

Payments Report

2024



Table of contents

1	Trends in the payments market	8
1.1	Payment habits in Sweden	9
1.2	Cash is rarely used and the supply of cash services is decreasing	14
1.3	Transfers abroad are perceived as safe but expensive	18
1.4	The digitalisation of payments is a global trend	21
2	Safety, efficiency and accessibility	27
2.1	Are payments in Sweden safe?	28
2.2	Are payments in Sweden efficient?	36
2.3	Are payments in Sweden accessible?	42
3	The Riksbank's work and policy	45
3.1	Everyone must be able to pay	46
3.2	Payments should work even in crisis and war	48
3.3	Modernisation of the payment infrastructure necessary	51
3.4	More measures needed to protect cash	55
3.5	Work on the e-krona continues	59
	Glossary	62

Payments Report

The Payments Report describes and analyses developments in the payments market over the past year. It presents the Riksbank's assessments and policy stance in the area of payments. The aim is to disseminate knowledge and to contribute to debate, and make it easier for external parties to monitor, understand and evaluate the Riksbank's work on payments. Between the years 2019 and 2022, the report was published annually at the end of the year. From 2024 onwards, it will instead be published in the spring. No Payments Report was published in 2023.

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The Executive Board adopted the 2024 Payments Report on 6 March 2024.

This report is intended primarily to be read digitally at [riksbank.se](https://www.riksbank.se).

The Riksbank's responsibility for payments

The Riksbank's objective is for payments in Sweden to be safe, efficient and accessible. Payments shall also function in peacetime crisis situations and states of heightened alert. The Riksbank takes an economic perspective and provides solutions and acts where it is difficult to attain the objectives without central government involvement.

The Riksbank's mandate in the area of payments

According to the [Instrument of Government](#), the Riksbank shall promote a well-functioning payment system. Pursuant to the [Sveriges Riksbank Act](#), the Riksbank shall "contribute to the stability and efficiency of the financial system, including the ability of the public to make payments". The Riksbank shall provide a system for the settlement of payments, contribute to the availability of cash to a satisfactory extent throughout Sweden, and ensure that the public can make payments in peacetime crisis situations and states of heightened alert. The Riksbank may, with the consent of the Riksdag, issue digital means of payment.

The following objectives guide the Riksbank's work on payments

Payments must be safe. The payment system must be stable, resilient to disruptions in normal times and able to function in peacetime crises and states of heightened alert. It should be possible to use multiple payment methods so that payments can be made even if there is a disruption in any part of the payment system. Protection against fraud should be high. The payer and payee must be confident that the payment will be received and that the cash received is genuine, and that identity and card details are not disclosed and used by unauthorised persons.

Payments must be efficient. The costs to society, including energy consumption, for different methods of payment should be low. Fees should be transparent and payments should be quick and easy. There should also be healthy competition between operators offering payment services. This means, among other things, that the payment system must be accessible to different types of actors who want to offer payment services.

Payments must be accessible. It should be possible for everyone in Sweden to pay at a reasonable cost. Users must have good access to payment services and there must be different payment methods to choose between, depending on the situation and conditions.

The objectives of safe, efficient and accessible payments can sometimes be reconciled, but they can also be in conflict with each other.

The Riksbank's role in the payments market

The Riksbank takes an economic perspective and provides solutions and acts where it is difficult to achieve high economic efficiency without central government involvement. The payments market is characterised by economies of scale and network effects, which can lead to a high degree of market concentration and a lack of competition and innovation. The characteristics of the payments market also mean that accessibility and resilience may be too weak without central government involvement. The Riksbank therefore needs to take an active role in the payments market.

In some cases, this involves the Riksbank **providing services**, either on its own or in cooperation with private operators, such as finalising payments between participants in the RIX payment system. In other cases, the Riksbank acts as a **catalyst**, enabling coordination, dialogue and creating conditions for private services and solutions. The Riksbank can also act as a standard setter. In addition, the Riksbank takes part in the **design of regulations** nationally and internationally. The Riksbank also oversees financial infrastructures and other key players in the payments ecosystem and monitors developments in the payments market.

Conclusions and policy recommendations

The Swedish payments market has been digitalised at a rapid pace. Cash and manual payment services have been replaced by cards, mobile phones and internet services. As a result, payments in general have become faster, smoother and cheaper – a positive development. However, there are groups in society that do not have access to, or find it difficult to use, digital payment services and who therefore become marginalised. There are also serious problems of fraud that risk undermining trust in the payments system.

Digitalisation also makes payments more vulnerable to cyber-attacks and disruptions to the electricity grid and data communications. At the same time, the geopolitical developments of recent years require Sweden to have a strong civil defence. The ability to make payments should also be available in peacetime crisis situations and states of heightened alert.

Developments suggest that we should focus more than previously on the challenges posed by digitalisation. This concerns both the resilience of the payment system in the event of disruptions, crises and wars, and the ability of everyone in society to pay. Both public and private actors must contribute to these goals. However, this does not mean that the development of payments and payment infrastructure can stop. Sweden needs to keep up with international developments and remain at the forefront.

To make payments in Sweden even safer, more efficient and more accessible, the Riksbank considers the following measures to be necessary.

Banks and other payment service providers need to tailor their services to the needs of their customers

- More private persons, companies and associations must be offered the possibility to have payment accounts. A payment account is essential to be able to manage one's finances and function in society. Many are excluded because they are considered risky customers. The Riksbank considers that the banks must primarily minimise these risks by, for example, offering accounts with limited function, so-called low-risk accounts.
- Banks and other payment service providers must adapt their payment services for people who have difficulty using digital services. These include offering customers affordable over-the-counter payments, paying by postal giro or making greater use of technological innovations such as biometrics for payments and identification.
- Banks need to set individual limits on how much cash companies and associations can deposit in an account based on their actual needs. This shall also apply to coin deposits. Increasingly, banks are only accepting deposits of daily takings from companies and associations via deposit machines, which often have low amount limits and generally do not accept coins. This makes it more

difficult for companies and associations to deposit their daily takings in an account and may lead to even more of them no longer accepting cash.

- The privately owned payment infrastructure in Sweden needs to be modernised, especially Bankgirot. For a continued efficient and safe infrastructure, Swedish payments need to follow European standards. In September 2023, Bankgirot received a clear mandate from its owner banks to ensure that the Swedish payment infrastructure functions well in both the short and long term, which is positive. The banks now need to ensure that Bankgirot is given the prerequisites to develop and has staff with the necessary technical expertise for this task.
- Banks need to develop more payment services to instantly move money between accounts in different banks. Today, this can only be done via the Swish payment service. The banks should make it possible to also make such payments via mobile or online banking. This would create opportunities for other payment service providers to develop new services for private persons and companies, thereby strengthening competition in the payments market. The Riksbank has enabled the banks to offer this type of payment service through the RIX-INST payment system.

The Riksbank continues to enhance preparedness in the payment system

- Participants in the payments market should have a high joint capability to continue to process payments in peacetime crisis situations and states of heightened alert. Through regulations, the Riksbank now requires companies to be able to maintain their own payment operations. The next step is to work with companies to strengthen the joint capability.
- The Riksbank will take a leading role in the work to improve the possibilities to pay digitally even when data communication is not working, i.e. to make offline payments. The Riksbank will convene relevant actors in the private and public sectors to contribute to the work.
- More types of payments can now go through the Riksbank's RIX payment system, making them both safer and more efficient, and the payment messages are being adapted to international standards. The Riksbank is also continuing its work on modernising RIX, and is investigating whether more actors can gain access to RIX in order to increase competition on the payments market. The Riksbank is also working to ensure that RIX contributes to faster and cheaper cross-border payments.
- Instant payments are account transfers that can be made around the clock and reach the payee's account within seconds. Currently, only Swish offers such payments in Sweden. The EU has recently adopted legislation to encourage more instant payments in euro. In order to support the development of new fast payment services and not fall behind European developments, the Riksbank considers that it may be relevant to regulate the development of instant payments in Sweden as well. The Riksbank will therefore analyse the

need for legislation. The Riksdag and the Government should also examine the issue.

- By establishing new offices where companies can collect and deposit cash, the Riksbank is continuing to improve the supply of cash. Having such stocks of cash in more locations across the country reduces both the costs for companies and the risk that cash would be difficult to use in the event of a disruption.
- The Riksbank is continuing to work on the e-krona, which can be part of a long-term solution to many of the challenges of digitalisation. For example, the e-krona can contribute to a more robust payment system and be a tool to strengthen inclusion in the payments market. The e-krona can also create better conditions for competition in the payments market and make payments between different currencies more efficient.
- Legislative work needs to start now to ensure that it does not take too long to introduce an e-krona if the Riksdag so decides. The Riksbank will therefore submit proposals on what legislation may be needed for the possible introduction of an e-krona.

The Government and Riksdag should introduce new laws on cash management

- As a general rule, merchants selling essential goods must be obliged to accept cash, both to ensure that everyone can pay and to be able to cope with a peacetime crisis situation or state of heightened alert. The Riksbank is therefore in favour of the Government appointing an inquiry to investigate the possibility of paying for essential goods in cash. It should lead to stronger legal protection for cash.
- The Government should extend the remit of the inquiry into the possibility of paying for essential goods in cash. For example, for cash to be used, it needs to be able to be transported to and from retail outlets at reasonable prices. Today, there is only one company offering such cash-in-transit services. Government investigators should make proposals on how banks and the public sector should share responsibility for this, including how cash-in-transit services should be maintained and financed when cash is used less and it becomes more difficult to offer such services on commercial grounds.
- The Riksdag and the Government should introduce an obligation for banks to accept deposits of cash, including coins, from private persons. At present, there is no requirement for banks to offer this, and if nothing is done, there is a risk of deposit possibilities deteriorating.

1 Trends in the payments market

In Sweden, more and more people are choosing to pay by mobile phone. Services that integrate the payment card into a mobile phone are increasingly being used instead of physical cards and almost everyone in Sweden has access to the Swish payment app. At the same time, cash use continues to decline. The digitalisation of the payments market is a global trend. Sweden was an early adopter of Swish, but now our neighbouring countries have come further and offer more ways to pay instantly. They also have a higher proportion of instant payments than we have in Sweden. The digitalisation is also reflected in the fact that most central banks are now exploring a digital complement to cash - what in Sweden is called the e-krona.



1.1 Payment habits in Sweden

Whether shopping in stores, online or paying bills, most people want to pay digitally. Physical cards have long been the most common method of payment in Sweden, but in recent years more and more people have started integrating their card into their mobile phone.



The Riksbank's survey of payment habits

The Riksbank's survey of payment habits provides a picture of how private persons pay in Sweden and how payment habits change over time. The survey has been conducted every two years between 2010 and 2022. As the Riksbank's Payments Report will be published in the spring from 2024 onwards, the Riksbank conducted the latest survey on payment habits in the autumn of 2023 so that there would be no more than two years between surveys. 2,050 randomly selected people aged 18-84 responded to the survey. 1,549 people responded via online questionnaires and 501 via telephone interviews. The survey was conducted between 4 and 29 September 2023.

The survey responses have been weighted by gender, age, region and education to reflect the population of Sweden. Figures from the 2023 survey can be found at [riksbank.se](https://www.riksbank.se).

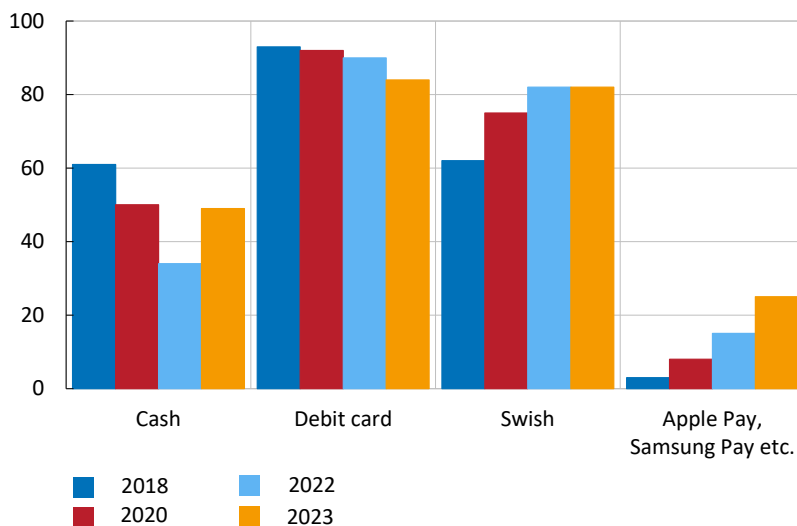
The mobile phone is becoming more important for all types of payments

For many years, physical debit cards have been the most widely used payment method in Sweden. In recent years, mobile payment services have also become popular. For example, the mobile app Swish is now the second most common payment method. Services that integrate cards into mobile phones, such as Apple Pay and Samsung Pay, are also becoming more common, leading to a slight decrease in the use of physical cards. According to the Riksbank's survey, eight out of ten have used a debit

card in the past month. About the same number have used Swish, while two out of ten have used a card in their mobile phone. You can see this in Figure 1.

Figure 1. Most common to pay by card and Swish

Percentage of respondents who have paid by each payment method over the past 30 days.



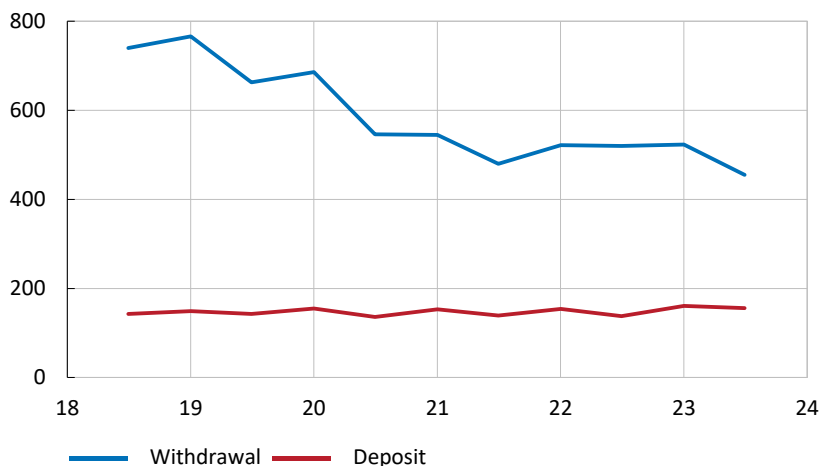
Note: Several responses were possible.

Source: The Riksbank.

