How demographic change causes inflation to rise

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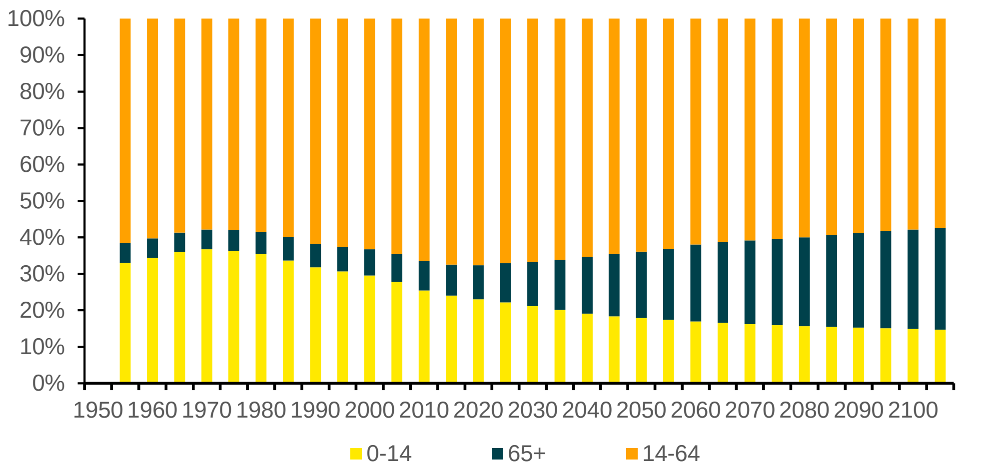
Unlike in the six decades after World War II, the share of the working-age population will decline significantly in many economically important countries from now on. We analyse the interplay between demography and monetary policy and outline the contribution of demographic change to a pick-up in inflation.

Demographic change causes decline of labour supply

Charles Goodhart, a professor emeritus at the London School of Economics, was an independent member of the Monetary Policy Committee of the Bank of England from 1997 to 2000. He belongs to the monetary policy establishment, which in Western countries usually stresses that inflation is not a threat and that monetary policy can therefore remain loose for longer. It is therefore all the more remarkable that Goodhart, in his **book** published in 2020 together with Manoj Pradhan, emphasises that a great demographic reversal poses the risk of significantly higher inflation. The focus of his argument is the share of the working age population (14 to 64 years) in the total population. Having risen since the Second World War, this share will fall from now on. This will reduce the supply of labour in the future and thus drive up wage costs and inflation.

Goodhart does not focus on the global working age population, but on those world regions that are largely integrated into the international division of labour. Thus, it is about North America, Europe, Asia and Australia. While the share of the working-age population in these regions was 61.6% in 1950, it had risen to 67.6% by 2015 (front page chart). It is true that the share of pensioners in the total population has increased over this period due to rising life expectancy, which in itself speaks for a lower labour force potential. But the share of young people (0 to 14 years) has fallen faster because of the declining birth rate, so that the share of the working-age population has risen (chart 1). This demographic trend, which has lasted for more than six decades, has been reinforced in its inflation-dampening effect since the 1980s by the fact that the rising labour force of China and other Asian countries became integrated in the global economy.

Chart 1 - Declining share of younger people no longer compensates for increase in the share of the old
Asia, Europe, North America and Oceania combined, share of each age group in total population, from 2025 projection



Source: UN, Commerzbank Research

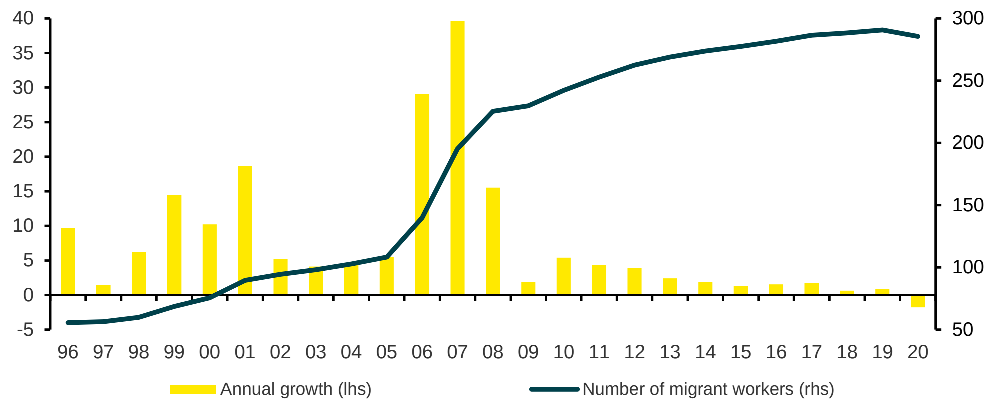
However, the trend towards an increasing share of the working population came to an end around 2015. Since then, the number of old people is no longer rising more slowly than the number of young people is falling. This is helped by the fact that the baby boomer generation is retiring. In the coming decades, the share of those able to work should continue to fall significantly – and at a similar rate at which it had risen in the six decades after the Second World War. We are witnessing a demographic turning point.

