

## Henry Ohlsson: Decision today, consequences far into the future

Speech by Mr Henry Ohlsson, Deputy Governor of the Sveriges Riksbank, at a breakfast event, organised by Swedbank, Stockholm, 18 March 2016.

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*Accompanying figures and the table can be found at the end of the speech.*

Some of the decisions we make only have significance for the here and now. Others may have consequences for many decades to come, in some cases for the rest of our lives. Our choice of education and purchase of a home are examples of decisions that have considerable significance over a long period of time.

For a person who puts themselves in debt through decisions with long-term consequences, it is of course important how high the interest rates on the debt are. And this does not concern the interest rates paid now or in the medium term, but also interest rates several decades ahead.

In recent years, interest rates have been at their lowest level in modern times. Several other central banks have done as the Riksbank and cut their policy rates below zero, and government bond yields at longer maturities are now at historically low levels. This is partly due to the prolonged recession following the financial crisis.

However, in the really long term, it is structural factors such as long-term growth, propensity to save and technological progress that are crucial for movements in interest rates rather than short-term fluctuations. Let us begin with a definition that can help us bring some structure to the discussion and to understand the challenges we are facing. The interest rate we normally see is *nominal*, and measures how much we pay in terms of money when we borrow or how much we receive when we save. But as prices usually rise over time, the value of our money also declines. To take this into account, one can look at the *real* interest rate, that is, the nominal interest rate minus the expected rate of inflation. The real interest rate measures how much we pay for our loans in real terms, that is, in terms of our purchasing power.

In the very long turn, the real interest rate is determined by structural factors, such as savings and investment. And in a small, open economy like Sweden's, these factors are primarily determined by international developments. Monetary policy, on the other hand, does not have any marked effect on the real interest rate in the long run. However, monetary policy does influence the rate of inflation and inflation expectations. If monetary policy is based on an inflation target that is perceived as credible, long-term inflation expectations will coincide with the inflation target.

In other words, we can say that the long-term nominal interest rate is determined by two factors:

- the *long-term real interest rate*, which in turn is determined by structural factors and is global, and
- the *inflation target*, which monetary policy can make credible.

I shall discuss these two factors today and speculate how they may develop in the really long term.

*Firstly*, I intend to take up the fact that real interest rates have shown a falling trend over a long period of time at a global level. What factors lie behind this? Will the trend prevail and, if so, what consequences will it have for monetary policy? And what will it mean for households and companies?

*Secondly*, I will discuss the inflation target. Here in Sweden the target has been 2 per cent since it was introduced in the mid-1990s. Most other countries with inflation targets also have their targets at around 2 per cent. What are their experiences of having a target at this level? Should the level be lower or higher?

Interest rates have thus been very low for a long time now, but it is reasonable to expect that in the long run they will be 3–4 times higher than they are now. This must be taken into account; otherwise decisions taken today will have major consequences much further ahead. It is thus important to remember that the conditions applying today will not apply for decades into the future.

### **Lower real interest rate trend since the 1980s**

As the process of financial and economic integration in the global economy has increased, common factors such as global growth and global saving have played an increasingly large role with regard to interest rates.<sup>1</sup> Real interest rates have fallen around the world which justifies calling this a global real interest rate. The fall is in the order of 4–5 percentage points since the 1980s.<sup>2</sup> As Sweden is a small, open economy, the long-term global real interest rate can be regarded as an anchor for the Swedish real interest rate. During brief periods, the real interest rate in Sweden may deviate from the global real interest rate, but over longer periods of time the Swedish real interest rate will be determined by global factors.

Figure 1 shows how the long-term real interest rate has developed in Sweden and the United Kingdom since the mid-1980s. More specifically, the figure shows the 10-year yield on Swedish and British real government bonds. From the mid-1980s and ten years onwards, the real interest rate varied around almost 4 per cent in the United Kingdom, while in Sweden it was much more volatile and at a higher level. This was followed by a trend decline that has continued until today. At present, the Swedish real interest rate is around –0–5 per cent, while the British one is around –1 per cent.

It also appears that in most countries the lower real interest rates are the main reason for the fall in nominal interest rates during this period. During the 1990s, when a number of central banks introduced inflation targets, lower inflation expectations also contributed to the fall in nominal interest rates.

