

SPEECH

DATE: 23/02/21

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Monetary policy in the wake of the corona crisis – we need to think along new lines¹

The coronavirus pandemic has cost more than 2.4 million human lives and caused great suffering for those who have fallen ill and their families. It has also caused a deep crisis in the real economy and last spring was close to triggering a new financial crisis.

The pandemic is not over. The focus for the Riksbank is to continue to provide support to the economic recovery and to maintain price stability. I am cautiously optimistic about economic developments, provided that vaccinations reach large parts of the society. But we should not count our chickens before they hatch.

And even during the present crisis, we need to think about how the conditions for monetary policy are changing in its wake. We can *hope* that it will take time before a similar crisis occurs again. But we *know* that a new crisis can happen at any time and from an unexpected direction. The pandemic shows that we must be prepared, must be able to act decisively and must have the courage to use new and untested tools.

I think the Riksbank has so far managed to think along new lines during the crisis, and this is illustrated not least by the new monetary policy tools we have used.² Without the Riksbank's measures, the crisis would have been both deeper and more prolonged. But what will happen going forward?

¹I would like to thank Björn Lagerwall for his help with writing this speech, Hanna Armelius, Emma Bylund, Charlotta Edler, Dag Edvardsson, Jesper Hansson, Per Jansson, Stefan Laséen, Marianne Nessén, Åsa Olli Segendorf, Marianne Sterner, Ulf Söderström and Anders Vredin for their help and valuable comments, and Gary Watson for his translation of the speech into English.

² I discussed my thoughts on this in my contribution to the monetary policy minutes in September last year: see Sveriges Riksbank (2020a).



Today I would like to initiate a discussion on how monetary policy can best be renewed in the wake of the corona crisis.

My thoughts are largely general and preliminary. And I have no easy answers. But one thing I can already say with certainty: We need to be open to innovation and new thinking. I see two main reasons for this. First, interest rates may remain low for even longer than we previously envisaged. Second, digitalisation in society has accelerated during the crisis. This affects central banks to the highest degree, partly because fewer people are using cash and more and more countries are planning to introduce digital central bank currencies. Both these trends also make it necessary to analyse our monetary policy tools and discuss how they may affect the boundary with fiscal policy.

My messages today can be summarised in three points:

- The monetary policy toolbox may need to grow to increase the room for manoeuvre.
- Fiscal policy will probably play a greater role for economic stability going forward, both in the short and in the long term, and this is a desirable development.
- If more monetary policy stimulus were to be required in the short term, the
 tools I see closest to hand are a negative repo rate and increased quantitative
 easing but none of the other tools I discuss today shall be completely ruled
 out, as long as their use is lawful.

Monetary policy and fiscal policy have different tasks

To alleviate the economic crisis, extensive measures have been implemented in both fiscal and monetary policy. In both policy areas, decisions have been taken on measures that have never been used before.

As a springboard to further discussion, I think it is worth considering what the actual tasks of monetary policy and fiscal policy are and how responsibility is divided between the government and the central bank.

The Sveriges Riksbank Act states: "The objective of the Riksbank's activities shall be to maintain price stability. The Riksbank shall also promote a safe and efficient payments system." In practice, this means that the Riksbank issues Swedish kronor (SEK), that we ensure they can be used for payment and retain their value over time.³

The task of ensuring that money retains its value is normal regarded as monetary policy. It has adopted different guises through history. Since 1993, the Riksbank has chosen to interpret the task of price stability in terms of an *inflation target* of 2 per cent. In the act from 1999, we were given greater independence from the

³ See, for example, Georgsson et al. (2015) for a detailed discussion of the tasks of central banks throughout history

⁴ See Ingves (2015) for a description of the aims and means of monetary policy in a longer time perspective.

⁵ As early as in 1931-1937, the Riksbank was the first central bank in the world to have a price stability objective. After that, however, followed a period of 50 years with various fixed exchange-rate regimes.



political system. The conditions for achieving low inflation improved as a longer-term approach could then be taken to monetary policy.

The central components of fiscal policy are the power of taxation and the distribution of resources. The government has the responsibility for fiscal policy and the Riksdag takes decisions on it. The choice of focus depends largely on political preferences: lower taxes, higher unemployment benefit, more money to the health service, more police officers, climate initiatives, and so on. Since the 1990s, Sweden has established a *fiscal policy framework*, aimed at long-term sustainability in public finances.

