

# SPEECH



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## Monetary policy challenges – weighing today against tomorrow\*

I'd like to begin by thanking you for the opportunity to come here to the Swedish Economics Association. As many of you know, this is a tradition, and today's speech is my twelfth in a row. I have always appreciated the opportunity to come here and discuss both current issues and long-term themes of more fundamental significance for the Riksbank's operations.

Today's speech is about monetary policy and its challenges in a slightly longer perspective. But before broaching that subject, I would first like to comment on the news item published by the Riksbank this morning. In brief, it states that the Executive Board is considering switching over to a new target variable, the CPIF, this autumn, and introducing a 'variation band' to illustrate uncertainty over the development of inflation.

Ever since the inflation target was introduced nearly 25 years ago, it has been defined as the annual change in the consumer price index, the CPI. However, in recent years, the CPI has become increasingly difficult to use as guidance for monetary policy. The reason for this is that adjustments to the policy rate have large and direct effects on the CPI which are not connected to underlying inflationary pressures and which are also counter-productive. This means, for example, that interest rate cuts, which are intended to bring inflation up, instead further lower CPI inflation over the short term as the costs for mortgages fall. For this reason, the CPIF, i.e. the CPI with a fixed interest rate, has increasingly acted as guidance for monetary policy. But large variations in the CPI in recent years, due to adjustments to the policy rate, have sometimes led to problems in communication. By switching to the CPIF, we are making monetary policy clearer.

The target is that the annual change in the CPIF shall be 2 per cent. However, it is not possible for the Riksbank to achieve this target every single month, so, for

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various reasons, inflation will vary around 2 per cent. To illustrate this uncertainty, the Riksbank is considering the use of a so-called variation band for the CPIF outcomes in its future communication. The variation band is +/- 1 percentage point around the target of 2 per cent, which captures almost three-quarters of CPIF outcomes since 1995. The design of the variation band is thus linked to the historical development of inflation and should therefore be reviewed as necessary.

As I see it, the changes now being considered do not entail any change to the monetary policy being conducted. For some time, the CPIF has functioned as the Riksbank's operational target variable. We are now considering formalising this practice by allowing the inflation target to be defined as an annual change in the CPIF of 2 per cent. The aim of monetary policy will continue to be the stabilisation of inflation at 2 per cent. In other words, the proposed variation band is not a so-called target range.<sup>1</sup> This means that the Riksbank will always strive towards 2 per cent inflation, regardless of whether inflation is inside or outside the variation band.

Our deliberations are now being referred for consultation. If we adopt a new target variable and variation band, these changes are expected to be applied as from the autumn.

## Unusual times create new challenges

The Swedish economy is going through unusual times. We have good growth, high resource utilisation and inflation is rising and approaching the target of 2 per cent. But despite good economic activity, monetary policy is still expansionary. We have a negative policy rate and have carried out extensive purchases of government bonds to hold longer-term interest rates down as well.

Maintaining confidence in the inflation target is the main task of monetary policy. A challenge for monetary policy in recent years has been to push up the excessively sluggish inflation rate, which is one explanation for the expansionary policy. By doing so, we can correspond with the expectations of all the participants in the Swedish economy who base their calculations on the fact that we are aiming for a fixed target. The inflation target has been a cornerstone of the Swedish economy for twenty years, it is well known and established and helps to boost confidence in the Swedish economy.

The Riksbank's forecasts indicate that monetary policy will continue to be expansionary with low interest rates in the period ahead in order to stabilise inflation around the target. But this could also bring new challenges with it. Continued low interest rates could lead to the policy rate hitting its lower bound more often, thereby making it more difficult to stimulate the economy when economic activity weakens and inflation is below target. In such a case, it could be necessary to implement other measures, both from the Riksbank and from other policy areas.

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<sup>1</sup> For a discussion of the concepts of target range and tolerance band, see Sveriges Riksbank (2016).

A persistent low interest rate environment also risks leading to the continued rise of indebtedness among mortgage borrowers, making them more sensitive to interest rate changes. This means that they could be affected more than others when the policy rate needs to be raised. This would be unfortunate as monetary policy probably works best when it affects the entire economy in a similar way.

Furthermore, low interest rates for a long time entail increased risks to the financial system and financial stability. And, as a stable financial system is a prerequisite for successful monetary policy and financial policy, monetary policy in our present situation needs to be supplemented by, among other things, a well-functioning macroprudential policy.

An important question in this context is what formal role the Riksbank should have in the work to reduce risks and vulnerabilities in the financial system. The Riksbank's responsibility for financial stability is expressed in the legislation as the task of "promoting a safe and efficient payment system". More specific details are not given. In my opinion, the Riksbank's responsibility – in common with a number of other central banks – should include financial stability and this should be clarified in the Sveriges Riksbank Act. I hope that this is dealt with at the committee stage of the review of the monetary policy framework and the Sveriges Riksbank Act.

The Swedish banking sector is large by international standards and strongly concentrated on a small number of major banks that are dependent on foreign funding – about half of their funding is in foreign currency. This poses a further risk to financial stability. The Riksbank therefore needs to hold a foreign currency reserve that is large enough to satisfy the needs that arise in a financial crisis, in other words the currency reserve needs to be at least as large as it is today.

Another challenge that monetary policy needs to relate to is the free movement of capital. In combination with a rapid financial development, this has led to asset prices, indebtedness and exchange rates being increasingly affected by monetary policy in the major currency areas. This has progressively limited the degree of freedom for monetary policy in smaller economies. How to increase the degree of freedom for monetary policy, by, for example, implementing macroprudential policy measures that could put a dampener on indebtedness, is being discussed internationally. This is highly relevant for Sweden and I have brought this matter up in several of my previous speeches to the Swedish Economics Association. I will also return to this problem today.

Conducting monetary policy is about being constantly prepared to meet new types of challenges and economic problems. Low interest rates are needed today in order to stabilise inflation at around 2 per cent, but they must be weighed against the risks of low rates over a longer period. This is very much the theme of my speech here at the Swedish Economics Association – weighing the effects of monetary policy today against the effects tomorrow and what challenges this creates. But I thought I'd start by discussing the downward trend in global interest rates and what this means for monetary policy, as it is important to realise that the problems we are grappling with in Sweden are very much influenced, and shared, by the world around us.

## Downward trend in global interest rates

The financial crisis that broke out in the autumn of 2008 was preceded by a seemingly calm and stable period of low inflation and good economic growth. The period is normally referred to as *The Great Moderation*. This positive development can be attributed to a number of factors. Ever-faster globalisation led to greater movement of goods, services, labour and capital among countries. This, in combination with various deregulations increased competition on labour and goods markets, contributing to higher economic growth. Increasingly independent central banks focused on achieving low and stable inflation are also considered to have contributed to the positive development.