The Riksbank’s survey on payment habits also gives the impression that cash has been used more than before. Almost half of the respondents say that they have used cash in the last month, which is an increase of 15 percentage points compared to 2022. At the same time, other data show that the use of cash has rather continued to decline, reflecting the trend we have seen for several years. For example, withdrawals from Bankomat AB’s ATMs decreased in 2023, as you can see in Figure 2, and the [amount of cash in circulation](#) decreased by 10 per cent over the same period. Also according to data from the [Cash Handling Advisory Board](#), the use of cash seems to have continued to decline. One possible explanation for the increased use of cash despite other data showing the opposite could be that private persons have used cash buffers that they withdrew after Russia launched its full-scale invasion of Ukraine in 2022 (see [Many withdrew cash after Russia’s invasion of Ukraine](#)). It is too early, however, to draw any clear conclusions about this development.

Figure 2. Cash withdrawals decreasing over time

Withdrawals and deposits via Bankomat AB's ATMs and deposit machines, value in SEK per capita and month.



Note: The figure shows only withdrawals and deposits via Bankomat AB's ATMs. There are also other operators of ATMs and deposit machines that are not represented in the figure. Withdrawals and deposits via e.g. stores or bank branches are also not represented.

Source: [Bankomat.se](https://www.bankomat.se).

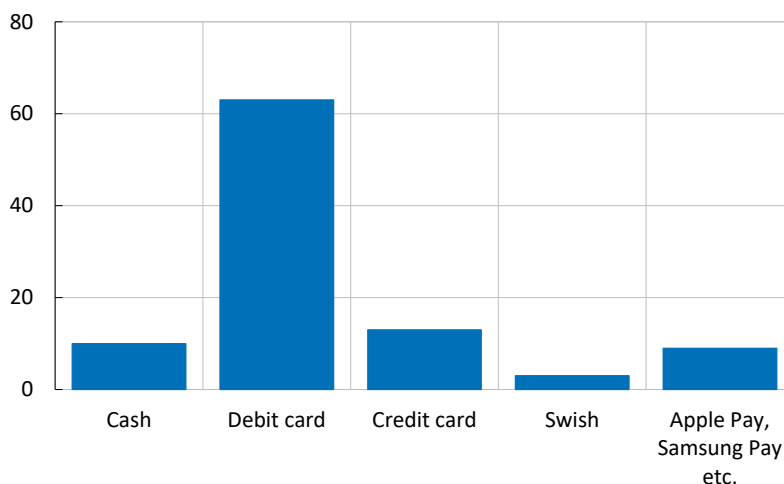
More and more people paying in store by card in their mobile phone

More and more people are choosing not to use a physical card in favour of services that integrate the card into a mobile phone, such as Apple Pay and Samsung Pay. In the Riksbank's survey in 2023, 63 per cent stated that they had paid by debit card for their last in-store purchase, which is 10 percentage points lower than in 2022. At the same time, 9 per cent said they had paid with their card in their mobile phone, almost double compared to 2022. The most important reason why more people pay by mobile phone is that it is perceived as easy and convenient.

As Figure 3 shows, it is still uncommon to use Swish for in-store purchases. One possible explanation for this is that Swish payments have not yet been fully integrated into the physical retail trade, for example in in-store cash register systems, and are therefore a relatively slow option compared with card payments, for example.

Figure 3. In-store purchases usually made by debit card

Percentage of people paying by each payment method for their last in-store purchase, 2023.



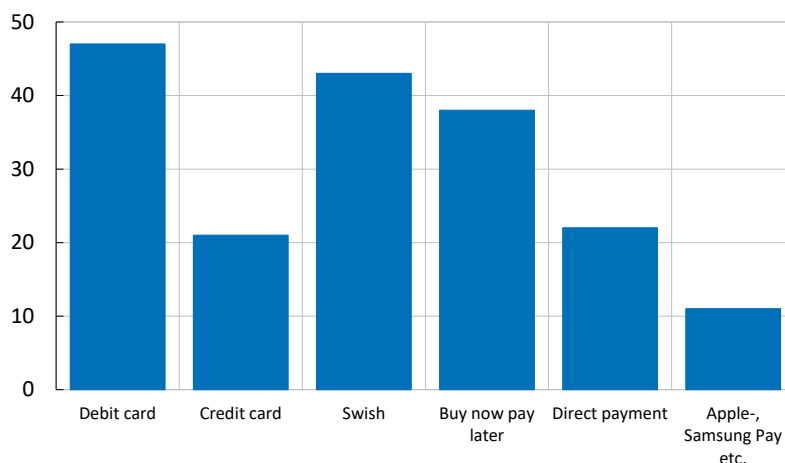
Source: The Riksbank.

Swish on the rise in e-commerce

E-commerce has grown significantly in recent years and received an extra boost during the pandemic. The Riksbank's latest survey shows that 75 per cent have shopped online in the past month. This is an increase of almost 20 percentage points since 2018. The result for 2023 is in line with 2022, indicating that the shopping habits established during the pandemic are continuing.

The most common payment methods in e-commerce are debit cards, followed by Swish and buy-now-pay-later services, as you can see in Figure 4. According to the Riksbank's survey, it has become more common to use physical debit cards and Swish online. Mobile card payments have almost tripled compared to 2022, but from a low level. In contrast, the use of buy-now-pay-later services has decreased by 15 percentage points compared to 2022. According to a [report](#) from Finansinspektionen, a possible explanation for this could be that in 2020 the Swedish Riksdag introduced new [rules for the marketing of online payment services](#). The rules mean that payment options on e-commerce sites that involve consumers shopping on credit cannot be displayed first or pre-selected if other payment methods are available.

Figure 4. Debit cards and Swish most commonly used for e-commerce payments
 Percentage of people paying by each payment method in e-commerce over the past 30 days, 2023.



Note: Several responses were possible. Direct payments are payments where the payer follows a link from the online store to the online bank, where the payment is made directly. The question on buy-now-pay-later services has been reworded since the previous survey, which may affect the results.

Source: The Riksbank.

Bills are mostly paid digitally

The vast majority of people have been paying their bills digitally for several years. In the Riksbank's latest survey on payment habits, less than 5 per cent reported that they had used non-digital services such as postal giro and cash over the counter to pay bills in the past month. About six in ten had used direct debit and e-invoice. In recent years, paying bills digitally has become even faster and easier, and it often only takes a few keystrokes to authorise a bill to be paid on the due date. This is possible both thanks to digital mailboxes where invoices are sent and the possibility for third-party providers to access the customer's bank account to schedule an invoice payment on a specific date.

A quick and easy way to pay for subscription services such as streaming services and newspaper subscriptions is called recurring card payments. The Riksbank's survey shows that almost seven out of ten have one or more recurring subscription services that are paid for by card each month. Younger people have more of them than older people.

1.2 Cash is rarely used and the supply of cash services is decreasing

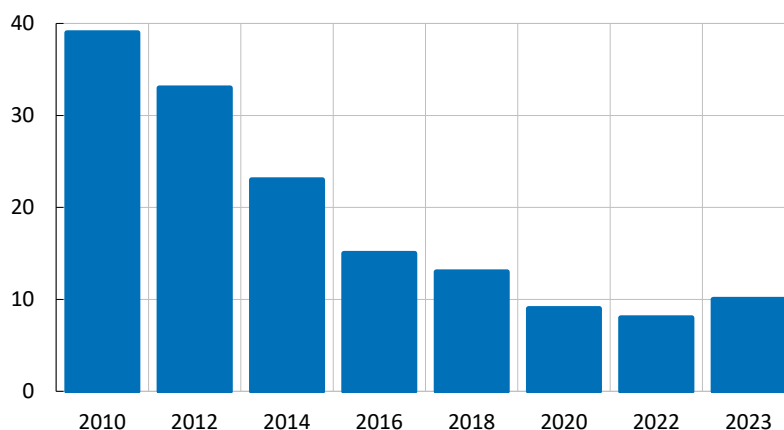
The use of cash has been decreasing for many years. At the same time, more and more people recognise the importance of cash for society, especially in a crisis situation when digital payment methods may not work. The supply of cash services has deteriorated and is increasingly automated.



Few people pay by cash in stores

The use of cash has been declining rapidly in Sweden for several years, as you can see in Figure 5. However, the Riksbank's latest survey on payment habits shows a slight increase in the use of cash – 10 per cent said they paid cash for their last in-store purchase in 2023, compared to 8 per cent in 2022. However, as described in Section 1.1, other data suggest that the use of cash instead continues to decline. One possible explanation for the increase is that in 2023 private persons have used cash buffers withdrawn in the context of Russia's full-scale invasion of Ukraine.

Figure 5. One in ten paid cash for their last in-store purchase
Percentage of people who paid cash for their last in-store purchase.



Source: The Riksbank.

More people have a negative attitude to the decline in cash use

Although few people pay in cash, an increasing number of people have a negative attitude to the decline in cash use – 44 per cent in 2023 compared to 36 per cent in 2022. The proportion of respondents stating that they would not be able to cope without cash in today’s society has also increased compared to 2022. This may be an effect of increased crisis awareness due to the war in Ukraine. The function of cash as a backup solution when cards and digital payment methods may not work is cited as an important reason why people would not manage without cash. It also highlights the need to be able to pay in cash in certain situations, such as to associations, in small stores and at flea markets. Some also emphasise that using cash makes it easier for them to keep track of their finances. Older people find it significantly more difficult to manage without cash than younger people.

Half experience problems paying in cash

In the 2023 survey, half of the respondents said they had wanted to pay in cash but the store did not accept it. The corresponding figure in 2022 was 37 per cent. One explanation for the increase could be that more people have tried to use cash to get rid of the cash buffers built up in the context of Russia’s full-scale invasion of Ukraine, but it is also possible that more stores have stopped accepting cash.

There are no comprehensive statistics on how many stores accept cash. The Swedish Trade Federation carries out surveys among its members, which recently showed that almost [nine out of ten merchants accept cash](#) and that the acceptance of cash in the non-durable goods segment, mainly grocery stores, is slightly higher than in the durable goods segment. However, many stores, such as pharmacies, are not members of the Swedish Trade Federation. Restaurants, hairdressers and public transport are not

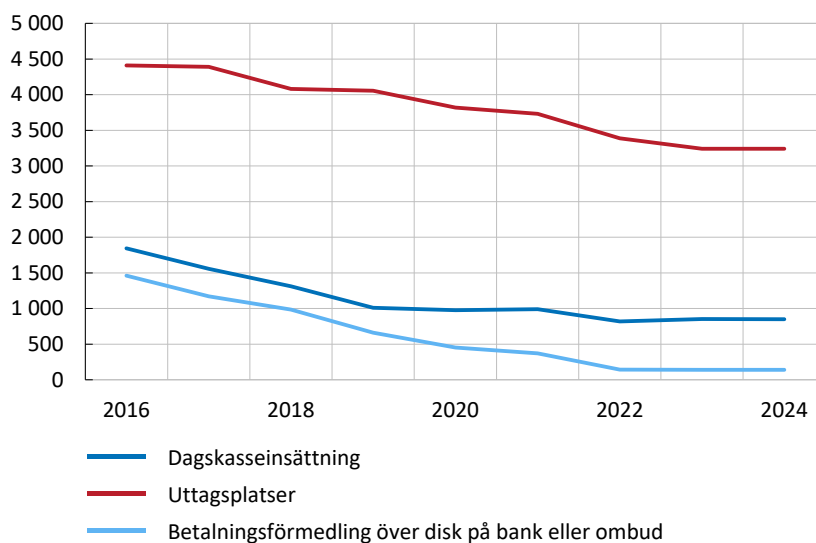
included in the Swedish Trade Federation's figures either. To obtain a more comprehensive picture of the extent to which cash is accepted by business operators in Sweden, the Riksbank intends to investigate this on a regular basis in the future.

Supply of cash services is decreasing

Private persons, companies and associations need to be able to withdraw and deposit cash into their accounts and sometimes get help to pay bills in cash. Since 2016, the supply of such services has decreased, as you can see in Figure 6. However, this decrease has slowed down over the last two years. This may be related to the fact that, since 2021, some banks have a shared responsibility to provide places where private persons can withdraw cash and where companies and associations can deposit their daily takings. [The Swedish Post and Telecom Authority \(PTS\)](#) is responsible for supervising the banks to ensure they take this responsibility.

Figure 6. The supply of cash services has decreased over time

Number of locations for cash withdrawals, deposits of daily takings and over-the-counter payments.



Note: Withdrawal locations include 1,265 ICA stores that offer cash withdrawals to ICA Bank and Swedbank customers subject to cash on hand.

Source: Swedish Agency for Economic and Regional Growth Pinpoint Sweden Service Analysis, February 2024.

However, banks have no obligation, for example, to help their customers pay their bills in cash. Today, this service is available in only 139 locations in the country, of which 113 are savings bank branches. If you are not a customer of a savings bank offering cash services, you can only get help to pay bills in cash at the company Change-Group's 26 branches, which are mainly located in southern Sweden.

Neither are banks obliged to offer solutions for private persons to deposit cash into an account. There are currently no comprehensive statistics on the number and location of such deposit points. According to Bankomat AB's [map](#), it had 391 deposit machines

in the country in February 2024. However, these only accept banknotes and not coins. Customers of ICA Bank and Swedbank can also deposit cash at the checkout in most ICA stores.

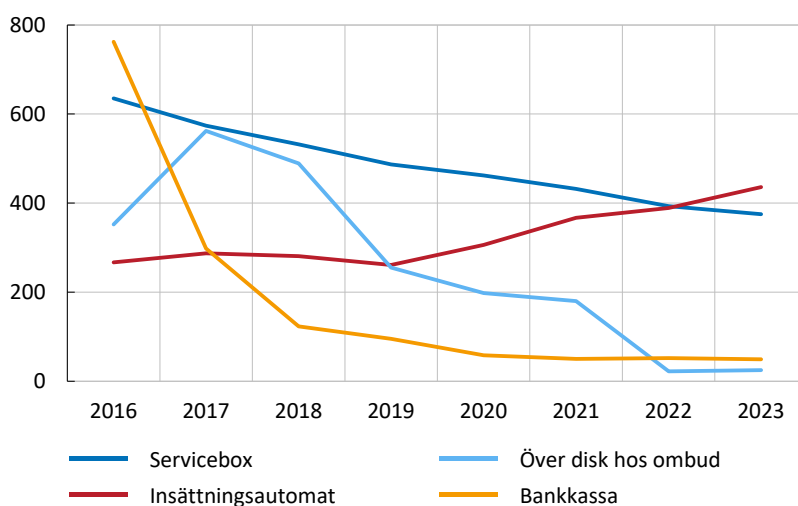
Cash services are automated

Cash services in Sweden increasingly consist of ATMs and deposit machines, while forms of service such as manual cash services are declining. All major banks have stopped offering cash services over the counter in their branches and only some savings banks still do so in a total of 126 branches, according to the Swedish Agency for Economic and Regional Growth's Pinpoint Sweden Service Analysis. In addition, ICA Bank offers its own and Swedbank's customers withdrawal and deposit facilities at the checkout in most ICA stores. However, customers can withdraw a maximum of around SEK 2,000 per withdrawal and only subject to the amount of cash in the store's cash register.

