduced in Greece, and on 1 January 2002 these 12 countries' national banknotes and coins will be replaced by euro banknotes and coins. Pursuant to a decision in the Swedish Riksdag in December 1997, Sweden is not taking part in stage three of EMU (monetary union)¹.

The Government Bill (1997/98:25) states that Sweden shall maintain the highest level of freedom of action possible with regard to a

potential Swedish membership of the monetary union. This should be done "both by preserving the position of economic strength already achieved and by continuing the work on practical preparations to enable a possible future transfer to the euro to be implemented successfully". The Riksbank's co-operation with the financial sector through the SIFS group² is one means of maintaining this readiness for action.

Following the start of the third stage of EMU, the single currency and the common monetary policy have had a significant influence on the structure and development of the financial markets in the euro zone. One of the largest changes is the rapid integration of the money markets into one single money market and the emergence of a growing and liquid market for corporate bonds denominated in euro.

The euro is already evident in Sweden as a new foreign currency, albeit with limited usage. Private persons and companies have opened euro accounts and pay, save and borrow in euro.³ The large Swedish corporations often make bank payments abroad in euro instead of in the former national currency units. Other services utilised are mortgage loans and equity trading in euro, as well as saving in euro-related mutual funds, although these are used to a relatively limited extent.

To enable it to maintain the freedom of action on the EMU issue required by the Riksdag, the Swedish financial sector has made a survey of which adaptation measures would be necessary if Sweden were to adopt the euro, and how long these would take to implement. "The Euro in the Swedish Financial Sector – Banknotes and Coins – Progress Report 7" contains an amplification and in-depth analysis of the

Fact Box 1. SIFS – Consultation and Information Exchange with the Financial Sector

Since 1996, there has been a forum for co-operation on EMU and euro issues in the financial sector led by the Riksbank and entitled the SIFS group (Consultation and Information Exchange with the Financial Sector). SIFS also takes part in the government's general organisation 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, as well as legal and consumer issues, and are co-ordinated by a Euro Co-ordination Group at the Ministry of Finance.

SIFS consists of a reference/steering committee and six working groups. The steering committee is headed by Deputy Governor Eva Srejber and includes representatives of the Swedish Bankers' Association, Bankgirocentralen, OM Stockholm Exchange, VPC (the Securities Register Centre), 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 (the financial supervisory authority). In addition, the chair of the Euro Co-ordination Group at the Ministry of Finance and the chair of the Euro steering group of the Swedish Bankers' Association are permanently co-opted. 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, banknotes and coins, statistics, law and information. The Situation 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, a total of nine reports have been published.

lead times for replacing the currency as presented in Situation Report 5. Progress Report 7 also reports some of the changes that will occur when the countries in the euro zone introduce euro banknotes and coins on 1 January 2002.

Earlier publications in this series

The Euro in the Swedish Financial Sector – A Situation Report (*spring 1997*)

The Euro in the Swedish Financial Sector – joint attitudes (*1997 - NB. only available in Swedish*)

The Euro in the Swedish Financial Sector – the payment system (*1997 - NB. only available in Swedish*)

The Euro in the Swedish Financial Sector – Situation Report 2 (*January 1998 - NB. Only available in Swedish*)

The Euro in the Swedish Financial Sector – Situation Report 3 (*January 1999*)

The Euro in the Swedish Financial Sector – Situation Report 4 (*October 1999*)

The Euro in the Swedish Financial Sector – Situation Report 5 (*March 2000*)

The Euro in the Swedish Financial Sector – Situation Report 6 (*March 2001*)

¹ In this report the terms 'EMU membership' and 'EMU countries' are used as synonyms with 'participation in the monetary union' and 'participating countries'. What is meant by these terms is full participation in the third stage of the EMU and the twelve countries that have already introduced the euro as their currency and now have a common monetary policy.

² Consultation and Information Exchange with the Financial Sector.

³ For further information, please see "The Euro in the Swedish Financial Sector – Situation Report 6".

Sweden and the introduction of euro banknotes and coins in the euro zone

On 1 January 2002 euro banknotes and coins will be put into circulation in the euro zone. This will mark the final stage of the implementation of the monetary union, when the euro will finally and in all contexts replace the EMU member countries' national currencies. Despite the fact that Sweden is not participating fully in the monetary union, the introduction of the euro will have consequences for our country. The financial sector will be affected, in particular the banking sector. This section describes some of the changes that will occur with regard to bank services in connection with the introduction of euro banknotes and coins in the euro zone.

Exchanging the EMU countries' national banknotes and coins for euro banknotes and coins at Swedish banks and foreign exchange offices

Euro banknotes will become legal tender in the EMU countries with effect from 1 January 2002, and only then will it be permitted to put them into circulation among the general public. Swedish banks selling foreign currency will have euro banknotes for sale from the beginning of January. No Swedish banks will supply euro banknotes before January 2002. Sale of coins in euro will be very limited. The Riksbank will, as usual, only supply banknotes and coins in Swedish krona.⁴

⁴ According to a decision by the ECB Governing Council in July 2001 it will also be possible for national central banks in EU countries not taking part in stage 3 to participate in the frontloading of euro banknotes and coins to credit institutions, etc. in their respective countries. However, the Riksbank does not intend to participate in this advance frontloading.

Banks can normally supply their customers with banknotes in foreign currencies. Foreign exchange offices also offer foreign coins. The banks and foreign exchange offices have cultivated channels for administering this need. However, the introduction of euro banknotes and coins will involve a slight change in circumstances for Swedish banks and foreign exchange offices in that they will need to have access to euro banknotes and coins before they come into circulation on 1 January 2002. This is achieved by the central banks in the euro zone distributing in advance euro banknotes and coins to credit institutions in the euro zone. Several Swedish banks and foreign exchange offices will thus have access to euro banknotes and coins prior to 1 January 2002 through associates or subsidiaries established in the euro zone. This will enable them to supply these notes and coins for foreign exchange with effect from 1 January.

When the introduction of euro banknotes and coins begins in the euro zone on 1 January 2002, the trade-in of the national currency units for euro will also begin. It will be possible to exchange the national currencies for krona or euro in banks and foreign exchange offices in Sweden. Even now, in autumn 2001 it is already possible to discern an increase in exchange of the national currencies. The Swedish Bankers' Association recommends that Swedish banks with branches exchanging foreign currency should exchange banknotes in all of the national currencies until 28 February 2002, in order to simplify the information from the banks and authorities to customers/citizens, and to ensure the major part of the exchange is accomplished during a limited time period. It is then up to the individual banks to decide whether they will allow exchange of these currencies after 28 February. It should be noted

that most Swedish bank branches do not handle foreign coins. Some foreign exchange offices handle coins of higher denominations. Each country's central bank will accept its own coins and banknotes for some years after they have ceased to be legal tender in that country (see page 12).

Conversion of bank accounts in national currency units into euro

Customers with bank accounts in Sweden in one of the national currency units of the euro zone will receive information during 2001 that the currency of their account will be converted to euro. When converting these accounts, banks in Sweden will apply a recommendation issued by the Banking Federation of the European Union⁵. This recommendation states that conversion to euro should be carried out well before the end of the year, preferably by 30 September 2001. In some cases the conversion will be achieved through converting the balance on the account into euro in accordance with the fixed conversion rate established between the currency unit in question and the euro. In other cases a new account may be opened in the currency requested by the customer and conversion made at the exchange rate applying for this currency on the conversion date. Accounts in national currency units can be retained until 31 December 2001, if the customer so wishes, but after this date it will no longer be possible to make payments in national currency to or from such an account. All payments must then be made in euro.

The banks' other services

Cheques and traveller's cheques

The Banking Federation of the European Union has compiled recommendations regarding cheques and traveller's cheques in the national currency units of countries in the euro zone and the transition to the euro⁶. After 31 December 2001, these cheques will no longer be issued. In Sweden, banks ceased issuing such cheques in practice in summer 2001. Customers will be encouraged to redeem cheques and traveller's cheques

issued in these national currencies in good time, and preferably before 15 February 2002. Cheques and traveller's cheques in euro are in some cases already supplied by the banks.

Cards

The rule for customers in Sweden is that card payments will be converted into krona, as is the case today, when a card payment has been made in a national currency. There are also cards for euro debiting.

Loans

Agreements on loans in a national currency will run in that currency until they fall due for payment. According to the Council Directive (EC) no 974/98, unless a new loan agreement has been drawn up to replace the old one, any references to the national currency shall be regarded as expressed in euro according to the fixed conversion rate.

With regard to other bank services offered in a national currency (guarantees, currency swaps and futures, etc.), these may be handled in different ways by the banks. In some cases, the banks will contact the customers concerned; whereas in other cases the customers may be required to take active measures themselves. The Council Directive (EC) no. 974/98 as above will also apply to these services.

Charges for conversion

On 23 April 1998 the European Commission issued a recommendation on bank charges for conversion to euro. This recommendation has been approved by the European Council. The recommendation primarily applies to conversions of amounts held on bank-accounts between national currency units and the euro and vice versa. By national currency unit is meant in this context the currency of the EMU country in which the bank making the conversion is situated.

The recommendation provides a standard for best practice for conversions not subject to char-

⁵ The recommendation 'European Guidelines for Best Practice Concerning Customer & Nostro Legacy Currency Account Conversion' is available at the Banking Federation of the European Union's website, www.fbe.be.

⁶ The recommendation 'European Guidelines for Best Practice Concerning Legacy Currency Cross-border Cheques' is available at the Banking Federation's website, www.fbe.be.

ges. According to the Commission, it is a legal requirement that conversions of accounts from national currency units to euro at the end of the transition period should be carried out free of charge. The Commission further recommends that no charge should be made during the transition period, and that certain other bank services should also be free of charge, e.g. exchanging "household amounts" of banknotes and coins in the national currency units for euro notes and coins on behalf of customers (i.e. account holders) during the transition period. A decision on what is considered to be "household amounts" will be made locally by each country.

Sweden's non participation means that the recommendation does not fully apply in Sweden. However, Swedish banks must clearly show the official conversion rates when making conversions between the euro and national currency units, and should state any charges separately. Written information should be provided in advance of all charges for conversion and exchange. This information should also be provided afterwards in bank statements and other information to customers.

When exchanging Swedish krona for banknotes and coins in euro, Swedish banks are free to determine both the exchange rate and any charges, i.e. in the same way as today for exchange to/from foreign currencies. Nor does the recommendation mention anything in regard to exchanging between national currency units during the transition period, which means that charges may be levied for this service.