The division between monetary and fiscal policy seems rather straightforward, but both policy areas affect each other both directly and indirectly. Allow me to give two simple examples: A fiscal policy decision can be taken to reduce taxes for low-income earners for wealth redistribution purposes. Although unintentional, the measure may also cause consumer prices to rise more rapidly, due to an increase in demand in the economy. A *side-effect* thus emerges that monetary policy may need to consider in order to fulfil the inflation target. And expansionary monetary policy aimed at increasing inflation may also have distributional effects, something we at the Riksbank have discussed before. But as I see it, these are also to be considered as side-effects that – depending on political preferences – may need to be dealt with using fiscal policy.

The measures implemented during the corona crisis is a good illustration of how monetary and fiscal policy work in practice. The crisis has also raised difficult questions about the boundary between the two policy areas.⁸

The corona crisis has had dramatic consequences for the global economy and economic policy

How then has monetary and fiscal policy in Sweden managed the effects of the corona crisis? I think that both policy areas have so far complemented each other in a good way, without there being any formal cooperation.

Here in Sweden, as in many other parts of the world, monetary policy has been focused on two things: maintaining credit supply and contributing to low interest rates. This is creating the conditions for a healthy recovery and helping to maintain price stability. The policy rate is around zero or lower in many countries, and central banks have expanded their balance sheets, aimed in part at making extensive asset purchases (see Figures 1 and 2).

⁶ My colleague in the Executive Board, Henry Ohlsson, gave a speech about this a few years ago: see Ohlsson (2017). We have also analysed distributional effect in conjunction with our measures during the corona crisis: see Sveriges Riksbank (2020a).

⁷ It should be borne in mind that the distributional effects of monetary policy tend to even out over the course of the business cycle, by monetary policy alternately being made more or less expansionary. It is also important to be aware that one of the reasons for introducing the inflation target in Sweden in 1993 was precisely because high and volatile inflation can lead to arbitrary wealth redistributions in society. High inflation tends to benefit borrowers in relation to savers, while low inflation has the opposite effect.

⁸ There are also various theories on exactly how the combination of fiscal and monetary policy can achieve the stabilisation policy objectives. One well-known theory is the "Fiscal theory of the price level", which basically states that fiscal policy must be designed in a certain way to enable central bank price stability objectives to be fulfilled. For a simple introduction to the theory, see, for example, Lagerwall (2019).



Monetary policy works via the financial markets. The Riksbank's measures during the crisis include lending to companies via banks, purchases of securities, and extraordinary lending to banks in SEK and in US dollars. But the Riksbank does not give direct support to specific households, companies or sectors.

This is where fiscal policy comes in. It can provide targeted support to particularly hard-hit households and sectors. In large parts of the world and in Sweden, extensive fiscal policy measures have been introduced aimed at both helping companies in crisis-ridden sectors so that they can survive and do not need to lay off staff, and providing monetary support to households hit by the crisis (see Figure 3).

However, some central bank measures have led to a debate on whether monetary policy is encroaching on fiscal policy, for example regarding the purchase of securities issued by private companies. In the Riksbank's case, the purchases have included debt securities in the form of both short-maturity commercial paper and longer-maturity corporate bonds. These purchases are implemented according to the principle of market neutrality and set criteria. So it is not a question of targeted support directly to individual companies. In addition, the Riksbank only buys on the secondary market with a time lag. One reason for the purchases has been that many companies obtain most of their funding by issuing such securities. Currently in Sweden, a third of corporate funding comes via the bond market. The Riksbank's holdings are very small, however, and currently correspond to 0.4 per cent of the market for corporate bonds.

I consider that our actions in this market, in combination with our other asset purchases, have helped us to successfully maintain credit supply to households and companies and to avoid the real economic crisis developing into a financial crisis, which ultimately also helps to maintain price stability.

Every crisis leads to a rethink

Every economic crisis leads to a rethink in monetary policy. After the 1990s crisis, the inflation target and the fiscal policy framework were established in Sweden. And after the global financial crisis in 2008-2009, macroprudential policy was developed as a complement to other supervision and regulation of the financial markets.

