



# Memorandum

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## ■ Renewal of banknote and coin series

### 1. Proposal for a decision

It is proposed that the Executive Board decides

- to give the Head of the Administration Department the task of heading up the work on the design of a new banknote and coin series in accordance with the proposals in the final report from part 3 of the project in the Riksbank's review of the banknote and coin series,
- to adopt the report to the Riksdag (the Swedish parliament) with a proposal for an amendment to the Sveriges Riksbank Act (1988:1385) with the content that the Riksbank is given the right to issue coins in the denominations of 2 kronor and 20 kronor, and also banknotes in the denomination of 200 kronor,
- to present the proposal to the European Central Bank for consultation in accordance with the regulations in the EUF treaty, and
- to give the Head of the Administration Department the task, after the Riksdag has reached a decision, of working out a timetable for the introduction of a new banknote and coin series in consultation with the companies in the cash management market, and taking into account the views of the general public.

### 2. Background

In 2008 the Executive Board made the decision to implement a review of the banknote and coin series. The objective is to design a suitable series of banknotes and coins with regard to efficiency, environmental impact and security. This work is being carried out in the form of a project following a timetable that was established in May 2008.

The background to this is that it is 25 years since the Riksbank last made a general review of the denominations and design of the Swedish banknotes and coins. As the sole issuer of banknotes and coins, the Riksbank is responsible for ensuring that they function securely and efficiently, for both the cash management market and the general public.

The project presented its first report with facts on banknotes and coins in 2008. A second report published in 2008 proposed that the 50-öre coin should cease to be legal tender on 30 September 2010. The Riksdag decided in line with this proposal in March 2009. A draft for a third report in spring 2009 dealt with denominations and their allocation among banknotes and coins. It was there proposed that the issuing of a 2-

■ kronor coin should be taken up again, that a 200-kronor banknote should be introduced and that the 20-kronor banknote should be replaced with a coin. Furthermore, the project proposed that work should begin on renewing the entire banknote and coin series.

The proposals form a total solution for improving the efficiency of the Swedish banknote and coin series. They would simplify the general public's payments, reduce the handling costs for the cash management market and reduce the environmental impact of the production and handling of banknotes and coins.

### **3. Motives behind the proposals**

The motives behind the proposals for a new 2-kronor coins and a 200-kronor banknote are that these denominations will replace a number of 1-krona coins and 100-kronor notes. This means that the number of banknotes and coins in circulation will decline, which will entail lower management and purchasing costs and lower environmental impact.

The reason for a 20-kronor coin is that the banknote is handled increasingly carelessly as a result of its low value and it is reused as change in the retail trade for too long. This has led to the note having a shorter lifetime and to practical problems regarding authenticity checks and handling of worn and torn banknotes.

The current banknote series was designed more than 25 years ago and is one of Europe's oldest. Within a five-year period it will become necessary to upgrade the current banknotes to a higher security standard to maintain an effective protection against counterfeiting. Among Sweden's neighbouring countries, the European Central Bank is planning to upgrade the euro banknotes and Denmark is currently introducing a new banknote series with a higher security standard.

Several of the current coins were designed a long time ago and are large and heavy compared to modern standards. The most common coin, the 1-krona, has had the same weight since 1942 and its purchase price will probably be close to its nominal value within a few years. The 5-kronor coin is also large and heavy in relation to its value.

If one uses the number of coins in the Riksbank's balance sheet as a starting point, the weight of the coins in circulation is currently around 15,000 tonnes. Even if some of these coins have probably been lost or worn out, a changeover to smaller and lighter coins would have great significance for handling costs and the impact on the environment.

A further factor is that the changeover costs will be lower if several changes are made at the same time. This indicates that it would be appropriate to coordinate a renewal of the banknote and coin series with the introduction of new denominations.

### **4. Views from the cash management market**

The project's proposals were presented for comments in spring 2009 to the Swedish Bankers' Association, the major Swedish banks, retail trade organisations and the larger cash-in-transit companies. The consulted parties were on the whole positive towards the project's proposals, except the proposal regarding a 20-kronor coin, on which opinions differed.

■ The Swedish Trade Federation objected to a 20-kronor coin with the motivation that it would entail increased costs for the retail trade. Examples given were the need to purchase new cash management systems and increased costs for cash management, and also that handling coins is heavy work for their employees. The Butikerna trade union shares this opinion.

The Riksbank and the Swedish Trade Federation have had several information and consultation meetings regarding the 20-kronor denomination since the consultation round.

