SPEECH

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The distributional effects of monetary policy*

"Price stability is a prerequisite for sustained economic growth as well as full employment and it prevents an arbitrary redistribution of income and wealth." This is how the Riksbank concluded its press release on 15 January 1993, when the inflation target was announced. The link between monetary policy, growth and employment has been very much in focus over the almost 25 years that have passed since then. The distributional effects of monetary policy, on the other hand, have been more or less overlooked, until the question came into the spotlight again in recent years.

When the Riksbank decided in early 1993 to begin steering its policy towards an inflation target, it was starting from a period when the major problem had been a high rate of inflation and also a rate of inflation that fluctuated substantially from one year to the next. Having a high inflation rate is as we know a problem in itself, but it also becomes more difficult for households and companies to make financial decisions, as the real value of savings, investments and debt is affected by large fluctuations in inflation. If inflation is higher than expected, borrowers benefit from the value of the debts being eroded, while lenders and those with large savings are correspondingly disadvantaged. This type of arbitrary distribution between lenders and borrowers was common during the 1970s and 1980s.

The inflation target, together with the reforms of the fiscal policy framework and the changes in wage formation in the 1990s, has contributed to inflation in Sweden both coming down to a lower level and becoming more stable than before. The same has happened to inflation rates around the world. It is therefore not surprising that the question of the distributional effects of inflation and monetary policy disappeared from the economic policy debate.

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Distributional effects topical again

However, in recent years the question has become topical again. One reason for this is a growing insight that the distribution of income and wealth may have considerable significance for the effects of monetary policy on the economy as a whole. And it is therefore important to understand the relationships better. Another reason why this has become topical again is the rising asset prices and the effect that monetary policy has on the distribution of income and wealth.

We have gone through a long period where inflation has been low and central banks around the world have struggled to bring inflation back up to their respective target levels. One might therefore think that the question of monetary policy's distributional effects has become topical because inflation has been higher than expected, which has benefitted some groups at the cost of others. But this is not actually the main reason; instead it is the efforts the central banks have made to increase activity in the economy and to bring up inflation.

Low interest rates have contributed to a rapid rise in prices of shares and other assets, both financial assets and real assets. This effect in itself should be inconspicuous. Asset prices normally rise when interest rates fall, which occurs in periods when monetary policy stimulates the economy. However, recent years have been special in many ways. Apart from policy rates being low for an unusually long time, the Riksbank and other central banks have also used other methods to further push down the general interest rate level, for instance purchases of government bonds. The monetary policy measures have affected asset prices in a more direct and visible manner than the conventional policy of interest-rate cuts. This has contributed to more discussion of the distributional effects of monetary policy.

The distributional effects of the central banks' asset purchases have been in focus in, for instance, the United States, the United Kingdom and in Germany, where there has been considerable discussion of the effects of low interest rates for savers.[1] In Sweden, the Riksdag Committee on Finance has included distributional effects in the questions that are to be included in the ongoing review of the monetary policy framework and the Sveriges Riksbank Act – in the terms of reference for the review it says that the committee making the review shall consider in particular whether the Riksbank should give consideration to the consequences that conventional and unconventional monetary policy may have on, for instance, the distribution of income in the economy.[2]

Explaining why the distribution of income and wealth changes is a challenge that is not made easier by the fact that the statistics in some cases lag behind and in other cases have large gaps. Those of you who have read Piketty's best-seller *Capital in the Twenty-First Century* also know that one can give the question of distributional effects much greater room than I have scope for today. What I want to say with these reservations is that those of you who are expecting to hear exactly how great the distributional effects of monetary policy have been will

[1] See, for instance, the Bank of England (2012), OECD (2015), Bindseil et al. (2015), Deutsche Bundesbank (2016), European Parliament (2016), Domanski et al. (2016) and Amaral (2017).
[2] Dir.2016:114