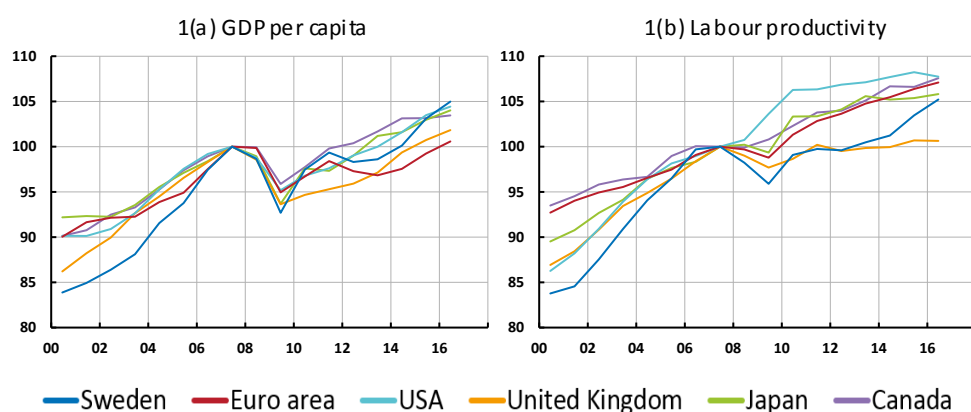
In retrospect, we can now see that major financial imbalances had built up in what appeared to be a stable macroeconomic environment. Central bank monetary policy had successfully stabilised inflation. But this did not prevent the break-out of the more serious economic crisis since the 1930s. It is now clear that the financial sector had not been fully able to manage the risks and that supervision of the financial sector needed to be improved. A more moot point is whether central bank monetary policy contributed to the build-up of financial imbalances.<sup>2</sup> Had central banks been so focused on stabilising inflation that they ignored the financial imbalances that were building up? Had the *Great Moderation* given rise to overconfidence in the ability of monetary policy to steer the economy? I believe that both these questions will become increasingly important in the period ahead. I also believe that they need require further analysis, although one lesson to be learned in any event is that financial stability cannot be taken for granted.

We can also establish that the recovery after the crisis has been slower than many expected. Output per capita in Sweden and in several other countries is only between 1 and 5 per cent higher than before the break-out of the financial crisis (see Figure 1(a)). Another example is labour productivity. In Sweden, for example, labour productivity is around 5 per cent higher than in 2007, which is a slow rate of increase in a historical perspective (see Figure 1(b)). Once a financial crisis has broken out, it can hence take a very long time for the economy to recover.

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<sup>2</sup> See also Billi and Vredin (2014) and Rajan (2005).

**Figure 1. GDP per capita and labour productivity in Sweden and abroad**

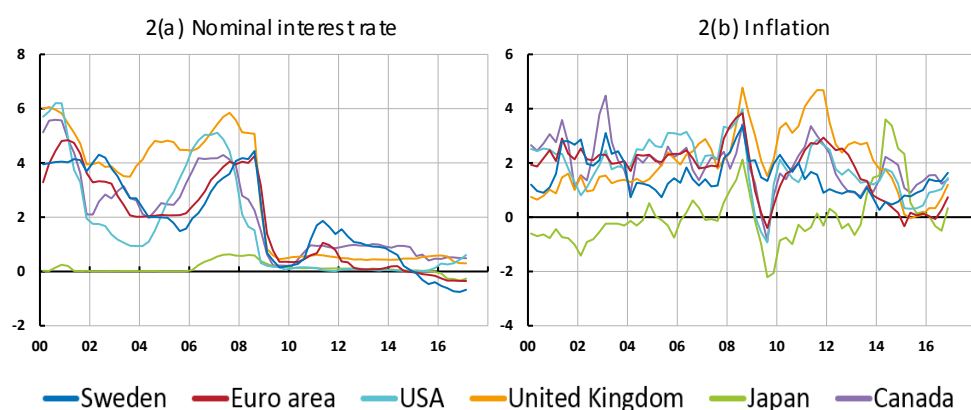


Note. Index, 2007 = 100.

Sources: Bureau of Economic Analysis, Consensus Bureau, Conference Board, Eurostat, Japanese Cabinet Office, Japanese Statistics Bureau, Office for National Statistics, Statistics Sweden and Statistics Canada

The long recovery after the crisis is also reflected in the fact interest rates in many countries are still very low. Central banks reacted quickly when the crisis broke out and cut policy rates to close to zero to avoid a further deepening of the crisis (see Figure 2(a)). Inflation also fell sharply in many countries (see Figure 2(b)). This was partly because the price of oil fell heavily and inflation recovered relatively quickly to begin with. But since then, it has remained at levels some way below many central bank targets.

**Figure 2. Nominal 3-month interest rate and inflation in Sweden and abroad**



Note. Figure 2(a), per cent. The nominal interest rate refers to three-month treasury bills except in the euro area, where it refers to EONIA. Figure 2(b), annual percentage change. Inflation refers to the CPI for Sweden, the HICP for the euro area and the CPI for the remaining countries.

Sources: Bureau of Economic Analysis, Euribor, Eurostat, Japanese Statistics Bureau, Macrobond, OECD, Office for National Statistics, Statistics Sweden and Statistics Canada

## Global real interest rates have been falling for a long time

Monetary policy in many countries has therefore been characterised by close-to-zero policy rates ever since the onset of the financial crisis. All the major central banks, along with several small ones, have also large volumes of purchased

government bonds and taken other measures to push down interest rates even further. One of the explanations for the historically very low policy rates is a downward trend in global *real interest rates*, that is, the interest rates obtained when inflation is subtracted from nominal interest rates.

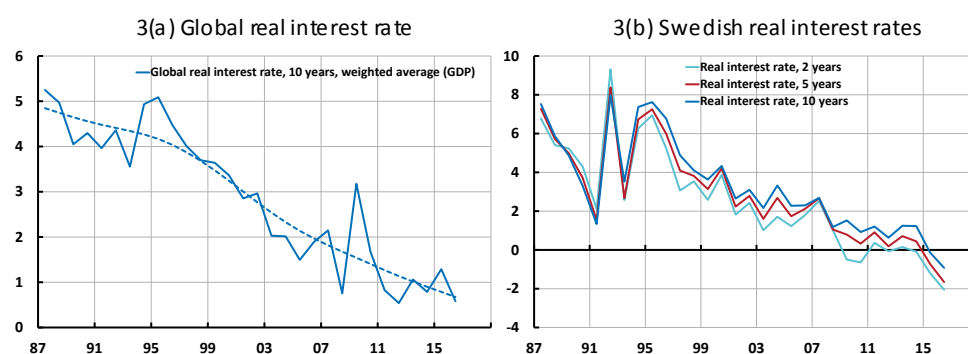
Most central banks control a short, risk-free nominal interest rate – the so-called policy rate. This then affects other nominal market rates to households and companies with longer maturities. The nominal rate has a certain impact on household consumption and corporate investment and hence on demand in the economy. But perhaps an even more important role is played by the real interest rate. Monetary policy is considered to be able to affect the real interest rate in the short term. This is partly due to the fact that it can take time for companies to adapt their prices when demand changes. Via the real interest rate, the central bank can thus influence demand in the economy and by extension inflation.