### **Secular stagnation or debt adjustment?**

An international discussion has been going on for some years now with regard to the causes of the fall in the global real interest rate. In simpler terms, one can say that two main explanations have been put forward in the debate.<sup>3</sup>

According to one explanation, the fall is primarily due to factors determining the long-term trends in investment and savings, such as demographic developments. This is partly connected to the discussion on secular stagnation initiated by Lawrence Summers, amongst others.<sup>4</sup> In this view, long-term trends in saving and investment have pulled down the interest rate level compatible with full employment. The fall is so great that this interest-rate level is below zero.

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<sup>1</sup> See IMF (2014).

<sup>2</sup> See King and Low (2014).

<sup>3</sup> See Armelius et al. (2014).

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

Representatives of the other explanation, for instance Kenneth Rogoff,<sup>5</sup> put greater emphasis on more short-term factors directly linked to the financial crisis, such as high indebtedness and increased uncertainty, which have held back investment and got households to save more.

Regardless of what significance one attributes to the financial crisis, it is clear that the downward trend in interest rates began much earlier. Back in the period prior to the financial crisis, the Federal Reserve Governor of the time, Alan Greenspan, described the low long-term US interest rates as a mystery.

### **Growth, savings and technology determine the real interest rate**

Regardless of which explanation one concurs with, most people consider the long-run global real interest rate to be primarily governed by expectations of potential growth, the propensity to save and technological advances. I will therefore first describe how the various factors can influence the real interest rate. I will then discuss possible explanations as to how growth, propensity to save and technology may change.

#### ***Lower potential global growth gives lower global real interest rate***

According to economic theory, expected growth should play an important role for the development of the real interest rate; the lower the growth, the lower the real interest rate. International organisations such as the IMF and the OECD have made downward adjustments to their assessments of the global growth trend in recent years. This could lead to a lower real interest rate.

At the same time, one can note that global growth was both stable and relatively high during the 15–20 years prior to the financial crisis. It is thus not possible to explain the long-term fall in interest rates prior to the financial crisis as due to lower global growth.

One possible explanation could instead be that the global population increase has fallen over a long period of time, and is expected to continue falling in the coming period. This could contribute to lower potential growth in that the labour force will increase at a slower pace. At the same time, this effect will be counteracted if labour productivity rises.

Slower population growth and the fact that the working age population is shrinking indicate that growth will remain lower than in the pre-crisis decades. The prospects for labour productivity are much more difficult to assess. The rate of increase in labour productivity declined in connection with the economic downturn following the financial crisis and it is uncertain how lasting the effects will be.

### **Demography affects propensity to save and thus the real interest rate**

Demographic developments also affect the propensity to save. Life expectancy has increased and the birth-rate has fallen in recent decades. This has meant that the population has aged in most parts of the world. It applies especially in developed countries but also in countries such as China and several other emerging markets. Merely the fact that people are on average living longer means that they need to save more money for their old age, unless the retirement age is raised at the same pace as the increase in life expectancy. Developments have also entailed a percentage increase in the older working age population (40–65 years old) – which normally has a high level of saving – in recent decades. There is thus good reason to assume that demographical developments have contributed to an increased propensity to save in the world and thus to a lower real interest rate.

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

The demographic effect on saving in China is worth mentioning in particular. The single-child policy contributed to a severe decline in the birth-rate. At the same time, life expectancy increased. The combination of weak social safety net and fewer children to provide for the elderly was probably an important explanation for the increase in saving in the Chinese economy. As China has become increasingly integrated into the global economy, saving in China has also been increasingly channelled to other parts of the world for investment.

### ***Increased propensity to save in many emerging markets***

Many other emerging markets have also increased their savings, but partly for other reasons than a change in demographics. Experiences from the Asian crisis in 1998 contributed to many emerging market countries' central banks building up their currency reserves to be able to withstand future currency outflows. The increased demand from these countries for low-risk assets, such as government bonds, led to yields being pushed down at the end of the 1990s and until the years prior to the financial crisis. The rising demand for safe assets also contributed to an increase in the differential between the risk-free rate and the rate on higher risk investments.