Places where companies can deposit their daily takings are also increasingly made up of automated deposit machines, as you can see in Figure 7. The Riksbank has received indications that companies feel that the upper limit for the amount of cash they can deposit in these machines is low. This risks making it more difficult for companies that handle cash, which you can read more about in Section 2.1.

Figure 7. Deposit machines becoming increasingly common for daily takings deposits

Locations for deposit of daily takings, number per type of service.



Source: Swedish Agency for Economic and Regional Growth Pinpoint Sweden Service Analysis, December 2023.

1.3 Transfers abroad are perceived as safe but expensive

Foreign-born individuals are more likely to make transfers to private persons abroad than the Swedish population as a whole. The most common way of transferring money abroad is through the bank and most feel that transfers are quick and safe. However, the vast majority find it expensive.



Private persons make cross-border payments when shopping while travelling abroad, buying things from abroad online, sending money to relatives in other countries and in many other situations. Companies and public authorities make cross-border payments when, for example, they buy equipment and services from abroad.

In this section, we take a deep dive into one particular type of cross-border payment - transfers to private persons abroad, often defined as remittances. Remittances are an important source of income for many countries, but statistics on their volume are often of low quality. This is described in the article [Remittances - the overlooked payments](#). In order to improve statistics and increase the understanding of remittance flows from Sweden, the Riksbank has therefore conducted a survey on how foreign-born individuals send money to private persons abroad.

Riksbank's survey on cross-border payments

The Riksbank's survey on cross-border payments provides a picture of which countries private persons in Sweden send money to, how they send money and how they perceive it to work. Foreign-born persons tend to make more cross-border payments than the Swedish population as a whole, especially foreign-born persons in vulnerable areas. In the 2024 Payments Report, we present the results for the target group of foreign-born persons in vulnerable areas between 18 and 79 years of age. 306 people took part in the survey, 60 per cent of whom were born outside Europe. They were randomly recruited via text message and completed an online survey. The collection period for the survey was between 26 September and 16 October 2023 and this is the first time the Riksbank has conducted it. Figures from the survey can be found at [riksbank.se](https://www.riksbank.se).

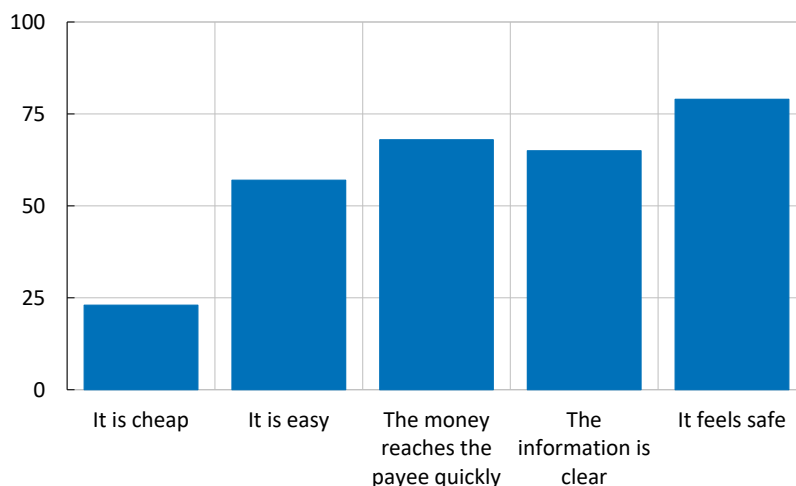
More common for foreign-born persons to send money abroad

According to the Riksbank's surveys, foreign-born persons in vulnerable areas are much more likely to send money abroad than the population as a whole. Just over 60 per cent have made a transfer to another private persons abroad at some point during the year, which is almost four times more than the national average in the Riksbank's survey on payment habits. Foreign-born individuals in vulnerable areas are most likely to send money to other private persons in Europe, followed by Asia and Africa. The most common amounts sent are between SEK 500 and 2,000.

Transfers abroad are perceived as safe and easy, but expensive

Most people feel it is easy and safe to send money abroad, as shown in Figure 8. Many also feel that the money reaches the payee quickly and that the information about the cost and when the payment reaches the payee is clear. On the other hand, more than 75 per cent think that sending money abroad is expensive.

Figure 8. Sending money abroad is perceived as safe, fast and easy but expensive
Percentage of respondents who think the following statements are fairly or very true, 2023.



Source: The Riksbank.

There are several reasons why cross-border payments are more expensive than domestic payments. For example, the payment process usually includes more steps, such as currency exchange, and involves more actors than domestic payments. However, there is extensive international work under way to improve cross-border payments, which you can read more about in Section 2.2. The Riksbank is also working on developing its payment system RIX to enable smoother payments within Europe. It is also possible that an e-krona, if introduced, could facilitate payments between different currencies. You can read more about the Riksbank's work in Chapter 3.

Most people use bank transfers to send money abroad

Private persons can choose to send money abroad in different ways. According to the Riksbank's survey on cross-border payments, around nine out of ten use payment services offered by regulated payment service providers. The most common methods are bank transfers (38 per cent) and Western Union (29 per cent). Other uses include PayPal (8 per cent), RIA (4 per cent) and Wise (4 per cent). However, not all payment service providers offer payments to all countries, which may be one reason why bank transfer and Western Union are relatively widely used compared to other services that are often cheaper. A few stated that they use networks of money intermediaries, such as hawala agents, or send money with people travelling to the recipient country.

1.4 The digitalisation of payments is a global trend

In Sweden, the payments market was digitalised early and it is clear that the trend is now global. One reason for this is that Swedish banks were early adopters of Swish, which allows money to be transferred between bank accounts instantly via mobile phones. In Sweden, only Swish is currently available for instant payments, while our neighbouring countries have more options. Another expression of digitalisation is that we see new digital assets such as stablecoins. In addition, most central banks are exploring a digital complement to cash - what we in Sweden call the e-krona.

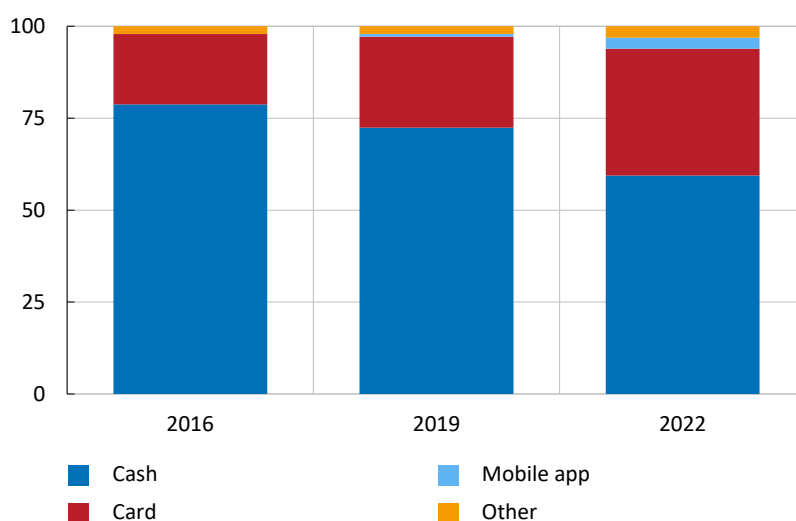


Digital payment methods increasing internationally

In many countries, the use of debit and credit cards has increased during the pandemic. Contactless technology has helped to make card payments both faster and more convenient. In some countries, more merchants have also started accepting cards. In the euro area, the share of in-store card purchases has increased by 9 percentage points in three years and today more than one in three purchases are made by card, as you can see in Figure 9. However, there are significant differences between euro area countries. According to the [European Central Bank's Payment Attitudes Survey 2022](#), almost seven out of ten people pay by card when shopping in Finland, while just under a fifth do so in Malta.

Figure 9. Cash use declining in the euro area

Share of in-store payments by different payment methods in the euro area, percentages.



Note: "Other" includes cheques, account transfers and loyalty points.

Source: [Study on the payment attitudes of consumers in the euro area \(SPACE\) - 2022 \(europa.eu\)](#).

Both in Sweden and internationally, mobile payments have become more common, both in the form of services that are essentially a card payment, such as Apple Pay and Google Pay, and with Swish-like services for instant payments. In the [United Kingdom](#), for example, one in three adults had access to at least one mobile phone payment service in 2021, and the majority had used them. However, in the euro area, paying in stores with a mobile phone is still uncommon.

As digital payment methods increase, the use of cash is decreasing globally. According to a [study by the International Monetary Fund](#), half the world's population is using cash less and less. In the euro area, the share of cash payments has fallen by around 20 percentage points in six years, as you can see in Figure 9. The pandemic has accelerated this trend, especially in countries with a high level of cash use relative to Sweden. Examples include Greece, Spain and the United Kingdom.

Our Nordic neighbours offer more instant payment options

Instant payments are a type of payment that can be made around the clock and reaches the payee's account within a few seconds. For other digital payments, such as card purchases, money is reserved in the payer's account but the actual transfer is usually carried out later. Since 2012, in Sweden we have been able to make instant payments between different bank accounts via the Swish mobile app. Internationally, Swedish banks were early adopters of this type of payment service and it quickly gained a large number of users. Since its launch, the service has evolved from just sending payments between private persons to both e-commerce and in-store shopping.

Apart from Swish, there are currently no other services that make it possible to send Swedish kronor immediately between accounts in different banks. In our neighbouring countries of Denmark and Norway, however, instant payments can be made via, for example, mobile or online banking. This option is also available in the United Kingdom and euro countries, depending on your bank. One advantage of banks offering such instant account transfers is that it opens the door for other payment service providers to develop new services for instant payments via, for example, open banking. This is good for competition in the payments market.

Instant payments are more common in [Denmark](#) and [Norway](#). In these countries, instant payments account for an estimated 50 per cent of the total volume of account-to-account transfers, compared with 30 per cent in Sweden. In the Single Euro Payments Area, known as [SEPA](#), the share is lower. To accelerate the move towards more instant payments, the European Council and the European Parliament have agreed on legislation that will oblige banks offering regular account-to-account payments in euro to also offer instant payments in euro at the same price. This will also apply to banks in Sweden that offer account-to-account payments in euro, but not to payments in Swedish krona.

In Sweden, from November 2024, the Riksbank will require that banks participating in the Riksbank's RIX payment system that already offer instant payments via Swish can also accept instant payments made by other means. This makes it possible to develop more instant payment services. However, no bank is obliged to offer its customers the ability to send instant payments in Swedish krona, whether via Swish or by any other means.

Payment service providers find their own solutions for instant payments

There are also payment solutions that allow the payee to have money sent to their account almost instantly without any actual payment being made between banks. For example, some payment service providers offer such solutions by having accounts in several different banks and even in different countries. When the customer then makes a payment via their payment service, the money is transferred from the payer's bank account to one of the payment service provider's trust accounts at the same bank. The payment service provider then initiates a transfer of the corresponding amount to the payee's account. If the payee has a different bank from the payer, the transfer is made from the payment service provider's account in the same bank.

For the end user, it usually does not matter how the underlying technology for different payment methods works. But there are advantages to having payments made directly between the payer's and payee's accounts at different banks. This reduces risks for the banks. There are also efficiency aspects which we discuss in Section 2.2.

New types of digital assets are being developed

Digitalisation has led to the development of new types of digital assets. Cryptoassets, or cryptocurrencies, such as Bitcoin have been around for many years and have become increasingly popular for speculative investments. However, they are rarely used

for payment. In the Riksbank's survey on payment habits, 2 per cent of respondents stated that they have paid in Bitcoin or another cryptocurrency in the past 30 days.

Another type of cryptocurrency that has received a lot of attention in recent years is so-called stablecoins. They are a kind of cryptocurrency intended to maintain a stable value over time, often by being pegged to a national currency. This sets them apart from many other cryptocurrencies that fluctuate freely, such as Bitcoin.

Stablecoins have primarily been used as a means of payment in the crypto world, i.e. on a different technical infrastructure to the traditional financial infrastructure. When trading other cryptocurrencies, it is also common for payment to be made in stablecoins.

Stablecoins issued on well-established platforms can be widely distributed

In recent years, companies with large platforms and many users have taken an interest in stablecoins. In 2019, for example, the [Libra Association](#) (now Diem Association) announced that it would issue a stablecoin on Facebook's (now Meta's) platforms. However, the plan was never realised. In a more recent example, last year the company [PayPal](#) launched a stablecoin linked to the US dollar. Unlike many other stablecoin issuers, PayPal targets a broad audience and areas of use including everyday payments. It is also an established player in the payments market with an existing infrastructure and a large customer base. Their stablecoin therefore has the potential to be widely distributed.

Widespread use of stablecoins may pose risks

If many people were to start using stablecoins for everyday payments on a large scale, there could be risks. In particular, the effectiveness of monetary policy may be reduced if the public makes extensive use of stablecoins pegged to other non-domestic currencies. The risks of stablecoins are discussed in more detail in the box "PayPal's new stablecoin" in [Financial Stability Report 2023:2](#).

The risks associated with stablecoins can be addressed through regulation, and there are international guidelines on how to design such regulation. However, the United States, for example, lacks regulation of cryptocurrencies at the federal level, which has been highlighted as a problem by the [European Central Bank](#), among others. In the EU, there is a new regulation, the MiCA Regulation, which addresses the risks of stablecoins by, for example, limiting the extent to which stablecoins can be distributed in the Union. You can read more about the MiCA Regulation in the box "New rules can contribute to payments market objectives" in Section 2.3.

Work on a digital euro is progressing rapidly

Central banks around the world continue to explore different aspects of central bank digital currency (CBDC), known in Sweden as the e-krona. In a [survey](#) conducted by the Bank for International Settlements (BIS), 93 per cent of a total of 86 central banks surveyed said they are actively working on issues related to central bank money. You can read more about CBDCs in the box "Types of central bank money".

Central banks have different motivations for exploring CBDCs. Often the premise is that the public should have access to state-backed money in a digital world. Moreover, according to the BIS survey, many central banks believe that a CBDC can contribute to a more efficient and robust payment system and smoother cross-border payments. Many also argue that an attractive CBDC can prevent new types of money, such as cryptoassets or stablecoins, enticing customers to take too much risk and, in extreme cases, cause problems for monetary policy. The Riksbank's motivation for the e-krona is discussed in Section 3.5.