Contract continuity

It is a generally accepted principle that contracts are not affected by the introduction of a new currency. The Council Regulation (EC) no 1103/97 also states that the introduction of the euro will not give any party the right to unilaterally revoke legal instruments such as agreements or other legal documents. The Regulation covers circumstances within the EU and therefore also applies in Sweden. Analyses of how other legal systems regard the introduction of a new currency have been initiated by the European Commission, amongst others. It has thereby been concluded

that the principle concerned, *lex monetae*, is accepted by all of the more important financial centres in the world. This means that the introduction of the euro should not affect contracts already entered into, etc. Some states have introduced special legislation with the aim of safeguarding contract continuity. The Council Directive (EC) no 974/98 states that references in legal instruments to one of the national currency units shall from 1 January 2002 be read as references to euro in accordance with the fixed conversion rate. Legal instruments here means all documents with a legal effect, e.g. laws, agreements and transactions. This means, for instance, that as of 1 January 2002 an agreement stipulating remuneration in German mark will be read as remuneration in euro, calculated according to the fixed conversion rate.

Payments

It will not be possible to make payments abroad in the 12 national currencies after 31 December 2001. Payment orders in these currencies with a value date later than 31 December and implemented via the SWIFT international network will not be accepted as of August 2001, but will be returned to the sender. As of 1 January 2002, it will no longer be possible to balance and settle electronic payments in the national currencies. In addition, information on payment systems in the EU can be found in a report from the ECB "Payment and Securities Settlement Systems in the European Union" – (Blue Book), June 2001.

Today it is still more expensive to send payments between countries than within the same country, and until recently there was no specially adapted electronic system for sending smaller payments between countries. However, some months ago the European Banking Association started up an electronic payment system for small payments within the EU, known as STEP 1. There is also a co-operation between the postal giro systems in the EU countries with regard to giro payments in euro.

To make the payments more efficient, an international bank account number, IBAN, is also being introduced in Europe during 2001.

Fact Box 2. STEP I

- **STEP I** is a system for small euro payments operated by EBA, the European Banking Association.
- **STEP I** handles payments of up to € 50,000. Larger payments can be made in exceptional circumstances.
- More than 100 banks subscribe to **STEP I**, including SEB, Svenska Handelsbanken, FöreningsSparBanken and Nordea.
- **STEP I** enables payments to be made to the majority of European inhabitants.
- The system currently implements payments in foreign currencies on the following day, but it will be developed to handle payments in foreign currencies on the same day.

The purpose of IBAN is to enable straight through processing of payments (STP). It will also increase security for payment transfers.

The introduction of the euro increases the requirements for efficient routines for cross-border payments. This will enable the cost of making payments between countries to be reduced to a level equivalent to that for domestic payments.

In future it will be important to know the payment recipient's IBAN when making payments abroad within Europe. This information is necessary for automatic processing of the payment and the payment information. Automation considerably reduces the cost of making payments abroad.

The Swedish banks will inform their customers about IBAN. Those customers who are payment recipients, e.g. because they export to other countries in Europe, must state their IBAN in connection with invoicing. The customer's IBAN should be clearly stated on the invoice in future, in the same way that the bank giro or post giro number is stated for domestic payments.

Timetable for the introduction of euro banknotes and coins in the 12 euro zone countries

The table on page 12 describes the timetable for the changeover to banknotes and coins as established for the euro zone and for the various EMU countries.

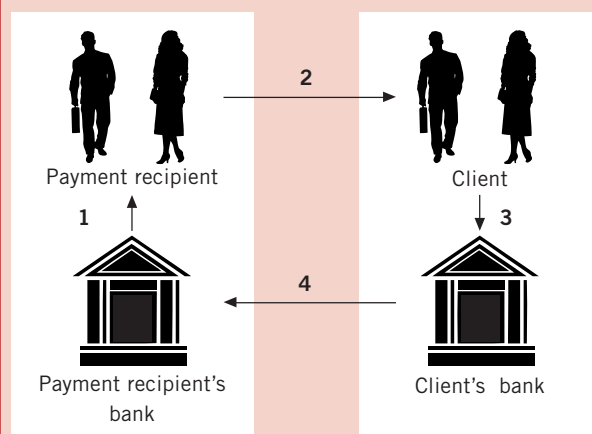
The transition from national banknotes and coins to euro differs slightly between the euro countries within a common framework, and is de-

scribed in each country's respective national changeover plan. Approximately 14.5 billion euro banknotes and 50 billion euro coins will be manufactured throughout the entire euro zone prior to 1 January 2002.

The exchange period, the time period during which the euro and the national banknotes and coins will be used simultaneously, varies between four weeks and two months. The euro countries assume that the greater part of the daily cash payments will be made in euro as early as 15 January 2002 - two weeks after "E Day", the day the euro is introduced.

If there still remain national banknotes and coins at the end of the exchange period, it will be possible to exchange them at the respective national central banks during an unlimited, or relatively long, period (see Table 1 on page 12).

Figure 1. Outline of how IBAN functions in payment flows



1. Payment recipient (seller) is allocated an IBAN by his/her bank.
2. Information on the payment recipient's IBAN is communicated to the client (buyer).
3. The client sends an order to pay, which contains the payment recipient's IBAN.
4. A payment message with an IBAN, which is checked by the sender bank, is sent to the recipient bank. The payment recipient's account is credited with the amount

Table 1. National transition scenarios

Country	Final date when national banknotes and coins are legal tender	Final date for exchanging national banknotes and coins for euro	Final date for exchanging national banknotes and coins at national central banks
Austria	28 February 2002	Decided individually by each bank	Coins: unlimited Notes: unlimited
Belgium	28 February 2002	31 December 2002	Coins: 31 Dec 2004 Notes: unlimited
Finland	28 February 2002	Decided individually by each bank	Coins: 29 Jan 2012 Notes: 29 Jan 2012
¹⁾ France	17 February 2002	30 June 2002	Coins: 30 June 2005 Notes: 30 June 2012
¹⁾ Germany	²⁾ 31 December 2001	³⁾ 28 February 2002	Coins: unlimited Notes: unlimited
Greece	28 February 2002	Decided individually by each bank	Coins: 30 June 2005 Notes: 30 June 2012
¹⁾ Ireland	9 February 2002	30 June 2002	Coins: unlimited Notes: unlimited
Italy	28 February 2002	Decided individually by each bank	Coins: 30 Dec 2012 Notes: 30 Dec 2012
Luxembourg	28 February 2002	30 June 2002	Coins: 31 Dec 2004 Notes: unlimited
¹⁾ Netherlands	28 January 2002	31 December 2002	Coins: 1 Jan 2007 Notes: 1 Jan 2032
Portugal	28 February 2002	30 June 2002	Coins: 31 Dec 2002 Notes: 31 Dec 2022
Spain	28 February 2002	30 June 2002	Coins: unlimited Notes: unlimited
<p>¹⁾ Shorter exchange period. ²⁾ Companies in Germany will accept the national currency unit at least until 28 February 2002 in accordance with the joint press release issued by professional and industrial organisations on 22 October 1998. ³⁾ Flexibility will be sought after 28 February 2002.</p>			

A Swedish transition scenario

Admission procedure and transition process

If Sweden were to decide to apply for EMU membership, it would need to undergo the same procedures as the current members did when they joined (see Fact Box 3). In their preparatory work, the members of the SIFS group have assumed that the transition process in Sweden would entail the same phases as have applied for the current members of the euro zone (see Figure 2, page 14). Another assumption has been that Sweden would be able to choose a shorter transition period than the three years that the other countries – with the exception of Greece – have had. A simultaneous membership of the monetary union and introduction of euro banknotes and coins has not been depicted as the main scenario. This type of "Big Bang" process would be more complicated in practice and would mean that Sweden had to wait to join EMU until all the practical preparations were complete. The Big Bang alternative is described in more detail on page 19.

The various phases in a transition process if Sweden were to join EMU are illustrated in Figure 2. Although the preparatory work for EMU membership begins during the "advance warning" period, it is unlikely that it could be intensified until a political decision has been taken in Sweden to join EMU. Situation Report 5 included a general account by the financial sector of what measures for adaptation would be needed prior to a Swedish changeover to the euro, as well as the necessary lead times. Since Situation Report 5 was published at the beginning of 2000, the Riksbank has made a more in-depth, amplified analysis of the lead times for production of Swedish banknotes and coins in euro, as well as beginning an analysis of the necessary stages in a Swedish

Fact Box 3. Admission procedure for Member States with a derogation

The EU countries that do not meet the convergence criteria for participation in EMU, at present only Sweden, are referred to as Member States with a derogation. (Denmark and the United Kingdom have special exemptions according to the Treaty of Maastricht, and this cannot be considered on a par with the Swedish situation). According to the Treaty, countries with a derogation, like Sweden, 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 make its formal 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 Commission 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. Euro Regulation no. 1103/97, on certain provisions relating to the introduction of the euro, deals with the continuity of contracts, conversion rules and rounding rules. Regulation no. 974/98, 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 time frames specified in the latter 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 need to be adopted for the purpose of admission of new participants in the monetary union. The applicant countries will also need to prepare national transition scenarios for the practical implementation of the currency changeover.

transition from krona banknotes and coins to euro banknotes and coins. The result of the analysis work with regard to banknotes and coins is reported in Appendices 1 and 2. The Riksbank's in-depth analysis of the production of banknotes and coins has shown that several elements in the preparations can be planned during the advance-warning period. This would enable a reduction in the lead time from a Swedish decision to apply for membership until replacing banknotes and coins from around 38 months to 21 months.

