SPEECH

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SPEAKER: Deputy Governor Cecilia Skingsley

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The central bank in an innovative and fast-paced world[1]

On 22 July 1668, a Stockholm court sentenced a bank director to death. The bank director's name was Johan Palmstruch, and he was the founder of the first bank in Sweden, Stockholms Banco. A few years earlier, Stockholms Banco had suffered an acute liquidity shortage when a confidence crisis arose regarding the banknotes issued by the bank. When the bank was unable to pay its depositors, it was simply taken over by the then Riksdag of the Estates, and later became the precursor to Sveriges Riksbank. Palmstruch was thus condemned to death unless he reimbursed the bank's creditors, which he of course was unable to do. The Council of the Realm eventually converted the death sentence into a prison sentence. And later, after the Chancellor Magnus Gabriel De la Gardie rushed to the defence of the deposed banker, Palmstruch was finally granted a pardon. De la Gardie also happened to be one of the bank's largest borrowers. It was possibly the Chancellor's guilty conscience that made him advocate milder treatment of Palmstruch. Not long after he was released, more precisely on 8 March 1671, Palmstruch died of natural causes.[2]

A banking crisis every thirty years

With this historical retrospective, I would like to remind you that as long as there have been banks, there have also been financial crises. And when financial crises have arisen, the state has often had to rush to the rescue in one way or another. In Sweden alone, severe banking crises have occurred no less than nine times in the past 250 years.[3] This entails, on average, one crisis every thirty years.

[1] Thank you to Johan Molin, who has helped me write this speech. Valuable comments were received from Mats Anderson, Christina Nordh Berntsson, Sara Edholm, David Forsman, Mattias Hector, Martin W. Johansson, Gabriel Söderberg and Anders Vredin.
[2] See Wetterberg (2009).
[3] See, for example, Hagberg (2007).

This speech is about how Sweden can counteract and mitigate the effect of such crises, and not least the significance of having an appropriately-designed foreign currency reserve to succeed in this. Johan Palmstruch's banknotes were an innovation in their day, but now, 350 years later, we in Sweden are heading towards a cashless society, primarily due to new financial technology in the payments field. What this and some other development trends may entail for society and for the Riksbank is the subject of my speech today.

The banks' business models entail risks

What is so special about banks that the government sometimes intervenes to counteract banking crises? Nothing like this happens when, for instance, a manufacturing or construction company collapses.

The reason is that a crisis in a bank can very quickly spread to the rest of the financial system, which can in turn have very costly consequences for the economy as a whole. I shall explain how this comes about.

The banks' traditional business model is to function as an intermediary between, on the one hand households and companies needing credit to buy homes or to get business projects started, and on the other hand households and companies wanting to hold money in accounts for transactions or savings. The banks thus help to transform savings into investment in the economy and contribute to more efficient mediation of payments. This is of course beneficial to the economy as a whole. At the same time, this business model entails significant risks. To put it simply, this is because the bank's assets consist of long-term loans that cannot be quickly and easily converted into cash, while the bank's funding is largely short-term and volatile. Normally, this does not entail any problems, but if for some reason doubts were to arise with regard to the bank's ability to pay, the funding could be withdrawn very quickly, and the bank could be forced to default on its payments.

Problems in one bank can have serious domino effects

As the banks are often interlinked with one another and often have similar types of exposure, problems in one bank can very quickly have serious domino effects in the rest of the financial system. Financial crises have arisen on many occasions through history, and not least the extensive financial crisis the world experienced 2007-2009 reminds us that financial crises can be extremely costly and that government measures can sometimes be necessary to stave off a total meltdown in the economy.[4] Some banks are quite simply "too-big-to-fail".

It is in the light of the banking system's inherent instability, combined with its significance for the economy as a whole that we should regard the need for special supervision, regulation and other measures to make the system more

[4] See, for example, Reinhart and Rogoff (2009).

robust. As I mentioned in the beginning and I shall soon develop further, this is one reason why we need a central bank with an appropriated foreign currency reserve.