On the other hand, monetary policy is not considered to be able to affect the real interest rate over the longer term. Instead, it is then determined by other factors, such as demographic development, households' valuation of consumption today compared with in the future, trend growth and, in smaller economies, also by the international real interest rate level. But the long-term real interest rate plays an even more important role for rate-setting. If it has fallen, the average policy rate needs to be lower in order to be able to uphold the inflation target.

It has long been known that real interest rates have shown a falling trend around the world over the last few decades. The "global" real interest rate, i.e. an average of real rates for risk-free assets (here measured using ten-year government bonds) in the major economies, has shown a falling trend of just over 4 percentage points since the end of the 1980s and is currently slightly below 1 per cent (see Figure 3(a)).

The global real interest rate is important for small, open economies. In a world with the free movement of capital, it is difficult for a small economy to have real interest rates that deviate a lot from the global real interest rate level. This does not mean, however, that the real interest rate in Sweden always has to correspond exactly to the rate abroad. Deviations can exist both in the short- and long-term for various reasons. In the short-term, economic activity can develop differently in Sweden and abroad, which can affect real interest rates. Deviations can also take place over longer periods, depending, for example, on different trends in population development or productivity growth. But just as in other countries, there has been a downward trend in the real interest rate in Sweden. The real interest rate for two-, five- and ten-year government bonds has fallen from around 6 per cent at the end of the 1980s to almost -2 per cent today (see Figure 3(b)).

**Figure 3. Global real interest rate and Swedish real interest rates from a historical perspective**



Note. Per cent. The broken trend line has been calculated using the HP filter. Real interest rates are calculated as nominal government bond yields minus actual inflation. The calculation of the global real interest rates includes the euro area (as of 1995), Japan, Canada, the United Kingdom and the United States.

Sources: Bureau of Economic Analysis, Eurostat, Japanese Statistics Bureau, Macrobond, OECD, Office for National Statistics, Statistics Sweden and Statistics Canada

### Falling global real interest rates can be caused by *secular stagnation*...

Research provides several different explanations for the falling trend in global real interest rates.<sup>3</sup> The explanation that has probably received the most attention recently is the theory of *secular stagnation*, developed by the American economist Lawrence Summers.<sup>4</sup> According to him, weaker global demand and lower growth, which can be long-lasting, lie behind the low level of interest rates. The weak demand is, in turn, due to various structural factors that have led more people wanting to save and fewer wanting to invest. Both of these parts tend to push the real interest rate down.

Demographic factors may provide an explanation for why the willingness to save has increased. Average life expectancy in the population has risen in both developed countries and emerging economies in recent decades. This may lead more people to wish to save for their old age. In a lifecycle perspective, saving is highest in middle age, when most people's earnings are highest and they are very motivated to save prior to retirement. So the greater number of middle-aged people today may thus provide an explanation for the increase in saving. If the saving is intended for future retirement, one effect of the falling real interest rates may also be that many people need to save even more to reach their saving targets.

Another explanation for the increase in saving, particularly during the 2000s, has been put forward by the former Chairman of the Federal Reserve, Ben Bernanke.<sup>5</sup> According to him, the increase in saving that occurred in China and other Asian

<sup>3</sup> See Fischer (2016), Sveriges Riksbank (2017a) and Rachel and Smith (2015) for an attempt to quantify the significance of the various explanations.

<sup>4</sup> See Summers (2014).

<sup>5</sup> See Bernanke (2015).

emerging economies, as well as in the major oil-producing countries, contributed to the downward pressure on interest rates. This is because the large current account surpluses in these regions have been invested on the global capital markets, resulting in low real interest rates.

The falling trend in real interest rates may also be due to a reduced willingness to invest. In an article that has attracted much attention, the famous American economist Robert Gordon claimed that the pace of innovation has declined sharply since the 1970s.<sup>6</sup> In his opinion, growth between 1870 and 1970 was abnormally high thanks to relatively simple and growth-promoting innovations, such as electricity and the combustion engine. According to Gordon, it will not be possible to repeat this growth as today's innovations, such as the Internet and mobile technology, he says, do not provide any major productivity gains in the long term. A reduction in global willingness to invest may thus be due to a slower pace of innovation. This means there are fewer profitable projects in which to invest.

### ...but there may also be other reasons

According to the theory of *secular stagnation*, the falling real interest rates may be a sign of a shortage of investment opportunities for companies. But has this actually been the case? One way of investigating this is to study the return on companies' capital stock.

Figure 4(a) shows the real return on capital in the US between 2000 and 2016. As can be seen, return has been stable with relatively minor variations around just below 9 per cent while the real interest rate has shown a falling trend. After the financial crisis, return on capital has even risen slightly, suggesting good investment opportunities. Investment growth after the financial crisis is in line with such a hypothesis. Figure 4(b) shows that investments have risen relatively rapidly since 2010 and are now close to or above their long-term trend. None of this is easy to reconcile with secular stagnation.<sup>7</sup>

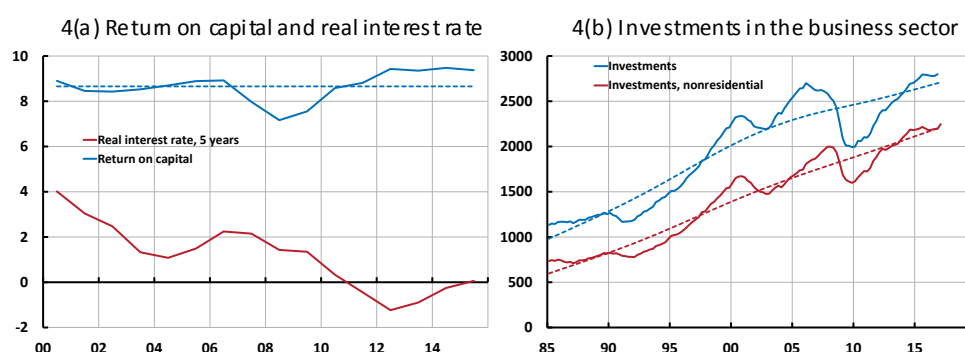
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<sup>6</sup> See Gordon (2012).