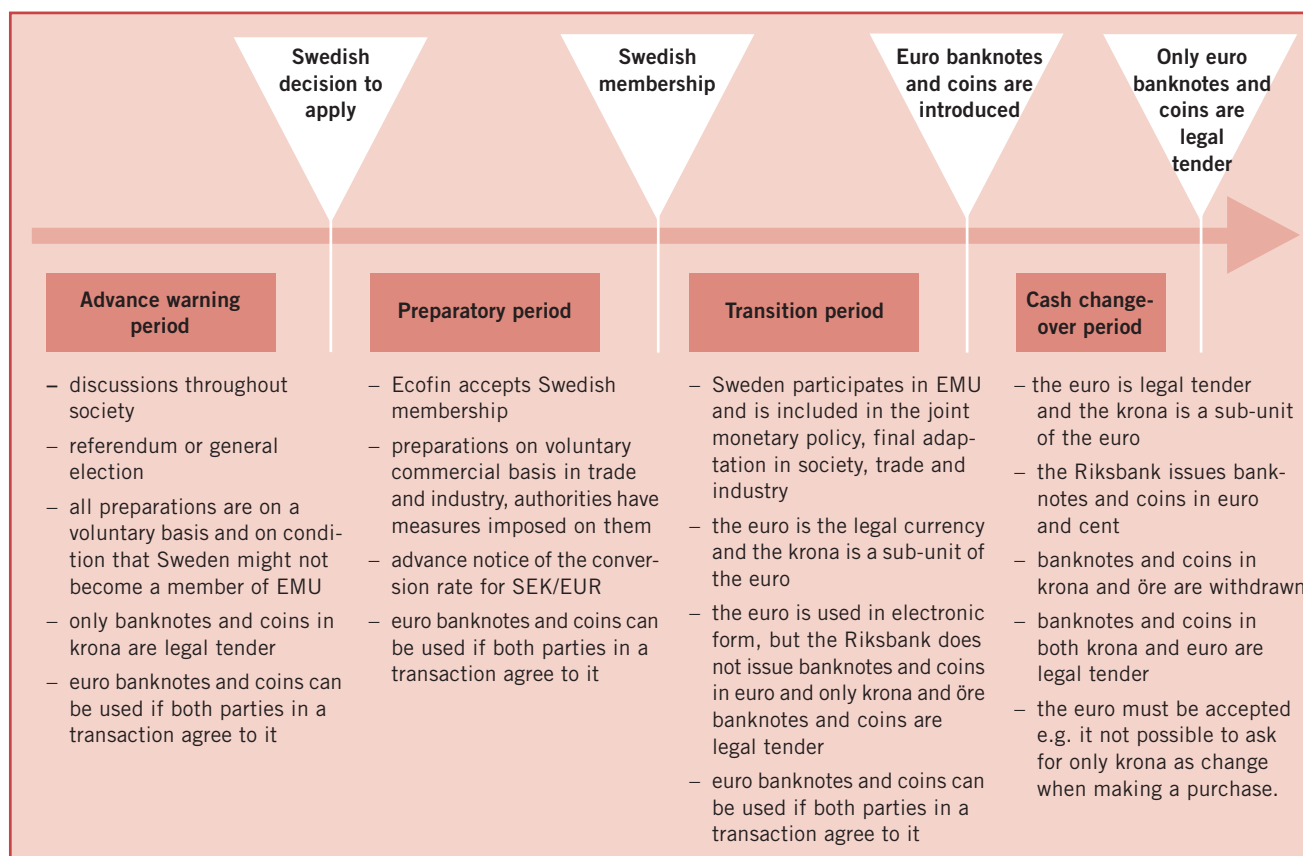
SIFS assumes in its planning work that if a decision is taken for Sweden to join EMU, there will be a political wish to fully benefit from membership by joining as soon as possible. It is therefore probable that the transition process will be less extensive in time for Sweden than for the first wave of euro countries. Greece's joining of EMU is a good example of how the transition process can be compressed more than for the countries that joined first.

The transition period – with the euro as currency and the krona as legal tender

If Sweden joins EMU, the euro will be introduced as Sweden's currency⁷ on the date of entry. This will also be the latest possible date for determining the fixed rate for converting krona into euro, containing six significant figures. Sweden's currency will be the euro and the krona will comprise a non-decimal expression of the euro. Each amount in krona will have a fixed counter value in euro according to the official conversion rate. Here are presented some of the issues connected with the transition period.

Unlike the current participating countries, if Sweden decides to join EMU there will already be euro banknotes in circulation in Europe during the transition period. However, this fact should not lead to any difference in the view of which currency applies in Sweden during the transition period. The currency in Sweden will be the euro,

Figure 2. The transition process in a possible future Swedish EMU membership



but banknotes and coins in euro will not yet be legal tender in Sweden. As in the case of the countries now participating in EMU, the euro will function as an electronic currency for payments, e.g. between banks or by credit cards and charge cards. Similarly, the euro will replace the krona in, for instance, the Riksbank's accounts and in the RIX⁸ system from the date of entry. In addition, most of the Swedish central government debt will be redenominated, i.e. converted from Swedish krona to euro.

On condition that Sweden has a transition period in the same way as the current members of the monetary union, the following reasoning can be conducted.

Pursuant to Chapter 5, Article 1 of the Sveriges Riksbank Act (1988:1385), banknotes and coins issued by the Riksbank are legal tender. Chapter 5, Article 2, of the same act states that banknotes can be issued in different denominations of krona, and coins can be issued in different denominations of krona and öre. As the act limits legal tender to the physical krona banknotes and coins issued by the Riksbank, the legal tender in Sweden will continue to be banknotes and coins in the currency unit of krona, until the Riksbank begins to issue banknotes and coins in euro. The euro coins have a national side and for the General Council of the Riksbank to be able to decide on the appearance of this national side on a euro coin issued by the Riksbank, there must be a change in the law permitting Swedish coins to be issued in euro and cent.

During a transition period, when there is a free choice between using krona or euro in contracts, transactions, etc., it will thus still be banknotes and coins in krona and öre that comprise legal tender in Sweden. This means that everyone in Sweden is only obliged to accept as payment banknotes and coins in krona and öre issued by the Riksbank. If payment is to be made by other means, e.g. with euro banknotes or coins, the person making the payment must first enquire whether the recipient will accept this form of payment. It is important that the general public receives clear information regarding this situation.

Swedish citizens will, for instance, bring euro banknotes home to Sweden after a visit to a euro country and foreign visitors from euro countries will have euro banknotes with them when they

visit Sweden, and they may wish to pay with these notes here. Whether they are successful in this will depend on whether the post offices, banks and retail trade agree to it, as only krona banknotes and coins are legal tender during the transition period. It will probably be possible to pay with euro banknotes in many contexts, as many retail traders will surely accept payment in euro, in the same way that businesses today accept Norwegian and Danish currency in cross-border shopping.

The cash changeover period – with both the euro and the krona as legal tender

With effect from the day that the Riksbank introduces euro banknotes and coins, these will become legal tender in Sweden. During a brief period, therefore, both euro banknotes and coins and krona banknotes and coins will be legal tender. When the cash changeover period is complete, only euro banknotes and coins will be legal tender. The cash changeover period, the length of which will be determined after negotiations within the EU, as for the transition period, should be as brief as possible. This is because of the practical problems connected with using double currencies.

Post offices, banks and the retail trade will have to handle two currencies during the change over period, which could prove costly. Double pricing is another process for the retail trade that will lead to additional costs. According to the EC Directive applied to the current EMU members, the cash changeover period should be a maximum of six months. In practice, the euro countries have jointly decided that the substitution shall be implemented more quickly than this – during a period of 4-8 weeks (see the table on national transition scenarios on page 12).

When the cash changeover period is over, the Riksbank will for a period continue to accept krona banknotes and coins that it has issued earlier.

⁷ Currency is the unit of money applying according to each country's national legislation.

⁸ The Riksbank's system for the settlement of payments, primarily between banks in Sweden.

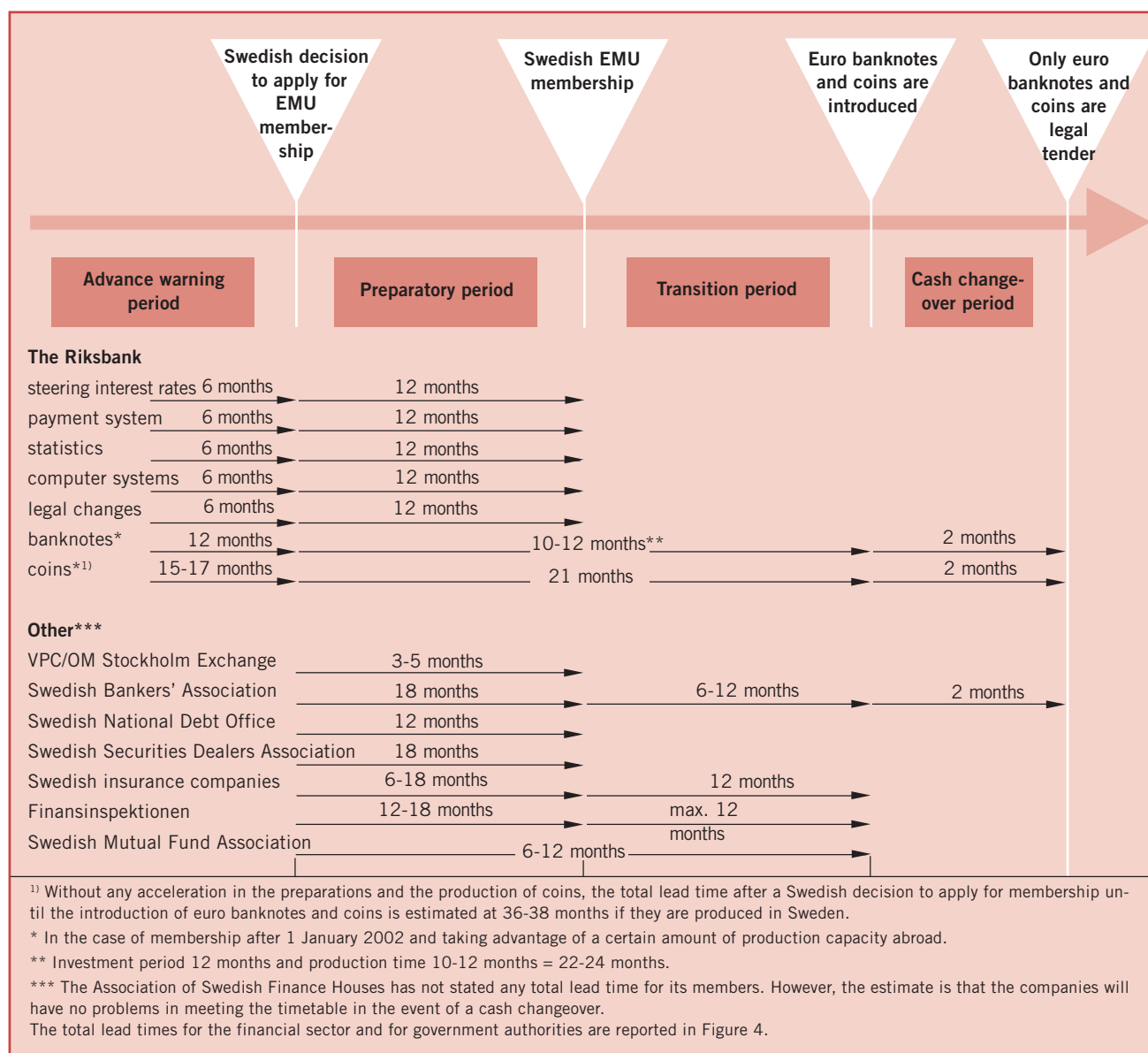
The Riksbank will decide how long this period shall be in Sweden.