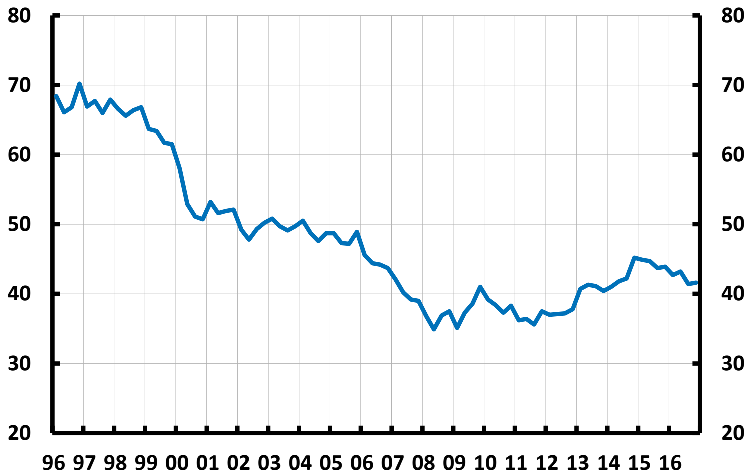
In Palmstruch's day, it was the depositors who rushed to the bank and caused a liquidity crisis. Unlike the 17th century, there is now in most parts of the world some form of obligatory protection for depositors' money, a deposit guarantee. This reduces the risk that a bank's depositors will rush off and empty their accounts if the bank's financial strength is suddenly called into question. The fact is that deposits from private individuals are now usually regarded as the banks' most stable source of funding. But then we should know that the banks have for a long time also funded themselves through short-term and volatile borrowing on the international capital markets.[5] I shall develop this a little further soon.

What is the situation in the Swedish banking system?

The Swedish banking sector is large and cross-border. In January 2017, the Swedish banks' balance sheet total amounted to approximately SEK 17,000 billion. This is a figure that is rather difficult to grasp. It corresponds to four years' worth of Swedish GDP. Everyone understands that a crisis in the Swedish banking system can become extremely problematic and also very costly to manage.

Of course, the comparatively low sovereign debt in Sweden means we have greater room for manoeuvre in a crisis than many other countries.

Comparatively low national debt in Sweden today



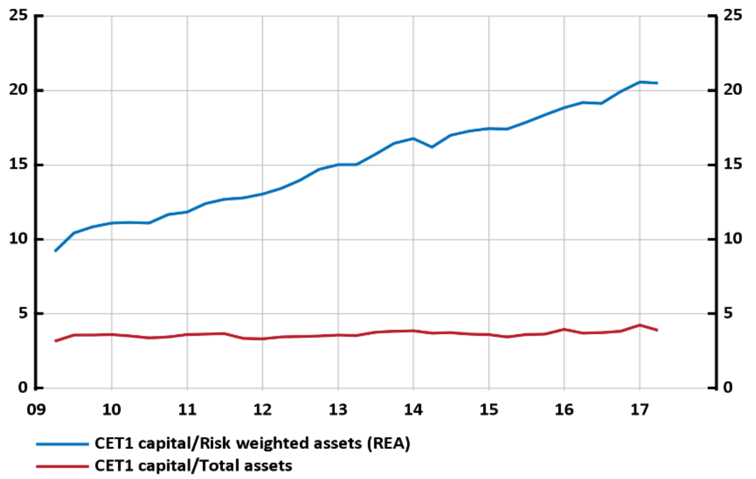
Note. Sweden's national debt in relation to GDP, Maastricht definition. Source: Eurostat

[5] The design of the Swedish pension system, with a large share of collective savings in the form of funded allocations within the occupational and premium pension systems, is one factor that may have had an impact on the banks' financing structure. See Nilsson et al. (2014).