<sup>7</sup> See Gomme et al. (2015) for further discussions.



**Figure 4. Real return on capital, real interest rate and investments in the United States**

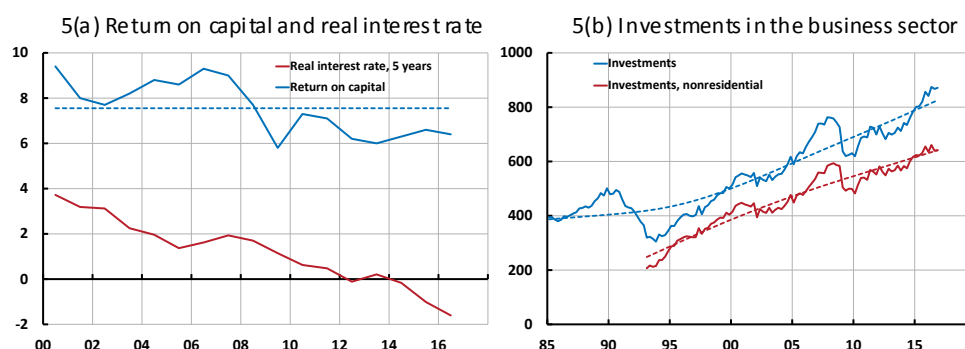


Note. Figure 4(a), per cent. Return on capital in the business sector. Broken lines show a average return on capital since the year 2000. Real interest rate refers to 5-year real government bonds. Figure 4(b), USD billion. The broken trend lines have been calculated using the HP filter.

Sources: Gomme et al. (2011), Bureau of Economic Analysis, Federal Reserve and the Riksbank

We can observe that the development in Sweden has been similar. Figure 5(a) shows that the real return on capital in Sweden between 2000 and 2016 has been relatively stable with minor variations around slightly below 8 per cent while the real interest rate has shown a falling trend. Figure 5(b) shows that investment is also close to or slightly above its long-term trend in Sweden.

**Figure 5. Real return on capital, real interest rate and investments in Sweden**



Note. Figure 5(a), per cent. Return on capital in the business sector. Broken lines show a average return on capital since the year 2000. Real interest rate refers to 5-year real government bonds. Figure 5(b), SEK billion. The broken trend lines have been calculated using the HP filter.

Sources: National Institute of Economic Research, Statistics Sweden and the Riksbank

The real return on capital and the real interest rate should be strongly associated with each other, i.e. the exact opposite to what we observed in both the United States and Sweden. A falling real interest rate tends to reduce the cost of investment, which should increase the rate of investment and thereby decrease the return on capital. The various premiums that measure the difference in return on capital and government bond yield should therefore not show a trend, even though that appears to be the case.

An important factor that can often explain some of the difference between return on capital and government bond yield is the so-called credit risk premium, which compensates the investor for the risk of the company going bankrupt. There is

reason to believe, however, that the credit risk premium has been stable as the number of bankruptcies has been constant or falling.

Another premium is the so-called liquidity premium. Risk-free assets such as government bonds can often be used as collateral for various loan contracts. Government bonds and other risk-free assets that can relatively easily be converted into liquid funds therefore have an added value given by the liquidity premium. The higher the liquidity premium is on an asset, the higher the price and the lower the yield will be.

The falling trend in the real interest rate should, at least in part, be due to the premium on government bonds having risen. It is not difficult to find reasons why this could be the case, particularly not in the period after the financial crisis. The supply of acceptable collateral on the financial markets decreased when a significant share of the assets were lost during the financial crisis. The sovereign debt problems in the euro area may also have reduced the supply of safe assets. The demand for safe assets may have increased due to new financial regulations, such as Basel III. Finally, central bank purchases of government bonds reduce supply on the financial markets.

To summarise – making predictions about future economic development is, as everyone knows, very difficult. The economic system is complex and new innovations and changes that are difficult to predict happen all the time. The theory of *secular stagnation* was presented for the first time as early as the 1930s by the American economist Alvin Hansen.<sup>8</sup> It proved to be incorrect at that time and I have suggested that there may be reason to still be sceptical about it now.<sup>9</sup> The current low interest rate environment may very well have been caused by factors other than *secular stagnation* and need not therefore be long-lasting.

A look-back in history shows that real interest rates often vary in longer cycles. They have been on the same low levels as today only to then return to more normal levels.<sup>10</sup> The difficulty we now face is assessing how long this cycle of low real interest rates will last. This is no easy task even if there is every indication that they will continue to be low for the foreseeable future. We must remember, however, that history has also taught us how economic development can sometimes take unexpected twists and turns.

## Future challenges

### **The global real interest rate continues to be low**

I have mentioned a few different possible reasons for the downward trend in the global real interest rate – demographic factors, lower growth and higher demand for safe assets. These factors will probably continue to exert an influence in the period ahead, with lower interest rates as a consequence. In such a case, this

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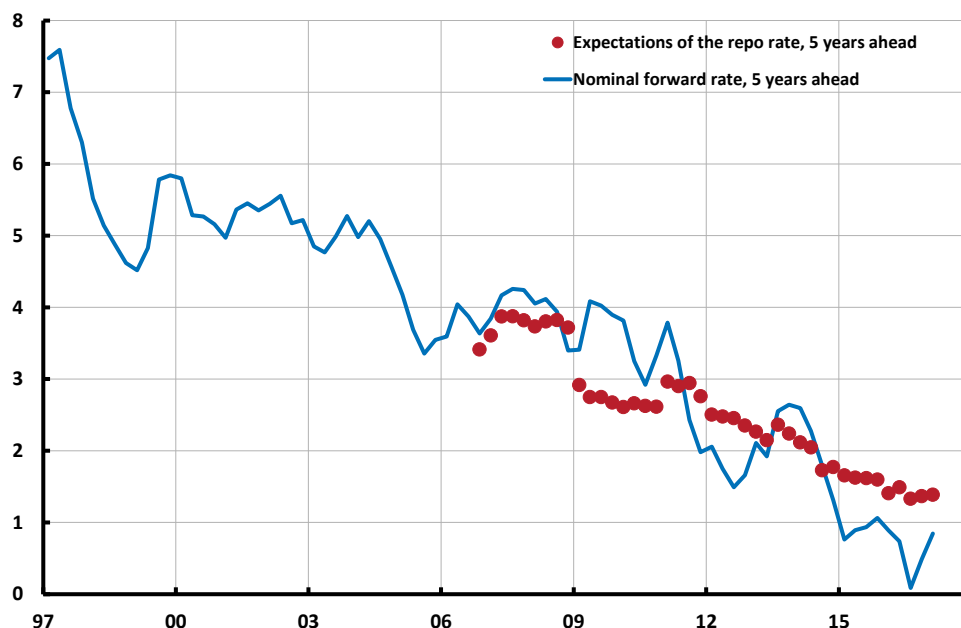
<sup>8</sup> See Hansen (1938).