MORE PRACTICAL ISSUES TO RESOLVE

With a transition to the euro as currency, a number of other issues will arise regarding the use of the new currency. Issues that need to be resolved are the changeover from krona to euro among participants in the economy, e.g. in accounting systems and commerce. Below follows an illustration of the practical substitution of banknotes and

coins, e.g. for rounding and the minimum number of decimal points that should be used. The problem of rounding concerns whether one should round to a certain number of decimals or to whole numbers. Another issue is how standard amounts shall be handled in conversion from krona to euro. Standard amounts here means amounts that are relatively well-known and can be used as various types of limit or similar. Examples of standard amounts are child benefit, study grants and limits for payment of income tax.

Figure 3. The financial sector's necessary lead times for a complete transition to the euro



CONVERSION RULES: KRONA – EURO

The Council Directive (EC) no 1103/97, Articles 4 and 5, contains regulations with regard to how amounts should be converted and accounted. They apply both when converting national units of currency to euro and when converting from euro to the national units of currency. They also apply when converting from one national unit of currency to another.

According to Article 4.1, a conversion rate shall be established for the national currency unit of each country covered by the Directive. This rate shall contain six significant figures. The conversion rate may not be rounded or shortened when converting. This is stipulated in Article 4.2.

Article 4.3 states that the conversion rate shall be used for converting both from a national unit of currency to euro and from euro to the national unit of currency. Inverted rates that stem from the conversion rate may not be used. When an amount that is to be paid or accounted has been converted to euro in accordance with Article 4, it shall be rounded up or down to the nearest cent, according to Article 5. The amount then has a maximum of two decimals.

If an amount that is to be paid or accounted has been converted to another national unit of currency, if such a currency exists when Sweden joins, the amount shall be rounded up or down to the nearest sub-unit. If there are no sub-units, the amount shall be rounded to the nearest unit of currency, or according to national legislation or established practice, with a maximum of two decimals. If, after conversion, the amount lies exactly in between two numbers, it shall be rounded upwards⁹.

ROUNDING, DECIMALS AND STANDARD AMOUNTS

The value of the krona against the euro is currently (August 2001) approximately 1/9. A euro costs approximately 9.40 krona, which means that 1 cent is equivalent to approximately 9 öre. It is

⁹ Provisions on conversion of monetary amounts from one national unit of currency to another, known as triangulation, are contained in Article 4.4. This means that the amount in question is first converted into an amount in euro, which is then rounded to at least three decimals, and then converted into the other national currency. No other conversion method may be used. The inverted value may not be used.

therefore not usually possible to convert whole numbers in krona to whole numbers in euro. A direct conversion of an amount in krona to euro or vice versa must contain decimals to maintain sufficient accuracy.

Today, the Swedish authorities normally only handle whole numbers of krona. At the beginning of the 1970s, when many Swedish authorities began building up IT systems, there was no requirement to use öre in their calculations. The value of the Swedish krona was then approximately the same as the value of the euro today. From this, one could draw the conclusion that decimals would not necessarily be needed by government authorities in a changeover to the euro.

The Swedish Agency for Public Management is commissioned by the government to co-ordinate the government authorities' work on certain preparations for a possible adoption of the euro. A report published by the agency in 2001 contains a number of recommendations, which are summarised below.

When it comes to decimals, the Swedish Agency for Public Management has the following proposals for recommendations, which would apply both during a transition period and after the transition period, unless otherwise stated.

- A conversion between Swedish krona and euro can be implemented with the aid of the conversion factor of six significant figures (five decimals). In any ensuing calculations with converted amounts, the amounts used should contain at least three decimals. The amounts that are then stored should have at least two decimals. The converted amounts stored or used in operating systems that cannot or shall not handle decimals should be rounded to whole numbers.
- All amounts included in an accounting system should contain at least two decimals. When new operating systems are constructed, they should contain the capacity, where necessary, to store amounts with at least two decimals. When constructing calculation modules, however, they should be given the capacity for at least three decimals.
- For calculations in more than one stage, the Swedish Agency for Public Management recommends that the amounts be rounded at the latest stage possible.

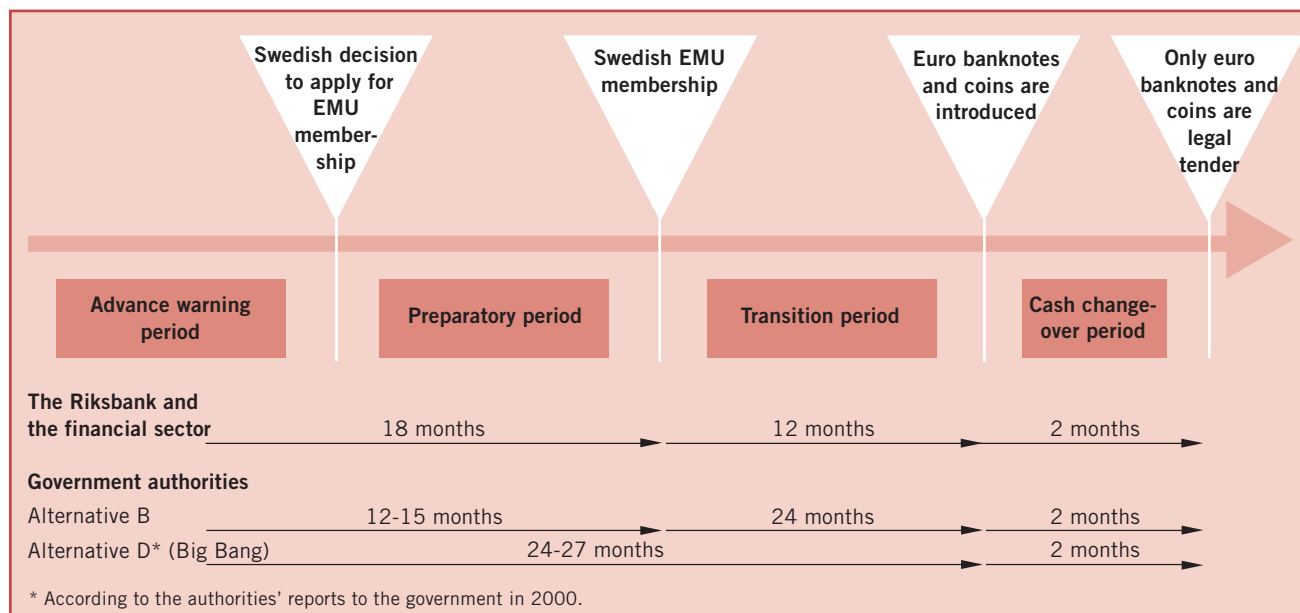
- During the transition period, the Agency recommends that standard amounts should be handled like all other amounts that need converting. At the end of the transition period, standard amounts and limits should be expressed in even hundreds or tens of euro. It may be necessary, in exceptional cases, to express small amounts by also stating cents, but in that case they should be stated in tens of cents.

It has been common in Sweden for many years now to round off purchase prices paid in cash to the nearest fifty öre¹⁰. Therefore it seems reasonable from a Swedish point of view to continue with some form of rounding of a similar size¹¹. This could mean that 1 cent and 2 cent coins would not be used in practice in Sweden. The Riksbank therefore assumes that handling of the 1 cent and 2 cent coins in Sweden would be limited. Nor would these coins be actively distributed by the Riksbank. Naturally, they would still be legal tender in Sweden. Finland intends to use the same approach when introducing coins in euro.

Lead times in a Swedish transition scenario

As far as the financial sector is concerned, the great majority of adaptation measures must be implemented as soon as Sweden becomes a member of EMU. Any remaining adaptation work would be done during the transition period, and Swedish banknotes and coins in euro would also be produced during this period. There would also be extensive information campaigns prior to the cash changeover. The in-depth, amplified analysis into lead times made by the Riksbank since Situation Report 5 shows that the lead times, i.e. the time between a decision to apply for membership and the introduction of euro banknotes and coins, can be shortened from 36-38 months to 21 months. The analyses made so far of the stages involved in the cash changeover have not shown any reason to change the assumption that two months will be a reasonable time period for the actual implementation. This question will be analysed further on the basis of the actual experiences of EMU members making the transition in 2002.

Figure 4. Lead times for the financial sector and government authorities



¹⁰ The Act on rounding off amounts in öre (1970:1029).

¹¹ Council Directive (EC) no. 1103/97 refers in its introduction, point 11, as well as in Article 5, to national provisions or national practice in certain cases of rounding.

Altogether, the advance warning period and the preparatory period for the financial sector amount to 18 months, which is slightly longer than that for government authorities, who consider a preparatory period of 12-15 months should suffice. The longer preparatory period for the financial sector is due to the fact that the major part of the transition to the euro in the financial sector must be done prior to Swedish membership. On the other hand, the transition period for the financial sector is shorter - at 12 months - than the government authorities' requirement of a transition period of 24 months. This means that with a process encompassing four phases, including the cash changeover period, the total lead time for the financial sector would amount to $18+12+2 = 32$ months and the equivalent for government authorities would be $12+24+2=38$ months (see Figure 3, page 16).