### ***More pensioners can in the long run lead to lower saving and thereby a higher real interest rate***

On the other hand, the saving may decline gradually as an increasingly large percentage of the world population attain the age of retirement. However the speed and strength of the impact that demographics will have on savings is uncertain. It depends partly on the extent to which older people choose to remain in work for longer and to what extent those who work save more for their retirement when their life expectancy rises.

### ***Greater income disparities also affect propensity to save***

Another factor that can explain why the propensity to save has increased is the increased income spread. In most developed countries, income spreads have increased since the 1980s.

High-income earners normally have a higher propensity to save than low-income earners. The increase in the income spread could therefore have meant that saving has increased. At the same time, it should be said that even if income disparities have increased *within* a number of countries, they have declined on a global level in that the emerging markets are catching up with the developed economies. It is therefore difficult to say how global saving has been affected.

### ***Wages as a share of added value have declined***

The greater income spreads are also visible in other ways. The trend towards increased saving has been so extensive that wealth has risen substantially in most industrial nations. Wealth has also risen faster than the national income.<sup>6</sup> These increases in wealth are transferred and transformed into capital that is used in production. In most cases, this is done via the financial markets. The global real interest rate will in turn adapt so that the desired capital stock matches the available wealth.

In recent decades, the upturn in wealth and capital in relation to national income has proved to be relatively greater than the downturn in the real interest rate. This has meant that the capital share of the added value (the ratio between the real interest rate multiplied by capital and national income) has risen despite the real interest rate declining. The capital share and the wage share always add up to one. Consequently, wages share of added value has

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<sup>6</sup> See Piketty & Zucman (2014). Waldenström (2015) provides an account of the wealth/national income ratio in Sweden.

declined in many countries.<sup>7</sup> Another way of expressing this is that such large real interest rate cuts have not been needed for capital to absorb the increase in wealth. And this in turn is due to the production technology used.

Following this discussion on what determines the development of the real interest rate in the long run, I shall now go on to discuss the inflation target, which is the other factor of significance for nominal interest rates in the longer run.

### **Inflation in the long run**

Most of Sweden's most important trading partners have inflation targets in one form or another. Usually, these are a target for the inflation rate of around 2 per cent a year, see Table 1.

#### ***More common for interest rate to be limited by lower bound***

When the long-term level of the global real interest rate is low, there is an increased risk that the nominal interest rate will reach its lower bound in future economic downturns. Many have therefore argued in various contexts in favour of raising the inflation target.<sup>8</sup> This increases the distance to the nominal interest rate's lower bound and makes it easier to stimulate the economy in a recession. At present, for instance, the Bank of Canada is reviewing the country's inflation target, including an analysis of potential consequences of raising the inflation target.<sup>9</sup> If the nominal interest rate remains at zero, the real interest rate can be cut in the short term to a lowest level of -2 per cent, with an inflation target of 2 per cent. If the inflation target and inflation expectations were instead 4 per cent, the real interest rate could be cut in the short term to -4 per cent.

Even though interest rates have fallen below zero in Sweden and a number of other countries, the correlation between a higher inflation target and a short-term possibility to attain a lower real interest rate remains.

#### ***Advantages and disadvantages of a higher inflation target***

The most obvious advantage of raising the inflation target to, say, 3 or 4 per cent would be that this increases the possibilities to stimulate the economy in future deep recessions and to bring up demand and inflation. The experience of the financial crisis shows that the risk of very deep and prolonged recessions has previously been underestimated. Prior to the financial crisis the risks of deep economic crises were assessed on the basis of experiences during the post-war period, when cyclical fluctuations were small and it was thus easy to underestimate the risks. If one studies economic data extending much further back in time, one can see that large downturns have been much more common.

At the same time, there are several factors that make raising the inflation target problematic, not least how the actual transition to a new inflation target would be implemented. For instance, the credibility of a new target would be weakened if it were announced in a situation where inflation was far from the old target.

It could also be problematic to introduce a new, higher inflation target in Sweden in isolation, if other important central banks around the world stood firm by a target of 2 per cent. Swedish competitiveness could be weakened, for instance, if inflation and wage increases in Sweden were higher than those abroad. In theory, the Swedish krona should weaken in this situation, so that competitiveness would be restored. But there are many factors affecting the

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<sup>7</sup> See Karabarbounis & Neiman (2014) and Bengtsson & Waldenström (2015).