If one looks at the Swedish banks' capital adequacy ratios as a percentage of their risk-weighted assets, they appear to be very well-capitalised. But then one must remember that the explanation for these capital ratios looking so good is largely because the banks use low risk weights in their internal risk models. If one instead looks at the non risk-weighted capital adequacy, the picture is different.

The so-called leverage ratio is almost at the same level as prior to the financial crisis. The risk of a new financial crisis is thus certainly not eliminated, and we should make higher demands of the banks regarding capital, so that the banking system becomes more robust and can better withstand a crisis.

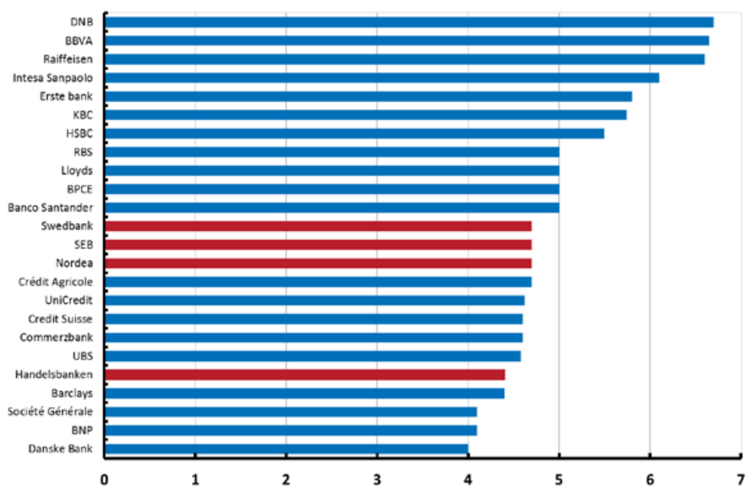
The major banks' risk-weighted capital adequacy ratios are relatively high, but the leverage ratios are at almost the same levels as prior to the financial crisis…



Note. Per cent. The major Swedish banks' core capital ratios, the risk-weighted compared with non risk-weighted. Weighted average.

Sources: The banks' interim reports and the Riksbank

...and relatively low in an international perspective



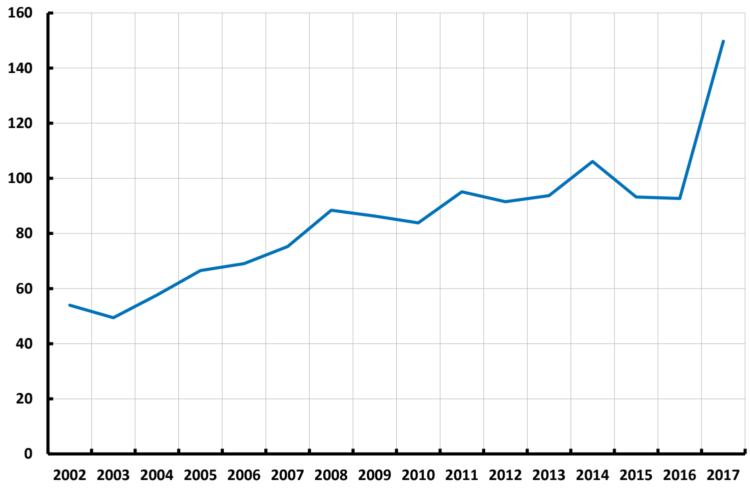
Note. Per cent, March 2017. Leverage ratio for European banks. Calculated according to the applicable definition in Basel III.

Sources: SNL Financial and the Riksbank

The Swedish banks are dependent on foreign funding.

I mentioned earlier that banks around the world are using funding from abroad to an increasing extent. So what about the Swedish banks? Well, the Swedish banking system's funding in foreign currency currently amounts to around 150 per cent of GDP, which is three times as much as at the beginning of the 2000s.

The Swedish banks are dependent on foreign funding



Note. Per cent. Swedish banking system's foreign funding in relation to GDP Foreign funding refers to Swedish banks' (including Swedish subsidiaries but excluding foreign subsidiaries) market funding and borrowing in foreign currency. The increase is due to Nordea's previous bank subsidiaries with effect from the start of the year being incorporated into the Swedish parent company.