Another effect of the financial crisis was that the room for manoeuvre for monetary policy decreased but increased for fiscal policy. This was due to the combination of low global interest rates and the fact that central banks had cut their policy rates substantially (See Figures 1 and 4).¹¹ The policy cannot then be cut much further if the economy were to require extra stimulus. But the effects of fiscal policy

⁹ See, for instance, Ekholm (2020).

¹⁰ Buying on the secondary market means that we do not buy securities directly from the issuer. In this context, a time lag means that a period of time must pass between the security being issued and the Riksbank purchasing it.

¹¹ Similar problems had been encountered in Japan long before the financial crisis.



stimulus will instead be unusually large, as the central bank has not reason to combat the effects of expansionary fiscal policy. 12

In this case, the conclusion became quite clear: In the next recession, fiscal policy will need to play a greater role.

The question is what reconsiderations may be necessary after the corona crisis.

In my view, fiscal policy will probably need to play a greater role when it comes to stabilising the economy going forward, and I also see this as desirable. But we also need to consider which monetary policy tools are available if global interest rates remain low and how effective and proportionate they are. By 'effective', I mean that they contribute to price stability and by 'proportionate', I mean that there is a reasonable balance between efficacy and any negative side-effects on the economy otherwise. It is therefore important to follow and evaluate the proposals for new measures emerging from the economic policy debate around the world.

We may need to increase the room for manoeuvre in monetary policy

A central bank can always try to make monetary policy more expansionary. As I see it, the problem is that traditional measures are neither effective nor appropriate in all situations. This can make it more difficult to achieve price stability going forward. But the room for manoeuvre in monetary policy could be increased either by making more comprehensive **changes to the framework**, that is, how the price stability objective is formulated, or by **expanding the monetary policy toolbox**.

The discussion on changes to the framework, like raising the inflation target, is important and has previously been highlighted by my colleagues in the Executive Board.¹³ I would therefore like to devote the rest of my speech today to discussing different ways of **expanding our monetary policy toolbox**.¹⁴

How can the toolbox be expanded?

Let us review the various monetary policy tools being discussed internationally, but which the Riksbank has yet to utilise. In the future, and especially in the longer term, the monetary policy toolbox may to a certain extent be connected to the development towards an increasingly cashless society, as you will no doubt notice. Several of the measures also require us to discuss where the boundary is drawn to fiscal policy. I have therefore chosen to present them in an order that reflects a growing need for such a discussion.

¹² See Lagerwall (2019) for a description.

¹³ Per Jansson and Cecilia Skingsley have recently given speeches in which they discuss changes to the monetary policy framework: see Jansson (2020) and Skingsley (2020).

¹⁴ Governor Stefan Ingves recently gave a speech in which he, among other things, discussed the monetary policy toolbox: see Ingves (2020).



Several possible tools have been highlighted in the international debate

In the international debate, there is no lack of ideas on how to expand the monetary policy toolbox. I intend to give my highly personal view on some of these ideas: Before tackling these, however, it is important to add that this list should not be considered complete. Other tools may prove to be relevant at short notice, not least during a crisis.

"Deeply negative interest rates"

We had a repo rate below zero between 2015 and 2019, and it was -0.5 per cent at its lowest point. But does the limit have to be -0.5 per cent? Can we not cut the rate much further, maybe to -5 per cent?

This is the idea behind "deeply negative rates". Ken Rogoff is one of the advocates. ¹⁵ The idea is interesting, and we are constantly analysing where the lower bound for the policy rate might be. ¹⁶

Perhaps the main objection to negative policy rates, especially before they were introduced in practice, has been that they prompt households and companies to withdraw cash, which has zero interest. At worst, this can lead to bank runs and funding problems for banks. I therefore think that it is interesting to analyse this tool now as society is becoming increasingly cashless and it is becoming increasingly necessary to analyse more closely whether we need an e-krona.¹⁷

We see that cash as a means of payment is in rapid decline, and this development has been accelerated during the corona crisis, something that is highlighted in our latest report on cash-use in Sweden (see Figure 5). ¹⁸ Ken Rogoff has very recently noted that deeply negative interest rates may be particularly effective if cash is phased out. ¹⁹

But what would happen if cash were to be replaced by an e-krona? Well, that depends on how the e-krona is constructed. If the e-krona has no interest, the lower bound for the repo rate will probably be higher than it is today and around zero, as the e-krona will then be a direct substitute for cash, which is also easier and safer to handle. Savings can then easily be transferred from a bank account with negative interest to an e-krona with zero interest. But if the e-krona carries interest, its interest rate can be set to both positive and negative values.²⁰ The lower bound for the repo rate could then be significantly lower than today.