The European Central Bank (ECB) is one of the central banks that is well advanced in its preparations for a CBDC, which it calls the digital euro. After having analysed the issue for the past two years, they have now entered a [preparation phase](#) which will continue for the next year or so. When this phase is concluded, in autumn 2025, the ECB is expected to take a new decision on whether to continue preparations for the launch of a digital euro.

In parallel with the ECB's work, the European Commission has developed a legislative proposal for a digital euro, which was presented in June 2023. This type of legal framework is needed if the ECB later decides to issue a digital euro. The draft legislation addresses aspects such as how users can access digital euro, design requirements and how they can be used. The draft legislation is currently being negotiated among EU Member States. The Riksbank follows the ECB's work and the ongoing negotiations and the possible consequences for Sweden. For example, it is important that any e-krona is designed to be exchangeable for a digital euro.

Different types of central bank money

In Sweden, most people use money issued by a commercial bank when making payments, i.e. the money they have in their bank account. But there is also money issued by the Riksbank, known as central bank money. The type of central bank money most people are familiar with is banknotes and coins. In addition, there is money held digitally by banks and other financial institutions at the Riksbank in accounts in the RIX payment system. These are also called reserves. Reserves are used by financial institutions when they pay each other. The Riksbank is often called “the banks’ bank”. You can read more about the different types of money that exist today here: [What is money?](#)

According to the [Bank for International Settlements](#) (BIS), almost all central banks are exploring the possibility of issuing new types of central bank digital currency (CBDC). These are normally divided into two categories. The first and most common type is intended for the general public and is often referred to as “retail Central Bank Digital Currency” (rCBDC). They are intended to be used by private persons and companies for everyday payments and are what the Riksbank has explored so far in its e-krona project, which you can read more about in Section 3.5. Today, only a few central banks have issued an rCBDC. These are the central banks of Nigeria, the Bahamas, Jamaica and the Eastern Caribbean Currency Union. Many more are currently running pilot projects, including China, Russia and India.

The second type of CBDC that central banks are exploring is “wholesale Central Bank Digital Currency” (wCBDC). This is a CBDC intended for transactions between banks, central banks and other financial institutions. wCBDC is very similar to reserves already held by financial institutions on accounts at central banks today (e.g. as in the RIX system) and the boundaries are sometimes unclear. It is often said that wCBDC would be issued on a technical infrastructure other than the traditional financial infrastructure, for example on infrastructure based on distributed ledger technology (DLT), and that it could make it easier to develop new functions that can help improve the efficiency of payments. In addition, wCBDCs could act as risk-free money if other assets are traded in such an infrastructure. However, it is also possible to link the central bank’s existing payment system, such as RIX, with infrastructure based on DLT, for example, and thus achieve similar results. The European Central Bank, for example, has launched a [project](#) to explore with the market the pros and cons of different solutions for this.

2 Safety, efficiency and accessibility

Payments in Sweden are generally safe and efficient, but there are problems with fraud and the accessibility of payment services. This has a lot to do with digitalisation, which has contributed on the one hand to faster and smoother payments, but on the other hand to some people being tricked into making payments and others being excluded if they cannot access or cope with digital services. Furthermore, the cash infrastructure is very vulnerable and the infrastructure for digital payments, in particular Bankgirot, needs to be modernised to meet both current and future needs. In addition, the resilience of digital payments to disruptions should be strengthened, including by improving offline payment options.



2.1 Are payments in Sweden safe?

Payments in Sweden are generally safe, but there are shortcomings that should be addressed. First, the cash infrastructure is entirely dependent on two private operators and is therefore highly vulnerable to changes in the market. Second, the digital payment infrastructure is in need of modernisation, especially since the banks have discontinued the P27 project that aimed to build a common Nordic payment infrastructure. Third, digital payments are vulnerable to disruptions in electricity grids and data communication. In addition, fraud is increasing in Sweden.



What is needed for payments to be safe?

The payment system must be stable, resilient to disruptions in normal times and able to function in peacetime crises and states of heightened alert. It should be possible to use multiple payment methods so that payments can be made even if there is a disruption in any part of the system. Protection against fraud must be high. The payer and payee must be confident that the payment will be received and that the cash received is genuine, and that sensitive information such as authentication and card details are not disclosed and used by unauthorised persons.

All payments need an underlying infrastructure

For us to be able to pay, there needs to be an underlying infrastructure. The use of cash requires, for example, ATMs, cash-in-transit services, cash stocks and the production and destruction of banknotes. For digital payments, the Riksbank's payment system RIX and the clearing organisation Bankgirot are central hubs.

The infrastructure for digital payments has worked well in 2023

The digital payments infrastructure as a whole has functioned well in 2023. However, in spring 2023 there were disruptions that affected all or part of the payment infrastructure on individual days. For example, the Riksbank's payment system RIX had an incident at the end of April that meant that the target for system availability could not be achieved for the year. Availability was 99.82 instead of 99.85 per cent. In addition to the incident in RIX, the systems that enable Swish payments (Bankgirot, Getswish AB and BankID) had several brief disruptions. Overall, the incidents had only a minor impact on the ability to pay digitally.

Urgent need for a future-proof solution

As more and more payments are made instantly, new global standards for payment messages are implemented and new players may eventually gain access to the payment infrastructure, the conditions for the existing infrastructure for clearing and settlement of so-called retail payments are changing. To meet this development, the Riksbank is working on modernising its payment system, RIX. But there is also a need to update the privately owned infrastructure that is central to the functioning of payments in Sweden.

The joint Nordic banking initiative P27, which ran for several years and aimed to build a new Nordic payment infrastructure for clearing payments in Nordic currencies and euro, was discontinued in April 2023. P27 was intended to replace the existing privately owned payment infrastructure, including Bankgirot. In September last year, Bankgirot announced that it had been commissioned by its owner banks to secure and modernise the existing infrastructure in Sweden and to begin work on developing solutions for the future. The Riksbank considers it very important that this work is prioritised to ensure a modern and secure payment infrastructure, which you can read more about in Section 3.3.

Cash infrastructure is vulnerable to market changes

In order for cash services to work and for cash to be used, an underlying infrastructure based on cooperation between the Riksbank, the banks and cash-in-transit companies is needed. In somewhat simplified terms, this infrastructure works as follows.

- The Riksbank manufactures new cash, destroys worn-out cash and maintains stocks (depots) where banks, bank-owned companies and cash-processing companies can collect and deposit cash.
- Banks are collectively responsible for providing places where private persons can withdraw cash and companies can deposit cash into their accounts. The bank-owned company Bankomat AB (Bankomat) has been tasked with monitoring the availability of cash services and, if necessary, proposing measures for banks to fulfil their responsibilities. Bankomat operates a majority of all ATMs in Sweden, which you can read more about in Section 1.2. Bankomat also have private banknote depots for its own use.

- Cash-in-transit companies work on behalf of the Riksbank, banks, stores, Bankomat and other companies. They sort, count, register and transport cash. Loomis Sverige AB (Loomis) is currently the only cash-in-transit company in Sweden. In addition, Loomis is responsible for the majority of all service boxes, which account for just under half of all daily takings deposit locations in Sweden. You can read more about this in Section 1.2.

The cash management chain can be described as both robust and vulnerable at the same time. On the one hand, there are cash depots, withdrawal and deposit points, transport vehicles and cash management centres scattered throughout the country. Cash management as a whole need not therefore be affected if individual locations are not available.

On the other hand, only the Riksbank and some banks have a statutory responsibility to fulfil their parts, i.e. to issue cash (the Riksbank) and to offer a sufficient range of cash services to the public (the banks). For the cash management chain to work, it is important that all actors play their part in the chain and there is no legal responsibility for banks to, for example, offer cash distribution to individual companies. This type of service is also important for the functioning of infrastructure throughout the country. Those parts of the infrastructure are therefore particularly vulnerable and fully dependent on Loomis.

Neither is there any legal requirement for private persons to be able to deposit cash into an account.

Increased uncertainty in the cash management market going forward

Cash management is associated with high fixed costs. This makes it more difficult for companies that handle cash to scale down their operations to meet reduced demand. For example, the cost of a cash transport is basically the same whether it is full or half full. At the same time, revenues are halved. As the use of cash declines, it has become increasingly difficult for those who handle cash to make a profit.

Today, Bankomat relies on Loomis to manage its private banknote depots and to replenish and empty ATMs. However, in November 2022, [Bankomat](#) announced that as of the second half of 2025 it will start its own cash management operation and thus perform these services itself. How this will affect the market for cash management services as a whole is currently uncertain.

The dominance of two private companies, Bankomat and Loomis, in the cash chain is problematic. Loomis has no statutory responsibility to offer cash services on the Swedish market, but the maintenance of its operations is based on profitability calculations. Moreover, the fact that only two companies are active in cash management, with near monopolies in their respective parts of the market, means that it is very sensitive to disruptions in their respective operations. If one of the companies is unable to fulfil its tasks, it is difficult for another to quickly take its place.

Risk of automated cash management making life difficult for companies

Management of daily takings in Sweden is increasingly carried out via deposit machines, which you can read more about in Section 1.2. The Riksbank has received indications that companies that accept cash feel that the upper limit for how much cash they can deposit in the machines on each occasion or during a certain period is too low and is on a par with the amount of cash deposits that private persons can make. In addition, there is no possibility to deposit coins in the machines. Overall, this means that the situation for companies or associations handling cash has clearly deteriorated as the number of service boxes and manual deposit services has decreased.

This development could make it even more costly and complicated for companies to accept cash. This, in turn, may lead to more companies choosing to stop accepting cash. It is therefore very important for the circulation of cash in society that banks do not set unreasonably low limits for deposits of daily takings. There is also a need for more possibilities for companies and associations to deposit coins into their accounts, as this is not possible in deposit machines.

The payment system can be even more resilient to disruptions

The payment infrastructure has worked well in 2023. However, there may be disruptions to one or more payment methods, such as cyber-attacks or disruptions to electricity grids or data communication networks. For the payment system to be robust, it is therefore important to ensure that we can pay in several different ways and to work towards making the different payment methods resilient to different types of disruptions.

We need to be able to pay in several different ways

Everyone has a responsibility to prepare as best they can for a crisis. If many people are prepared, municipalities, regions and authorities can focus on helping those who have the most difficulty coping, such as the elderly or the sick. Part of being prepared is being able to pay in different ways.

Different payment methods have different characteristics. For example, cash can change hands without any functioning electricity or data communication, while Swish payments can be made without the payer and payee being in the same place. Moreover, different payment methods are often based on different underlying technologies, which means that one may work even if the other does not. The public should therefore have access to a variety of payment methods and business operators should in turn accept several of them to ensure that some form of payment is possible even during disruptions. In addition, it is useful for both private persons and companies to have access to several different ways of connecting to the internet. According to the authorities' [Crisis Information](#), the public is advised to:

- have accounts with different banks, cards from different card networks (such as Visa and Mastercard) and access to payment services via mobile phone (such as Swish)

- have several options for internet connection (e.g. mobile data and broadband)
- have multiple e-IDs, and
- keep cash at home in smaller denominations.

The Riksbank's payments survey shows that almost everyone in Sweden has access to several different digital payment methods, usually debit cards and Swish. However, according to a [user study](#) from the Riksbank, many people consider it impractical and expensive to hold cash in a crisis buffer and some do not have the financial means to do so.

Although the public needs to have different payment methods, it is important that individual payment methods are as resilient as possible.

The possibility to pay offline can be improved

One way to make a payment method more resilient to disruptions is to ensure that it works offline, i.e. without functioning data communication. According to the Defence Commission's report on Sweden's total defence, [Kraftsamling](#), there may be a need for a large number of payments to be made offline in the event of major disruptions if data communications are knocked out as a result of a cyber-attack. However, offline payments involve risks that need to be managed. For example, there is a credit risk if a merchant sells goods without knowing whether the buyer is able to cover the purchase. Credit risk can be allocated in different ways between the parties in a card transaction through regulations and contracts.

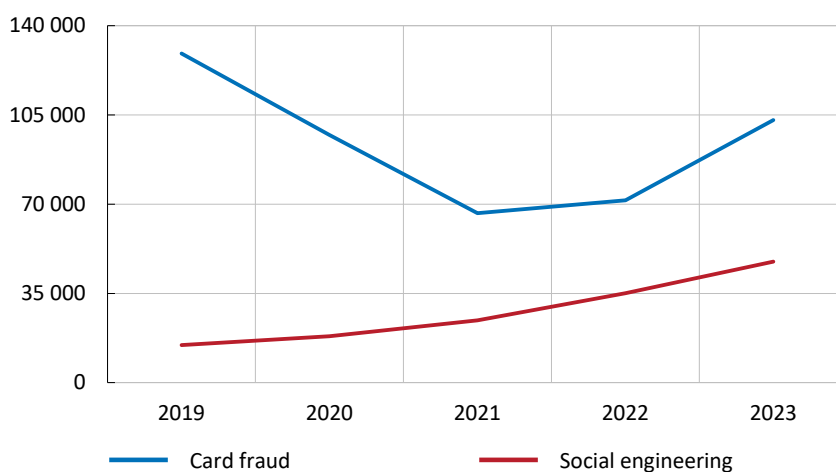
Today, it is possible to pay by card offline to some extent. But whether this works depends on the card used, the contract the payer has with the card issuer, and what kind of payment terminal the store has. One problem for cardholders is that they very rarely receive information about whether their card works offline and the amounts they can pay offline. It should also be noted that it is not possible to withdraw cash from ATMs offline, for example. The Riksbank considers that the resilience of the payment system would be strengthened by improving the possibilities for offline payments, which you can read more about in Section 3.2.

Fraud is the fastest growing type of crime in Sweden

For the public to have trust in the payment system, they must feel that the system is safe. Recent years have seen a sharp increase in fraud, which risks undermining that trust. According to the [Swedish National Council for Crime Prevention](#), fraud is the category of crime that has increased the most in 2023. Among fraud offences, card fraud and fraud via social engineering have increased the most. The number of card fraud cases increased by 44 per cent from 2022. The number of card frauds increased by 44 per cent from 2022, but after having fallen over a number of years before that. You can see this in Figure 10.

Figure 10. Card fraud and social engineering fraud on the rise

Number of reported offences by type of crime and year.



Note: Statistics for 2023 are preliminary.

Source: Swedish National Council for Crime Prevention.

Several measures to counteract social engineering fraud

A common form of fraud is the social engineering by telephone. The victims are often elderly. The fraudster often claims to be calling from the victim's bank and misleads the victim into signing something with their BankID or providing sensitive information. Text message scams are also common. According to a [survey](#) from the Swedish Bankers' Association, more than half of the population have received scam text messages and about one per cent of the text messages lead to a completed fraud.