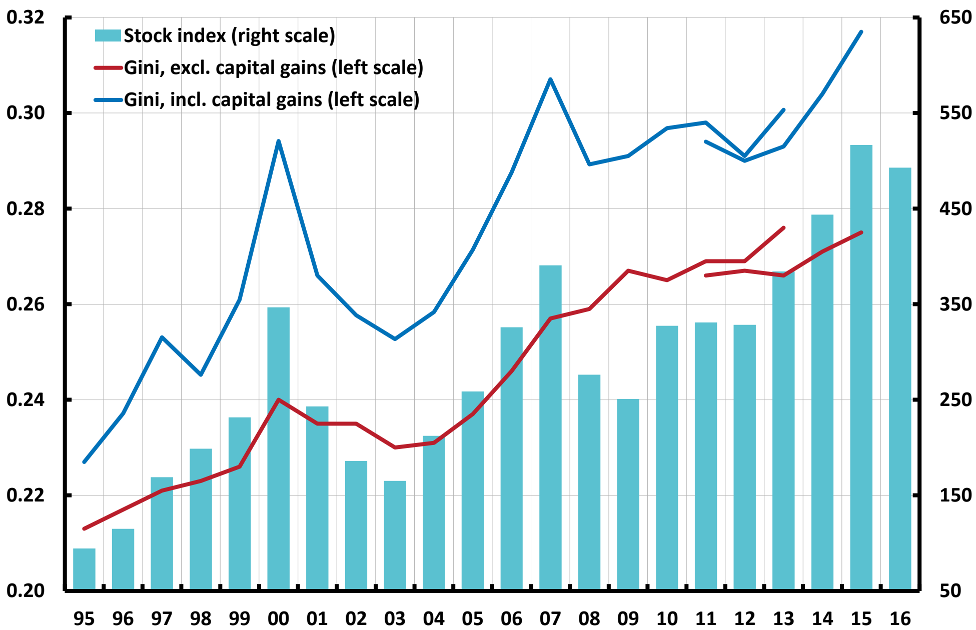
unfortunately be disappointed. My somewhat more modest aim is to make a contribution to the discussion by examining the distributional effects of the policy and adding shades of meaning to these effects.

What I hope to convince you of today is that monetary policy also affects household income and wealth in ways that are more indirect, but probably more meaningful, than via asset prices. While an expansionary monetary policy entails rising asset prices in the short term, this is compensated by lower unemployment, higher employment and stronger growth. A monetary policy that succeeds in the task of attaining price stability also counteracts the negative distributional effects of inflation.

An expansionary monetary policy to defend the inflation target

But, as I said, rising asset prices have been an element of the economic upturn in recent years. And during periods when stock prices are rising, the income distribution is more uneven between households – this can be seen from standard measures of dispersion of the income distribution, such as the so-called Gini coefficient (see Figure 1).

Figure 1. Gini coefficient for disposable income and stock market movements



Note. The Gini coefficient is a measure of statistical dispersion of, for instance, incomes. The Gini coefficient can be between 0 and 1, where a higher value entails greater inequality. The figures are from Statistics Sweden's surveys Household finances 1995-2011 and Income and tax statistics 2011-2015.

Sources: Macrobond and Statistics Sweden

As I mentioned earlier, there is nothing unusual in asset prices rising during periods when monetary policy is stimulating the economy. On the other hand, it is of course unusual that monetary policy has stimulated the economy to this extent and that the Riksbank has not eased up on the accelerator as economic activity has continued to increase and asset prices have risen. So a natural first question is: why has monetary policy been this way?

The short answer is: because the inflation target is worth defending. You have heard my colleagues on the Executive Board and I say it many times before, but it is worth repeating. From my perspective, the inflation target of 2 per cent has played a central role in the Swedish economy – and I am sure I share this opinion with many of you here today. We have had considerable benefit of households and companies, savers and investors, expecting a future rate of inflation that is on a reasonably low level and that their expectations are more or less consistent with one another. This has contributed to a completely different stability in price-setting and wage formation over the past two decades than in the two decades prior to this, which has in turn contributed to inflation falling at the same time as we have had more stable and much higher real wages on average. That high and fluctuating inflation has disappeared as a disturbing factor should also have meant that financial decisions by households and companies have in general become simpler and better.