Deeply negative rates create no obvious problems with regard to the boundary with fiscal policy. However, there is a risk of negative side-effects also arising in a cashless society, for example, by households having fewer liquid assets and taking greater risks in their other investments. From a theoretical perspective in particu-

¹⁵ See Rogoff (2020).

¹⁶ See, for example, Alsterlind et al. (2015).

¹⁷ The latest edition of the Sveriges Riksbank Economic Review is devoted to the e-krona and Central Bank Digital Currencies (CBDC): see Sveriges Riksbank (2020e).

¹⁸ See Sveriges Riksbank (2020f).

¹⁹ See Rogoff (2020).

²⁰ See, for example, Armelius et al. (2018) and Nessén et al. (2018).



lar, it can be argued that these risks are more associated with a generally low interest-rate environment rather than with negative rates in particular. But as policy-makers, we must take into account that deeply negative rates may create changes in behaviour that are not accommodated in traditional economic models.

In this context, I think it is important to point out that the fundamental reasons for introducing an e-krona are not about be able to have a more negative policy rate. But the rapid trend towards a cashless society means that we need to continue to constantly analyse the benefits and drawbacks of deeply negative interest rates.

I do not consider a deeply negative repo rate to be a relevant monetary policy tool in the current situation. As I have touched upon, there are important side-effects on the economy to consider even in the longer term. On the other hand, it is possible in the near term to return to slightly negative levels of around -0.5 per cent to support the economic recovery.

"Dual interest rates"

Another tool being discussed internationally is "dual interest rates". In one sense, this is nothing new, as the Riksbank already uses two rates (in addition to the repo rate) within its present operational framework: a deposit rate below the repo rate and a lending rate above the repo rate, i.e. a "corridor system". Banks can borrow from or deposit at the Riksbank overnight at these rates. The fundamental principle behind dual interest rates is rather to cut the lending rate without changing the deposit rate, in order to stimulate banks to lend more to economic agents.

But a restriction in the operational framework tends to be that it is preferable to have the deposit rate below the lending rate to prevent arbitrage, that is banks being able to earn risk-free money by lending at a lower rate than the rate that applies to their deposits at the Riksbank (see Figure 6). But does it have to be this way? Is it not possible to stimulate the economy by cutting the lending rate to negative levels and keeping the deposit rate and repo rate at today's levels? This would give many of the benefits of deeply negative interest rates, but not so many of the drawbacks.²¹

However, setting the lending rate below the deposit rate generally in our operational framework would just be a subsidy to the banks and also lead to direct losses for the Riksbank. It can also be seen as a transfer of public funds to the banking sector. Using this as a general monetary policy stimulus tool would therefore not work in reasonably normal circumstances.

However, I think that it is more realistic to consider the interest-rate conditions for banks within the framework of a targeted funding for lending programme. In its TLTRO III Programme, the European Central Bank, ECB, has launched a variant of this tool. Banks may borrow from the central bank at an interest rate below the deposit rate provided that they lend the money to companies.²²

²¹ See Lonergan and Greene (2020).

²² See Lane (2020).



One must realise that the prerequisites for introducing "dual interest rates" as a monetary policy tool in Sweden depend on the conditions in the economy. For example, Swedish banks are more profitable and have a stronger financial position than banks in general have in the euro area, and this increases their lending capacity. To avoid subsidising the banking sector, a possible way forward might therefore be to force banks that utilise loans from the central bank to keep their rates low when they lend to companies. The Bank of Israel introduced this type of programme in the autumn.²³ In the future, there could also be lending programmes where the terms for banks are particularly favourable if their lending to companies goes to "green investments" or the lending terms exclude "brown investments", something which is currently being discussed within the ECB.²⁴

When contemplating the introduction of dual interest rates, there is also a tradeoff problem to consider. The more general and unconditional the loans to banks are, the more akin they are to subsidies. But the more targeted they are in terms of the types of company that banks have to lend to, the closer we get to the domains of fiscal policy.