Banks have a major responsibility to prevent fraud and have taken a number of measures. The Swedish Bankers' Association and Swedish banks launched the [Svårlurad](#) initiative to raise awareness about social engineering and how to protect yourself against frauds and scams. In addition, the Swedish Bankers' Association has submitted several petitions to the Government in 2023, including the introduction of a [fraudster register](#) and rules to [counteract and hamper the manipulation of mobile and telephone numbers](#), also known as spoofing. [Nordea](#) has also launched savings accounts with delayed withdrawals, which should make it easier to stop transactions when people suspect they have been victims of fraud.

The fight against fraud is also a high priority for the Government. In October last year, the Government [tasked](#) Finansinspektionen with reviewing how payment service providers work to prevent fraud, and in December the Swedish Post and Telecom Authority was [tasked](#) with counteracting spoofing to limit fraud. The results of both tasks are to be presented on 31 May 2024. In February this year, the [Government](#) convened a meeting with the heads of the country's largest banks. The Government wants to strengthen cooperation between banks and the police in order to prevent fraud against the elderly.

Card fraud is often committed online

The EU requires strong customer authentication for card payments, which contributed to a significant reduction in reported card fraud over many years. The increase in 2022 and 2023, as you can see in Figure 10, is mainly related to fraud where the fraudster has stolen card details but does not have access to the physical card. The fraudster can then use the card details for online transactions in countries where strong customer authentication is not required. To protect yourself against card fraud, most online banks, for example, allow you to close your card for online purchases and open it when you want to shop online.

The number of counterfeit banknotes is decreasing

The number of counterfeit banknotes submitted to the police has decreased from a historically high level of 6,629 in 2020 to 2,179 in 2023 (see [Banknote and coin statistics](#)). Swedish banknotes have advanced security features and the counterfeits found by the police are simple copies and usually easy to distinguish from genuine banknotes (see [Security features](#)). However, as fewer and fewer people in Sweden use cash, the knowledge of what a banknote looks and feels like is decreasing, which increases the risk of counterfeits spreading.

Cash is used for criminal purposes

Since cash can be paid anonymously, it can be used to conceal crimes or criminal activities. According to the [Swedish Police](#), it is common for cash from criminal activities to be taken out of Sweden to be either laundered or reinvested in crime.

The fight against the criminal economy is very important. However, it is the Riksbank's view that this should not lead to stores and other companies ceasing to accept cash. As long as consumers and companies need and want to use cash, they should be able to do so. Amount limits can be a way to continue offering the possibility of making cash payments while making it more difficult for the criminal economy.

Banks have a major responsibility for consumer protection

Banks have a major responsibility to protect their customers' money. For example, a bank may be required to reinstate an account if a consumer has been defrauded. This depends on how the consumer has acted. According to a 2022 judgement by the [Supreme Court](#), which was the first of its kind, a bank was obliged to reinstate a consumer's account after they had given their BankID code and the response codes from their bank PIN pad to a fraudster. The Supreme Court did not consider that the consumer's behaviour made them liable for the entire loss from the fraud.

New rules to prevent fraud in online invoice purchases

As of January 2023, new [rules](#) came into force requiring strong customer authentication for online invoice payments, such as for buy-now-pay-later services, to prevent fraud. The requirement was already in place for payments using, for example, debit or credit cards, Swish and bank transfers.

Consumer protection is still weak on the crypto market

[Finansinspektionen](#) and other European supervisory authorities have repeatedly warned about the risks of cryptoassets. At present, the crypto market is unregulated and therefore there is no supervision or consumer protection rules. However, the EU has adopted a new regulation to govern the crypto market in the Union. It is called MiCA and will apply from December 2024. You can read more about this in the box “New rules can contribute to payments market objectives” in Section 3.3.

2.2 Are payments in Sweden efficient?

Payments in Sweden are, on the whole, efficient. Digital payments cost less than cash payments and so help reduce the consumption of resources at the societal level. However, some types of payment have evolved more slowly than others. For example, more types of payments should be instantaneous and cross-border payments need to be faster and cheaper.



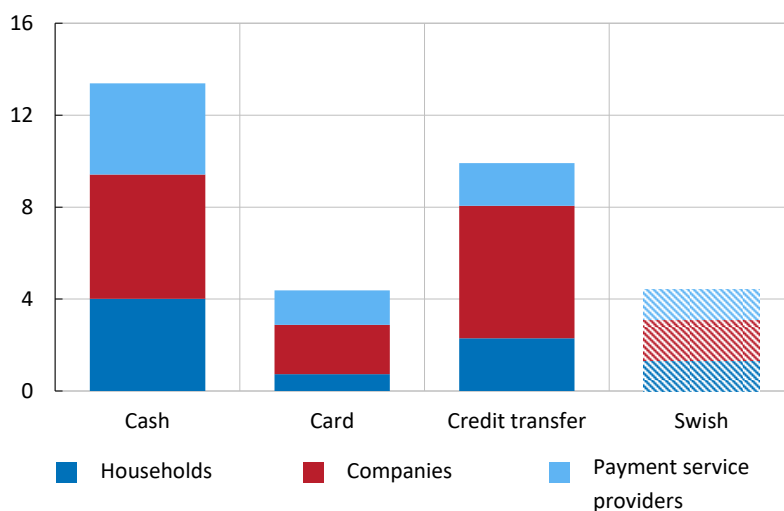
What is needed to ensure payments are efficient?

The costs to society, including energy consumption, for different methods of payment should be low. Fees should be transparent and payments should be quick and easy. There shall also be healthy competition between operators offering payment services. This means, among other things, that the payment system must be accessible to different types of operators who want to offer payment services.

Payments consume significant resources

The economic costs of payments in Sweden in 2021 are estimated at SEK 51 billion - almost 1 per cent of GDP - according to a [study from the Riksbank](#). The economic costs have decreased over time and are in line with the costs in neighbouring countries such as Norway. The study shows that card and Swish payments have the lowest cost per payment, i.e. unit cost, of SEK 4.4. This can be seen in Figure 11. Cash has a relatively high unit cost of SEK 13.4.

Figure 11. Card and Swish payments have the lowest cost per payment
SEK per transaction, 2021.



Note: Swish is a subset of giro transfers but is shown separately in the figure. Cards include both debit and credit cards.

Source: Payment costs in Sweden, 2023. (2023).

There are two important factors that affect the unit cost of a payment method. Firstly, the number of payments made is of significance. When many payments are made using a particular payment method, the fixed costs, such as the costs of systems and premises, can be spread over more payments. This is called economies of scale. The fact that few people use cash today therefore explains why the unit cost of a cash payment is high and has increased compared to 2009, when the Riksbank last conducted a study of the costs of payments. Secondly, the amount of manual handling needed when someone uses a particular payment method is also important, i.e. how long it takes to make and process a payment. This is because much of the economic cost of payments consists of the time it takes to make a payment and to receive and process payments. The automation of payment processes therefore reduces economic costs.

In the study that examines the costs of payments in Sweden, the Riksbank only measures the economic costs. We do not measure or assess other societal values. For example, issues such as competition, accessibility, sustainability and the availability of multiple payment methods in the event of a crisis or war are also issues to consider if a full economic analysis of different payment methods is to be carried out.

Banks' costs for payments

Digital payment services [cost less for banks](#) than manual payment services, including cash. Between 2009 and 2021, banks' costs have decreased, especially the cost of cash. This has reduced the banks' annual costs by around SEK 2.7 billion, or 80 per cent. This is partly because the use of cash has decreased and partly because the banks now let Bankomat AB operate all the banks' ATMs. In addition, all major banks have stopped handling cash at their branches.

The unit cost of bank transfers has also decreased. This is because more bank transfers are initiated digitally instead of manually, but also because the total number of bank transfers has increased, allowing banks to spread their fixed costs over more payments. In contrast, the part of the cost associated with the processing of the bank transfer in the payment infrastructure has not decreased significantly.

The same applies to the unit cost of card payments, mainly because the number of card payments has increased and their processing has become more efficient. This is despite the fact that during the same period banks have invested in the development of contactless payments and increased their spending on fraud protection.

Climate impact varies between payment methods

According to a [research study](#) conducted by the Royal Institute of Technology and financed by the Riksbank, the climate impact of payments in Sweden is very low. For example, the total climate impact of all card and cash payments in Sweden, which contribute the highest climate impact per payment, is less than the total emissions of 2,000 Swedes in one year. The study also shows that the total climate impact of a payment method is higher the more it is used, but at the same time the climate impact per transaction is lower because the climate impact from, for example, IT systems transport and material can be distributed over more payments. Card payments that require more material and physical equipment such as card terminals have a higher climate impact than payments by Swish, for example.

The European Central Bank (ECB) has also conducted a study on the climate impact of euro banknotes. [The study](#) shows that the annual climate impact of using the banknotes in 2019 corresponded to 0.01 per cent of the total climate impact per citizen per year. This is roughly equivalent to driving a petrol car eight kilometres. The largest carbon footprint comes from the operation of ATMs, followed by cash transport.

Instant payments contribute to greater efficiency

The instant execution of payments contributes to a more efficient payment system for several reasons. Among other things, it reduces the need for intermediaries for e.g. clearing. If companies can get money in their account instantly, they can control their cash flow in real time. In addition, recipients of social benefits, insurance money or refunds, for example, may benefit from having access to their money immediately instead of having to wait one or more days.

However, there are also potential disadvantages to instant payments. For example, it may be more difficult to implement anti-money laundering and anti-terrorist financing controls in real time and fraud will be harder to stop. Instant payments are also not suitable for reservation purchases such as paying for fuel or hotel stays.

In Sweden, Swish is currently the only solution for instant payments. In our neighbouring countries, on the other hand, it is possible to make instant payments from a mobile or online bank, which you can read more about in Section 1.4. Many merchants want more payment solutions for instant payments, according to the Riksbank's [retailer survey for the e-krona](#). Through RIX-INST, which is the Riksbank's

system for instant payments, the Riksbank has created the conditions for more forms of instant payments in Swedish kronor. In 2024, Swish payments have started to be implemented in the system, but banks should also offer other types of instant payments that can be made using, for example, online banking. This would open the door for other payment service providers to develop new services for instant payments through, for example, open banking, which is good for competition in the payments market.

Difficult to compete in the payments market

The payments market has some specific characteristics that create challenges for achieving good competition. Payments, except in the case of cash, are basically a service for transferring information. Like other such services, there are economies of scale. In addition to economies of scale, there are also network effects, which means that the value of a good or service increases when more people use it.

Economies of scale and network effects can make payments more efficient and cheaper per unit for high-volume operators, but they also make it difficult for new players to enter the payments market. It tends to inhibit innovation and lead to a few players dominating the market or even having a monopoly. At EU level, attempts have been made to improve the conditions for competition through regulation. For example, you can read about how [The EU's Second Payment Services Directive enables greater competition](#). New rules are also planned to further improve conditions. You can read more about this in the box "New rules can contribute to payments market objectives" in Section 2.3.

Access to infrastructure and payment account services is central to competition

In order to offer payment services, operators need to be connected to the payment infrastructure in some way. Either they can participate directly in, for example, RIX or Bankgirot's service, but the types of operators who can have direct access to this infrastructure are limited by Swedish law, which is based on the EU's finality directive. Payment service providers who cannot participate directly in the infrastructure need to participate indirectly, i.e. through an agent who is a direct participant. Currently, this could be a bank. The indirect participant is required to have an account with the bank and have access the services required to make payments, known as payment account services.

Under Swedish law, banks must provide access to payment account services to payment service providers who request them on an objective, non-discriminatory and proportionate basis. However, the law does not specify what payment account services should include. [The Payments Inquiry](#) noted that it is, for example, unclear whether a bank needs to offer payment service providers ways for their customers to achieve strong customer authentication, for example via BankID. Furthermore, the Swedish Fintech Association, which represents many non-bank payment service providers, reports that it has become increasingly difficult for their members to access payment accounts. Their [report](#) shows that 39 per cent of their members had problems opening or maintaining their accounts in 2023.

European legislation regulating access to the payment infrastructure is now being amended to allow payment institutions and e-money institutions to become direct participants. The Riksbank is now reviewing the conditions for opening up RIX to these participants. The Riksbank also considers that a possible e-krona could help strengthen competition on the payments market by being open to different types of payment service providers building payment services based on e-krona. You can read more about the Riksbank's work in Chapter 3. Furthermore, the [Payments Inquiry](#) has proposed that the Government or one of its authorities should be able to issue regulations on what constitutes payment account services. The inquiry also proposed that the Government should ensure that an in-depth analysis of competition in the Swedish payments market is carried out. The Riksbank welcomed the proposals in its [consultation response](#) and considers that competition in the payments market should be analysed on an ongoing basis.

Cross-border payments should be more efficient

Cross-border payments are often slower, more expensive and less transparent as domestic payments. A natural explanation for this is that the payment process for cross-border payments usually contains more steps, such as currency exchange, and involves more actors than domestic payments. However, G20 countries have agreed on ambitious targets aimed at improving cross-border payments within the next few years. You can find them in Table 1 below. According to a [follow-up report](#) from the Financial Stability Board, developments are moving in the right direction.

Table 1. G20 targets for cross-border payments

Target area	Payment type		
	Wholesale payments	Retail payments	Remittances
Cost	No target	By 2027, the global average cost of a payment must not exceed 1 per cent of the payment value and there must be no corridors where the cost exceeds 3 per cent.	By 2030, the global average cost of sending a USD 200 remittance should not exceed 3 per cent of the amount sent and there should be no corridors where costs exceed 5 per cent.
Speed	By 2027, three quarters of all payments should be available to the payee within one hour and one quarter within one day.		
Access	By 2027, everyone should have access to at least one payment service.		
Transparency	By 2027, all payment service providers must disclose at least the total transaction cost.		

Note: This is a simplified overview. For more detailed information, see source.

Source: <https://www.fsb.org/wp-content/uploads/P131021-2.pdf>.

There has not been a full evaluation of how payments from Sweden contribute to the G20 targets, but previous studies indicate that Sweden is relatively well placed. However, Sweden does not always meet the cost and speed targets. In the Riksbank's publication [Economic Review 2, 2022](#), a study shows that the Swedish cost of card payments abroad often exceeds the target. In the same publication, another study shows

that there are retail transfer services in Sweden that meet the cost and speed targets, but also that there are others that do not or only partially do so. The authors also pointed out that the lack of statistics makes it difficult to assess how well Sweden is contributing to the G20 targets, partly because there are no statistics on which payment services individuals actually use when sending money abroad. The Riksbank's survey on cross-border payments is a step towards improving the statistics. You can read about it in Section 1.3.