<sup>9</sup> See also Bernanke (2015) and Rogoff (2015) for additional arguments that can call the theory of secular stagnation into question.

<sup>10</sup> See Yi and Zhang (2016).

would also be in line with pricing on the Swedish financial markets. The market pricing of the overnight rate five years ahead is around 1 per cent, which indicates that the policy rate will continue to be low (see Figure 6). Market participants' expectations of the policy rate as expressed in surveys indicate similar levels (see Figure 6).

**Figure 6. Overnight rate 5 ahead years according to market pricing and expectations of the policy rate 5 years ahead**



Sources: TNS Sifo Prospera and the Riksbank

## Increased risks to the financial system

A persistent low interest rate environment may threaten the stability of the financial system. A stable financial system forms a condition for monetary policy and also fiscal policy to succeed. If the financial system is threatened, the government may need to intervene with various support measures. This may be very expensive, not least in Sweden, considering the size of the Swedish banking sector.

One lesson from the economic crisis at the start of the 1990s is that healthy public finances form a condition for achieving good economic development with stable inflation. To reduce the risks to the financial system and public finances – and, ultimately, monetary policy – it is therefore important to have a smoothly functioning regulation of the banking system. The policy area with main responsibility for counteracting the emergence of financial imbalances and contributing to the stability of the financial system is macro- and microprudential policy.

## Greater dependence on other monetary policy tools

For monetary policy, continued low real interest rates mean that it may become more difficult to stimulate the economy only with the use of the policy rate when economic activity is weakening and inflation is below target. If, for example, the long-term real interest rate is around zero, at the same time as the inflation target is 2 per cent, the policy rate will also be around 2 per cent, on average. This does not provide much scope for interest rate cuts in the event of an economic slowdown, as the policy rate cannot be cut too far below zero. If the economic slowdown is large enough, households and companies may also start to believe that monetary policy's scope is limited and accordingly set their expectations to a rate of inflation below the inflation target.

Consequently, the monetary policy toolkit, both in Sweden and in other countries, may also continue to need to include more tools. This may include large-scale asset purchases, a measure impacting long-term interest rates, expectations of future short-term interest rates and the amount of money in the economy.<sup>11</sup> Another measure that could be used is the publication of forecasts of the interest rate path, so-called forward guidance, which the Riksbank also does. This year, it is actually ten years since we started to publish three-year paths for the policy rate. Other ways of making monetary policy more expansionary could be by intervening on the foreign exchange market and giving loans directly to companies via the banks.

## Mortgage borrowers more sensitive to interest rate changes

The falling real interest rates are one of the reasons that indebtedness has risen over the last twenty-year period. Inflation targeting was formally introduced in 1995 when households' debt-to-income ratio – debt in relation to disposable income – was around 90 per cent. Today, just over 20 years later, indebtedness has pretty much doubled and is almost 180 per cent.<sup>12</sup> The rising indebtedness and many people choosing a variable interest rate on their mortgages has made households more sensitive to interest rate adjustments. The importance of monetary policy for households with high indebtedness, in practice mortgage borrowers, has therefore become greater.

In an example calculation, four economists from the Riksbank have attempted to shed light on how an interest rate rise today would affect mortgage borrowers' consumption, compared with 20 years ago.<sup>13</sup> The following scenario could provide a backdrop to these calculations. To fund loans for housing, the Swedish banks issue mortgage bonds, among other things. These are partly funded by foreign investors. If these foreign investors, for whatever reason, should lose confidence in the Swedish economy and the mortgage bonds, the banks may become very vulnerable. They may find it more difficult to obtain funding on the international markets, at the same time as interest rates start to rise. The exchange rate may

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<sup>11</sup> Since February 2015, the Riksbank has purchased nominal and real government bonds. At the end of 2017, total purchases were calculated to amount to SEK 290 billion.

<sup>12</sup> If tenant-owner associations' debts are also included in household indebtedness, households' debt-to-income ratio is today around 200 per cent.

<sup>13</sup> This calculation can be found in Finocchiaro et al. (2016).

start to weaken due to decreased confidence among foreign investors, which, in turn, could push inflation up. In such a scenario, the Riksbank may be forced to raise the policy rate to restrain inflation. These rising interest rates would primarily impact households with large mortgages. They would face higher mortgage costs and would thus find it more difficult to manage their loans, which could lead to reduced consumption and demand.

The calculation assumes that the policy rate is raised by one percentage point. At the current level of indebtedness, mortgage borrowers would have to reduce consumption by almost two per cent. If indebtedness had instead been the same as when inflation targeting was introduced 20 years ago, their consumption would only have decreased by a few tenths of one per cent. Mortgage borrowers' consumption would thus decrease by a significantly greater degree today, compared with 20 years ago. The calculation probably also underestimates the effect on consumption, as variable interest rates are much more common today, something the example calculation does not consider.

If real interest rates continue to be low, this could lead to indebtedness rising even more. The interest rate sensitivity of mortgage borrowers will then become even greater and they may be even more affected than the example calculation suggests when the policy rate must be raised. This would be unfortunate as monetary policy probably works best when it affects the entire economy in a similar way.

However, the fact that interest rate sensitivity is greater today than previously among mortgage borrowers does not necessarily mean that the impact of monetary policy has also become greater. Inflation depends on how an interest rate adjustment affects the overall demand in the economy. This, in turn, depends on total consumption, which is to say how much mortgage borrowers and other households consume together. The results from the example calculation indicate that the impact on inflation is only slightly greater today than it was 20 years ago.

## **Limited degree of freedom for monetary policy**

Rapid financial development, in combination with free capital movement, has led to the emergence of significant capital flows between different countries when monetary policy in major currency areas such as the United States and the euro area is changed. This affects asset prices, indebtedness and exchange rates in a way that can limit monetary policy's degree of freedom.

In Sweden, we saw an example of this in mid-2014, when it became clear that monetary policy in the euro area and the United States was moving in different directions. The Federal Reserve tapered its asset purchases and was expected to raise its policy rate in the second half of 2015. The ECB, on the other hand, cut its policy rate and announced a support package to make it easier for small and medium-sized enterprises to get bank loans. The ECB also decided on substantial asset purchases in order to make monetary policy more expansionary at the start of 2015. There was thus a risk that the krona would become too strong against the euro. In a situation in which inflation was below target and inflation expectations were falling, it was particularly important to avoid a rapid

appreciation of the krona. The policy rate was therefore cut to below zero per cent and purchases of government bonds were initiated.