For me, there are a few important criteria to consider should dual interest rates come into question: First, the monetary policy purpose must be clear, that is, the tool is designed so that it can help us achieve price stability as effectively as possible. Second, the tool should stipulate the condition that banks must lend to companies. Third, we must minimise the risk of the tool becoming a subsidy to the banking system by setting clear limitations.

"Yield curve control"

"Yield curve control" (YCC) may sound rather mysterious but is actually quite simple. So what is it?

The easiest way to explain YCC is to start from our current purchases of government bonds. Similar to several other central banks, the Riksbank purchases these bonds for monetary policy purposes. The idea is that, by purchasing the bonds, we push their yields down and thus contribute to a generally low level of interest rates in the economy. But when we have implemented and communicated the purchases, we have done so in terms of quantities (SEK billions). Even when we have bought other securities, we have communicated in the same way, i.e. in terms of quantities. It is not so surprising, therefore, that central bank asset purchasing is usually referred to as *quantitative easing*, or *QE*.

The idea of YCC is that the central bank still buys securities, but instead aims to buy at a specific interest rate level instead of a specific volume. An example could be buying securities so that the two-year yield stays around zero per cent. The quantity of purchases then needs to adapt so that the yield stays at this level.²⁵

The Bank of Japan has used the tool since 2016, when it set a target level for tenyear government bond yields of around zero per cent, close to the policy rate level of –0.1 per cent. The Reserve Bank of Australia introduced the tool as part of

²³ See Bank of Israel (2020).

²⁴ See ECB (2020).

²⁵ For a more detailed description, see, for example, Belz and Wessel (2020).



its response to the outbreak of the coronavirus pandemic in March last year. It launched a target level for the three-year government bond yield of 0.25 per cent, the same level as the policy rate.²⁶ Lael Brainard on the Board of Governors at the Federal Reserve has advocated yield curve control as a possible tool in the United States.²⁷

This tool works better on some markets than others and probably also better at shorter maturities. An advantage compared with normal QE is that it is much easier to explain how the tool works. The repo rate has been the dominant monetary policy tool for a long time, and its level can easily be related to the target level for the bond yield. In addition, one can be clear about what one wants to achieve with the bond purchases regarding yields at longer maturities.

This tool can be considered as new yet familiar. In the United States, the Federal Reserve tried to keep government bond yields down during and just after the Second World War to facilitate funding of the expenses the state had incurred.²⁸ Central bank independence in relation to the political system has generally increased since the 1940s. With the Riksbank's substantial independence today, this type of YCC would not be legally possible.

Even if the Riksbank were to decide on YCC entirely independently, I nevertheless have some doubts about the tool in a Swedish context. First of all: Discussions could arise as to whether we are approaching the boundary to fiscal policy, in that we commit to buying government bonds at a specific maturity and given interest rate level. Second: The purchases of government bonds are not fixed in advance but are implemented to the extent necessary to achieve the target interest-rate level. So no one knows how large the purchases could be; the Riksbank might need to buy a large share of the outstanding stock of bonds. Third: The question is whether this tool would add anything significant in relation to the purchases of government bonds that we have already utilised.

"Helicopter money"

"Helicopter money" is one of the most frequently discussed tools in the international debate. The idea dates back to Milton Friedman, who, in a famous article in 1969 discussed what would happen in the economy if the central bank dropped a pile of banknotes from a helicopter.²⁹

More recently, Ben Bernanke, among others, has discussed the tool in many contexts.³⁰ But the concept now has two different meanings: "People's QE" and "fiscal policy financed by the central bank".

"People's QE"

The closest thing to Milton Friedman's idea about helicopter money is "People's QE". As I described earlier, QE involves the central bank creating money to buy

²⁶ In November, both the policy rate and the target level for the long yield were cut to 0.1 per cent. See Reserve Bank of Australia (2020).

²⁷ See, for instance, Brainard (2019).

²⁸ For a more detailed description, see Garbade (2020).

²⁹ See Friedman (1969).

³⁰ See, for instance, Bernanke (2016).



government bonds. The idea of "People's QE" is instead that the central bank creates money that it simply distributes to households.