Bank transfers within the [Single Euro Payments Area](#) (SEPA) are often more efficient than transfers to countries outside the area. This is because common rules and technical standards have been agreed for euro payments in the area. Even within SEPA, however, there is room for improvement. For example, banks in the area have been slow to start offering instant payments in euro under the [common rules](#) developed for this purpose. This is one reason why the EU wants to make it mandatory for banks offering traditional account-to-account transfers in euro to also offer instant transfers.

The Riksbank works together with the European Central Bank (ECB), among others, to develop the infrastructure needed for rapid and secure payments between Swedish kronor and other European currencies. Making cross-border payments more efficient is also one of the justifications for an e-krona. We describe both these initiatives in more detail in Chapter 3. But the market also needs to accelerate its efforts to create efficient payment solutions that can be used by private persons, companies and associations.

This is because these groups use cash more than the rest of the population and their need for personalised services is greater than that of other groups.

Getting help with payments can also be expensive. According to [the Swedish Consumers' Banking and Finance Bureau](#), a bank customer paying a bill over the counter at a bank branch may have to pay SEK 150 per bill.

Problems with opening and maintaining payment accounts

Having access to a payment account is a prerequisite for making payments in today's digital society. It is needed, for example, for debit cards and Swish. Without a payment account, it is difficult to receive your salary, pay your bills and even access cash. It is virtually impossible for a company to operate without a payment account.

In a [report](#), Finansinspektionen (FI) notes that the number of consumers having their payment accounts closed has increased by 30 per cent between 2020 and 2022. At the same time, banks continue to refuse consumers to open accounts to the same extent as before. FI also notes that the number of companies denied a payment account is slightly higher than the corresponding figure for private persons. As mentioned in Section 2.2, many members of the Swedish Fintech Association have also experienced problems opening or maintaining payment accounts.

While there is no statutory right for companies to open a payment account, the Payment Services Act gives consumers residing in the European Economic Area (EEA) the right to open a payment account with basic functions in all EEA countries, unless there are special reasons to deny the account or it would be contrary to the Money Laundering Act. Most often, banks cite anti-money laundering rules, in particular lack of knowledge of the customer (KYC), as a reason for denying or cancelling accounts to consumers and companies.

Many do not have access to e-identification (e-ID)

Digital payment services often require the payer to be able to identify themselves and confirm the payment with an e-ID. There are several e-IDs in Sweden today, but BankID is by far the most common with around 8.5 million users in 2023. It is the banks that issue BankID and they decide who can access the service and how it can be used. According to estimates by the [Payments Inquiry](#), about one tenth of the adult population does not have access to BankID. This is particularly true for older people.

Physical ID documents, such as passports and driving licences, are issued by the state. There may be several benefits of the state also issuing an e-ID. Firstly, it can ensure that people can identify themselves electronically without being a customer of a bank. Second, a national e-ID can promote competition in the payments market by allowing competitors of banks to use an alternative service for identification when making a digital payment. Thirdly, a national e-ID that can be used for payments could make it easier for individuals to pay in normal circumstances and during disruptions, as there would be an additional option for identification. The Riksbank is therefore in favour of the Government investigating [a national e-ID](#). We elaborate on this in Chapter 3.

New rules can contribute to payments market objectives

In recent years, several legislative proposals in the field of payments have been presented at EU level. Some proposals have already been adopted by the EU and several legislative processes have been launched to put the new legislation in place in EU Member States. The updated and partly new EU legislation can contribute to safer, more efficient and more accessible payments in the future. Below are some of the most important adopted and proposed rules.

In June 2023, the European Commission submitted a single [legislative package for payment services](#). The legislative package is divided into a regulation (Payment Services Regulation) and a directive (Payment Services Directive) which together will replace the currently valid Payment Services Directive and e-Money Directive. In particular, the new legislation aims to strengthen competition, consumer protection and inclusion in the payments market.

In November, the European Parliament and the European Council reached an agreement on the so-called [Instant Payment Regulation](#) (IPR). The regulation is an update of the so-called SEPA Regulation on payments in euro and requires, among other things, that payment service providers offering regular transfers between accounts in euro also offer instant payments. Instant account transfers must not be more expensive than regular transfers and payment service providers should offer solutions for the identification of payees before a payment is confirmed.

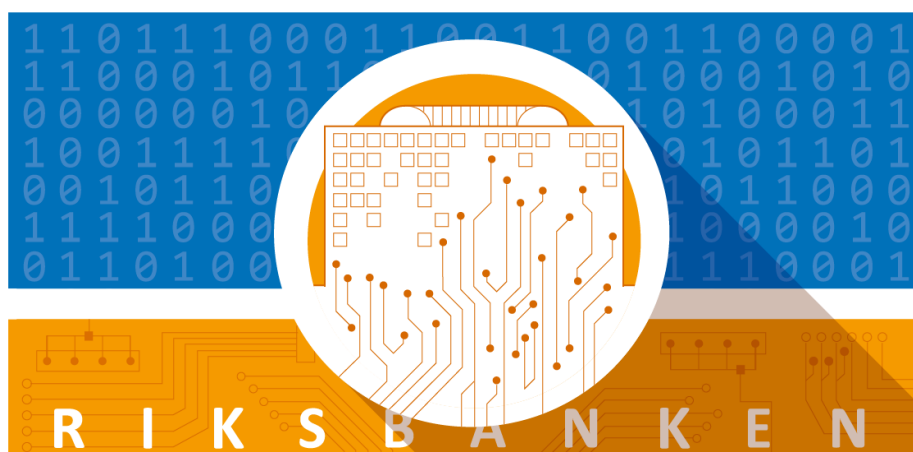
For Sweden, the amendment to the regulation means that banks offering account transfers in euro must offer instant euro transfers. However, the regulation does not affect the possibility of making instant payments in Swedish kronor. It therefore also does not affect Swedish banks or other payment service providers that only offer account transfers in Swedish krona.

[The Markets in Cryptographic Assets Regulation](#) (MiCA) was adopted in May 2023. The regulation regulates who can issue cryptoassets and who can provide cryptoasset services, such as exchanges where crypto can be traded. The regulation also means that anyone who wants to issue cryptoassets and offer services such as providing crypto exchanges needs a licence to do so. There must also be a legal entity registered in the EU issuing the cryptoasset. The MiCA regulation rules will enter into force on 30 December 2024. However, the parts related to stablecoins will already begin to apply on 30 July 2024.

The Riksdag [passed a new act in May 2023](#) aimed at strengthening the accessibility of certain products and services. The act transposes the EU Accessibility Directive into Swedish law and will come into force on 28 June 2025. It covers, among other things, banking and finance and e-commerce services relevant to payments. Such services should be understandable, robust and not have overly complex language. However, several referral bodies have criticised the fact that the directive does not cover cognitive accessibility and that there are too many possibilities to make exceptions to the requirements.

3 The Riksbank's work and policy

The Riksbank's work and policy are based on an economic perspective. We provide solutions and act where it is difficult to achieve safety, efficiency and accessibility without government involvement, including by supplying the country with cash and operating the RIX payment system. However, the state, including the Riksbank, and the private sector need to do more, not least to ensure that everyone can pay, including in the event of peacetime crises and states of heightened alert. This requires, among other things, stronger legal protection for cash payments. For payments to remain safe, efficient and accessible, banks need to continue to prioritise modernising their infrastructure and making their payment services more inclusive.



3.1 Everyone must be able to pay

To enable everyone to pay, banks need to make it possible for more people to have a payment account, including by offering accounts with limited functionality. Banks should also ensure that their services are well adapted to people's different prerequisites and digital skills. The state may also need to do more by providing some payment services, especially to those living in financial exclusion.



More measures are needed to ensure everyone can pay

The Riksbank's assessment is that there are problems with inclusion in the payments market in Sweden. Too many people do not have sufficient access to payment services, which you can read more about in Section 2.3.

Banks must improve access to payment accounts

Some individuals and companies experience problems opening and maintaining payment accounts with banks. Without a payment account, it is very difficult to participate and function in society at all. In order for everyone to be able to pay, the Riksbank considers that more private individuals, companies and associations need to have access to a payment account. This can be achieved by credit institutions offering accounts with limited functionality, such as lower amount or transaction limits, or by strengthening the monitoring of accounts in cases of increased risk of money laundering and terrorist financing.

Banks should provide customised services for people who are not digitally literate

Today's digital society places increasingly high demands on people to be able to make payments digitally. Being able to pay is essential for a functional life. However, in or-

der for everyone to be able to pay, it is important that payment services are also available for those who find it difficult to use digital technology. The implementation of the EU Accessibility Directive, as described in the box “New rules can contribute to payments market objectives” in Section 2.3, is a step in the right direction, but it will not be enough to solve the problems. The Riksbank considers banks and other payment service providers should offer payment services that are adapted to consumers who find it difficult to use digital services. This could be, for example, over-the-counter payments and postal giro, but it could also involve making greater use of technological innovations such as biometrics to carry out payments and identification. It is also important that these services are offered at reasonable prices.

Public sector intervention should be broadened

Regardless of the requirements imposed on banks to provide payment accounts, some people will still be excluded from the digital payments market. The Riksbank therefore considers that the public sector needs to take greater responsibility and offer payment services for those who are unwilling or unable to pay digitally. This can be done, for example, by offering private individuals assistance in making payments at the service offices of the National Government Service Centre or municipal citizen advice bureaux. In the future, it is also possible that universally accessible payment services could be built on a possible e-krona, which you can read more about in Section 3.5.

The Riksbank is also in favour of the [Payments Inquiry](#)'s proposal to change the political objective of everyone having access to basic payment services at reasonable prices to a more technology-neutral wording of the objective to the effect that everyone shall be able to make payments at reasonable costs, regardless of payment method. However, the Riksbank wishes to emphasise that many of the problems in the payments market have arisen because cash has been marginalised without sufficiently good digital alternatives being in place, and many people still find it difficult to make digital payments. Therefore, in order not to impair inclusion in the payments market, it is important that the state continues to support cash services.

The importance of national e-identification

There are several advantages to also introducing a national e-ID, including more people being able to identify themselves digitally, and the Riksbank is therefore positive to the [Inquiry into secure and accessible digital identity](#)'s proposal on how a government authority can design and issue a national e-ID. The inquiry proposes that the national e-ID be issued on a physical card and that only public authorities and private actors in healthcare and education be obliged to accept it. The Riksbank considers that this risks leading to a low level of acceptance, which would make the national e-ID irrelevant in practice. The financial sector should also accept a national e-ID and it should also be available as a mobile app.

3.2 Payments should work even in crisis and war

Since the beginning of 2023, the Riksbank has been responsible for ensuring that the public can continue to make payments in peacetime crisis situations and states of heightened alert. The Riksbank now requires companies to be able to maintain their payment operations. The next step is to work together with companies to strengthen the joint capability. To make the payment system even more resilient, the Riksbank also considers that people need to be able to make card payments and withdraw cash even when data communication is not working to a greater extent than is currently possible.



The Riksbank has been given a clear mandate

The Sveriges Riksbank Act gives the Riksbank responsibility for ensuring that the public can make payments even in times of crisis and war. This responsibility gives us tasks and mandates that will help to gradually strengthen the overall ability to make payments work even in these situations. In practice, this means that the Riksbank must identify which companies are covered and impose requirements on these companies. In addition, the Riksbank shall coordinate both planning for and management of a crisis or war situation. Finally, the Riksbank shall oversee that the companies meet their obligations.

In 2023, the Riksbank adopted [regulations](#) that create guidelines for both companies' own work and the joint work coordinated by the Riksbank. In 2024, the Riksbank will establish the form and focus of the oversight.

New requirements for companies that are important for payments

The Riksbank has developed, secured support for and adopted regulations on payments. The regulations identify which companies are covered and describe requirements for how companies shall maintain their payment operations in times of crisis and war. Requirements for companies to participate in the work led by the Riksbank are also described. The regulations entered into force on 1 February this year.

In the first version of the regulations, the Riksbank has chosen to identify a small group of companies that are crucial to the functioning of payments. In this way, it will be possible to start work immediately on strengthening their ability to deal with peacetime crisis situations and states of heightened alert, while developing and establishing forms of cooperation and work processes. The Riksbank then intends to gradually extend the regulations to more companies. The companies initially covered by the regulations are certain credit institutions, companies providing payment apps, electronic identification and signatures, companies providing payment infrastructure and companies storing, counting and transporting cash.

Focus on increasing the ability to maintain payments

The Riksbank has established a new cooperation structure, Civil Preparedness Payments, for the joint work with the companies covered by the regulations.

The Riksbank provides guidelines and coordinates the work, which entails ensuring that the work fulfils both the requirements imposed on the Riksbank through the Sveriges Riksbank Act, and the requirements imposed on companies via the Riksbank's regulations. To support coordination, the Riksbank has a reference group that includes the companies.

Over the year, the Riksbank will work with the companies to analyse payment flows, risks and vulnerabilities and identify the need for measures. We will also carry out training and exercise activities. In addition, a coordination and information management function has been established, which can be activated in the event of an incident. In the recently published inquiry [A new function for crisis management during serious operational disruptions in the financial sector's digital infrastructure](#) it is proposed that the Riksbank shall be responsible for an operational management function within the civil [preparedness sector](#) 'Financial services'. This would require the Riksbank's management function to be extended to cover the entire civil preparedness sector, and not be limited to the payments area.

The possibility to pay offline needs to be improved

The Riksbank considers that the resilience of the payment system would be strengthened by improving the ability to pay by card and withdraw cash even when data communication is not working. The [Payments Inquiry](#), presented in March last year, included a proposal for a state credit guarantee for merchants to facilitate offline purchases of essential goods in peacetime crises or states of heightened alert. The Riksbank considers this to be a step in the right direction and will in future take a leading role in the work to improve the possibilities of making offline payments. The Riksbank

will convene relevant actors in the private and public sectors to contribute to the work.

Exemption from the cash register requirement needed to be able to pay cash in times of crisis and war

The Riksbank is in favour of the [Payments Inquiry's](#) proposal that it should be possible to make exceptions from the requirement to use cash registers in a peacetime crisis or state of heightened alert. This would increase the possibility of paying by cash in such situations. Under current legislation, merchants must be able to record all purchases in a cash register and offer the customer a receipt, which means that they cannot accept cash without breaking the law if their cash register system is not working.