## 5. Background to the proposal for a 20-kronor coin

The Riksbank has noted increasing problems with worn 20-kronor notes over several years now. Poor notes can cause stoppages in machines, both slot machines and machines for sorting and counting banknotes. The wear and tear also makes it more difficult to check the authenticity of the banknotes, which means there is a greater risk of counterfeit notes being accepted in the retail trade.

The reasons for the wear and tear are that the circulation time for the banknotes has become too long, as they are reused as change in the retail trade and not handed in to the banks to the same extent as the other banknote denominations, and that the banknotes are handled carelessly as a result of their low value. The consequence of this is that the 20-kronor banknotes the general public sees are often far below the quality the Riksbank deems acceptable. When the banknotes are handed in to the Riksbank for destruction their quality is often very inferior.

In 2006 the Riksbank commissioned Synovate to carry out a survey of the general public and here the 20-kronor note was deemed to have much lower quality than the other denominations. This banknote was the only denomination where a majority of the respondents did not perceive the quality to be good or very good.

The Riksbank introduced stronger banknote paper into the 20-kronor note a few years ago. This change has probably meant that the circulation time has been slightly longer than it would otherwise have been, but the problems of worn and torn banknotes have nevertheless increased.

A comparison of environmental impact shows that the differences in environmental impact between a coin and a banknote are relatively small. With the current conditions the banknote is slightly better but as the banknote's circulation shortens the coin becomes more beneficial.

The lowest banknote denominations in the euro countries, Denmark, Norway, the UK and Switzerland correspond to a value of between SEK 51 and SEK 69, calculated according to the exchange rates applying on 13 January 2010. Sweden also has relatively few coin denominations. The euro countries have eight denominations, Denmark six, Norway five, the UK eight and Switzerland seven. If a 20-kronor coin is introduced Sweden will have five coin denominations once the 50-öre coin has been abolished.

The general experience is that lower banknote denominations have a faster turnover and are handled more carelessly than higher denominations. A consequence of this is that they must be gradually replaced with coins, which have a much longer lifetime.

The most recent change in Sweden was made in 1991, when the 10-krona banknote was replaced with a coin.

## 6. Consequences of a new banknote and coin series

Samples of new coins produced in the project show that the total weight of the outstanding coins will be reduced by around 45 per cent when a new coin series is introduced. This corresponds to a total reduction in weight of 6-7,000 tonnes. This reduction will have major significance in reducing handling costs and environmental impact and will make things easier for employees in cash management.

The Riksbank's annual purchasing cost for coins is expected to decline by just over SEK 20 million compared with today, which corresponds to a reduction of around 60 per cent. In addition, there will be savings as a result of a 20-kronor coin having a much longer lifetime than a 20-kronor banknote.

As a result of the 20-kronor banknote disappearing and a new 200-kronor note replacing a number of 100-kronor notes, the number of banknotes in circulation will be reduced. The costs for handling banknotes will decline and the Riksbank will need to buy fewer banknotes than is the case today. The purchasing cost will also be reduced as a result of the banknotes having a smaller format. At the same time, security will be upgraded, which will increase costs. All in all, the Riksbank's costs for purchasing banknotes are expected to decline slightly.

The Riksbank's annual saving as a result of lower purchasing costs for banknotes and coins is expected to be in the magnitude of SEK 30-40 million.

## 7. Changeover costs

When banknotes and coins are replaced, the retail trade, the banks and the cash-in-transit companies are forced to alter and in some cases replace machines that handle cash. This applies, for instance, to ATMs for banknotes, closed cash management systems in the retail trade and counting machines used by cash-in-transit companies. These changeover cost is the largest cost to society when banknotes and coins are replaced.

The cash management market's assessment is that ATMs can be adjusted relatively easily, although overall there may be a substantial one-off cost. There are just over 3,000 such machines in Sweden.

The stores that have closed cash management systems will need to alter them to handle the new design of the banknotes and coins. The largest cost concerns the changeover to new coins. As a result of the discussions with the Swedish Trade Federation, the project has made a general assessment of the retail trade's changeover costs, which is shown in Appendix 1.

The time required to implement a changeover in banknotes and coins is calculated as around five years, after which a new banknote and coins series ought to be able to function without any major changes over a long period of time. The decision on the necessary changes thus needs to be made with regard to a longer-term perspective to avoid repeated changeover costs. If several changes are implemented at the same time, the measures can be coordinated into one point in time.

The Riksbank should establish the design for the entire banknote and coin series before the introduction of new banknotes and coins begins, so that the equipment for automatic processing of cash can be adjusted on one and the same occasion. The introduction of a 20-kronor coin should come towards the end of the process, in around

2015, as some of the older cash management systems have a limited capacity with regard to the number of denominations that can be processed. Many of these systems will no longer be operating by 2015.