The "Big Bang" scenario as an alternative transition scenario

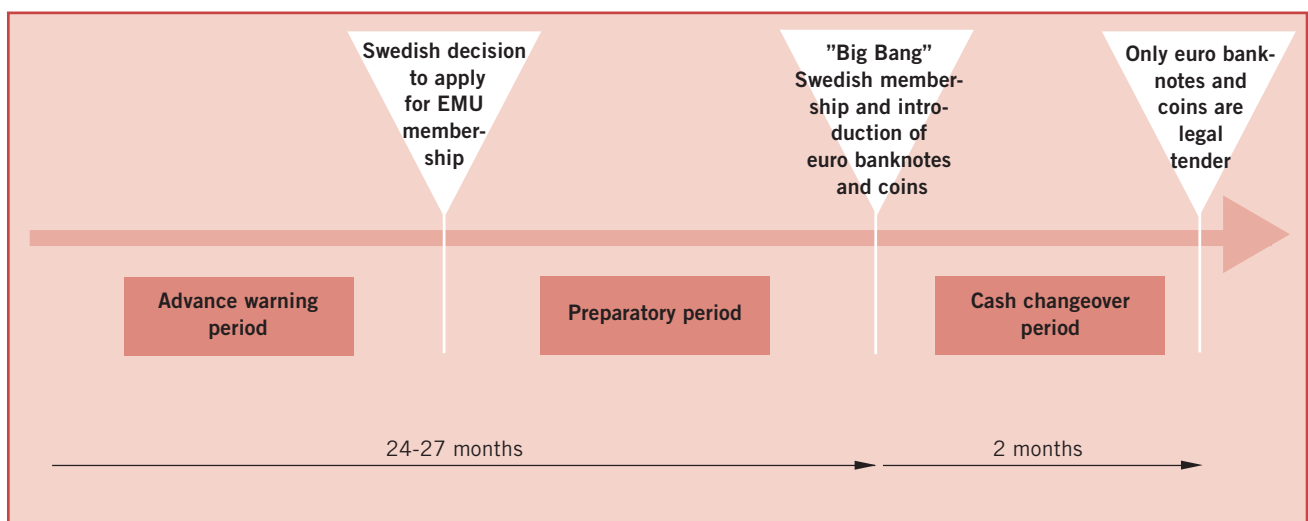
The alternative of supplying euro banknotes and coins, i.e. beginning the cash changeover, at the same time as joining EMU's third stage has come to be called the "Big Bang" scenario.

This is an alternative scenario to the one SIFS is working on, and has been discussed by other government authorities. According to this transition scenario, a preparatory period of 24-27

months would be required after a political decision to join the EMU. After this would come entry into the third stage of EMU with a simultaneous introduction of euro banknotes and coins. The euro would become Sweden's currency and legal tender parallel with the cash changeover period. This would involve a requirement that it should be possible to process the euro in all transactions made by everyone in Sweden, with effect from day one. Bearing in mind the longer preparatory period, it would also take longer until Sweden could participate fully in all co-operation and decision-making forums in the euro zone. On the other hand, there is no difference in the production of euro banknotes and coins with the Big Bang-alternative. The time period from political decision to the introduction of notes and coins is assumed to be sufficient for the preparations required to produce adequate supply of banknotes and coins in the same way as in a gradual transition scenario.

The advantage with this scenario is that there would not need to be any confusion among the general public regarding the position of the euro during the transition period. The euro would not be the currency in Sweden until the day Sweden joined the EMU, but from that day it would be legal tender immediately and completely. Nevertheless, Big Bang makes greater demands for co-ordination and information campaigns for the general public, which means that the costs would probably be greater. This is why SIFS does not recommend the Big Bang scenario, instead advocating a transition process in four phases.

Figure 5. Transition process in the event of a Big Bang scenario



Lead times for the production of Swedish banknotes and coins in euro

This appendix describes in detail how the Riksbank plans to produce banknotes and coins in euro prior to a possible participation in the third stage of EMU.

The production of euro banknotes and coins is technically complicated and time consuming. It is therefore important that a readiness be maintained for beginning production so that it could start up as soon as a possible political decision to enter the third stage of EMU was taken. The Riksbank has therefore examined how long production of Sweden's requirement of euro banknotes and coins would take and what preparations are required to avoid this production delaying Swedish membership unnecessarily. This report assumes that AB Tumba Bruk will be mainly responsible for production in Sweden of euro banknotes and coins, and this need not change if Tumba Bruk is sold to a new owner which is currently being discussed within the Riksbank.

The scenario on which the Riksbank's calculations are based involves a transition period of a maximum of two years between a political decision to apply for EMU membership and the introduction of euro banknotes and coins. This is the transition period considered necessary by government authorities for taking measures to adapt to the changeover. In practice, the transition period could be either longer or shorter, depending on how long a transition period is required by other sectors.

Euro banknotes and coins

LEAD TIMES FOR THE PRODUCTION OF EURO BANKNOTES

To implement a potential cash changeover in Sweden, it would be necessary to have sufficient euro banknotes manufactured to correspond to

the value of the current banknote stock in circulation.

Euro banknotes are issued in denominations of 5, 10, 20, 50, 100, 200 and 500 euro. The volume of euro notes that would have to be produced is approximately 270 million, with a value of just under EUR 10 billion. These figures do not include any stocks – the entire volume would be put in circulation. It is planned that production

Fact Box 4. Assumptions and starting points

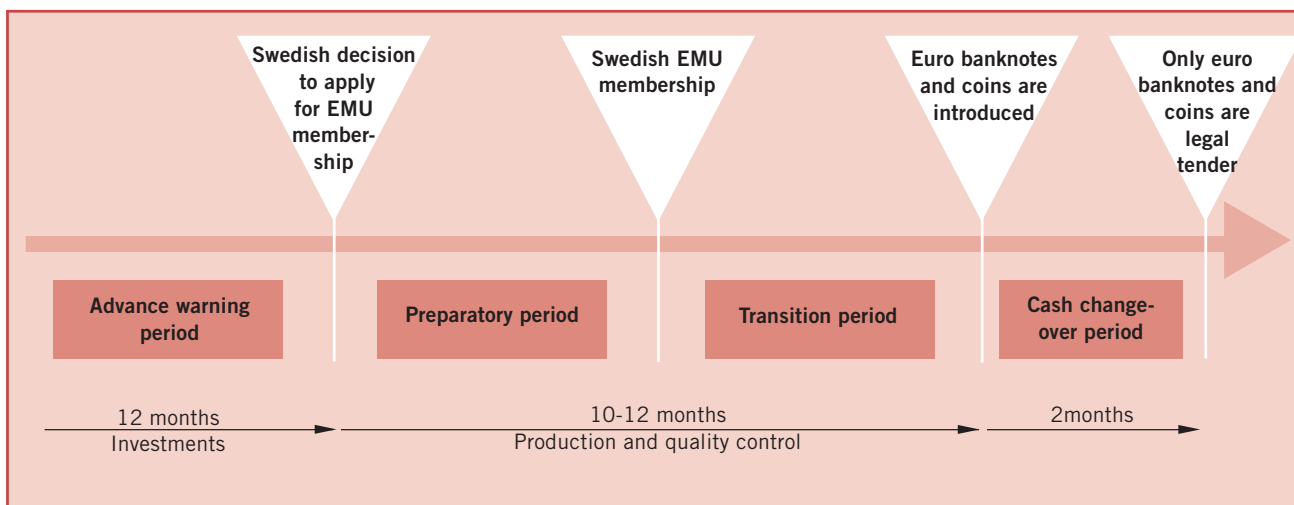
Banknotes

- After 1 January 2002 there may be vacant production capacity at other European banknote printing works.
- Sweden would want to join the third stage of EMU as soon as possible after a political decision was made.
- The ongoing preparatory work would continue and some of the work on tests, samples and certain investments would be done during an advance warning period.

Coins

- It would not be necessary to produce 1-cent and 2-cent coins as the Riksbank assumes that similar rounding off rules to those existing today would be applied.
- Approximately 840 million coins would be needed when euro coins were introduced.
- The production of coins should be preceded by a decision in the Riksbank General Council on the design of the national side of the coin.
- A change in the law would be necessary, immediately after the decision to apply for EMU membership, to give the General Council the right to make a decision on the design of the coins.
- The national sides of the coins would be designed in advance, but not formally established.
- Tumba Bruk would have prepared minting tools with the preliminary national side as a master.
- Extra investments and a temporary increase in personnel resources would have been implemented at the Swedish Mint and Tumba Bruk.

Figure 6. Lead times for production of Swedish banknotes in euro



of banknotes for stocks would follow. Not all denominations would be produced at Tumba Bruk - only the 5, 10, 20 and 50 euro banknotes. It is assumed that the higher value notes, 100, 200 and 500 euro, would be bought in from one of the other EMU countries¹². The reason for this is that less than 10 per cent of the banknote stock in Sweden consists of high value notes and it is thus not cost-efficient to manufacture these at Tumba Bruk. All euro banknotes have jointly-agreed, identical appearance and technical specifications within relatively narrow tolerance margins. It would require some investment at Tumba Bruk to enable the quality control required both during and after printing, and this is expected to take 12 months to implement. The transition period would also include the delivery of banknote paper. The delivery time for paper is not expected to exceed three months. The production time for meeting the Swedish requirement of euro notes is calculated by Tumba Bruk to be around 12 months.

As Sweden will not be involved in the cash changeover at the same time as the countries already taking part in the third stage of EMU, there will be a possibility to farm out a greater share of production than mentioned above to other printing works. If necessary, the production time could be reduced to 10 months, instead of 12. The total lead time would thus be between 22 and 24 months. The production of euro banknotes is

therefore unlikely to set limits for transition planning.

LEAD TIMES FOR THE PRODUCTION OF EURO COINS

Experiences from other countries show that the manufacture of euro coins is complicated and requires extensive preparations. This is partly due to the permitted tolerance for deviations from the technical specifications for coins being very low, to enable the coins to be used in vending machines, etc. Euro coins in Sweden would be issued in the denominations 1 and 2 euro as well as 5, 10, 20 and 50 cent. The completed euro coin requirement in Sweden is expected to amount to approximately 840 million to enable a secure, reliable introduction. The value of the coins will amount to approximately EUR 340 million. This volume does not include stocks, but comprises the supply deemed necessary to replace the krona coins circulating in society. Coins for stocks would be manufactured later. The estimate has been based on a retention of the current rounding regulations in Sweden¹³, which would reduce the requirement to use 1 and 2 cent coins, the lowest denominations. Finland applies similar rounding off regulations.

The manufacture of euro coins is a process involving several stages, with design, casting moulds, production of tools, test minting and minting. As with the banknotes, continuous quality control is

required for a good result. Below follows a description of the process for manufacturing euro coins and how long the various stages take to implement. In addition, there is an account of the possibilities for reducing lead times, given that in spring 2000 the General Council of the Riksbank gave the Executive Board the task of looking into different ways of ensuring that the production of euro coins can be carried out at a rate that will not risk delaying a possible future participation in the third stage of EMU. In connection with this, it should also state what investments and other preparations need to be made at the Swedish Mint prior to producing euro and what costs would be entailed.