3.3 Modernisation of the payment infrastructure necessary

The Riksbank is working to modernise its payment system RIX. As a result, more payments can now go through RIX, which improves both security and efficiency. The Riksbank is also investigating whether more participants can gain access to RIX in order to increase competition in the payments market, and is working to make cross-border payments faster. Banks need to prioritise the modernisation of the private payment infrastructure, in particular Bankgirot, and adapt their systems and services so that more payments can be as fast as Swish.



The Riksbank is modernising RIX

Apart from card payments, almost all digital payments between banks go through accounts they hold in RIX. The RIX system consists of two services: RIX-RTGS for wholesale payments and aggregated payments and RIX-INST for individual instant payments.

RIX-INST creates more opportunities for instant payments in Sweden

Previously, instant payments made in the Swish mobile app were handled in Bankgirot's system, but since February this year, the payments go instead through RIX-INST. There are several advantages to Swish payments having moved into RIX-INST, including that transfers between two different banks now take place between the banks' accounts with the Riksbank. This reduces risks because the Riksbank cannot go bankrupt, among other reasons. You can read about other benefits of RIX-INST in [Payments Report 2022](#).

As of November this year, banks connected to RIX-INST will have to be able to accept instant payments from other participants in the system according to a [rulebook](#) developed by the Nordic Payments Council. This also allows a bank connected to RIX-INST

to develop new payment services where its customers can send instant payments to accounts in other banks connected to the system. However, there is no obligation for the banks in RIX-INST to offer their customers such services.

RIX-INST can help speed up payments in Europe

RIX-INST uses the technical platform TIPS, which is the European instant payment system. Together with the European Central Bank, Banca d'Italia and Danmarks Nationalbank, the Riksbank is investigating whether it is possible to make instant payments between different currencies connected to TIPS, which today are Swedish kronor, euro and, from 2025, also Danish kronor. In 2023, preparations began for a pilot project with banks from the euro area and the Nordics.

Such a service would provide a basic infrastructure for instant payments between European currencies. However, it would be up to banks and other payment service providers to develop the actual payment services that private individuals and companies can use and ensure that they work with the corresponding payment services in the other countries.

The Riksbank is examining platform-sharing for wholesale payments and securities

The Riksbank is investigating whether the Eurosystem's T2 platform could be used for wholesale payments between, for example, banks in Swedish kronor and also whether T2S could be the platform where the Riksbank provides central bank money for securities settlement in Swedish kronor in the future.

The benefits of platform-sharing include sharing the costs of development, operation and security and facilitating payments and securities trading between countries. However, these advantages must be weighed against the fact that the Riksbank would also have to share influence and control over the platforms with the other affiliated central banks. Sharing a platform with other central banks must not limit the Riksbank's ability, for example, to conduct an independent monetary policy. During the summer of 2024, the Executive Board of the Riksbank will decide whether the Riksbank will enter into negotiations with the Eurosystem to join the T2, T2S or both platforms.

Investigate whether more actors can have access to RIX

For payments to be efficient, it is important that there is effective competition between operators offering payment services. Under current legislation, only credit institutions, i.e. banks and credit market companies, can have direct access to payment systems such as RIX and Bankgirot's clearing and settlement service. Upcoming [EU legislation](#) opens up the possibility for payment institutions and e-money institutions to have direct access to payment infrastructures such as infrastructure. This can improve competition and also help to shorten transaction chains, as fewer operators will need to use intermediaries to process payments.

The Riksbank is in favour of the new legislation and is investigating the conditions for opening up RIX to more types of participants. However, widening the scope of participation must be balanced against potential stability and security risks.

RIX-RTGS to migrate to a new standard for payment messages

The Riksbank is working on adapting RIX-RTGS payment messages to ISO 20022, which is an international “language” for payment messages. The transition to the new standard will be finalised in 2025. RIX-INST is already adapted to this message standard. You can read more about the transition to ISO 20022 in the [Payments Report 2022](#).

The bank-owned payment infrastructure is facing major changes

Banks’ infrastructure needs to be modernised

The Riksbank assesses that the bank-owned payment infrastructure, particularly Bankgirot, needs to be modernised and that the banks need to prioritise this. The Riksbank is therefore positive to Bankgirot being given a clear mandate by its owner banks in September 2023 to ensure a functioning Swedish payment infrastructure in both the short and long term. The banks need to ensure that Bankgirot is given the prerequisites to develop and has staff with the necessary technical expertise.

In a modern and secure infrastructure, Swedish payments need to be harmonised with European standards to increase safety and efficiency throughout the payment chain. All participants in the Swedish payments market - banks, payment institutions, clearing organisations and settlement systems - need to be able to manage payments according to the regulatory framework that the [Nordic Payments Council](#) (NPC) has developed together with the market. NPC’s regulations should in turn follow European regulations as far as possible, partly to facilitate payments between Sweden and other EU countries.

Access to the private payment infrastructure should be evaluated

Upcoming EU legislation opens up the possibility for payment institutions and e-money institutions to have direct access to payment infrastructures such as RIX and Bankgirot’s clearing and settlement service. The owners of the private payment infrastructure, especially Bankgirot, should therefore investigate the conditions for giving more operators access to their infrastructure in the same way as the Riksbank does with RIX. Services such as Swish and Autogiro (direct debit) should also be open to different types of operators unless there are good reasons to restrict access.

More payments need to become instant

The Riksbank assesses that instant payments can contribute to a more efficient payment system, as described in Section 2.2. The Riksbank therefore considers that more payments, in addition to Swish payments, should be able to be made instantly, such as ordinary account-to-account transfers initiated through internet or mobile banking. This would stimulate competition and create opportunities for payment service providers to develop more services for individuals and businesses, including through open banking. The Riksbank has enabled the banks to offer this type of payment service through the RIX-INST system.

At EU level, new legislation has been agreed to enable more euro payments to be made instantly, which you can read more about in the box “New rules can contribute to payments market objectives” in Section 2.3. The Riksbank considers that a similar regulation could be relevant in Sweden to support the development towards more instant payments in Swedish kronor. At the same time, it is important to manage and mitigate potential fraud and money laundering risks that may arise if more payments are made instantly. The Riksbank will analyse the need for legislation and considers that the Riksdag and the Government should also examine the issue.

3.4 More measures needed to protect cash

People must be able to pay with cash, both in normal circumstances and in crisis and war situations. To avoid a situation where cash is no longer usable, the Riksdag needs to urgently regulate where and how it can be used. The Riksdag and the Government also need to consider how the basic infrastructure for cash can be maintained. If these decisions are delayed, there is a risk that cash will become almost unusable as a means of payment in the near future.



The Riksbank's responsibility for cash has been clarified

The new Sveriges Riksbank Act, which came into force on 1 January 2023, gives the Riksbank clearer and partly expanded responsibility for the cash infrastructure in Sweden. One reason for giving the Riksbank this responsibility is that it is becoming less and less profitable for the private sector to maintain the cash infrastructure as fewer and fewer use cash. You can read more about this in the Section 2.1.

According to the new act, the Riksbank must operate at least five banknote depots in different parts of the country. Since 1 January 2023, the Riksbank has operated depots in Märsta, Jönköping and Umeå. By 1 January 2026, the Riksbank will have opened two more depots, one of which will be in the county of either Jämtland or Västernorrland. According to the new act, the Riksbank shall also monitor, analyse and, if necessary, coordinate cash management in Sweden. In addition, the Riksbank shall regularly report its monitoring to the Riksdag Committee on Finance. The report to the Committee on Finance consists of [the Riksbank's annual report](#). You can read more about what the new Sveriges Riksbank Act entails in [The Riksbank gets clearer responsibility for cash | Sveriges Riksbank](#).

More types of companies can collect and deposit cash at the Riksbank

Since 1 May 2023, new regulations apply to which companies may collect and deposit cash in the Riksbank's depots. Previously, only banks and bank-owned companies could sign the necessary agreements, but now payment institutions with counting activities can also do so, which has led to Loomis Sverige AB signing such an agreement with the Riksbank. This can contribute to more efficient cash supply and redundancy in the system, as there are then more participants who can collect and deposit cash at the Riksbank if one of them experiences problems.

Further measures are required to preserve cash

In recent years, the Riksdag has taken several decisions aimed at facilitating the use of and securing access to cash. Among other things, the Riksbank has been given clearer responsibility for the cash infrastructure. Some banks are now obliged to offer cash withdrawal points where companies and associations across the country can deposit their daily takings. The banks fulfil this obligation mainly through the company Bankomat AB. This is a positive step forward, but not enough to ensure that cash can be used in normal circumstances as well as in a crisis situation or state of heightened alert.

To ensure that cash can be used in practice, the Riksbank considers that more measures are needed. If the Government and the Riksdag wait to introduce more of the measures proposed by the Riksbank, we risk further impairing the possibility of using cash so that it becomes almost unusable as a means of payment in the longer term. By acting quickly, we can slow down this trend.

Introduce legislation to protect the possibility to pay with cash

Cash is needed to enable everyone to pay and to provide an additional means of payment in the event of crisis or war. The Riksbank therefore considers that there should be a general obligation for merchants to accept cash for purchases of essential goods and services such as food, pharmaceuticals and fuel. New legislation is urgently needed to require merchants to accept cash for these types of goods. In a [consultation response](#) to the Payments Inquiry, the Riksbank has submitted a proposal for a legislative text to the Government, which will hopefully speed up the political process to strengthen the position of cash. The Riksbank is therefore in favour of the Government setting up an [inquiry into the possibility of paying for essential goods in cash](#). The inquiry started in February and will report by 31 December this year.

Cash has stronger protection in our neighbouring countries

In Sweden, cash is legal tender, but this does not mean that consumers have the right to pay with cash in all situations. The possibility to pay with cash can be waived and there is no legal obligation for business operators to accept cash. However, in our neighbouring countries and in the EU, cash has stronger legal protection.

Under Danish law, both private business operators and public institutions are generally obliged to accept cash for payments between 06:00 and 22:00. However, there are exceptions to this obligation, e.g. for payees in areas with an increased risk of robbery or for payments that are subject to the cash ban provisions of the anti-money laundering regulations. Norwegian legislation also contains provisions whereby a consumer is, as a general rule, entitled to pay in cash.

In the euro area, the European Commission has proposed stronger protection for the possibility to use cash. Member States, according to the [proposed regulation](#), must ensure sufficient availability of cash and monitor that the level of cash acceptance is sufficiently high.

Introduce an obligation for banks to accept consumers' deposits

For cash to be useful, it needs to be easy to withdraw it from and deposit it into an account. Currently, there is no requirement for banks to offer deposit facilities to private persons, which means that such facilities risk deteriorating further if nothing is done. The Riksbank therefore considers that the banks' obligation to provide cash services needs to be extended to cover private persons' deposits, including coins. In the [consultation response](#) to the Payments Inquiry, the Riksbank has submitted a proposal for a legislative text to the Government, which will hopefully speed up the political process of introducing an obligation for banks to accept consumer deposits.

Amount limits for daily takings deposits need to be at a reasonable level

Increasingly, deposit machines are the only places where companies and associations can deposit daily takings, and there are indications that companies feel that the maximum amount for deposits in these machines is low. You can read more about this in the Section 2.2. In order not to make it more expensive and more difficult for companies and associations to accept cash, banks should set individual limits that are reasonable in relation to the cash income of the company or association. Companies and associations must also be able to deposit coins into an account. If nothing is done, even more of them may stop accepting cash.

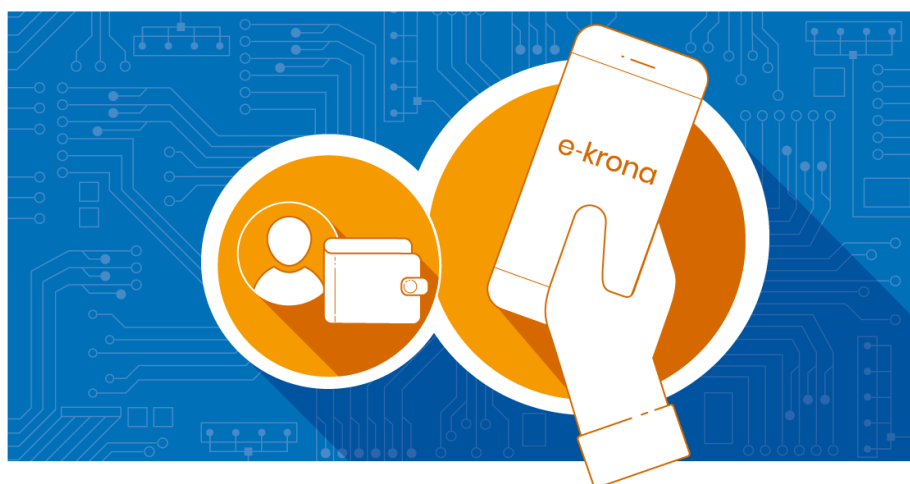
The cash infrastructure must be secured

The cash infrastructure is vulnerable, as explained in Section 2.1. This applies above all to the part of the infrastructure currently maintained by Loomis Sverige AB, in particular the transport of cash to and from individual companies. The Riksbank considers

that the Government should give [The inquiry into the possibility of paying for essential goods with cash](#) an extended remit. The Inquiry Chair should make proposals to clarify the division of responsibilities between banks and the public sector, including how cash-in-transit services to and from stores is to be maintained and financed when cash is used less frequently and it is therefore more difficult to offer such services on a commercial basis.

3.5 Work on the e-krona continues

The Riksbank's work on an e-krona continues. An e-krona can be part of a long-term solution to the challenges of digitalisation. Furthermore, an e-krona would mean new payments infrastructure, which could solve certain problems concerning competition, cross-border payments, and preparedness while it could promote innovation at the same time. The work on the technical e-krona pilot has been concluded and the Riksbank is now focusing on fundamental design and policy issues for a possible e-krona. In addition, the legislative work needs to start now so that the lead time is not too long if the Riksdag decides that the Riksbank may issue an e-krona. At the same time, the Riksbank continues to play an active role in the international cooperation on central bank digital currencies.



The e-krona as part of a long-term solution to the challenges of digitalisation

The Riksbank assesses that there are problems on the payments market and that many of them have arisen due to digitalisation. For example, digital payments are vulnerable to disruptions. There are also challenges in achieving effective competition in the payments market and ensuring that everyone can pay. The Riksbank also considers that certain types of payments, particularly instant payments and cross-border payments, are not sufficiently developed and efficient at present. In addition, digitalisation has meant that the public's ability to use state-issued money is deteriorating, due to fewer and fewer business operators accepting cash. The Riksbank therefore considers that a long-term solution to these challenges is needed and that an e-krona can be part of that solution for the following reasons.