But the key to this type of development is a joint anchoring of inflation expectations and a condition for this is that the inflation target of 2 per cent is perceived as credible. This is the problem that has marked the Riksbank's monetary policy in recent years. In January 2015, when I became a member of the Executive Board, we were in an unfortunate situation where inflation expectations in the longer run were losing their anchorage around the 2 per cent target. Monetary policy had been expansionary for a long time and further measures were needed to strengthen confidence in the target and to send very clear signals about the Riksbank's intentions to bring inflation back to 2 per cent.

But how can this be done in an environment where interest rates are already very low to start with? It is important to remember that there has long been a trend with falling interest rates around the world – a trend that has nothing to do with monetary policy, but rather concerns ageing populations and other structural factors that have pushed up savings in relation to willingness to invest. In the midst of this the central banks have also had to manage the effects of the financial crisis and a protracted economic slump. Many of them, including the large central banks like the ECB and the Federal Reserve in the United States, have conducted an expansionary monetary policy to support the recovery and bring up inflation, both via very low policy rates and via more unconventional measures such as various asset purchase programmes. Monetary policy in Sweden has also needed to take this into account.

So to safeguard the upturn in economic activity and inflation in Sweden and to turn around the negative trend in inflation expectations, we have cut the repo rate down to a negative level, and with effect from the beginning of 2015 we have implemented an asset purchase programme to make our monetary policy even more expansionary. Our assessment is that this monetary policy has by and larger been successful. Market rates have followed our cuts in the repo rate and become negative. And the bond purchases seem to have pushed down interest rates more or less in the way we expected.

Monetary policy also seems to have had the desired effect on inflation and inflation expectations. The upturn in inflation that began in 2014 has continued, and the downward trend in long-term expectations has turned into an upward trend since the beginning of 2015. Another sign that the expansionary monetary policy has had an effect is that we have had strong economic activity in Sweden. Growth has been high and employment has increased.

Monetary policy's distribution effects are difficult to disentangle

At the same time as the expansionary monetary policy has contributed to the economic upturn, asset prices have risen. They can be affected by monetary policy through several different channels. Lower policy rates mean that bond yields become lower, at the same time as prices of bonds rise. If the central bank also purchases bonds, this puts further downward pressure on yields and further upward pressure on prices. Those selling the bonds to the central bank may also wish to adapt their portfolios and buy other assets, which means that the prices of these assets will in turn rise. The central bank can also, by means of various types of communication on monetary policy, make it clear that the expansionary policy will continue for a longer period of time, which can contribute to a more positive view of activity in the economy. This can in turn contribute to asset prices rising.

The Riksbank and other central banks are well aware of all of these channels. Expansionary monetary policy affecting asset prices in this way is actually a part of the transmission mechanism for monetary policy, that is, the way that monetary policy spreads through the economy. But the effect on asset prices is not the objective of the policy. The objective is that the expansionary policy – through the effects on interest rates, asset prices, exchange rate, access to credit, expectations and so on – will in a couple of years contribute to increasing activity in the economy and bringing up employment and inflation. It is important not to lose this perspective in discussions of the distributional effects of monetary policy, as it broadens the spectrum of effects to more than just those coming through asset prices. Moreover, it points to the difficulties in determining the size of the distributional effects of monetary policy.

One such difficulty is assessing what should actually be considered an effect of monetary policy and what is rather an effect of the conditions for monetary policy having changed. In a system like the national economy, it is not an easy task to distinguish between cause and effect. The Riksbank does not operate in a vacuum; it adapts its monetary policy to changing circumstances.[3] Moreover, if monetary policy were *not* adapted to new circumstances, this would also have distributional effects. It is therefore not entirely correct to compare the income

[3] In the research literature, one often tries to distinguish the independent, "pure" effect of monetary policy from the effect of the monetary policy that systematically reacts to changed circumstances. This is done by identifying monetary policy "shocks", that is, changes in monetary policy that are unexpected, given how the central bank normally reacts to changed circumstances. The size of the monetary policy effect will thus depend on, among other things, the assumption of how monetary policy normally reacts.

and wealth distribution after a period of expansionary monetary policy with the distribution prior to these measures being taken. The point of comparison should rather be how the distribution would have looked *without* the expansionary monetary policy.