## The trilemma may be a dilemma

The limits of monetary policy are often discussed on the basis of the so-called economic trilemma, which is to say the difficulty of uniting an independent monetary policy and free capital movements with a stable exchange rate.<sup>14</sup> The problem is that all of this, according to the trilemma, cannot be attained simultaneously. If a central bank wishes to conduct its own monetary policy, which is to say to set domestic interest rates independent of foreign ones, and, at the same time, have a stable exchange rate, capital movements must be regulated, otherwise the domestic interest rate cannot deviate from the international one without there being major fluctuations in the exchange rate. The differences in the interest rate affect the currency flows which, in turn, puts pressure on the exchange rate.

In Sweden, for 20 years, we have had free capital movements, a variable exchange rate and an independent monetary policy aimed at meeting the inflation target. However, recent years' experiences have shown that it can be difficult to conduct an independent monetary policy when capital movements are free, even with a variable exchange rate. The exchange rate has not always acted as the stabilising factor that many economists have counted on. One example of this is the ECB's highly expansionary monetary policy from the start of 2015, which risked entailing an excessively rapid appreciation of the krona. One hypothesis put forth is that monetary policy's trilemma may, in fact, be a dilemma: It is not possible to fully unite an independent monetary policy with free capital movements.

New studies based in what is usually known as *the financial cycle* provide a certain amount of support for this.<sup>15</sup> No widely-accepted definition of the financial cycle exists, but, as a rule, it is usually constructed on the basis of time series of various financial variables such as indebtedness, asset prices and so on. What distinguishes this cycle is that it lasts for longer and fluctuates more than a normal economic cycle. According to the new studies, there exists a global financial cycle that is mainly steered by monetary policy in the United States. For smaller economies, it can be difficult to deviate from this global cycle in practice. Some economists even argue that it is so pervasive that smaller economies have completely lost the ability to conduct an independent monetary policy if capital movements are free. That is probably an altogether too drastic conclusion, but there is much to suggest that international capital flows and the global financial cycle at least limit the degree of freedom for monetary policy.

## Monetary policy needs to be complemented by macroprudential policy measures

The global financial cycle after the financial crisis has largely been steered by the expansionary monetary policies of the United States and euro area. Low interest

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<sup>14</sup> See, for example, Obstfeld and Taylor (2004).

<sup>15</sup> See, for example, Rey (2015).

rates have led to rapid credit growth and rising house prices in several countries. Attempting to counteract this development at a local level with monetary policy has hardly been possible. Monetary policy can certainly 'lean against the wind' and thereby hold policy rates a little higher than what would have been justifiable by the prevailing economic situation with the aim of restraining excessively rapid credit growth. This can reduce the risks, but it would probably not be enough and would also be linked with costs.

Many consider therefore that monetary policy needs to be complemented by other measures so that it can meet the price stability target. The introduction of capital controls, thus directly restricting capital flows, is one possible measure. But this would be expensive. Trade in various assets entails large economic gains, among other reasons because consumption in different countries can be evened out over time. Other advantages are the transfer of technology that often accompanies foreign investments and the increased competitiveness in the domestic market that results when foreign companies are allowed to invest locally. A better complement to monetary policy is thus formed by measures restricting supply and demand for credit, which is to say primarily macroprudential policy measures.

## Measures for reducing the risks are needed now

Having low interest rates for a long time entails risks for the financial system. Low real interest rates are contributing to the growing trends of rising housing prices and increasing household debt. Investors with predetermined nominal required rates of return, such as fund managers, insurance companies and pension funds, are finding it more difficult to reach their targets. This risks leading to an excessive increase in risk-taking, the overvaluation of assets and the accumulation of financial imbalances.

In several of the countries worst impacted by the global financial crisis of 2008–2009, the crisis had been preceded by rapidly-rising debts and housing prices. The downturn after a crisis also risks being deeper and more prolonged if indebtedness has risen rapidly before the crisis.

The risks of household indebtedness therefore need to be managed and the longer this is put off, the more expensive it risks becoming. Measures thus need to be applied now to reduce the risks in the financial system. Household demand for loans needs to be dampened. A debt-to-income limit may be an appropriate measure, but strengthening the loan-to-value limit and the amortisation requirement should also be considered. It may also be necessary to reduce households' incentive to borrow by reducing tax relief on interest expenditure.

Measures are also needed to strengthen resilience among Swedish banks. Given the risks in the Swedish banking system, it is important that the banks hold enough liquidity and capital. So that the banks can manage their short-term liquidity risks, they need to have a reasonable liquidity coverage ratio in all significant currencies, for example in certain Nordic currencies and pounds sterling for those banks that obtain funding in these currencies to a great extent.

To ensure that the banks have enough capital, a leverage ratio requirement, which is to say a requirement for the banks' equity in relation to their total assets, should be introduced as a complement to the risk-weighted capital requirements already existing. This would restrict the banks' possibilities for increased credit granting. It would be particularly effective to initiate this measure when the global financial cycle is on the way up and the banks are finding it easy to obtain funding.

However, it should be repeated that a fundamental cause of indebtedness in Sweden is that the housing market does not function. It has not been able to meet the rising demand for housing that has long been highly visible. Implementing the reforms needed to create a better balance on the housing market and to build more housing will, however, take some time. Measures to restrain the accumulation of debt by households and to strengthen the banking system will therefore be necessary during this period.

## Over the long term, mortgage borrowers will benefit from lower indebtedness

The measures that need to be applied to restrict households' opportunities to borrow and to strengthen the banks' resilience may have short-term effects on demand and inflation, which monetary policy needs to consider. But the measures may also impact different groups in society in different ways. In practice, this could be one reason for why it has been difficult to apply appropriate measures. There are so many groups to consider: mortgage borrowers and other households, high income earners and low income earners, households in rural areas and households in metropolitan areas, and so on. But in several cases, the variations are also large between different households within these different groups, which makes it difficult to determine who will win and who will lose from different measures. It may therefore be difficult to conduct a policy that clearly mitigates the consequences for those households hit hardest by the measures.

Another difficulty concerns distribution effects in the short and long terms. These can often differ. In the short term, it is likely that many indebted households – mortgage borrowers – may be forced to cut back on their consumption while they reduce their debts. During this period of adjustment, it is possible that their economic situation may deteriorate. But, over the longer term, when debts have been decreased, mortgage borrowers may benefit. This long-term distribution effect may be worth emphasising as it is seldom mentioned in the debate.