- **An e-krona can give the public continued access to state money in a digital world.** When making payments, the public can currently choose between state money, i.e. cash, and private money, which is now mostly held in bank accounts. An e-krona ensures that the public continues to have this choice even in a situation where cash is not widely used.
- **An e-krona can strengthen the resilience of the payment system.** An e-krona based on its own infrastructure and combined with some offline features could make the payment system more robust and resilient. For example, an e-krona could work when other payment methods do not.
- **An e-krona can improve competition.** The distribution of e-krona would be based on private-public cooperation. The Riksbank would provide the technical platform, while private operators would develop e-krona services and manage the contact with end users. An important part of this is that non-bank players would be able to distribute e-krona and thus offer payment services that they cannot offer today.
- **An e-krona can be a tool to strengthen inclusion.** A properly designed e-krona can help bring more people into the payments market. This includes people who are currently digitally excluded or who, for various reasons, do not have a bank account. However, it is based on the fact that the e-krona has a simple and intuitive form and that it is possible to access an e-krona wallet even for people without a bank account.
- **An e-krona can improve cross-border payments.** Many central banks are exploring central bank digital currencies. A key motivation for the international work is to enable the interconnection of different national central bank digital money systems to facilitate cross-border payments and make them cheaper and more efficient.

Focus on fundamental design and policy issues concerning a possible future e-krona

In February 2020, the Riksbank began development work together with a technical supplier who developed a platform where the Riksbank has been able to test various functions for a potential e-krona. This part of the e-krona project was called the [e-krona pilot](#). Within the framework of the e-krona pilot, the Riksbank has tested offline functions, conditional payments and payments between different currencies. The Riksbank has also [gathered information from the market](#) to get a better picture of other technical solutions for central bank digital currencies than the one used for the e-krona pilot.

In autumn 2023, the e-krona pilot ended and the Riksbank shut down the technical e-krona platform. However, the Riksbank's work on fundamental design and policy issues for a possible future e-krona continues. This work includes looking at which laws need to be changed at the same time as the work on communicating the Riksbank's view of how an e-krona should be designed is being intensified. The work is based on the ongoing international work on digital central bank currencies, not least the ECB's work on a digital euro, which you can read more about in Section 1.4.

The Payments Inquiry examined the need for an e-krona

The [Payments Inquiry](#) was tasked with considering whether an e-krona is needed in Sweden. The inquiry's assessment was that there is currently insufficient social need for the Riksbank to issue an e-krona. At the same time, the inquiry considered that the Riksbank should continue to evaluate the conditions for issuing an e-krona so that it is possible to introduce an e-krona within a reasonable time if the Riksdag takes such a decision. The inquiry also assessed that the need to introduce an e-krona may increase if the ECB issues a digital euro. You can read more about the work on a digital euro in Section 1.4.

Important to prepare legislation prior to an e-krona

Legislative work on a possible e-krona needs to begin now. Otherwise, the lead time for the introduction of the e-krona could be long if the Riksdag decides to authorise the Riksbank to issue one. The European Commission published a legislative proposal for a digital euro in June 2023 and the European Central Bank has decided to move forward with its preparations for a digital euro. This accelerates the need for Swedish legislation to be adapted for a possible e-krona. The Riksbank therefore intends to submit proposals on which legislation may need to be amended prior to the issue of a possible e-krona.

Glossary

API: Abbreviation for Application Programmable Interface, which is a specification of how different computer programmes can communicate with each other. Enables, for example, fintech companies to connect to banks' systems and collect a customer's account information from different banks or initiate a payment from the customer's bank account.

Banknote depot: Physical storage premises for banknotes.

Basic payment services: Services that allow you to pay bills, withdraw cash and deposit daily takings into your account.

Buy-now-pay-later (BNPL): A payment option offered in e-commerce which is basically a credit, i.e. the option of purchasing a good and paying for it afterwards. Usually the consumer does not pay any interest or fees as long as they pay on time.

Card acquirer: A financial institution that processes card payments on behalf of companies. The card acquirer enables companies to accept card payments from card issuers within a card scheme.

Card company/card network: The legal entity that owns the regulatory framework and product name of a card service (e.g. Visa and Mastercard).

Card issuer: A financial institution that issues debit and credit cards, i.e. where the cardholder's account is held.

Cash register: A cash register, cash terminal, cash system or similar equipment for recording the sale of goods and services against payment by cash or card.

Cash services: Cash services consist of withdrawals, deposits and cash payment services such as over-the-counter bill payments.

Central bank digital currencies (CBDC): Digital money created by central banks. 'Retail CBDC' is intended for the public, while 'wholesale CBDC' is intended for financial institutions. See also *Central bank money*.

Central bank money: Money issued by a central bank. Swedish central bank money is Swedish kronor in the form of banknotes and coins as well as money in accounts in the Riksbank's payment system, RIX.

Clearing: Compilation and processing of payment instructions. Many transactions are generally handled at the same time (a so-called batch), which means that they can sometimes be offset against each other.

Clearing organisation: A company authorised by the supervisory authority (in Sweden, Finansinspektionen) to carry out clearing. In Sweden, Bankgirot is authorised to carry out clearing of retail payments.

Cognitive accessibility: Factors that influence how a person can understand a service or how information should be interpreted.

Conditional payments: A payment that is only made if a specific condition is met.

Credit card: A card that allows the cardholder to obtain credit. The card allows the holder to make payments up to a certain total maximum amount during a certain period. The payments are collected and invoiced to the cardholder at the end of the period, but the cardholder does not have to pay the full invoiced amount at the payment date. The part that the cardholder chooses not to pay is rolled over to the next period as a loan (credit) and usually the person then has to pay interest.

Cryptocurrency/cryptoasset: Digital currencies created in the private sector that are not backed by a state or central bank. Central banks generally refer to cryptocurrencies as cryptoassets because they usually do not fulfil the basic functions of money.

Debit card: A card linked to the cardholder's account at a bank, from which the amount paid is directly debited when a payment is made. Debit cards are also called bank cards in Sweden.

Direct debit: A pre-authorised transfer from the paying party's account to the payee's account. The payee initiates the transfer.

Distributed ledger: Process to validate, record and transmit information about, for example, a payment in a decentralised network.

Economic cost: The time and other resources used for payments in this case that could have been used for other purposes and thus represent costs to society.

Economies of scale: Economic term for production in which the average cost decreases as production increases. Economies of scale normally occur when production is associated with large fixed costs.

E-invoice: An invoice that is presented to the payee in their online bank and makes it easier for the customer to pay.

E-krona: A central bank digital currency that may be issued by the Riksbank and that would be available to the public (a so-called 'retail CBDC'). The Riksbank has not taken any decision on issuing an e-krona. See also *Central bank digital currency*.

E-Money Directive: The Electronic Money (e-money) Directive is a European directive that regulates, inter alia, the business activities of EU/EEA e-money institutions (e-money institutions) and other e-money issuers.

Electronic money institution: E-money (an electronically stored monetary value for making payments) is issued by electronic money institutions or companies registered as electronic money issuers. Like private bank money, electronic money represents a claim on the issuer (private institution).

Essential goods: Essential goods include medicines, food and fuel.

EU Regulation: Legislation under EU law that is directly binding on Member States without having to be transposed into Swedish law.

EU Directive: Legislation under EU law that determines the objectives to be achieved by Member States. An EU directive is legally binding, but Member States are free to decide how to transpose it into national law. In Sweden, the directives are implemented through Swedish legislation.

Finality Directive (Directive 1998/26/EC of the European Parliament and the European Council concerning payment and securities settlement systems): Aims to prevent or minimise legal risks in settlement in the financial market. The Directive ensures that transactions are carried out in the order in which they were submitted to the system and also that they are finally settled, regardless of whether a participant has become insolvent in the meantime. Among other things, the Directive governs which participants can access designated settlement systems, including central banks' RTGS systems such as RIX in Sweden.

G20 countries: An informal association of nineteen countries and the European Union (EU). In 2023, it was decided that the AU (African Union) will become a permanent member, which may change the group's name to G21 instead of G20.

Hawala intermediaries: Money intermediaries that together form a large network that acts as an alternative value transfer system, including for cross-border payments.

Heightened state of alert: A level of preparedness that the Government can decide on to strengthen Sweden's defence capabilities. This can happen, for example, in the case of wars and conflicts in our vicinity, or if the international situation seriously affects our country or threatens our security and independence.

Identity data: Data confirming the user's identity. In the case of a payment, this may include the account or card number, PIN code or the personal code for signing an e-ID.

Instant payment: A payment that can be made around the clock and reaches the payee's account within seconds. Swish is currently the only service offering instant payments in Sweden. For other digital payments, such as card purchases, funds are reserved in the payer's account but the actual transfer is normally carried out on the next working day.

ISO 20022: New standard for payment orders that can help make cross-border payments faster, more efficient and more transparent.

Know your customer (KYC): Statutory requirement for companies to have good knowledge of their customers and their business activities. The aim is to hamper and prevent the use of such activities for money laundering or terrorist financing.

Legal tender: The Sveriges Riksbank Act states that banknotes and coins issued by the Riksbank are legal tender. As a general rule, this means that everyone is obliged to accept banknotes and coins as a means of payment. But there are exceptions. There is no contractual obligation to pay or accept cash between individuals or between traders and consumers. As a result, many business operators choose to opt out of this obligation.

Money laundering: When someone tries to get money that has been illegally obtained to appear legally acquired.

Network effects: When the benefits of a product or service increase with the number of users. For example, a payment service is usually more attractive the more sellers that accept payments through the service.

Offline payment: When a payment is executed despite the unavailability of at least one actor involved in the payment.

Open banking: When third-party service providers access data from the customer's bank in order to provide different types of financial services, such as initiating a payment from the customer's bank account.

Payment infrastructure: The systems that, among other things, enable financial flows between different actors. The payment infrastructure also includes the regulations and procedures governing the use of the systems.

Payment institution: A Swedish limited liability company or economic association authorised under the Payment Services Act to provide payment services. This may also be a legal entity domiciled in another EU/EEA country that, under that country's legislation, is authorised to provide payment services. See also *the Payment Services Directive* and *payment service provider*.

Payment instrument: The instrument or routine used to initiate a payment, such as a card.

Payment process: All of the stages a payment has to go through to be completed, such as initiation, clearing and settlement.

Payment service provider: A collective term that includes banks, credit market companies, payment institutions, registered payment service providers, institutions for electronic money, state agencies and municipal authorities, central banks and the foreign equivalents of these categories that provide payment services in Sweden.

Payment Services Directive (PSD): The Payment Services Directive is a European directive that regulates payment services and payment service providers within the EU/EEA. The Payment Services Directive has been replaced by the Second EU Payment Services Directive (PSD2). See also *PSD2*.

Peacetime crisis situation: An event in peacetime that threatens fundamental functions and values of society, such as electricity supply, human health or freedom. It may be that a large number of people are affected or that an event has such major consequences that society does not function properly.

Postal giro: A service that allows you to pay bills by post, for example.

PSD2 (EU's second Payment Services Directive): The PSD2 has replaced the PSD (Payment Services Directive). The aim of the Directive is to develop the market for electronic payments and create better conditions for secure and efficient payments. The PSD2 has been implemented into Swedish statutes through amendments to the Payment Services Act. This extended the scope of the law to include so-called third-party payment service providers.

Recurring card payments: Recurring card payments are used, for example, to pay for various types of subscription services such as streaming services and newspaper subscriptions, where consumers register their card once and the payment is then deducted at a certain interval, often monthly.

Remittance: Usually refers to money sent by migrants to family and friends in another country.

Reservation purchase: When buying fuel at a petrol station, for example, a fixed amount is reserved from the card used to pay, before refuelling can start. A standard

amount may appear on your online banking statement a few minutes after refuelling, but is later adjusted to the actual amount you have refuelled.

Retail payment: A payment of small value that is usually made between private individuals, companies and authorities. Traditionally, retail payments are defined as all payments that are not wholesale payments. See also *Wholesale payment*.

RIX: The Riksbank's central payment system that processes payments to and from the banks' accounts with the Riksbank. The Riksbank functions as the banks' bank for payments in Swedish kronor. RIX consists of two services: RIX-RTGS (for wholesale payments and aggregated payments) and RIX-INST (for individual instant payments).

Securities settlement: The exchange of money and securities between buyers and sellers of securities.

SEPA (Single Euro Payments Area): A common euro payment area consisting of the whole EEA. The basic principle is that within the SEPA there should be no borders when making a euro payment; it should be no more complicated or costly to make a payment from Berlin to Hamburg than from Berlin to Paris.

Settlement: When a payment is finalised, it is settled. For payments within a bank, this is when the transfer is made between accounts. For payments between banks, this is when the money has reached the receiving bank.

Settlement system: The technical system used to initiate and record a completed payment, known as settlement. RIX is the Riksbank's settlement system for wholesale payments where credit institutions, clearing organisations, the Riksbank and the Swedish National Debt Office complete payments between each other. See also *Settlement*.

Social engineering: The use of various psychological techniques and methods to manipulate people into performing various actions.

Spoofing: A type of fraud where fraudsters call and use the real phone numbers of banks, authorities and organisations.

Stablecoin: A form of cryptoasset whose value is tied to the value of other assets, such as one or more national currencies or other financial assets. Stablecoins have mainly been used as a bridge between national currencies and investments in other cryptocurrencies.

Strong customer authentication: A customer must be able to identify themselves with at least two of the following elements when making digital payments or logging in to payment accounts: knowledge (something that only the user knows, such as a password or PIN) possession (something that only the user has, such as a card or phone) or a unique characteristic (something that is unique to the user, such as a fingerprint).

SWIFT: A global network for financial messages that complies with certain standards. Central banks, banks and financial infrastructures use the SWIFT network and its format and standard to execute payments.

Swish: A payment service that enables instant payments between bank accounts where account numbers are linked to mobile phone numbers. Swish is usually used via mobile phone or in e-commerce.

T2: Eurosystem's platform for settling wholesale payments. *See also Settlement.*

T2S: Eurosystem's platform for settling security transactions. *See also Settlement.*

TIPS (Target instant payment settlement): The Eurosystem's platform for instant payments that the Riksbank will use to offer instant payments through RIX-INST.

Trust accounts: An account held by a company on behalf of a customer for the purpose of receiving and holding money, known as accounting funds, for someone else. The account is used to separate a customer's money from the company's own funds. Used, for example, by some payment service providers and real estate agents.

Unauthorised transaction: A transaction carried out without the consent of the account holder or any other person authorised under the account agreement to use the payment instrument.

Vulnerable areas: Defined by the police as geographically defined places of low economic status where criminals have an impact on the local community. These areas usually have a higher proportion of population with foreign background than the national average.

Wholesale payment: A payment, usually at a very high value, mainly made between banks or other participants in the financial market, which normally requires rapid settlement.



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