Source: Statistics Sweden

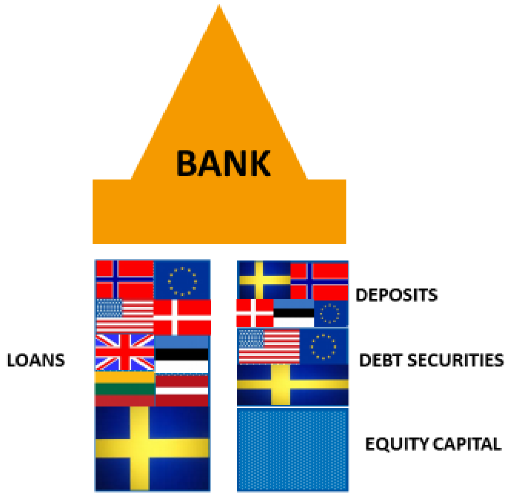
If we also include the funding in foreign currency that remains in the major Swedish banks' foreign subsidiaries, including Nordea's mortgage lending companies in Denmark, Norway and Finland, the funding in foreign currency amounts to around 175 per cent of GDP, or SEK 7,650 billion.

Part of the bank's borrowing in US dollars and euros is exchanged for Swedish krona and other Nordic currencies to finance assets in these currencies, including lending to households and companies.[6] And it is thus the banks' international financiers, rather than the normal - protected by the deposit guarantee - depositors who should be most disposed to withdraw their financing when the going gets tough. If these investors stop buying the banks' bonds and certificates, the bank may very quickly suffer liquidity problems with a high risk of being forced to close down. This can in turn give rise to an acute threat to financial stability and ultimately to the economy as a whole – not only in Sweden but also in our neighbouring countries, where Swedish banks have operations.

[6] Via FX swaps which have maturities of different lengths. These must be renewed gradually and their prices alter.

There is a process consisting of many stages behind the lending for Swedish mortgages and corporate loans. In this process, both the Swedish banks and their counterparties on the foreign exchange market are dependent on the funding in foreign currency functioning constantly.

Different currencies in the banks' balance sheets (a simplified example)



How can we then best manage the banks' increased liquidity risks in foreign currency?

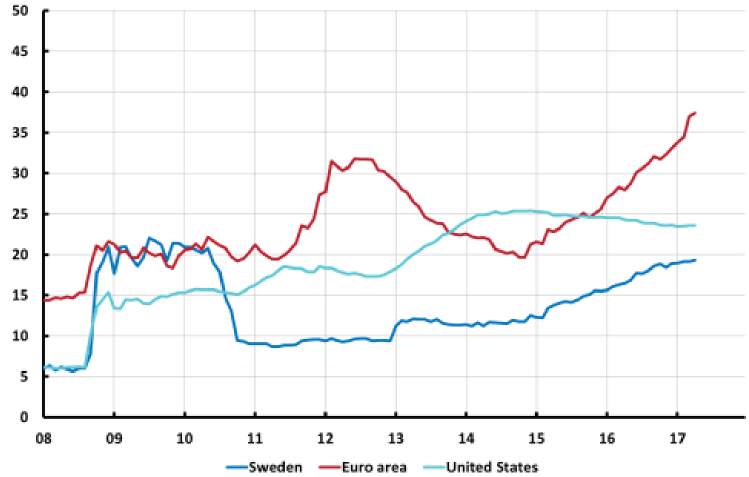
A natural starting point is that the banks – just like other private commercial actors – should manage their liquidity risks themselves. They therefore need to insure themselves by having enough liquidity reserves and sufficiently stable funding in foreign currency. This reduces the risk that the government will have to intervene in the event of a crisis. Hopefully, it also gives the authorities a little more time to take in the whole situation and to find an appropriate solution if problems nevertheless arise. A liquidity buffer can to some extent also be regarded as a "deductible" that can at least on the margin reinforce the banks' incentives to manage their liquidity risks. Finansinspektionen has also already placed demands for how the banks should manage their liquidity risks, among other means by requiring specific buffers in euros and US dollars. As I am sure you know, the Riksbank's opinion is that the banks also need buffers in other important currencies that they use in their operations.