Similar to "deeply negative interest rates", there are parallels with the digitalisation of payments and the possible introduction of an e-krona. If the e-krona were to involve households having accounts at the Riksbank, there would at least be the technical possibility to deposit money in these accounts if necessary. A very unusual example of "People's QE" was when the local government in Shenzhen, China recently held a lottery in which total prizes for the equivalent of around SEK 12 million were handed out to the population. The unusual aspect was that the winners received the money by downloading an app filled with digital currency issued by the Chinese central bank. And the currency could then be used in a large number of stores in the city, including Walmart.³¹

"People's QE" may seem to be an effective tool to get inflation to rise. But it is the Swedish Riksdag that decides on distribution policy and direct transfer payments to households. So one could say that this form of helicopter money would basically mean that the Riksbank was conducting fiscal policy. The legal situation regarding this tool is unclear, however.³²

As is the case with a deeply negative repo rate, it is important to point out that the reason for introducing an e-krona is not to enable the use of "People's QE". My personal view is that decisions on which households should receive money from the public purse must be based on political considerations, and these below to fiscal policy, not monetary policy.

"Fiscal policy financed by the central bank"

Another and more common interpretation of helicopter money is "fiscal policy financed by the central bank", also often referred to as monetary financing or Money-Financed Fiscal Program (MFFP). This is also an old tool used throughout history which is now being revived. The idea is that the government implements fiscal policy stimulus as it normally does in a recession, but instead of financing this by increasing the sovereign debt, it enlists the help of the central bank, which creates new money.

In practice, this could happen in the following way: When the Riksbank buys assets, for example, these are funded by the creation of central bank money or, more formally, central bank reserves. The idea is that these central bank reserves could instead be used for expansionary fiscal policy. Jordi Galí, among others, has advocated this tool as a response to the corona crisis.³³

A major advantage compared with "People's QE" is that the Government decides how the fiscal policy stimulus is to be designed, which gives political preferences a

³¹ See CNBC (2020).

³² The recently published Riksbank Inquiry states: "Regarding the second measure – direct transfers from the central bank to individuals – the legal situation is less clear. According to a review of legislation in the euro area, Japan, the United Kingdom and the United States, this measure is not explicitly forbidden". Se SOU 2019:46 (2019), p. 812.

³³ See Galí (2020).



free rein. But there are nevertheless important arguments against this type of helicopter money as a stabilisation policy tool.

The most important and well-founded counter-argument is that it is unlawful. Monetary financing is prohibited within the European Union. The fundamental purpose of this prohibition is to safeguard central bank independence, fiscal policy discipline and price stability.³⁴ As long as this prohibition remains in place, it is impossible to realise the idea of helicopter money in the sense of fiscal policy financed by the central bank.

There are also other counter-arguments worth highlighting. Helicopter money is most relevant in a situation where central government finances are strained, which is not the case in Sweden. Finally, bearing in mind today's low interest rates, it is no cheaper to finance the fiscal policy stimulus via the central bank than via increased government borrowing.³⁵

We need to be open to innovation

Today I have focused on new tools that can help monetary policy be more expansionary, in a world where interest rates are low and cash is gradually disappearing from society. Being open to adapting monetary policy to new challenges obviously involves being open to and prepared for other scenarios. The coronavirus pandemic and its repercussions can make low inflation and low interest rates problems of the past. However, I consider the risks to be asymmetric, that is, the risk of permanently low interest rates and low inflation is higher than the risk of the trend turning towards higher inflation and higher interest rates.

Some of the tools I have mentioned today are already used in other countries, while others feel more unfamiliar or are not permitted under current legislation. But I think we need to realise that current monetary policy is not necessarily appropriate in a changing society. The coronavirus pandemic shows that we can face new challenges at short notice.

In closing, I would like to reiterate my three most important conclusions:

First of all: We must be prepared, be able to act decisively and have the courage to use new and untested tools if price stability is under threat.

Second: Fiscal policy will probably play a greater role for stability in the economy going forward, something that I would welcome. But it is not the task of fiscal policy to maintain price stability, as that responsibility rests with us.

