500 years of low inflation

Executive Director Jan Fredrik Qvigstad, Norges Bank Monetary Policy, Aftenposten 25 October 2004 .

Inflation has been low recently - in some short periods, prices have not risen at all. The current interest rate is also low. This has not always been the situation. Many of us remember the 1970s and the beginning of the 1980s when the inflation rate sometimes climbed to 10 per cent or more. In the period from 1960 up to the mid-1990s, consumer prices rose by 700 per cent, more than over the previous 150 years.

Economists often refer to historical experience when drawing conclusions about the functioning of the economy or how economic policy should be formulated. Norges Bank has sought to break new ground in the documentation of Norway's economic history. In collaboration with Professors Ola H. Grytten and Jan Tore Klovland at the Norwegian School of Economics and Business Administration in Bergen, we have compiled figures for consumer prices in Norway back to 1516, and for gross domestic product, house prices, interest rates and the money supply from 1819. This provides a unique basis for the study of our own history.[1]

For the post-war generation, price stability was an unfamiliar concept, and high inflation almost the order of the day. But if we go back in history, we see that low inflation is the norm. In Norway's first years as a nation after 1814, inflation was variable, with prices generally declining from 1819 to 1842. If we go back as far as we can, to the beginning of the 1500s, a clear pattern emerges: a stable price level, i.e. annual inflation of 2-3 per cent or lower, is the norm. High inflation is unusual and normally occurs in connection with wars and times of hardship.

Some periods in particular stand out as examples:

- We had *hyperinflation* during England's blockade of Norway during the Napoleonic Wars. Inflation was highest in 1812, reaching 152 per cent!
- We had *very high inflation* during the First World War, although not as high as during the Napoleonic Wars.
- We had *high inflation* in the 1970s and the first half of the 1980s.

There have been long periods of price stability:

- Prices were generally stable in the period from 1630 to 1700, rising by an average 0.3 per cent per year.
- The longest period of price stability was from 1842 to 1914. In this period, prices rose by 0.6 per cent annually.
- Over the past 15 years, inflation has been 2.4 per cent on average.

The data provide a basis for comparing prices over time. When the first railway in Norway was opened 150 years ago, a ticket to Oslo from Eidsvoll cost 1 krone and 33 øre. If ticket prices had kept pace with the general rise in prices since 1854, the ticket price today would have been 65 kroner, while the actual price for this ticket is 92 kroner.

What are then the reasons for inflation in the long term? Money supply statistics can provide some answers. A comparison between developments in the money supply and the general price level since 1819 shows a clear connection between the money supply over time and the level of prices. Over time, the money supply is explained by monetary policy. The statistics confirm that inflation can be

exposed to unexpected disturbances for short periods, but that we can determine the rate of long-term inflation ourselves. As changes in the general price level can be controlled, it is prudent to decide on a target for the optimal price level. The current monetary policy mandate was formulated in 2001 on the basis of this recognition. The Government has assigned to Norges Bank the task of keeping inflation close to 2.5 per cent over time. This is not unlike the level of inflation we have had on average over the past 500 years. Experience has shown that neither welfare, nor economic growth or employment rates have benefited from very high inflation.

Those of us who remember double-digit inflation rates will remember that mortgage rates were in the double digits too. Professor Jan Tore Klovland has constructed a time series for the interest rate level back to 1819. Current government bond rates stand at about 4½ per cent. This is only slightly lower that the average since 1819. The highest interest rate level, 13.7 per cent, was recorded in 1982. The lowest, 2.5 per cent, was recorded in 1948. The Norwegian state borrowed money abroad in 1820 and on a number of other occasions later. It is remarkable how cheaply the young Norwegian state was able to borrow money compared with the rates developing countries have to pay today. In 1820, the premium paid compared with the English government was 2½ percentage points and declining. Today, countries referred to in the capital markets as emerging economies commonly pay a premium of between 4 and 10 percentage points.

The interest rate level fluctuates over time and this is of course due to changes in inflation. Whether a loan is expensive or cheap depends on the real interest rate (nominal interest rate minus inflation). Until 1842, Norway had a fairly high real interest rate of 5.4 per cent. In the long period of price stability between 1842 and 1914, the real interest rate was close to 3 per cent. The rate fell in the interwar years, was marginally negative in the period after the Second World War and was as low as -2 per cent in the period 1970-1985. Monetary policy tightening at the end of the 1980s and strong growth in the economy in the 1990s resulted in a marked rebound in real interest rates. Over time, high real interest rates will reflect high returns and sound long-term growth potential in the economy.

The train ticket to Eidsvoll has increased to 92 kroner today, which is somewhat more than the general rise in prices since the railway was opened. Relative to incomes, however, the train ticket was more expensive in 1854. Ola H. Grytten has constructed figures for GDP from 1830 to 1865 which, combined with the figures Juul Bjerke and others in Statistics Norway constructed earlier, give us an unbroken time series back to 1830. If the price of the train ticket had kept pace with developments in GDP since 1854, the ticket would have cost over 1800 kroner today. This partly reflects high income growth in this period, but also the length of the journey from Oslo to Eidsvoll at that time. The train took almost 3 hours, while today's journey takes 45 minutes.

We now know that the Norwegian economy on average grew by 2.9 per cent in the period 1830-2003. Growth was strongest in the period 1945-1970, when annual growth reached 5 per cent. But the period 1970-2003 was not all that bad either, with annual growth at 3.4 per cent.

- The highest pace of GDP growth was recorded in 1919, when the economy grew by 17.1 per cent.
- The sharpest fall in GDP was recorded in 1921, when GDP plummeted by 9.7 per cent. This is a fall of the same magnitude as that experienced by Finland in 1991/1992, Korea in 1998 and Argentina in 2002.

High income growth over the last few centuries is also reflected in rising house prices. Developments in property prices play a role today in Norges Bank's assessment of stability in the financial system. Director of Research Øyvind Eitrheim and economist Solveig Erlandsen at Norges Bank have

constructed house price indices from 1819 to 2003. Students collected the basic data, sitting in archives in Oslo, Bergen, Trondheim and Kristiansand, copying turnover figures from dusty property registers. The time series shows that house prices have risen, although not at a steady pace. There have been periods when house prices have risen sharply and periods when prices have dropped. By adjusting for the general rise in prices, we arrive at figures for developments in real house prices. This is important to those entering the housing market. The most unfortunate were those who bought a house in 1899, before the "Christiania crash". They had to wait until 1985 before real prices again reached the same level. The luckiest buyers were those who entered the housing market in 1921, 1954 and 1992, the trough years for house prices.

Footnotes

[1]See the articles in "Historical Monetary Statistics for Norway 1819-2003", Norges Bank's Occasional Papers, No. 35, Oslo 2004.