Another difficulty is what time perspective one should have to determine the effects of monetary policy. I have argued that it is important to take into account the total effect of monetary policy on the economy. Asset prices are affected relatively rapidly, but it takes time before the total effect of monetary policy has an impact on the real economy and ultimately inflation. Moreover, a common starting point when discussing the effects of monetary policy is that in the long term it is neutral with regard to real economic quantities such as growth, unemployment and income distribution. In this perspective, one can therefore argue that monetary policy should only have minor distributional effects, if any at all. The effects of an expansionary monetary policy during economic slumps should be counterbalanced by the opposite effects of a tight monetary policy during booms.

It may of course be reasonable to take as a starting point that monetary policy is neutral in the long run. But there are factors that may point to a need to modulate this starting point. Some research results indicate that the effects of expansionary and contractionary monetary policy are not necessarily symmetrical.[4] There are also mechanisms that make the risk of staying unemployed increase the longer one is unemployed. Add to this that the income profile over the life cycle improves considerably if one has a job. This could mean that there are motives for conducting a relatively more offensive monetary policy in economic recessions. But here more research is needed to gain a deeper insight into the causes and scope of this type of persistence effects on unemployment and what these effects mean for monetary policy.

Monetary policy affects incomes from different sources

The effects of monetary policy on income and wealth distribution are in other words rather difficult to disentangle. But let us look at some different ways in which the expansionary monetary policy conducted in recent years may have affected the income distribution. An appropriate starting point could be the functional income distribution of GDP. As we know, GDP can be measured from different sides, for instance as the total of all factor income. Somewhat simplified, the income comes from two main sources: remuneration to the labour force in the form of wages and other benefits and remuneration to capital in the form of yield and profits. Both of these types of remuneration have increased over the past three years, and GDP has increased by a good three per cent on average in

[4] See, for instance, OECD (2015) and Furceri et al. (2016).

real terms. [5] But the question is how the growing incomes have been distributed among households.

Households differ with regard to the size of the income they receive from different sources. In general, labour income is in relative terms the most important source of income for households in the lower and middle parts of the income distribution, while capital income has the most significance for those at the top – particularly the very top – of the distribution. As monetary policy affects wages and capital income in different ways, the overall effect may differ from one household to the next. It is this channel from monetary policy via the composition of household income on which the debate has focused the most – rising asset prices should have benefitted households at the top of the income distribution to a relatively large degree and thus contributed to a greater income dispersion.

Higher asset prices, lower yield and cheaper loans

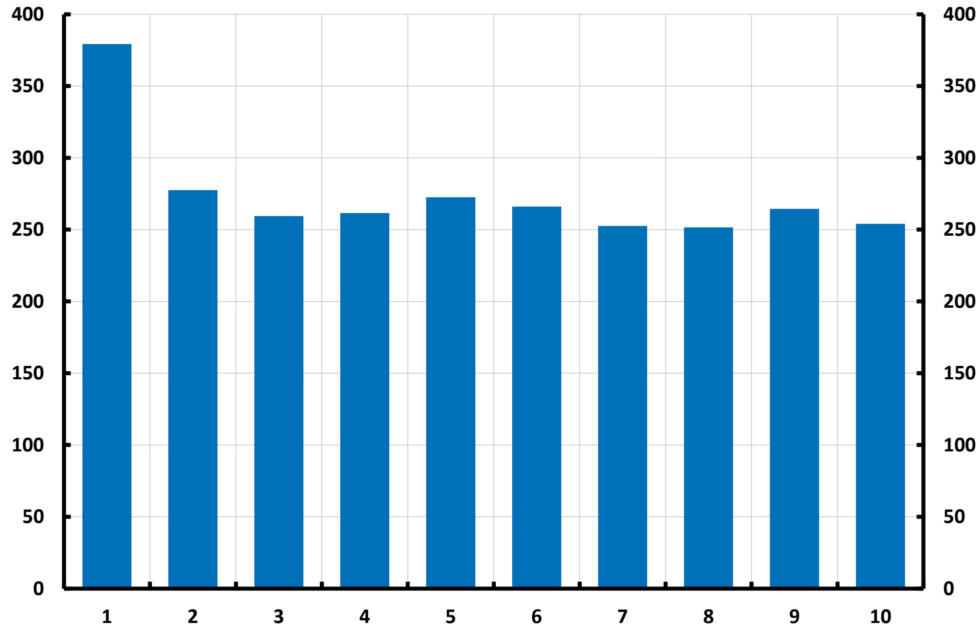
However, households do not only differ with regard to the composition of labour and capital income. There are also relatively large variations between households with regard to the distribution of capital income from capital gains, yield and interest on different types of asset and liability. The effect of an expansionary monetary policy on income and wealth distribution can thus vary for this reason, too.