Even if the banks were to have strong self-insurance, it is not certain that this would be enough in a crisis situation. Then the Riksbank can act as "lender of last resort", that is, assist the banks with liquidity if they experience difficulties obtaining market funding. The Riksbank can in principle create any amount of liquidity in Swedish krona. Swedish krona can normally be exchanged for foreign currency. So what is the problem? Well, it is the word "normally" that is the snag. In a financial crisis, there is very little that functions "normally". This is the whole purport of the word "crisis". In other words, it is far from certain that the foreign exchange markets will function in a crisis. And this is when it is most urgent and most expensive to acquire foreign currency.

Swap agreements, not just a phone call

During the financial crisis, an acute shortage of US dollars arose in the banks. In September 2008, the Riksbank was able to establish, together with some other central banks, temporary currency loans – swap agreements[7] – with the US central bank, the Federal Reserve. However, before the agreement was signed and ready to be put into use, the Riksbank was forced to use its own foreign currency reserve. With the aid of this, and gradually with the new swap facility, the Riksbank lent dollars equivalent to around SEK 200 billion for four weeks. In total during 2008 and 2009, the Riksbank was able to offer its counterparties, with the aid of the swap line from the United States, dollar loans corresponding to more than SEK 1,000 billion.

Central banks' balance sheet – grown to manage financial crisis



Note. Per cent of GDP. Source: Macrobond

It is difficult to say what would have happened if the Riksbank had not received access to the swap with the Federal Reserve, and if the Riksbank had not been able to offer the banks this dollar facility. Probably, some of the banks would have experienced severe difficulties. After the global financial crisis, the Federal Reserve has announced that it no longer offers swap lines to other than a small group of central banks, a group to which the Riksbank does not belong. It is also highly uncertain whether we will have access to similar arrangements with the Fed or other central banks the next time problems arise. The International Monetary Fund, IMF, has also expressed increasing concern over this

[7] Swap agreements between central banks can be described as rental agreements, where one obtains access during a predetermined period to a foreign currency in exchange for remuneration in the form of one's own currency.

development. In the report, the IMF calls on countries with limited currency reserves and a lack of swap lines, like Sweden, to consider measures aimed at strengthening their protection.[8] With 70 years of experience of problems in many countries, the IMF's advice is worth taking seriously.

Many factors contribute to Sweden's access to potential swap lines being uncertain. The fact that Sweden is in global terms a small economy is of course one such factor. One cannot assume that it is always in the interests of an individual country to help another country, particularly not in cases that concern a largely domestic crisis. The tendencies towards a more introvert policy that can be discerned in some economies do not exactly give hope for greater helpfulness in the future. Perhaps the conditions would be better in a global financial crisis, when it may be in one's own best interests to help others. But the hopes of bringing about a swap agreement could be dashed if the borrowing country's own buffer, the foreign currency reserve, has been weakened. On the contrary, there may be doubts that the country is capable of managing its own risks. Who would want to come to the rescue of a country that is not prepared to pay the cost of a reasonable insurance?

Let me make a comparison. Some years ago, Sweden chose to re prioritise within its defence forces, and the compulsory military service system was abolished. Now that uncertainty in global policy has increased, the Swedish defence budget has increased, and compulsory military service is being considered again. It is quite simply safer to have, for instance, a number of JAS fighter planes on standby than to rely on being able to rent them if one needs them, partly because in an acute situation it would probably take too long and because it would be difficult and expensive.