<sup>8</sup> See, for example, Ball (2014).

<sup>9</sup> See Kryvtsov and Mendes (2015).

exchange rate and an adjustment could take a long time. And during this time Swedish competitiveness could deteriorate.

There is also a risk that inflation could vary more if we had a higher target. This could mean that it became more difficult for economic agents to distinguish upturns in the general price level from relative price changes and thus more difficult to make good financial decisions.

I have thus described the two factors that determine the nominal interest rate in the longer term. It is now time to put them together.

## **The nominal interest rate in the long run**

### ***Low interest rates for a long time...***

The fall in the global real interest rate naturally has consequences for monetary policy. Many central banks have cut their policy rates to historically low levels to stimulate demand and get inflation to rise. In Sweden, the Riksbank emphasises that nominal interest rates will be low for a long time to come. The Riksbank's forecasts extend two or three years ahead. Figure 2 shows the repo-rate path the Executive Board of the Riksbank decided on at the monetary policy meeting in February.

The Riksbank's forecast is that the repo rate will remain at the current level of –0.5 per cent until some time around the end of June/beginning of July 2017. At the end of 2018/beginning of 2019 the forecast is that the repo rate will have risen to 0.5 per cent. The Riksbank assesses that this expansionary monetary policy is necessary to get inflation to rise and stabilise around 2 per cent in 2017.

The low interest rates mean that most of those who save or borrow for consumption and investment will receive or pay low interest rates during this period. But there are also financial decisions that have much further reaching consequences.

### ***...but what then?***

Is it possible to say what nominal interest rates will be in 10, 15 or 20 years' time? It would be presumptuous to attempt precise forecasts. But it is possible to reason out a scenario for a possible normal state of affairs based on what we know today and the factors I have discussed today. In a "normal state of affairs" necessary debt adjustments in the wake of the financial crisis would be complete.

Through *higher global growth*, we could expect higher global real interest rates. Growth can in principle come from employment or labour productivity beginning to increase at a faster pace.

If we have *lower global saving*, we can expect higher global real interest rates. Saving can decline if the percentage of elderly rises and the retirement age falls. If income spreads decline, this can also lead to lower global saving.

When saving declines, this can put further upward pressure on global real interest rates, as the competition for savings can be expected to increase among those wanting to invest in new production technology. This can have significance for the development of the real interest rate.

Finally, there is the question of monetary policy. Will it be conducted with an inflation target? And, if so, what level will the target have?

## **Nominal interest rates will become higher in the future**

The demographical changes we can see ahead indicate that global saving will decline. This would imply higher global real interest rates. The future conditions for growth are more

uncertain, but if labour productivity were to begin to increase faster than today, there would be further upward pressure on global real interest rates.

Let us therefore say that future global real interest rates will be in the order of 1.5–2.5 per cent. If we add to this an inflation target and inflation expectations of 2 per cent in Sweden, we get nominal interest rates of 3.5–4.5 per cent.

Even if we do not see a return to the nominal interest rate levels we previously regarded as normal, long-term nominal interest rates will be much higher than they are today. The important thing is that economic agents who now make decisions with long-term consequences bear this in mind. This could refer, for instance, to households who now borrow money to buy a home. In the future the interest rates on these loans can be three or four times higher than the current mortgage rates.

I began by discussing the major differences in time horizons in the financial decisions we all need to make. Some decisions apply only here and now. If we make the wrong decision it is not too difficult to put it right. In other cases, we make decisions today that have consequences far into the future. It is then important not to assume that the conditions applying today will apply for decades into the future.