DESIGN AND CASTING MOULDS

Euro coins have the same design on one side, regardless of the country minting the coins. The other side is designed nationally, within given guidelines for the technical specifications. Preparing and establishing the design is a process involving many different elements and interested parties. In total, the entire design process, from ordering a draft design to casting final moulds, takes between three and five months.

Pursuant to Chapter 9, § 13 of the Instrument of Government, the Riksbank has a monopoly on issuing banknotes and coins. Chapter 5, § 1 of the Sveriges Riksbank Act states that the General Council shall determine the design of the banknotes and coins issued by the Riksbank. Notes and coins issued by the Riksbank constitute legal tender in Sweden. The current wording of the Sveriges Riksbank Act specifies that the unit of currency in Sweden is the krona, which is divided into 100 öre.

As the Riksbank Act only allows for the issue of banknotes and coins in krona and öre, the Act would have to be changed before the General Council could make a decision on the design of the euro coins.

PRODUCTION OF TOOLS,

TEST MINTING AND QUALITY TESTS

Before full-scale production of coins can begin, it is necessary to have the right tools for minting. Producing tools that provide coins of the quality prescribed¹⁴ has proved to be a considerable technical challenge for the countries introducing the euro in 2002. As the design of the national sides of the coins differs between countries, there has been great difficulty in producing coins of the same size, weight and electrical conductivity regardless of the place of manufacture. The tools are produced first and then a test minting is carried out on a number of coins. These undergo thorough quality tests and the tools are then adjusted until the coins attain the stipulated quality. This process can need repeating a number of times, and the experiences so far of EMU member countries have shown that it takes approximately one year to produce finished minting tools. In addition, the quality controls would require some investments in new technology at the Swedish Mint.

MINTING

After the minting tools have been produced, the actual production of coins can begin. The Swedish Mint owned by Tumba Bruk has a capacity with its current assembly of machinery to mint approximately 150 million coins a year. This is estimated to correspond to the long-term coin requirement in Sweden, but is not sufficient if the Mint is to succeed in producing all euro coins within a two-year transition period. It will be necessary to invest in more minting machines and to work more shifts in order to have the coins ready in time. One possibility is to farm out manufacture of certain denominations to mints in other EMU countries. It is assumed that this will be the case with the 2 euro coin, as manufacture of this coin requires particularly advanced minting machinery. Discounting the 2 euro coin, the total production requirement would amount to 785 million coins, which would take five years and three months to produce with the current machinery.

The Swedish Mint's production capacity can be expanded to approximately 500 million coins per year through new investments and work in two shifts. The investments are estimated to take

¹² It is estimated unlikely for reasons of cost that production of banknotes and coins would occur outside of the countries in the euro zone.

¹³ Council Directive (EC) no. 1103/97 regarding certain provisions in connection with the introduction of the euro refers to national practice and legislation in certain cases of rounding off.

¹⁴ Council Directive (EC) no. 975/98 plus the change in accordance with Directive (EC) no. 423/1999.

around eight months to implement. This capacity, which is judged to be sustainable in terms of business economics, should provide an effective minting period of around one year and nine months.

The lead times for all of the stages described above (design, 3-5 months, minting tools, 12 months and minting, 21 months - a total of 36-38 months) show that the transition period of two years that is assumed between a political decision and the introduction of euro banknotes and coins is not sufficient for the production of euro coins by the Swedish Mint. One way of reducing the lead times is to begin certain preparations in advance and to expand the machinery. This involves a certain amount of financial risk-taking, which should be weighed against the Riksdag decision from 1997 on maintaining the greatest possible freedom of action in readiness for a possible future decision on membership at a later date. Two elements in the production process could be brought forward: design and tool manufacture.

Completing the design of the national side of the coin in advance of a political decision would save at least three months in the production process. The work that could be done in advance is to produce a draft design that is approved by the state heraldist, the court and the marshal of the realm. Preparations can also be made to allow for a change in the Sveriges Riksbank Act immediately following a decision to apply for EMU mem-

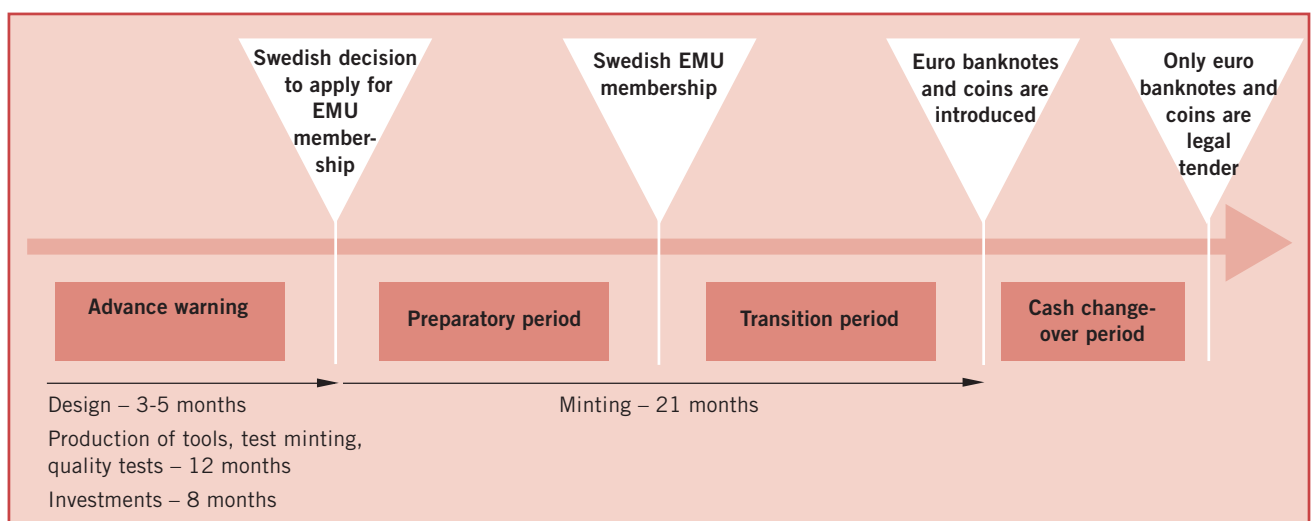
bership. After this, the General Council can take the formal decision on the design of the coins.

One way of reducing the total lead time for production of euro coins would be to use the new portrait of King Carl XVI Gustaf, which has been used on Swedish 1 krona and 10 krona coins with effect from June 2001, as the national side of future 1 and 2 euro coins. The lesser national coat of arms without the escutcheon could be a suitable alternative for the lower denominations of coins.

It would also be possible to implement investments, production of tools, test minting and quality testing of all denominations in advance. This would enable the manufacture of euro coins to start directly after a decision on entry into the third stage of EMU, a change in the Sveriges Riksbank Act and a decision by the General Council on the design of the coin (assuming that the motif produced in advance meets with the approval of the General Council). The lead time for production of euro coins would be thereby reduced by approximately 12 months, and readiness would be increased considerably. These preparations could enable finished coins to be ready around 21 months after a political decision has been taken, as shown in Figure 7.

This provides a sufficiently high degree of preparedness to be able to introduce euro banknotes and coins after approximately the same period of time that the other government authorities require for a transition process.

Figure 7. Lead times for the production of euro coins if design, investments and tool manufacture have already been prepared



Cash changeover

The cash changeover from krona to euro with a future participation in the third stage of EMU would require meticulous planning and measures that are rather different from the type of cash management employed today. The present euro zone countries will implement their cash changeover at the beginning of 2002, and their experiences will be taken into account in the planning for a possible future cash changeover in Sweden. However, the Riksbank must also consider that cash management in Sweden differs from that in other European countries. The Riksbank's subsidiary company Pengar i Sverige AB (PSAB) currently handles the distribution of banknotes and coins that was previously carried out by the Riksbank. It is therefore important that PSAB should also take part in the planning work for a possible cash changeover.

As an introduction a brief description of cash management in Sweden today is given below. This is followed by an outline of a possible scenario for distributing euro banknotes and coins and for the withdrawal and destruction of krona notes and coins. Finally, there is an account of the preparations the Riksbank needs to make prior to a possible cash changeover. These include safeguarding the requirements for security, as well as the legal changes a cash changeover would involve. The Riksbank's surveys show unequivocally that a cash changeover at the beginning of a new year should be avoided. This is when the volume of banknotes and coins in circulation is at its peak, which makes greater demands on transport and security. March or October would be suitable times, when the volumes are lower.

Cash management today

The Riksbank has an agreement with PSAB regarding the distribution of banknotes and coins to banks and post offices. This entails the company administering all cash orders from banks and post offices and, to an increasing extent, from retail traders. PSAB also takes delivery of banknotes and coins from these companies for counting, validation and sorting, as well as for entry into the Riksbank's accounting system. The Riksbank is responsible for the production of banknotes and coins and for the transport of new banknotes and coins from Tumba Bruk to PSAB. Transports are otherwise carried out by independent security firms, but also to some extent by PSAB. As the distribution forms for cash are constantly changing, it is difficult to say how they will look in a few years' time. It is important to bear in mind a possible future cash changeover when making changes now, to avoid the risk of making a future changeover more difficult.

The assumption in the continued discussion is that there will be a period of a maximum of two years between a political decision to apply for membership of the EMU and the introduction of euro banknotes and coins. The cash changeover period is expected to take a maximum of two months and the introduction of banknotes and coins would be simultaneous throughout the country. As mentioned earlier, it is assumed that the 1 and 2 cent coins will not need to be distributed, although they will be legal tender in Sweden. It is assumed that PSAB will have the same position in the cash market as it has now, and it is therefore natural that PSAB will handle a large part of the distribution of the euro. According to an agreement with the Riksbank, PSAB has the

responsibility for maintaining readiness for a future introduction of the euro. The current agreement between the Riksbank and PSAB runs until 31 December 2002.

Activities in a cash changeover

A cash changeover can be divided up into two stages:

- distribution in society of new euro banknotes and coins
- withdrawal of banknotes and coins in Swedish krona.

