

ANALYSIS – Structural factors determine interest rates in the longer run³¹

Prior to the most recent upturn in inflation and interest rates, real interest rates in Sweden and abroad had been steadily falling for several decades. There is relatively broad consensus that much of this decline is due to changes in several structural factors. In recent years, these factors do not seem to have noticeably changed, but how they develop going forward and how this in turn affects interest rates is uncertain. There are arguments indicating both a higher and a lower interest rate in the long term. Regardless of the direction, however, the expected changes are probably relatively small in relation to the trend decline that has already happened.

The neutral interest rate varies over time

Before the most recent rise in inflation and interest rates, the real interest rate on low-risk assets, such as government bonds, had been steadily falling over several decades. This decline has been common to many developed countries, including Sweden. Central banks can affect the real interest rate in the short term, and therefore also resource utilisation and inflation, as prices of goods, services and labour are sluggish. But in the longer term, the real interest rate, the price of saving that balances the supply of savings and the demand for investment, is determined by structural factors.³² There is relatively broad consensus that much of the decline in the real interest rate is due to changes in several of these structural factors. These concern, among other things, demographics, lower productivity growth, higher saving in China and a scarcity of safe assets.³³

Economic theory differentiates between the real interest rate that savers and borrowers actually meet and the real interest rate that is compatible with a normal resource utilisation. The latter is normally referred to as the *neutral* interest rate. However, a complicating factor is that the neutral interest rate, like potential GDP for instance, cannot be observed directly but must be estimated using statistical methods and from assumptions of how the economy functions. The assessment is therefore associated with considerable uncertainty.

³¹ For further discussion and analysis, see “Structural factors determine interest rates in the longer run”, *Economic Commentaries* No. 5 2024, Sveriges Riksbank.

³² However, in recent years a number of studies have questioned this explanatory model, which illustrates the degree of uncertainty regarding this subject, see for instance C. Borio, P. Diyatat, M. Juselius and P. Rungcharoenkitul (2022) “Why so low for so long? A long-term view of real interest rates”, *International Journal of Central Banking*, vol 18, no 3, pp 47–87.

³³ For a detailed review of various explanatory factors, see H. Lundvall “Driving forces behind global trends in the neutral interest rate”, Annex 2 to the Long-Term Inquiry 2023, SOU 2023:87.

Another source of uncertainty is that it varies over time. It is affected by both global sluggish structural factors, such as demographics, which affect the trend in the neutral interest rate, and also short-term factors such as temporary economic shocks (for instance from fiscal policy) that can cause the neutral interest rate to rise or fall over a number of years. This analysis aims to discuss the development in the long-term trend of the neutral interest rate.

Empirical estimates and calculations do not indicate any clear change in the trend in the neutral interest rate in recent years

There are different approaches to estimating the neutral interest rate. In recent years, several studies have been published with models that include data for many of the structural factors that are assumed to affect the rate's trend, such as demographics. Such models indicate a downward trend in the neutral interest rate in recent decades.³⁴ The downturn is explained by, for instance, increased demand for safe assets, demographics and lower productivity. Such estimates and calculations of the trend in the neutral interest rate in a number of developed economies indicate that it has been in the interval -0.6 to 1.3 per cent in recent years, but there is considerable uncertainty.³⁵ Overall, nor do the estimates indicate any clear change in the most recent years either. Some factors such as higher public debt and an increased supply of government bonds may have raised it, but demographics have continued to work in the opposite direction.

Structural changes are expected to affect interest rates in different directions going forward

For a small, open economy like Sweden, the trends in the neutral interest rate are almost exclusively determined by structural changes abroad. However, the uncertainty over their development in the future is considerable.

The development of artificial intelligence (AI) could mean that we are now in a period of higher productivity and investment growth, which would contribute to a higher neutral interest rate. But it is too early to draw such a conclusion. The increased geo-economic fragmentation, with larger gaps between for instance the United States and China, could at the same time indicate reduced pressure on interest rates in developed economies from China's large savings. There is also reason to believe that the climate transition will affect the neutral interest rate, but there is uncertainty in the literature about both the direction and magnitude.

The conclusion that global demographics have driven some of the trend decline in the real interest rate has relatively strong empirical support. In many countries, ageing has reached a point where an increasingly large share of the population is retiring and

³⁴ See for example A. Cesa-Bianchi, R. Harrison and R. Sajedi (2023) "Global R*", *Staff Working Paper* No. 990, Bank of England; T. Ferreira and S. Shousha (2023), "Determinants of global neutral interest rates", *Journal of International Economics*, volume 145; and chapter "The natural rate of interest: drivers and implications for policy", *World Economic Outlook*, April 2023, International Monetary Fund.

³⁵ Estimates in real terms for Canada, the euro area, France, Germany, Japan the United Kingdom, and the United States.

may need to reduce their savings. But at the same time, population growth is continuing to slow down globally, reducing the need for investment. Demographics can on the whole be assumed to continue to exert downward pressure on global interest rates.³⁶ But as more people get older, the costs for medical care and social care increase as well. This is, for example, one reason why public debt in the United States, and thus the supply of US government bonds, are expected to increase. This can in turn be assumed to increase the neutral interest rate.