In the study I mentioned previously, the authors have also tried to estimate how much mortgage borrowers could benefit from indebtedness decreasing over the longer term.<sup>16</sup> One of their example calculations assumes that Finansinspektionen introduces a debt-to-income limit that reduces household debt-to-income limits by 10 per cent. This leads to mortgage borrowers' interest expenditure becoming lower over the longer term, so that their disposable incomes become higher. They thus become able to consume more goods and buy better housing. In this simple calculation, consumption becomes around 1 per cent higher over their lifetimes. The losers are the debt-free households, which lose out on interest income as

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<sup>16</sup> This calculation can be found in Finocchiaro et al. (2016).



indebtedness in the economy decreases. As mortgage borrowers are more economically vulnerable than other households, measures that reduce their indebtedness may thus be advantageous from the perspective of distribution, at least over the longer term.

Another measure that is often discussed to reduce indebtedness is a gradual reduction of tax relief on interest expenditure. This tax relief subsidises debt and gives households an incentive to take larger mortgages than they would have done without tax relief. The long-term distribution effects of reducing tax relief on interest expenditure are uncertain, as they also depend on how the government uses the budget funds made available, something we perhaps do not think about too often. The funds could be used to compensate the indebted households or even to increase public expenditure in other ways, for example through various reforms.

From a socioeconomic perspective, a reform gradually reducing tax relief on interest expenditure would probably be beneficial. The distorting effect of tax relief, which benefits excessive indebtedness in society, would thereby cease.

In summary, it could very well be beneficial to have lower indebtedness from a distribution perspective. The most important effect of lower indebtedness is, as I have pointed out several times before, reduced risks to the financial system. But, as well as this, mortgage borrowers' disposable income and thereby their consumption may thus also become higher over the longer term.

## The Riksbank's responsibility for financial stability needs to be clarified

One of the primary tasks of the Riksbank is to "promote a safe and efficient payment system", as it is expressed in the legislation. This means that the Riksbank is to conduct a policy for financial stability but no more exact definition is given. One controversial issue in this context is whether monetary policy should take consideration of the risk of a financial crisis. It is not unusual for central banks with inflation targets to take practical account of financial stability in their monetary policy framework – a few examples of this are the Bank of England, the Bank of Canada, Norges Bank and the Reserve Bank of New Zealand. I consider that the Riksbank's responsibility should also include financial stability and this should be clarified in the Sveriges Riksbank Act.

In recent years, economic policy, including monetary policy, has focused on tidying up after the global financial crisis, which has been very expensive.<sup>17</sup> As monetary policy affects the economy through some of the same channels as various macroprudential policy measures and normal stabilisation policy, it seems likely that a slightly less expansionary monetary policy ahead of the financial crisis could have contributed towards a better economic development. We should therefore ask ourselves whether we should continue to consider financial stability

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<sup>17</sup> Estimating the overall cost to society of a financial crisis is difficult and associated with a high degree of uncertainty. Sveriges Riksbank (2017b) notes that estimates in academic research indicate that the costs of a crisis can vary between 8 and 300 per cent of GDP, depending on which methodology is used, the definition of a crisis, the time horizon and the countries studied. For Sweden, it is estimated that the cost of a financial crisis can be expected to be around 180 per cent of GDP, calculated as the present value of the GDP loss over time.

in the same way as prior to the financial crisis or whether monetary policy should actually take explicit account of the risk of a financial crisis. My view is that financial stability and monetary policy are so closely interlinked that it is difficult to draw a clear boundary between them, which is one reason I think it would be good if the Riksbank were to have main responsibility for macroprudential policy.<sup>18</sup>

## The importance of independent macroprudential policy

The Riksdag has given the Riksbank an independent status. This is based on the insight that there may be reasons for economic policy makers to pursue a short-term policy that is incompatible with long-term goals. This is usually referred to as the ‘time inconsistency problem’ and is commonly found in economic policy.

In monetary policy, the fundamental problem is that decision-makers are happy to promise low and stable inflation, at the same time as they also wish – after households have formed expectations of low and stable inflation – to conduct a more expansionary monetary policy to increase employment. However, households realise this and incorporate this knowledge into their inflation expectations, which leads to inflation becoming excessively high. One solution to the time inconsistency problem is to delegate monetary policy to an independent central bank with an inflation target. My assessment is that this is a solution that has worked well in Sweden.

Time inconsistency is also a problem in macroprudential policy. One example of this is capital requirements for banks.<sup>19</sup> The supervisory authority would very much like to set high capital requirements for the banks so that they do not take excessive risks. At the same time, however, in a recession, it may be desirable to mitigate capital requirements because high levels can lead to a reduction of lending and, ultimately, a credit crunch. The banks understand this when they choose how much risk they will take, which leads to risk-taking becoming excessive.

The time inconsistency problem is an argument for the management of macroprudential policy, just like monetary policy, by an independent authority.<sup>20</sup> Monetary policy and macroprudential policy obviously differ in several respects. For example, monetary policy is guided by an inflation target of 2 per cent, while the target of macroprudential policy is harder to formulate in a simple and clear way. This may make it more difficult to evaluate macroprudential policy decisions and hold the decision-makers to account. But I think it can be solved. It should be possible to develop and adjust the structures for democratic follow-up and control exercised by the General Council of the Riksbank to macroprudential policy. The publication of reports and minutes, as well as regular hearings by the

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<sup>18</sup> This is also in line with Goodfriend and King’s recommendation that “the mandate of the Riksbank should include financial stability, and the Riksbank must have some formal powers to enable it to achieve its objective”. See also Billi and Vredin (2014), Bjørnland (2017), Blinder (2010), Ingves (2007) and Stein (2014).

<sup>19</sup> In this example, I am referring to capital requirements intended to remain constant over time and applied to the entire banking sector. It is thus not possible to apply the example to the countercyclical capital buffer. See also Gersbach (2011).

<sup>20</sup> This is in line with Goodfriend and King (2016), who write that it is important that decisions on macroprudential responses be separated from day-to-day political pressures.

Riksdag Committee on Finance, could also be adjusted for the follow-up and control of macroprudential policy decisions.

There are thus strong grounds for arguing that macroprudential policy should be conducted by an independent authority. In addition, there are other reasons for why macroprudential policy should also be coordinated with monetary policy. One that I have just mentioned is that financial stability and monetary policy are closely interlinked with each other. This means that the coordination of the monetary policy decisions and decisions on macroprudential policy measures would probably be of increased benefit to society.<sup>21</sup> Giving the Riksbank an extended mandate to prevent financial crises and, at the same time, allocating the Riksbank some macroprudential policy tools would solve both the time inconsistency problem and the lack of coordination between monetary and macroprudential policies.

An independent and effective macroprudential policy is important for the prevention of financial crises. But if a financial crisis should nonetheless occur, an important task for the Riksbank is to provide liquidity support to Swedish banks, not only in Swedish currency but also in foreign currency.