Joint frameworks for a cash changeover

There are joint frameworks for the present EMU countries for implementing the cash changeover to euro (communiqué from the Ecofin Council, November 1999), which entail that it should be possible to make the major part of cash payments in euro after the first two weeks of 2002. Old and new money will be used parallel during a period that can extend from four weeks to two months. Euro banknotes and coins will be distributed to banks a certain period in advance, and companies in the retail trade will also be allocated some cash in advance. However, this must not lead to cash being distributed to the general public prior to 1 January 2002. Only limited amounts of euro coins (known as starter kits) will be distributed to the general public and in particular to certain particularly vulnerable groups on request, but no earlier than the latter half of December 2001.

The European Council has decided on detailed conditions regarding frontloading, of euro banknotes, the routines for the central banks to debit the banks' allocated euro banknotes and the possibilities for vending machine manufacturers to test their machines. The Council has also adopted the principle that the national central banks should supply certain cash management services free of charge during the cash changeover period.

A cash changeover in Sweden

A cash changeover to euro in Sweden would require a number of decisions to be taken:

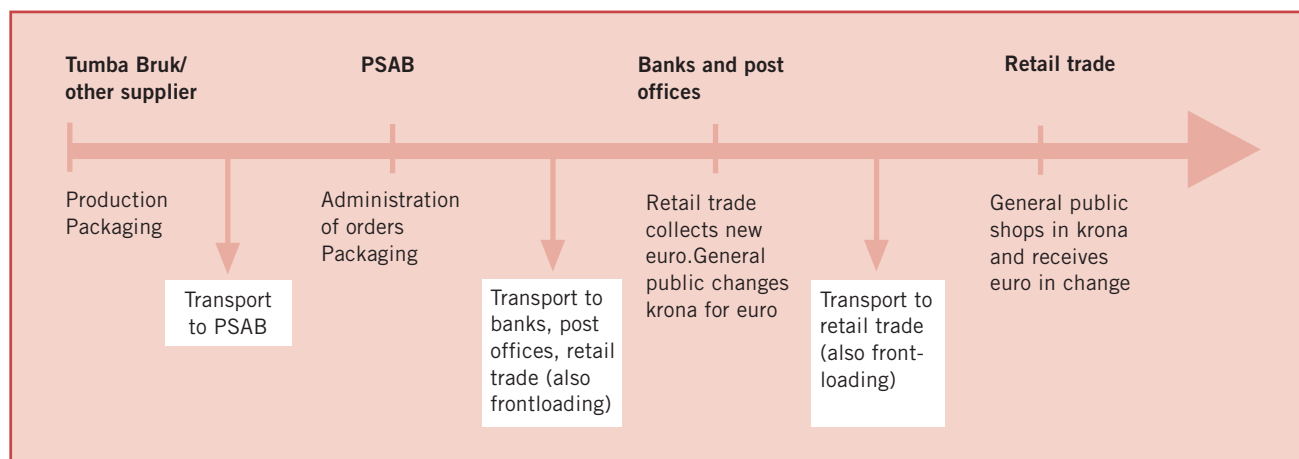
- on what date will krona banknotes and coins cease to be legal tender,
- how long will the krona banknotes and coins be redeemed by the Riksbank,
- how shall euro banknotes and coins be front-loaded to the banks,
- when can euro coins be distributed to the general public,
- is there a need for possible extra counting centres for handling the large volumes of coins,
- shall rounding of amounts in euro be to the nearest five cent,
- what will be the handling charge for krona coins and euro coins during the cash changeover,
- how will banknotes and coins be destroyed,
- a possible reactivation campaign for the krona coin during the period before the changeover, and
- on storage places for possible starter kits of coins.

The volume and distribution chain

The need for euro banknotes in a changeover is estimated at approximately 270 million notes and the need of euro coins is estimated at 840 million. The total weight of 840 million euro coins amounts to around 4,700 tonnes. Distribution of this will require approximately 235 long-distance lorry transports. The storage space required for this amount of coins is around 3,800 square metres (including handling space).

The Riksbank's total coin liability as of 31 December 2000 amounted to approximately 1,900 million circulation coins, 1,800 million of which were actually in circulation. In addition, there are around 5 million commemorative coins of various denominations. According to earlier experiences when changing coins in Sweden, a large number of these coins will remain unredeemed. The coins that are redeemed are estimated in a "maximum alternative" to correspond to a weight

Figure 8. Distribution of euro banknotes



of almost 8,800 tonnes. In terms of volume, this is equal to almost 440 long-distance lorry transports (of 20 tonnes each), and the necessary space for storing the coins would amount to approximately 5,000 square metres.

Distribution of euro banknotes and coins in society is expected to be implemented in largely the same manner as for newly-produced Swedish krona today. Figure 8 shows an outline of a possible distribution flow for euro banknotes.

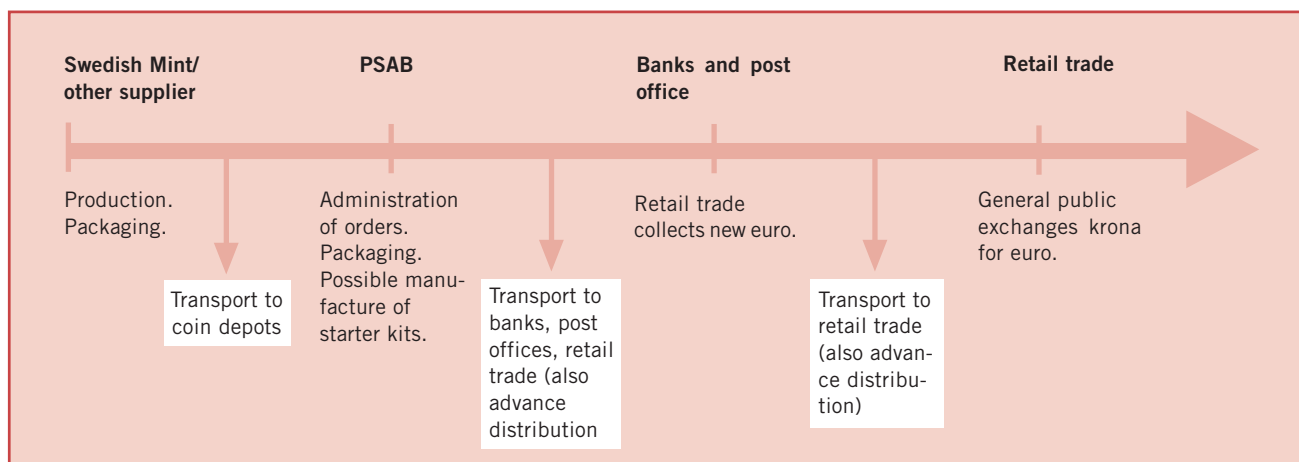
Today, the Riksbank transports printed banknotes from Tumba Bruk to PSAB, and this is expected to be the case for euro banknotes, too. PSAB receives and administers orders from banks, post offices and large retail chains, packages banknotes and transports them to the respective custo-

mer. This could begin as soon as a couple of months prior to the actual cash changeover if there is to be an advance distribution of euro banknotes. The retail trade in turn will order its cash in euro from the banks or from PSAB, and the general public will exchange its krona in banks and post offices (over the counter or in machines) and through shopping.

Distribution of euro coins

The Riksbank assumes that in a cash changeover, the retail trade and other service companies would receive their euro coins via PSAB, post offices, banks and possibly through counting centres set up for the change over. There are approximately

Figure 9. Distribution of euro coins



50,000 shops in Sweden, and these are estimated to need larger deliveries of small change than normal during the first weeks of a cash changeover. Other companies in need of small change are hotels, restaurants, service stations, public service companies etc.

During the first weeks it is likely that the large shops and department stores will receive their euro coins directly from PSAB. Post offices and banks will organise the distribution of euro coins to their corporate clients via their offices.

A general outline of how coin distribution could be organised is shown in Figure 9.

The handling of coins will thus be essentially similar to that for banknotes, with the exception of where coins are to be stored and their distribution administered. However, it will be more complicated to put euro coins in circulation, as banknotes will be distributed in a more natural way via banks and post offices, as well as ATMs. Coins, on the other hand, will mainly come into circulation over the counter in shops and banks. This makes demands of shops to maintain sufficiently large volumes of small change and to only give change in euro. The spread of coins can be facilitated if "starter kits" are available. Several of the current EMU member countries are producing packs of euro coins that are sold to the general public at their nominal value prior to the introduction date. This is one way of spreading small change in society right from the start and also means that the general public will find it easier to become fami-

liar with the coins. If this type of starter kit were to be used in Sweden prior to EMU membership, the Riksbank would have to initiate such a project and investigate which parties might be interested in manufacturing these starter kits.

The withdrawal of the krona

An essential condition for being able to implement a successful withdrawal of krona banknotes and coins is that PSAB reduces its stock in hand in advance. Krona coins will not be produced during the two years immediately preceding a cash changeover, as production capacity at the Swedish Mint will be fully occupied with minting the new euro coin. It is therefore considered appropriate that a reactivation campaign be started to get the coins households have at home back in circulation again, and thereby reduce the need for newly-produced coins.

At the same time as euro banknotes and coins are to be distributed in society, all krona banknotes and coins will be collected in and destroyed. At the moment, there are approximately 320 million krona banknotes and around 1,800 million krona coins. These will mainly be exchanged for euro at banks and post offices, or collected up by the retail trade when used in payment. Krona banknotes in circulation shall be transported to PSAB for value dating, counting, sorting and validation, before they are finally destroyed. The sequence of events is illustrated in Figure 10.