Foreign currency reserve – part of Sweden's economic defence

Similarly, we can regard the foreign currency reserve as part of Sweden's economic defence. The advantage of having a foreign currency reserve is that it can quickly be made available for liquidity support to the banking system if an acute need were to arise.

A foreign currency reserve can also prevent a financial crisis by creating confidence in the central bank's ability to take action when necessary. This is particularly important in a situation where market confidence in the country's credit and payments systems is under pressure. If you say it could never happen to Sweden, let me remind you of Ireland and Iceland. Prior to the global financial crisis, these countries were assessed to be in good condition with healthy public finances and consequently high credit ratings. But in connection with the crisis, both Ireland and Iceland suffered serious confidence crises. Their credit ratings were cut rapidly, at the same time as their borrowing requirement was increased.

[8] IMF (2016a).

Interest expenditure soared and the countries were forced to make drastic cuts in a number of areas of expenditure.

Swedish experiences also point to confidence falling rapidly and taking a long time to regain. For many years after the 1990s crisis, Sweden suffered from a much higher interest rate than Germany, with a very large risk premium on Swedish government securities.

Given the Swedish financial system's large degree of international dependence, it is important and necessary to maintain international confidence in the financial system. A robust foreign currency reserve is, in my opinion, an important condition for this. To return to the defence forces metaphor, if other countries know that we have a number of JAS fighter planes on standby, it would probably also reduce the risk of a conflict situation arising, where we would have to use them.

Today, there is a proposal on the table before the Government that could in principle entail halving the Riksbank's foreign currency reserve.[9] Allowing the foreign currency reserve to decline in a situation where the banking sector as a whole and its funding in foreign currency are growing is to say the least a risky venture. This is not only my opinion and the opinion of the Riksbank, it is also shared by the International Monetary Fund. In its Article IV review of Sweden's economy in 2016, the IMF concluded that the foreign currency reserve should not be smaller than it is now. The European Central Bank, ECB, has also recently issued an opinion recommending that Sweden should not reduce the size of its foreign currency reserve below the current level.[10]

The foreign currency reserve should be paid for by the banks

The cost – or insurance premium – of having a liquidity insurance in the form of a foreign currency reserve is at present charged to the Riksbank's earnings and central government finances and is calculated at around SEK 400-500 million a year. This is, of course, a lot of money, but calculated per inhabitant per year the insurance premium is only SEK 40-50. This corresponds to around two cups of coffee or half of a cinema ticket.

Moreover, it is actually a cost that could well be transferred to the banks, which are the primary beneficiaries of such an insurance. One could say – to take it to an extreme – that tax-payers currently subsidise the banks by almost half a billion a

[9] The Government's draft referral to the Council on Legislation (in Swedish): http://www.regeringen.se/494cc9/contentassets/c34c52bc62904b2984784e2b94f1e6aa/riksbankens-finansiella-oberoende-och-balansrakning-utkast-till-lagradsremiss
The Riksbank's consultation response: http://www.riksbank.se/en/Press-and-published/Press-Releases/2017/Important-to-have-sufficient-foreign-currency-reserve-rapidly-available-in-a-crisis/
Other public authorities' consultation responses regarding the foreign currency reserve can be found here (in Swedish): http://www.fi.se/sv/publicerat/remissvar/2017/remissvar-pa-utkast-till-lagradsremiss-riksbankens-finansiella-oberoende-och-balansrakning/ and https://www.riksgalden.se/globalassets/dokument_sve/om_riksgalden/remissvar/2017/riksbankens-finansiella-oberoende-och-balansraekning-remissvar.pdf
[10] ECB (2017).

year through the liquidity insurance provided by a strong foreign currency reserve. Depending on how the Government chose to design the charge or premium for this insurance, it could further strengthen the incentive for the banks to reduce their liquidity risks in foreign currency.