China is no exception

This trend reversal affects not only Western countries but also China, whose population is even somewhat bigger than North America's and Europe's combined.

In China, the working-age population has already been declining since 2010, and as a result of the former one-child policy and the desire of young couples to have a small family, it is likely to decline as sharply as in Germany in the coming decades. In addition, the reservoir of Chinese migrant workers has been exhausted. Their numbers are no longer growing (chart 2).

Chart 2 - Fewer migrant workers for the first time in Corona year 2020
Migrant workers, in million



Source: WIND, Commerzbank Research

A falling labour supply causes inflation to rise ...

Charles Goodhart points out that the great demographic reversal tends to raise inflation. This seems plausible because a declining share of the labour force is indicative of labour shortages and rising labour costs. Ultimately, we believe in the inflationary nature of the demographic reversal. But the correlation does not always hold. One only has to think of the 1970s, which were characterised by high inflation even though the labour force in Western countries grew faster than the total population. Obviously, there are other factors such as monetary policy that also play a role. According to economist Milton Friedman, inflation in the long run is even determined exclusively by the money supply.

... if central banks react incorrectly

The price level or inflation in an economy cannot be explained by one factor alone, such as demography, but by the interaction of aggregate demand and supply. Let us assume that the population remains constant and the per capita consumption of the individual age groups is identical. Then aggregate demand does not change if the share of the working-age population decreases. However, aggregate supply decreases because fewer people are available to produce goods and services. If the lower supply is met by an unchanged demand, inflation will rise.

However, the central bank could react to the demographically induced lower supply of goods and services by lowering money supply growth. Then aggregate demand fits supply and inflation does not pick up.

If one nevertheless expects the demographic reversal to cause inflation to rise in the coming decades, one must implicitly assume that the central banks are systematically reacting wrongly by ignoring demographic factors. If they did, inflation would indeed pick up significantly, as empirical studies show.

Empirical study: Strong influence of demography on inflation

In 2018, the Bank for International Settlements (BIS) published a **study** demonstrating the significant impact of demographic factors on inflation. The BIS looks at data for 22 countries from 1870 onwards, and in addition to demographic factors, it also considers the stance of monetary policy to capture influences beyond demographics. The results confirm that a declining share of working-age cohorts causes inflation to rise markedly, holding other factors constant. For the average of the coming decades, the authors estimate that demography increases inflation by 3 percentage points per year on its own. The inflationary effect would thus be similar to the disinflationary effect observed between 1970 and 2010.

Inflation is likely to rise in the long term, ...

The relative decline in the working-age population is in itself an argument for inflation to rise in the long run. Indeed, we do not expect central banks to respond adequately to the foreseeable demographic deterioration in the supply side of their economies:

- Some of the states are as heavily indebted as they were at the end of the Second World War. Politicians are therefore likely to put great pressure on the central banks to continue to pursue a loose monetary policy. This is especially true for the euro area. There, highly indebted countries like Italy are not addressing the causes of their economic problems, which latently threatens the stability of the monetary union and limits the ECB's room for manoeuvre.
- A relative decline in the working-age population means a shortage of labour. Real wages thus increase at the expense of real pensions. This distributional conflict could be concealed with higher inflation, because pensioners can then at least look forward to nominally rising old-age pensions. In this respect, politicians may also push for a loose monetary policy.

All in all, there are important arguments in favour of the great demographic reversal raising inflation. However, this effect could be delayed if more populous countries, for example from Africa, integrate into the global economy, even if the economic policy changes necessary for this are not yet apparent on a broad scale.

... but moderately rising wages are still keeping inflation in check

For the next two to three years, inflation is likely to be dominated by labour costs anyway, which in turn depend on the labour market situation and inflation expectations. At least in the euro area, the labour market situation is likely to remain difficult for the time being due to the effects of the Corona crisis. Accordingly, there is no evidence of a sustained faster rise in labour costs. The currently more rapidly rising producer costs probably do not yet mark the beginning of permanently higher inflation. We would expect real inflation problems to start only in a couple of years.

Further studies on the topic of inflation

- **Higher inflation – only an outlier?** Week in Focus, 21 May 2021.
- **Are higher timber and metal prices pushing up inflation?**, Week in Focus, 7 May 2021.
- **Inflation – Japan is no blueprint for the West**, Week in Focus, 23 April 2021.
- **Inflation – US lessons from the 1960s**, Economic Insight, 19 April 2021.

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FX Strategy:	Daily Currency Briefing (daily comment and forecasts for FX markets) FX Hot Spots (ad hoc analysis of FX market topics)
Equity Markets Strategy:	Share[d] Reviews (monthly and quarterly equity market review of market catalysts, performance trends and economic indicators) Digging in Deutschland (thematic research focusing on the German equity market)
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