Figure 10. Withdrawal of krona banknotes

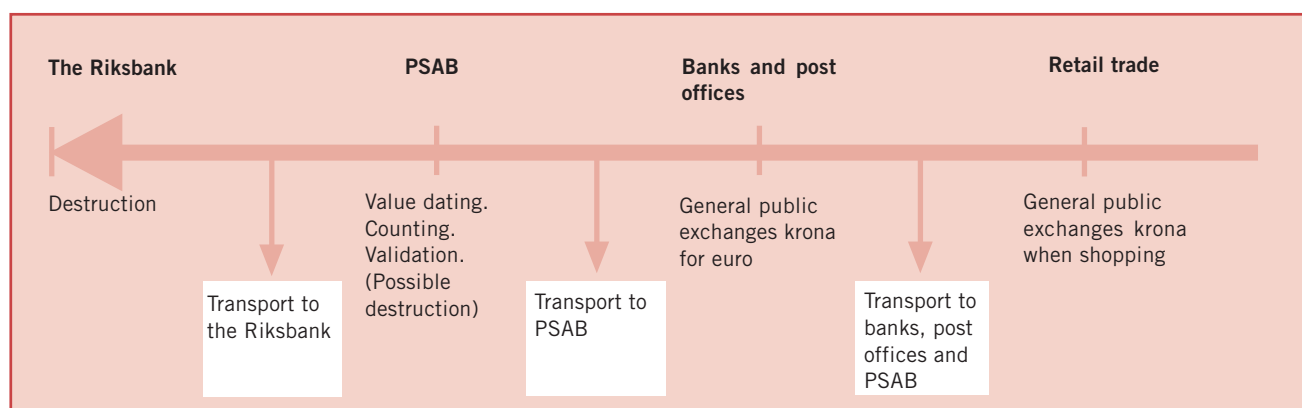
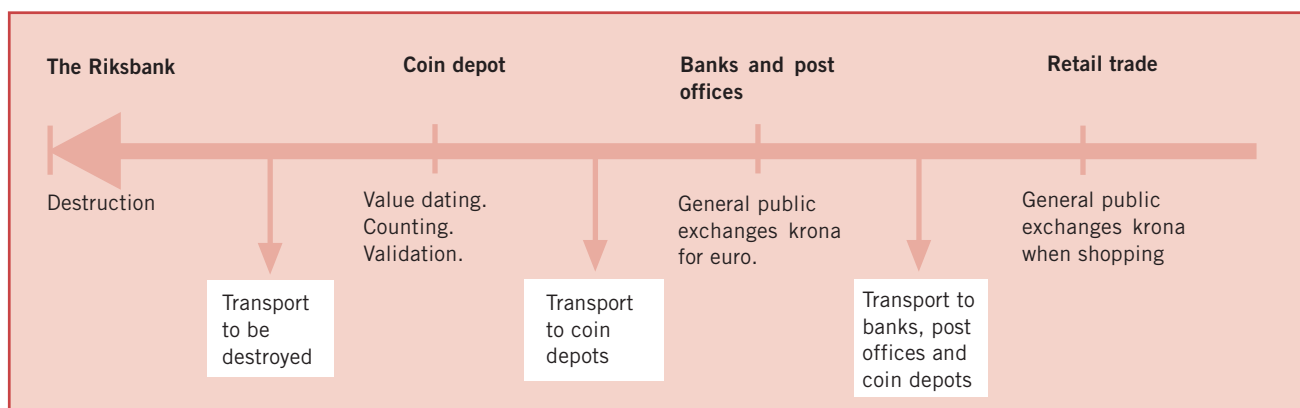


Figure 11. Withdrawal of krona coins

The krona coins will be more complicated to handle in the withdrawal, because of their volume and weight. Krona coins may be stored before they are destroyed. Otherwise, the withdrawal is expected to take place as described in Figure 11, which is in principle the same procedure as for the banknotes.

The need for consultation between interested parties

Banks, post offices, foreign exchange offices, the retail trade and security firms will be greatly affected by a cash changeover. It will therefore be necessary to have a close collaboration between PSAB and these parties to carefully weigh up the need for counting capacity at PSAB and the storage requirements of banks, post offices, foreign exchange offices and the retail trade. In addition, security firms transporting cash, as well as police and other security firms will have to be informed and involved, to enable them to plan the use of transport capacity and guarantee the safety of the transports. It is important that all parties involved have secure storage capacity for banknotes and coins. For those with difficulty in storing the large volumes involved, there will instead be requirements for a greater number of transports.

Most of the countries in the euro zone now are relying heavily on the retail trade to exchange national banknotes and coins for euro. However, there is a risk that the retail trade's capacity is

being overestimated, as in many cases turnover is not sufficiently high to enable as many euro as planned to come out on the market. With this in mind, it is important that there are alternative methods of exchanging cash at the time of the cash changeover. For instance, there must be ways of compensating for a reduction in cash management at post offices and banks.

Transports

The Riksbank is responsible for transporting banknotes and coins from Tumba Bruk to PSAB's offices and also for transporting them from PSAB to the Riksbank for destruction. Coin transports will require particularly good connections, as coins are both heavy and take up considerable space. It would be advisable to review the distribution chain and establish meticulous logistics planning in order to find appropriate solutions. Security when transporting cash is, of course, very important.

STORAGE CAPACITY

The volume of euro to be distributed during the cash changeover period is considered to be manageable given the current infrastructure and with some additional efforts.

It can be concluded that PSAB's current office network does not have the capacity for storing and counting all of the coins withdrawn. The Riksbank and PSAB therefore need to find an alter-

native solution for managing coins. Separate coin centres could be a possible solution, or depositing coins with other parties in the cash management chain. It is important to ensure that banks and post offices can retain their current routines of placing a single order for both banknotes and coins, and that coins are value dated in the same way as the banknotes delivered to PSAB.

DESTRUCTION

The volumes of krona banknotes that would be withdrawn are substantial, and the normal organisation for destroying banknotes at the Riksbank would not suffice here. A higher capacity would be needed for banknote destruction, possibly involving temporary solutions to enable rapid validation and destruction of the notes received. This would reduce the pressure on storage capacity. With regard to coins, the Riksbank does not destroy them itself, but purchases this service externally. This would also be done in the event of a cash changeover.

SECURITY

At the moment there are no requirements from the ECB regarding the storage and transport of euro banknotes and coins after the euro has be-

come legal tender in the euro zone. Discussions are under way on this issue, and it is therefore important that the Riksbank is vigilant with regard to any future regulations and communicates them to all those involved. The Riksbank nevertheless has high demands for security, which must be fulfilled even without an ECB decision to this effect.

MISCELLANEOUS

It will be necessary to make logistics calculations to handle the changeover, for instance, with regard to what volumes will exist where in the country, and how the flows of euro and krona will operate. The Riksbank should also initiate discussions with the parties involved on which denominations of euro banknotes should be available in ATMs, and ensure that these machines can be changed over to euro quickly enough. There should also be a discussion on how to increase the number of change machines (mainly for coins) in society, as these could be a useful aid in the work on collecting in krona coins.

Information campaigns prior to a possible EMU membership

A possible EMU membership and future cash changeover to euro would require extensive information campaigns. The general public would need to be kept well-informed of these events and of how the changeover would be implemented both in terms of time and in practical terms. The information provided during all phases should be well thought out, factual and comprehensive, in order to build up confidence in the euro.

Key groups in the financial sector would need to receive special information prior to a cash changeover. The police, customs and security firms would need to receive detailed information at an early stage to enable them to intervene against counterfeiting and to answer queries from customers and the general public. Other target groups requiring special attention include the elderly, visually impaired and functionally impaired persons.

The Ministry of Finance will be responsible on an overall level for information on EMU in Sweden.

The role of the Riksbank

According to the Sveriges Riksbank Act, the Riksbank shall promote a safe and efficient payment system. This includes providing information in the event of a future EMU membership and prior to a potential cash changeover. The scope of this work requires a well developed co-operation with a number of different parties. This has already been initiated with representatives of the financial sector in the SIFS group. Other important partners will be the different professional and trade associations, which can contribute to adapting and spreading information to their members and associates.

Time aspects

The transition scenario can be divided up into five phases with regard to the information work.

Phase 1. The time from a decision on a referendum or general election with EMU as election issue

During the period until a decision is taken on whether the question of Swedish EMU membership should be determined by a referendum or an election, the role of the Riksbank will be to contribute to the distribution of factual and comprehensive information regarding the consequences of the EMU within the bank's field of operations, with the aim of enabling the Swedish population to form a well-balanced opinion of the third stage of EMU.

During this period the general public and parties in the financial sector will need information on what happens in the euro zone with effect from 1 January 2002, when the cash changeover takes place. An information brochure is already being prepared in co-operation with the financial sector. It is estimated that this will be published at the end of October/beginning of November 2001. It will describe what will happen in the various countries of the euro zone during the cash changeover and contain a detailed technical description of the euro banknotes and coins. Regularly updated information on the euro is provided on the Riksbank's website, www.riksbank.se. There is also a link to the special website opened by the ECB in February 2001, www.euro.ecb.int.

During this phase the commission appointed by the government, headed by former Minister Bengt K. Å. Johansson, will present its final report. The commission can be seen as a continua-

tion of the Calmfors Commission on Sweden and the EMU (SOU 1996:158) and will look into various aspects and consequences for Sweden in the event of EMU membership.

Phase 2. The time from a decision until a referendum or general election with EMU as an election issue – the advance warning period

When a decision has been taken to hold a referendum or general election with EMU as an election issue, a broad, national discussion between the advocates and opponents of EMU will be intensified. The Riksbank will not be involved in the opinion moulding, but the demand for the bank's information material on EMU will increase. The bank's primary information channels will be:

- its website, www.riksbank.se
- information to the media
- publications and reports
- information material for students and teachers at senior secondary school level and seminars for teachers of economics and social sciences
- lectures for students at universities and colleges.

Phase 3. The time between a referendum/ election and EMU membership – the preparatory period

A 'yes' in a referendum or election will lead to an immediate need for detailed information on the practical changes to be implemented during the period until full membership. The bank will play an important role at this stage, in creating confidence in the implementation process.

During this phase the Riksbank shall present to the general public and the financial sector its plan for preparations for EMU membership and for a cash changeover, as well as explaining the role the bank will play in future. Special informa-

tion will be required for the financial sector. During this period it will be necessary to make comprehensive plans for Phase 4.

If there is a 'no' in a referendum or election, the preparations will be broken off.

Phase 4. The time between EMU membership and a cash changeover – the transition period

During the period between EMU membership and a cash changeover (assuming that this does not occur simultaneously through a Big Bang scenario), the general public will need information on the introduction of the new banknotes and coins. This will require extensive information campaigns to enable the changeover to be implemented smoothly and rationally.

When planning and implementing its information campaign, the Riksbank will be able to take advantage of the experiences from the extensive campaign implemented by the ECB during 2001 to prepare for the introduction of the euro. The Riksbank is following this work closely through participation in the committee within the ECB coordinating the project. In addition, the bank intends to follow the information work in greater detail in one of the EMU member states.

The information campaigns will be of such a scope that they shall require a special project organisation with representatives of various sectors and interested parties. Within this project, a general communication plan and budget shall be drawn up and agreed. Action plans for various sub-projects shall be established and consultants and other suppliers will be procured.

Phase 5. The cash changeover period

During the cash changeover, the information campaign will continue when cash is exchanged.

Figure 12. The different phases of the information campaigns