Financial technology has changed our means of payment

I began by talking about Johan Palmstruch. Let me return to him now and discuss a subject that also affects the Riksbank's ability to carry out its tasks, namely financial innovations and the development of new financial technology, or "FinTech" as it is known in some circles. Johan Palmstruch was a financial innovator of his time. He was the one who introduced banknotes with standardised denominations – a real global innovation in the 17th century. The printing presses made it possible to mass produce these standardised banknotes. The banknotes were much lighter and easier to transport than the heavy copperplates that they were used to dealing with. Sweden had a copper standard at that time.

After Stockholms Banco collapsed, it was not until the 1830s that the financial sector in Sweden really took off. Private banking firms emerged, and some of them began to issue their own banknotes. They continued doing so until the early 20th century, when the Riksbank was granted a monopoly on issuing banknotes so that the state could gain a firmer grip on price stability and standardise payments.

The development of financial technology has always been an important driving force behind changes in the financial sector and it has often entailed new challenges for financial stability. Now and then, it has also given central banks reason to consider how they can best do their job.

During the latter part of the 20th century and the beginning of this one, we have seen several innovations that have changed consumers' methods of payment.[11] In recent years, the amount of payments made with the aid of smartphones and mobile bank ID has risen very rapidly. The Riksbank has actually contributed to the latter by giving Bankgirot access to a special account in the Riksbank's payment system RIX that enables secure payments with a mobile application. [12]

Use of cash declining rapidly in Sweden

All of this has contributed to the volume of outstanding cash in Sweden declining from around 10 per cent of GDP at the beginning of the 1950s to around 1.5 per cent of GDP today. The largest decline in the use of cash has taken place in recent

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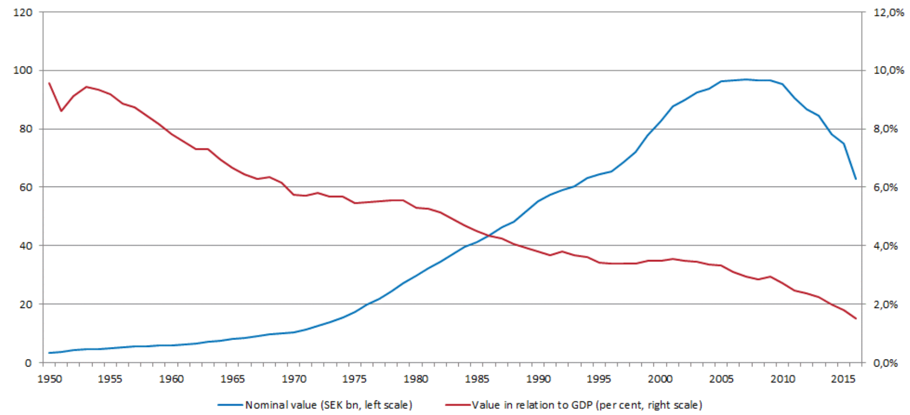
[11] Some examples of innovations that have changed our way of making payments over the years include cheques, ATMs, credit and debit cards and bank transfers – initially as paper forms and later as direct transfers over the Internet.

[12] Today 97 per cent of all citizens in Sweden have access to some form of payment card. 85 per cent have access to on-line banking and 80 per cent have access to direct debiting. More than 60 per cent now have access to the Swish payment app.

years. Demand from the general public has fallen from almost SEK 100 billion in 2007 to around SEK 60 billion today.[13]

Banknotes and coins in circulation falling rapidly in Sweden



Note. Annual average for cash outside the banking sector, that is, cash held by companies, households and government agencies.

Source: Statistics Sweden

One can say that the Riksbank's banknote monopoly has almost had its day, as a number of rapid and simple electronic means of payment are being supplied by private agencies. You see, in Sweden, there is no legal requirement for cash to be accepted as a means of payment in the retail trade. Nor do the banks have a legal requirement to supply cash services.

The fact that we have gained more efficient means of making payments has on the whole been good for Sweden.