The Riksbank's replacement costs will depend on whether the Riksbank chooses to actively withdraw older banknotes and coins and declare them invalid, or whether the older banknotes and coins are allowed to circulate for a while parallel to the new ones. If older banknotes and coins are withdrawn and declared invalid at the same time as new banknotes and coins are introduced the project estimates that the cost for replacing the banknotes will amount to SEK 330-350 million and the cost for replacing the coins will amount to SEK 500-600 million.

If older banknotes and coins are declared invalid, the cost of a new banknote and coin series will be financed through some of the banknotes and coins that have been invalid not being handed in to the Riksbank. For instance, when the silver-coloured 50-öre coin and the older versions of the 20-kronor, 100-kronor and 500-kronor notes were withdrawn in 2005, the Riksbank received in return around one third of the coins and two thirds of the banknotes. The banknotes and coins that were not returned at the end of the redemption period were gradually written off and have a positive effect on the Riksbank's results.

## 8. Timetable

The timetable shall be established after the Riksdag has made a decision on the denominations. A possible timetable could look like this:

Decision on currencies, etc.	2010
Decision on design of banknotes and coins	2011
Introduction of 2-kronor and 5-kronor coins	2012
Introduction of 50-kronor banknotes	2013
Introduction of 200-, 500-, 100- and 1,000-kronor banknotes	2014-2015
Introduction of 1-, 10- and 20-kronor coins	2014-2015

It is more economically-efficient to begin the change in the coin series with the 2-kronor coin, as this denomination will reduce the demand for the 1-krona coin and thus reduce the number of coins in circulation. The 5-kronor coin is a large and heavy coin, so there is an interest in giving priority to replacing this coin. The 1-krona coin is the most costly to replace, as the number of coins in circulation is very high.

If the question of introducing the euro in Sweden arises, for instance, through a decision by a referendum, then the work on the new banknote and coin series would for obvious reasons be broken off. For this reason it may be appropriate to put the changes that cost the most to implement at the end of the process. As it costs more to replace coins than banknotes, an alternative timetable might be to put the whole replacement of the coin series after the banknote series, i.e. around 2014-2015.

## 9. Decision-making process

Chapter 5, Section 2 of the Sveriges Riksbank Act stipulates which denominations of banknote and coin the Riksbank may issue. It currently states that the Riksbank can issue banknotes in the denominations of twenty, fifty, one-hundred, five-hundred and

one-thousand kronor and coins in the denominations of fifty öre, one krona, five kronor and ten kronor. The changes in denominations proposed by the Riksbank therefore require an amendment to the Sveriges Riksbank Act.

The Riksbank proposes in the enclosed report to the Riksdag (the Swedish parliament) that the act be amended in such a way that banknotes may be issued in the denominations of twenty, fifty, one-hundred, two-hundred, five-hundred and one-thousand kronor, and that coins with the denominations one krona, two kronor, five kronor, ten kronor and twenty kronor may be issued. The withdrawal of the fifty-öre coin is the result of an earlier Riksdag decision.

The reason for needing scope in the Sveriges Riksbank Act to issue both a twenty-kronor coin and a twenty-kronor note is that the exact time for the changeover to a coin will not be established until later. When a new 20-kronor coin is introduced the Riksbank intends to return to the Riksdag with a proposal that the possibility to issue twenty-kronor banknotes be removed.

Pursuant to Chapter 4, Section 1 of the Sveriges Riksbank Act, the General Council and the Executive Board shall consult with one another before putting forward a report to the Riksdag. Such a meeting took place on 17 March 2010. The General Council then stated that it did not have any objection to the Executive Board sending a report to the Riksdag with a proposal for amending the Sveriges Riksbank Act with regard to the denominations of banknotes and coins in accordance with the draft presented. However, the General Council did not consider that the report should propose that the Riksbank be given the possibility to issue coins in the denomination of 20 kronor. The 20-kronor banknote should not be replaced by a coin, in the opinion of the General Council.

According to Article 127.4 of the EUF treaty, the European Central Bank (ECB) shall have the right to express an opinion on issues concerning banknotes and coins. As Sweden has not adopted the euro, changes in the Swedish banknote and coin series are normally regarded a national matter that does not entail any objections in practice. To reduce the preparation process it is therefore suggested that the proposal be sent to the ECB for comment now and then presented to the Riksdag as an appendix to the Riksbank's report.