³⁴ The prohibition is pursuant to Article 123 of the Treaty on the Functioning of the European Union and has been incorporated into the Sveriges Riksbank Act via the following wording: "The Riksbank shall not extend credit to or purchase debt instruments directly from the state, another public body or an institution of the European Union." ³⁵ In practice, the measure would not be financed by an increased volume of money but by the Riksbank issuing interest-bearing reserves, as is the case with our asset purchases. If the yield on the reserves follows the yields on government bonds, the financing costs need not be so much lower even in a more normal interest-rate environment.



Third: If more monetary policy stimulus were to be required in the short term, the tools I see closest to hand are a negative repo rate and increased quantitative easing. Having said that, I do not think that any of the tools I have discussed today should be ruled out, as long as their use is lawful.

With that, I would invite you to a discussion on how monetary policy can best be renewed in the wake of the corona crisis.

Thank you for this opportunity to speak to you!

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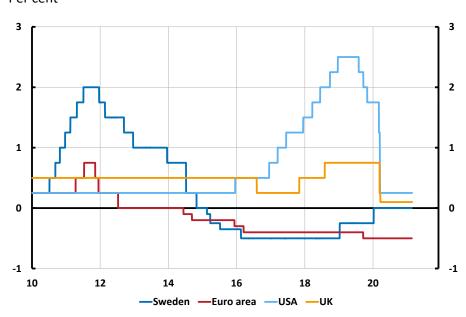
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Figures

Figures 1. Policy rates

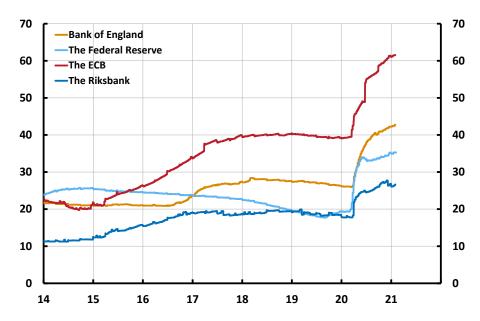
Per cent



Sources: National central banks and the Riksbank.

Figure 2. Central bank balance sheets

Per cent of GDP

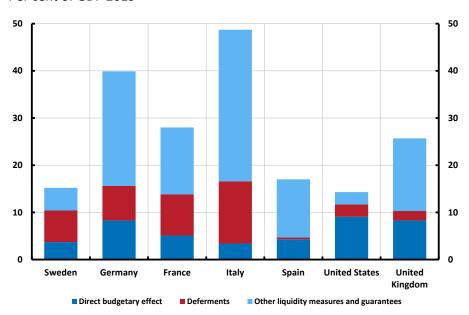


Sources: Bank of England, Macrobond and the Riksbank.



Figure 3. Fiscal policy support measures in 2020

Per cent of GDP 2019



Note. Per cent of GDP 2019, forecast. Total pledged deferments and liquidity measures and guarantees are shown for Sweden. Bruegel's assessment per 24 November of what is utilised by corresponding item is shown for all other countries except Sweden.

Sources: Bruegel, the Swedish Government Offices and the Riksbank

Figure 4. 10-year real interest rates

Per cent

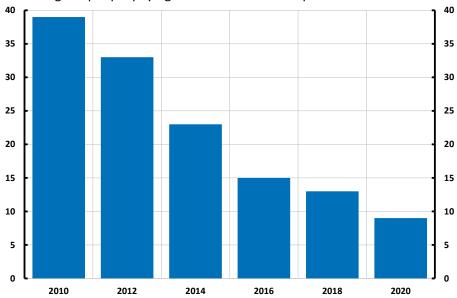


Note. Real government bond yields,10-year maturity. Source: National central banks and the Riksbank.



Figure 5. Cash use over time

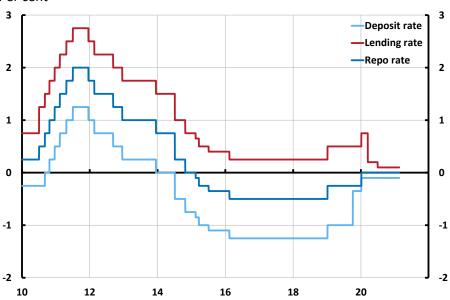
Percentage of people paying for their most recent purchase in cash.



Source: The Riksbank

Figure 6. Repo rate, lending rate and deposit rate

Per cent



Source: The Riksbank