Households' capital incomes may, for instance, differ in their sensitivity to changes in interest rates. All else being equal, low interest rates benefit household with relatively large debts as interest payments become lower. Households with bank savings are correspondingly disadvantaged and households with relatively large interest-bearing assets thus have a lower yield. Here the maturity of the different assets and liabilities also plays a role. If, for instance, mortgages are mainly at fixed interest rates, the effect of interest-rate cuts will be less than if the loans are primarily at variable rates. A comparison between different income groups shows that liabilities as a percentage of disposable income are more than 250 per cent in all groups in Sweden (see Figure 2). With the exception of the group with the lowest income, however, there is generally little difference in the debt-to-income ratio between the groups.

[5] A related question is how income from these two sources develop in relation to one another over time. See, for instance, Karabarbounis and Neiman (2014) who find that the share of labour income has fallen in many countries and many sectors.

Figure 2. Debt-to-income ratio in different income groups 2016

Percentage of disposable income



Note. The columns show the median in each decile group. Data for July 2016. The high debt ratio in the lowest income group should be interpreted with a certain amount of caution, as this group includes, among others, households with highly varied incomes, for example households with negative income.

Source: The Riksbank

In addition to households having different sizes of assets and liabilities that are affected by interest rates to different degrees, there may also be other dimensions that play a role in how the distribution of income and wealth is affected by a period of very expansionary monetary policy. For instance, one can imagine that household that are used to managing their assets and liabilities have better conditions for safeguarding themselves against or benefitting from the effects of monetary policy on interest rates and asset prices.

However, the distributional effects of monetary policy do not come solely through changes in nominal interest rates and asset prices. Ultimately, it is the effect when consideration is given to inflation that is important. And the composition of household wealth is also significant in this context. To begin with, households are more negatively affected by an expansionary monetary policy that increases inflation if they have a relatively large share of assets that have poor or little protection against inflation. Cash is of course the most obvious example, even if it may in this context be of less significance for the wealth distribution, given how the use of cash has declined in Sweden.

The real value of all assets and liabilities is of course affected by how high inflation is and I have earlier mentioned the redistribution between borrowers and lenders as an effect of an unexpectedly high or low inflation rate. An unexpected increase in inflation, for instance, that monetary policy has become more expansionary than expected, reduces the real value of assets and liabilities. This can, for instance, benefit households with relatively large debts on houses and apartments, but disadvantage low income households who rent their homes. Households with large financial assets are also disadvantaged, but they are perhaps more used to, and better able to, adapting their assets to avoid the inflation risk.

Hence, to study the distributional effects linked to increased capital income, it would be interesting to see how assets and liabilities are distributed between households. When it comes to liabilities, there are relatively good statistics available, but with regard to the distribution of various assets, we are unfortunately fumbling in the dark to some extent.