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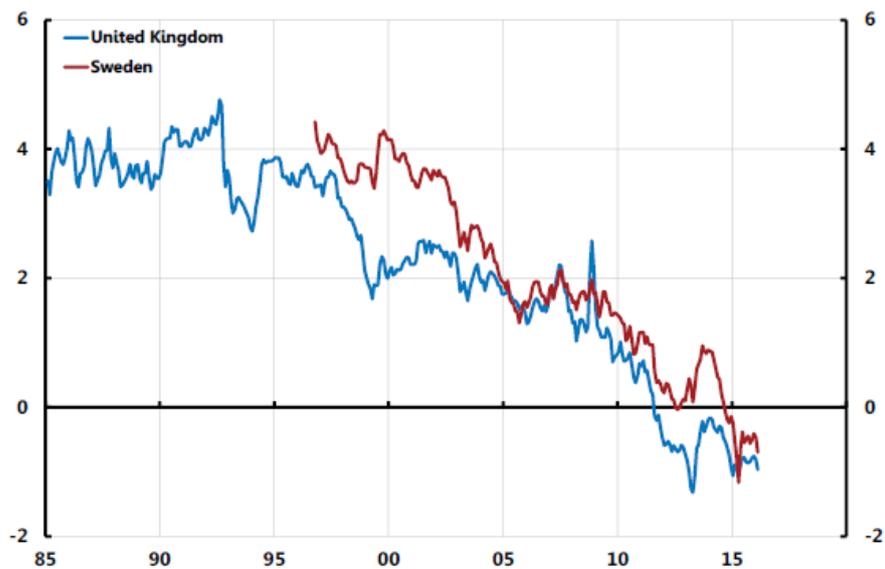
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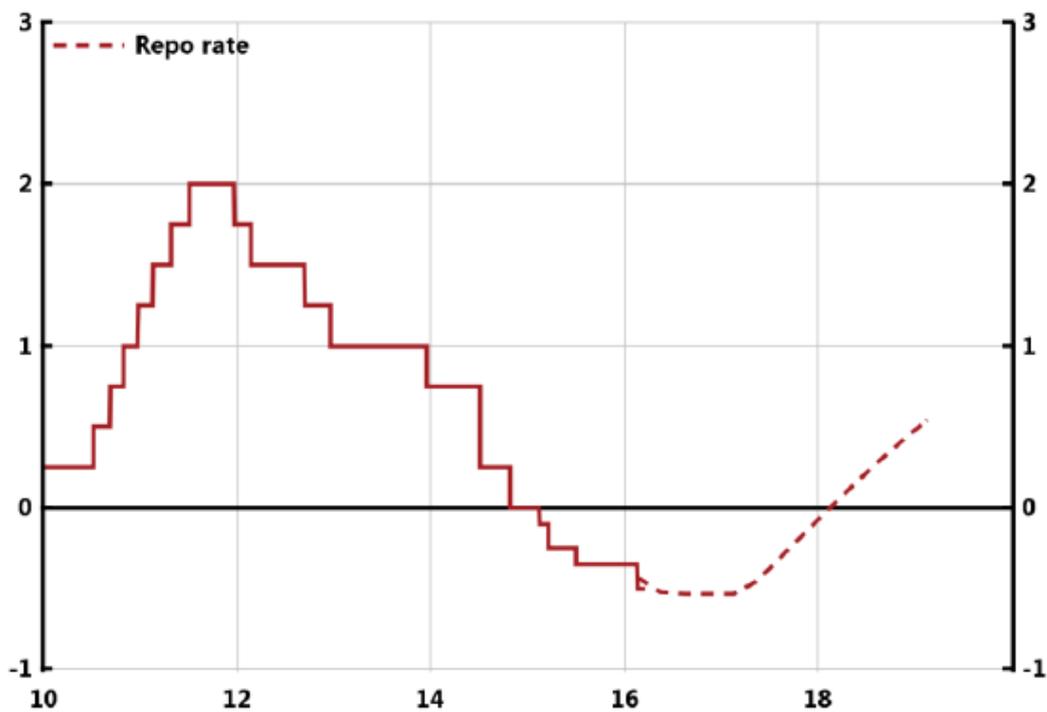
**Figure 1. 10-year yield on Swedish and British real government bonds**



Note. 10-year yield on real government bonds in Sweden and United Kingdom. Swedish real interest rate is zero coupon rates interpolated from bond yields with the Nelson-Siegel method.

Sources: the Riksbanken, Bank of England and Reuters

**Figure 2. The repo rate and repo-rate path**



Note. Per cent.

Source: The Riksbank

**Table 1. Inflation target in some countries**

Country	Inflation target, per cent
Euro area	< 2
USA	2
China	3
United Kingdom	2
Norway	2,5
Poland	2,5 ± 1
Japan	2
Canada	2 ± 1
Czech Republic	2 ± 1
Australia	2-3

Sources: centralbanknews.info and individual central banks' websites.