## Appendix 1

### Costs for the changeover to a 20-kronor coin

#### 1. Background

Like the other major actors in the cash management market, the Swedish Trade Federation received the Riksbank's proposal for changes in the banknote and coin series for comment at the beginning of 2009. They were positive to the introduction of a new 2-kronor coin and a 200-kronor banknote and to retaining the 1,000-kronor note, but they were negative towards a 20-kronor coin.

The Cash Management Division therefore held a meeting with the Swedish Trade Federation and its payment group in spring 2009. The management of the Swedish Trade Federation lobbied the Riksbank Governor in November 2009 and presented a letter requesting that the 20-kronor note be retained.

The Swedish Trade Federation's arguments against a coin are:

- Changeover costs for cash systems.
- Increased handling costs for coins.
- Poorer working environment because of heavy handling of coins.

In January 2010 the Cash Management Division had a new meeting with the Swedish Trade Federation's payment group and presented a proposal that entailed the introduction of the 20-kronor coin taking place at the end of the replacement process, that is, around 2015. The purpose was to allow a long changeover period to increase flexibility and reduce costs for the retail trade. The Swedish Trade Federation responded to this proposal at the end of February, maintaining its stance against the introduction of a 20-kronor coin. The costs to the retail trade of introducing a 20-kronor coin were then said to be around one billion kronor.

The Riksbank has called for a specification of the cost calculation. The Swedish Trade Federation has referred to the ICA group, which has estimated its changeover costs to be SEK 120 million.

#### 2. Changeover costs

The changeover affects the stores that have closed systems for cash management, where banknotes and coins are sorted and counted by machines. These systems would need to be adjusted to a different design of banknotes and coins and to handle a banknote and coin series with some new denominations. Around ten per cent of the country's stores have such systems. Around 90 per cent of the stores have manual cash management.

There are no official statistics on the number of closed cash management systems and types of system. It is therefore not possible to obtain reliable information on the size of the changeover costs. However, there are relatively few suppliers in the Swedish market, which means that one can draw rough conclusions regarding information on

market shares and volumes. The Riksbank has received information from two of the leading suppliers, which together represent around three quarters of the market for closed cash management systems.

From the information they provide it is possible to draw the conclusion that there are around 11,000-12,000 cashier points with closed systems for cash management in Sweden. The suppliers estimate the cost of adjusting these systems for a new banknote and coin series to amount to around SEK 10,000 per unit. If a store has several cashier points then the cost per unit may be less. The changeover concerns all new banknotes and coins, not merely the 20-kronor coin.

Some older units for coins are adapted to a maximum of four coin denominations and they would need to be replaced if there are five denominations, as in the Riksbank's proposal. However, over 90 per cent of these units were supplied prior to 2006. The last ones were supplied in 2007. The operational life is calculated at seven years, which means that the normal operational time for all systems will have expired in 2014. New systems are adapted for up to eight denominations.

Given this, the cost of changing over the cash systems in Sweden's stores to a new banknote and coin series is calculated to be SEK 110-120 million. If the Riksbank introduces a new banknote and coin series without a 20-kronor coin and then later returns with a decision on a 20-kronor coin after the other banknotes and coins have been replaced there will be a new changeover cost.

### **3. Weight consequence of a new coin series**

The weight of the coins currently in circulation is around 15,000 tonnes. Test samples produced by the Riksbank show that the new coins will be much lighter than the current ones. Combined with the fact that the number of coins will be reduced as a result of introducing a 2-kronor coin, this means that the total weight is reduced by around 45 per cent when a new coin series is introduced, corresponding to around 6,800 tonnes.

The 20-kronor coin has little significance for the total weight, as it is the denomination which will have the smallest number of coins. Its share of the total weight will be less than ten per cent. The decisive factor is the weight of the 1-krona and 2-kronor coins, which together will account for more than half of the weight of the coins in circulation.

As the weight will decline significantly, handling of coins will become cheaper for the retail trade and other actors in the cash market. The working environment for employees handling coins will be improved.

### **4. Conclusion**

- The cost of changing over the retail trade's cash management systems to a new banknote and coin series can be roughly estimated to be SEK 110-120 million.
- This cost concerns the changeover to a new banknote and coin series, not the specific cost for a 20-kronor coin.
- If the Riksbank later decides on a 20-kronor coin after a new banknote and coin series has been introduced, then new changeover costs will arise.
- A new coin series will reduce the weight of the coins in circulation by around 45 per cent. The 20-kronor coin accounts for less than ten per cent of the total weight.

■ The conclusions aim to provide a rough picture of the consequences for the retail trade. As there are no reliable statistics available and the Swedish Trade Federation has not provided any detailed figures, the cost estimates may contain errors.