But this development also entails a number of difficult challenges, for instance, that the infrastructure for cash management is being phased out in Sweden.[14] [15]

Most indications are that this development will continue, which raises a number of difficult questions: What happens if the general public no longer has access to cash, or if it is not possible to use cash anywhere? Sweden is on the verge of a situation where commercial interests determine whether the general public shall have access to central bank money and ultimately what payment methods can be used. Is there a risk that the payments market will become an oligopoly, with high thresholds for competitors and where payment services are expensive? Can we ensure that those who do not have access to the banks' services in the future will still be able to manage their payments in a safe and efficient way? What would happen in a future financial crisis, if the general public distrusts the banks and wants to withdraw savings in cash – but the banks no longer hold cash?

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[13] Withdrawals from ATMs have also declined significantly in recent years. In 2010, Swedes withdrew around SEK 225 billion and in 2015 they withdrew only SEK 153 billion.

[14] See, for instance, the Swedish Post and Telecom Authority's report on its task from the Government with regard to fundamental payment services, 27 February 2017: http://www.pts.se/sv/Dokument/Rapporter/Post/2017/Aterrapportering-av-PTS-regeringsuppdrag-inom-grundlaggande-betaltjanster---17-201-/

[15] To some extent the Riksbank has contributed to this development by reducing the number of cash depots in Sweden. See, for example, Daltung and Ericson (2004).

Central bank money will still be needed in the future

These important questions must be answered. In my opinion, there is reason to examine whether the Riksbank should offer money in digital form to the general public. If the printing press made it possible to print banknotes in its time, then our current technology enables electronic payments. It is therefore reasonable to try to find out whether the Riksbank can use new methods and techniques to offer means of payment that are guaranteed by the Riksbank in the same way as banknotes and coins.[16]

The Riksbank's role as supplier of liquidity in a changing world

Technological advances and structural changes affect not only the methods of payment, but also the risks and threats to the financial system. This means that the authorities need to regularly evaluate and test their crisis preparedness. The Riksbank also needs to review and maintain its liquidity tools in good shape.

Although the banks are still central to the payments system and comprise a natural focus in the Riksbank's financial stability analysis, other agents such as central counterparties (CCPs) are gaining increasing importance in the financial system. Structural changes, such as the banks' funding or how they choose to organise their cross-border operations, affect the liquidity risks in foreign currency, among other things. This is something that the Riksbank and other authorities must monitor.

Financial innovations such as trading robots and other types of automated financial services can contribute to greater efficiency, but they can also give rise to considerable liquidity stress.[17] In line with technological advances, the speed at which the transactions can be implemented is also increasing. The fact that money and securities can, at the touch of a button, be moved immediately from one continent to another, is something that hardly reduces the liquidity risks in the financial system. It also emphasises the importance of central banks having the capacity to quickly intervene if necessary. This requires having sufficient reserves on standby.

Liquidity decisive

Let me conclude with a reflection. Many agents who have so far expressed an opinion on the issue have emphasised Sweden's strong public finances as a compelling reason for reducing the Riksbank's foreign currency reserve. But everyone knows that in an uneasy situation it is always liquidity that determines

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[16] See, for instance, Skingsley (2016): http://www.riksbank.se/Documents/Tal/Skingsley/2016/tal_skingsley_161116_eng.pdf and the Riksbank's project plan for the E-krona: http://www.riksbank.se/Documents/Avdelningar/AFS/2017/Projektplan%20e-kronan_170314_eng.pdf.

[17] See, for example, De Nederlandsche Bank (2016).

how well one copes with the problems. If you are not able to pay when the bills fall due, those around you will lose confidence in you and ultimately you may face seizure and bankruptcy. As a Swedish citizen and representative of Sveriges Riksbank, it is my duty to point to the importance of good liquidity in managing a financial crisis. This requires a foreign exchange reserve that is sufficiently large to cover at least the foreign currency needs that may arise in the short term in a situation of financial stress. In my opinion, such an insurance is a way of taking responsibility that the citizens of the country have the right to require from their government and national authorities as the world becomes faster paced and innovation increases.

Thank you.

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