The collection of data on financial assets and liabilities at household level ceased with the abolition of the wealth tax in 2007. The financial and national accounts do provide some information on how households' various financial and real assets have changed on aggregate. But when it comes to wealth developments for individuals, we do not have much to go on, as the statistics in principle came to a stop in 2007. There have been admirable attempts to estimate developments since then via the capitalisation of incomes and expenditures, but the quality cannot of course be compared with register data.[6] Several commissions in recent times have noted that there is a substantial need for up-to-date wealth statistics at individual level to be able to analyse specific questions such as financial stability risks and over-indebtedness, but also to gain a deeper insight into the income distribution in general.[7]

Distributional effect of reduced unemployment and higher employment important

So far we have discussed the different channels by which an expansionary monetary policy can affect income distribution via capital gains, yield and interest rates. As you will note, however, I have avoided saying anything specific about the size of the distributional effects. As I mentioned earlier, it is difficult to determine exactly how large these effects are and not even their direction is always evident. But rising stock prices and thereby larger profits when selling these assets will tend, all else being equal, to lead to a more unequal income distribution. The effect of the expansionary monetary policy on capital incomes, via rising equity prices, should therefore have led to a more unequal income distribution. However, capital income is only one part of households' total income; the largest part is comprised of labour income.

As with capital income an expansionary monetary policy can affect the labour income of different households in different ways. For some households the hourly wage may be what primarily determines their income development, while for others the number of hours worked is the most important thing – and above all

[6] Lundberg and Waldenström (2016). See also Waldenström (2016).
[7] Sveriges Riksbank (2011), Swedish Fiscal Policy Council (2013) and SoU 2013:78.

whether or not one actually has a job. As monetary policy affects these quantities in different ways, income distribution will also be affected.

In Sweden, it is primarily the differences between the income of those who have a job and those who do not that is important to the income distribution, rather than the wage differences between those who work.[8] This is clearly visible in the dispersion of disposable income, that is, income including work and capital income, as well as various transfers and after taxes are deducted. The higher the disposable income, the less common it is that one's main source of support is from something other than labour and capital. People who receive unemployment benefit are mainly found in the lower part of the distribution, as are those with sickness benefit and other benefits such as activity compensation and financial support.[9] It is also clear that the group with the lowest income includes people who according to the Swedish Public Employment Service have a vulnerable position on the labour market, for instance, those born outside of Europe.

The strong economic activity in recent years has meant that demand for labour has increased, which has meant that employment has shown a rising trend. Unemployment has also fallen, which is impressive given that the number of people in the labour force has at the same time increased. This development has reasonably, all else being equal, had a levelling effect on the distribution of income. An observation supporting this argument is that employment among those born outside of Europe has actually also begun to increase, albeit from a much lower level than for the other groups. Of course, it is not possible to ascribe the whole of this distributional effect to monetary policy – in the same way as it cannot account for the whole distributional effect of rising asset prices. But it is quite clear that the expansionary monetary policy has contributed to the strong development of the labour market in recent years.

Another aspect of the improvements in the labour market that is relevant here is the link to future pensions. The focus is often on individual pension savings, but households' total pension wealth also contains savings in collective funds, for instance, in systems for occupational pension schemes and premium pensions. The fact is that this form of saving currently comprises around half of total financial assets (see Figure 3). Moreover, we all have pension assets linked to the general income-based pension, which are not in funds but are linked to the pension rights we earn until we retire. Whether or not one has a job does play a major role for the size of the collective saving and the general income-based pension. It determines whether or not one receives an occupational pension and is also important for one's income profile during the working life. Lower unemployment and higher employment should therefore have a levelling distributional effect for this reason, too.