### The foreign currency reserve needs to be readily available in the event of a crisis

Sweden has a large and expanding banking sector with major commitments and funding in foreign currency. In the event of a financial crisis, the Riksbank has a unique role as crisis manager due to its ability to provide liquidity support to the banks. In order to provide liquidity support in foreign currency, the Riksbank needs to maintain a foreign currency reserve. This should be so large that it covers the needs that could be expected to arise in the short term in a financial crisis. The International Monetary Fund (IMF) makes the assessment that the current level of the foreign currency reserve is sufficient for the Riksbank to cover the requirements of a financial crisis.<sup>22</sup> My own assessment is that the foreign currency reserve needs to remain at today's level or become larger.

However, the Government proposes that the foreign currency reserve should be roughly halved.<sup>23</sup> This is a high risk proposition. It could both take time and be expensive not to have the money at hand at the height of a crisis but to be forced to ask the Swedish National Debt Office to borrow it. If the foreign currency reserve is large enough, it could also act preventively by creating confidence in the Riksbank's ability to act in a crisis. The currency reserve should thus be seen as an insurance policy that not only reduces the risk of crises, but also ensures good protection when they nevertheless occur. The cost of borrowing the currency reserve should therefore be funded by the banks that create liquidity risks in foreign currency. The possibility of transferring this cost to the banking sector should be investigated as soon as possible.

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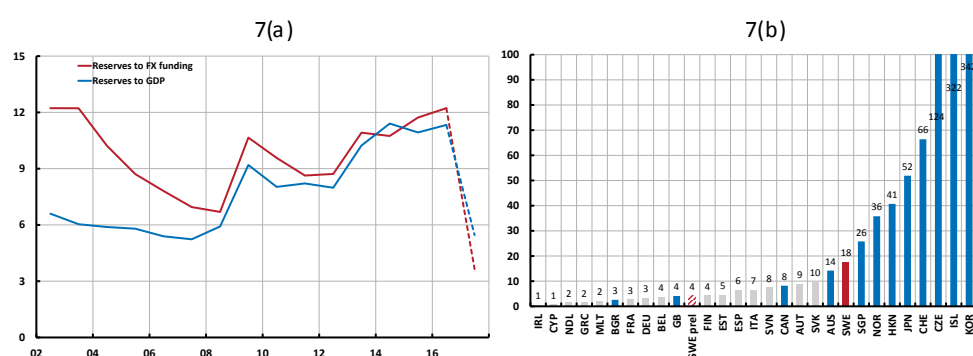
<sup>21</sup> See Bryant et al. (2012), who discuss the background for why coordination can increase social benefit, and Jonsson and Moran (2014), who illustrate this in a number of example calculations. See also Spencer (2014) for an interesting discussion.

<sup>22</sup> See IMF (2016).

<sup>23</sup> See the Riksbank's financial independence and balance sheet (draft proposal) from the Ministry of Finance.

The currency reserve's share of the banking system's foreign funding in 2016 was on the same level as in 2002, but would – if the Government's proposal were to be implemented – fall dramatically (see Figure 7(a)). This is also a very low level from an international perspective (see Figure 7(b)). The countries with lower currency reserves are the euro countries (with the exception of Bulgaria) which, similarly to the United States and United Kingdom, enjoy the benefit of possessing a reserve currency. Furthermore, as members of the euro area, they also have greater chances of receiving liquidity in euros from the ECB.

**Figure 7. Figure 7(a) foreign currency reserve in relation to GDP and to the Swedish banking system's foreign funding and Figure 7(b) foreign currency reserve as a proportion of the country's short-term debts in foreign currency 2016**



Note. Figure 7(a), per cent. Foreign funding refers to Swedish banks' (including Swedish subsidiaries but excluding foreign subsidiaries) market funding and deposits in foreign currency. The broken part of the line represents the Riksbank's forecast based on the reduction of the currency reserve proposed in the draft. Figure 7(b), countries marked in grey belong to the euro area.

Sources: IMF, Statistics Sweden and the Riksbank.

## Conclusions for monetary policy

I opened by noting that these are unusual times in the Swedish economy. We have strong economic activity at the same time as monetary policy continues to be expansionary. Inflation has been below target for a longer period, but is now rising and approaching 2 per cent. The expansionary monetary policy is necessary for inflation to stabilise at 2 per cent. Despite the difficulties encountered in recent years in bringing inflation up, I think that flexible inflation targeting, on the whole, works well. But monetary policy cannot, by itself, solve all the economic problems Sweden and the rest of the world are struggling with.

Real interest rates have fallen for a long time in the rest of the world and in Sweden. It is also likely that interest rates will remain low in the period ahead. This may make it more difficult to stimulate the economy with interest rate cuts when economic activity becomes weaker and inflation is below target. In such a case, it could be necessary, both for the Riksbank and other policy areas, to implement other measures.

When the interest rate has been low for a longer period, it also entails increased risks for the financial system and financial stability. Stability is a condition for both monetary policy and fiscal policy to succeed. The free movement of capital and

the rapid financial development have led to increased capital flows that affect asset prices, indebtedness and exchange rates. And this limits monetary policy's degree of freedom, above all in smaller economies such as ours. To reduce the risks to the financial system and increase the degree of freedom for monetary policy, monetary policy needs to be complemented by an efficient macroprudential policy, among other things.

Inflation targeting is based on an assignment that largely disregarded the risks inherent in financial stability. The Riksbank's responsibility in this area is expressed in the legislation as the task of "promoting a safe and efficient payment system". More specific details are not given. I consider that the Riksbank's responsibility should include financial stability and this should be clarified in the Sveriges Riksbank Act.

An important question in this context is what formal role the Riksbank should have in the work to reduce risks and vulnerabilities in the financial system. After the financial crisis, the framework surrounding the preventive work for financial stability has been reviewed in several countries, including Sweden. The outcome of the Swedish inquiries has not improved the Riksbank's chances of working preventively on reducing the risks in the financial system – rather the opposite. I do not consider that dispersing responsibility among several different authorities and reducing the Riksbank's role is a good solution for Sweden. The risk is that it will become unclear who is to act should a risk arise in the financial system and how accountability is to be demanded should a crisis nevertheless occur. As I have pointed out several times previously, I think it would be good if the Riksbank were to be given an extended mandate to prevent financial crises and, at the same time, were to be allocated some macroprudential policy tools.

The Swedish banking system has a relatively great need for wholesale funding in foreign currency. In order to provide liquidity support in foreign currency, the Riksbank therefore needs to maintain a sufficiently large foreign currency reserve. The Government's proposal that the foreign currency reserve should be roughly halved is risky. My assessment is that at least the current level of the foreign currency reserve is necessary to allow us to meet the needs that can be expected to arise in the short term in a financial crisis.

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