Overall, there is no clear answer as to how various structural factors will affect the neutral interest rate. However, a common factor of the projections made is that the changes expected, regardless of direction, are probably relatively small in relation to the decline that has occurred since the 1980s.

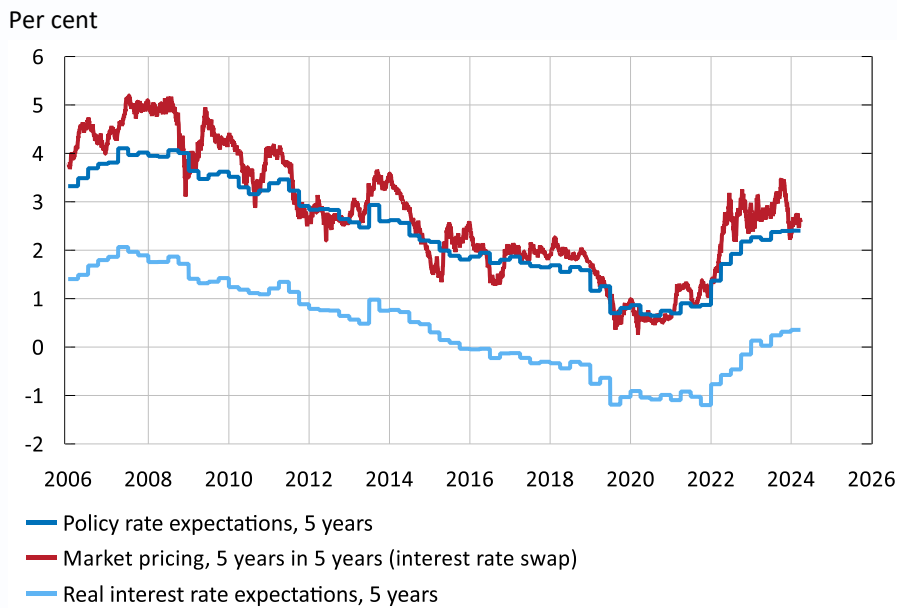
Market-based measures have risen somewhat in recent years

Another common way of obtaining an idea of the long-term interest-rate level is to use forward-looking information from financial markets. Both Prospera's survey responses about the policy rate five years ahead and pricing of a nominal five-year government bond have shown a clear downward shift over a longer period of time (see Figure 36).³⁷ However, in recent years they have risen somewhat and are now between 2 and 3 per cent.

³⁶ An extensive study finds that all global demographics combined can be assumed to continue to hold back interest rates in coming decades by around one percentage point from the level in 2016, see A. Auclert, H. Malmberg, F. Martenet and M. Rognlie (2021), "Demographics, Wealth, and Global Imbalances in the Twenty-First Century", NBER Working Paper No. 29161, National Bureau of Economic Research.

³⁷ As a long-term bond normal includes more risk compared with a short-term loan, it is reasonable to assume that this measure, in addition to an expectation of the policy rate, also includes a certain positive term premium.

Figure 36. Market pricing and expectations 5–10 years ahead



Note. Money market participants’ expectations, mean value. Expectations of the real policy rate calculated as expectations of the policy rate minus inflation expectations 5 years ahead.

Sources: TNS SIFO Prospera, Macrobond and the Riksbank.

Despite this measure intending to measure the policy rate and short-term interest rates in the longer run, they have varied substantially since 2019. At the same time, global and sluggish structural factors that affect the trend in the neutral interest rate have not moved to the same extent. This indicates that these market measurements in periods do not necessarily reflect only the development of the structural factors that determine the interest rate in the longer term.

Central banks have gradually adjusted down their assessments of long-term policy rates

Many central banks publish with varying frequencies an assessment of the interest rate in the long run, or an interval for it. The assessments the Riksbank has previously published have applied to the policy rate’s nominal level that can be divided up into a normal level for inflation (2 per cent) and an assessment of the level of the real policy rate in the longer run (5–10 years).

To conduct effective monetary policy, central banks need to adjust to the trends in the global real interest rate that are beyond their control. Over time, as global rates have fallen, many central banks have therefore adjusted down their assessments of their own economy’s future policy rate. The Riksbank’s interval for the long-term policy rate has been revised down from 3.5–5.0 per cent in 2006 to 2.5–4.0 per cent in 2017. Compared with 2017, several central banks, including Norges Bank and the Bank of Canada, have adjusted their assessments downwards, in line with the development in global sluggish structural factors that affect the neutral interest rate’s trend. The Riksbank has also communicated in 2019 and 2022 that it is likely that the level is in the lower region of or slightly below, the interval from 2017.

The future development of interest rates is uncertain. Structural factors can both drive up and hold back interest rates in the long term. Overall, however, these factors are expected to have relatively small effects on interest rates for some time to come. But even given an assessment of what the policy rate will be in the longer term, it is uncertain where it will end up in practice. The economy is constantly affected by new short-term economic shocks, which means that over time the policy rate will be both higher and lower than the assessment of the long-term policy rate.