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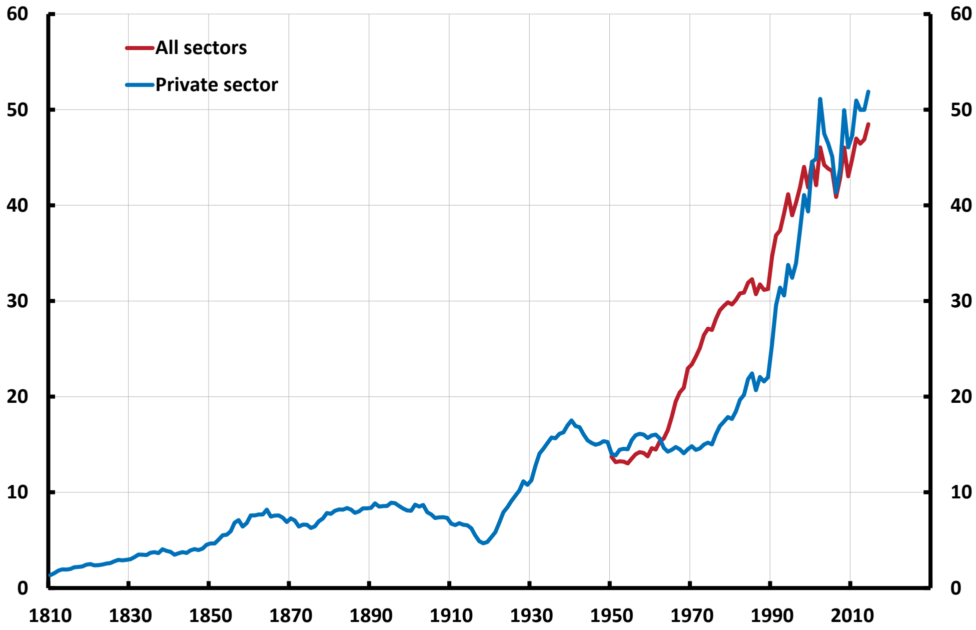
[8] The employment perspective on the income distribution in Sweden is described by, for instance, Bengtsson, Edin and Holmlund (2014) and SNS (2017).
[9] See, for instance, Government Bill 2011/12:100.

Figure 3. Collective financial assets as a proportion of total financial assets

Per cent



Source: Hasselberg and Ohlsson (2016)

With regard to the funded pension savings, the period with low interest rates has been a strain. Yield has been low and this has put pressure on the pension funds to meet the guarantees in their insurance plans. This has sometimes been raised as a negative effect of the expansionary monetary policy, but the problem – to the extent that it is a problem – is rather connected to the global falling trend in long-term real interest rates.[10] In light of this, economic agents need to adjust to interest rates probably not returning to the levels we previously considered normal. But at the same time, it is important to remember that interest rates in the long term will nevertheless be much higher than they are now.

Price stability creates good conditions for economic growth and high employment

If I am to summarise my presentation today, let me first say that I think it is a good thing that distributional effects are once again being discussed with regard to monetary policy. I believe that we can learn a lot about the impact of monetary policy on the economy by studying how monetary policy interacts with the distribution of income and wealth.

Today I have focused primarily on the question of what distributional effects the expansionary monetary policy conducted by the Riksbank and other central banks

[10] I have discussed the factors behind this downturn, what it means for households and companies and the consequences for monetary policy in an earlier speech, see Ohlsson (2016).

may have had. The debate has so far mainly focused on the effect of rising asset prices. I have tried to nuance this picture and pointed out the importance of actually looking at the total effect of monetary policy on the economy, as well as using the correct point of comparison. My point can be summarised roughly as: without the expansionary monetary policy, growth and employment would have been lower and unemployment would have been higher. This would hardly have benefitted any group in society, and especially not those with the lowest incomes. Assessments of the distributional effects of the expansionary monetary policy should be regarded in the light of this.

It is also important to note that no group would have benefitted from a decline in confidence in the inflation target. The whole idea behind the inflation target was that stable prices create good conditions for economic growth and high employment, as it was formulated in the Riksbank's press release in 1993. This is also a perspective that needs to be included in the discussion of distributional effects and monetary policy.

Finally, my view is that overall resource utilisation in the Swedish economy has now passed normal levels and can be expected to rise even higher in the coming years. At the same time, we see ahead of us that inflation will rise towards the target. It is therefore probable that the Riksbank sooner or later will first ease up on the accelerator and then begin using the brake. In my opinion, it is wise to start thinking now about how such a scenario will play out. Monetary policy will then be unable to stimulate activity and the labour market in the same way as in recent years and this will of course also have distributional effects. It is important that focus is then aimed at other policy areas, where the responsibility for distributional issues is more natural.

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