



Fiscal Risks in an Ageing World and the Implications for Monetary Policy*

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Ageing societies are likely to face rapidly changing structural macroeconomic trends, with fiscal balances likely to worsen over time. It is widely acknowledged by forecasters and financial markets that debt-to-GDP ratios are tending to rise over time, but there are signs that the size and persistence of future deficits and debts may be underestimated. This underestimation comes from three sources: i) incorrect consideration of the medical complications of older cohorts; ii) a demography-driven rise in inflation, real interest rates and interest expenses; and iii) misalignment of fiscal and monetary policy incentives in an inflationary environment. We argue that a new era is starting, when we will have to face complicated relations between demography, and fiscal and monetary policy.

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1. Rapidly changing structural macroeconomic trends

In the USA, the non-partisan Congressional Budget Office (henceforth CBO) estimates that the US debt-to-GDP ratio is likely to rise to 166 per cent of GDP over the next three decades (*Figure 1*). In contrast to the period after both World War I and World War II, the era of an ageing society will not allow debt/GDP to fall in the US, and instead it will rise in the coming decades. On the basis of present policies, deficits are therefore set to be a permanent feature of the fiscal landscape. These deficits are made up of a steady-to-weaker primary deficit and a rising net interest outlay (*Figure 2*). Persistent primary deficits are strongly linked to the needs of an

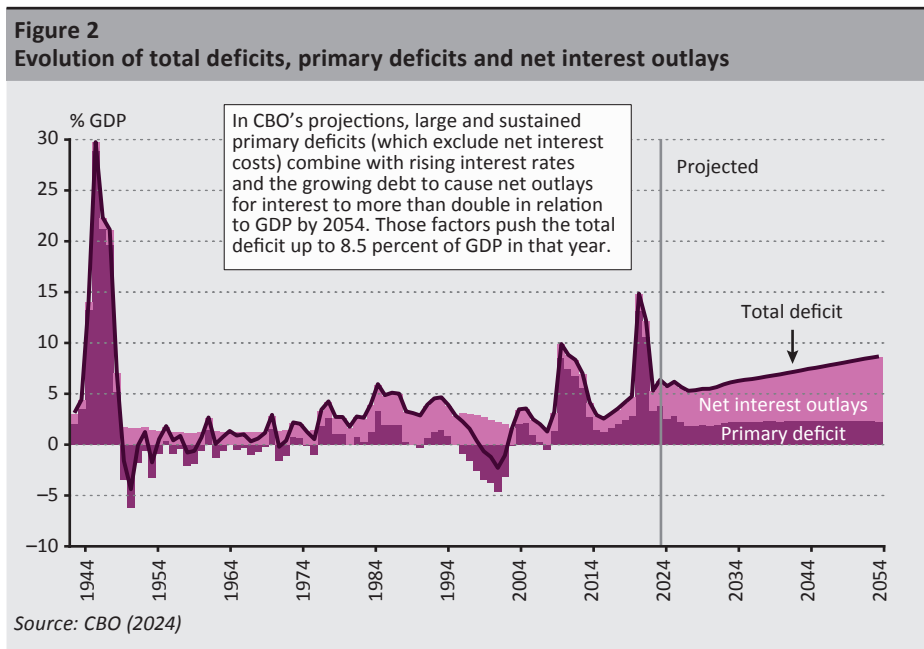
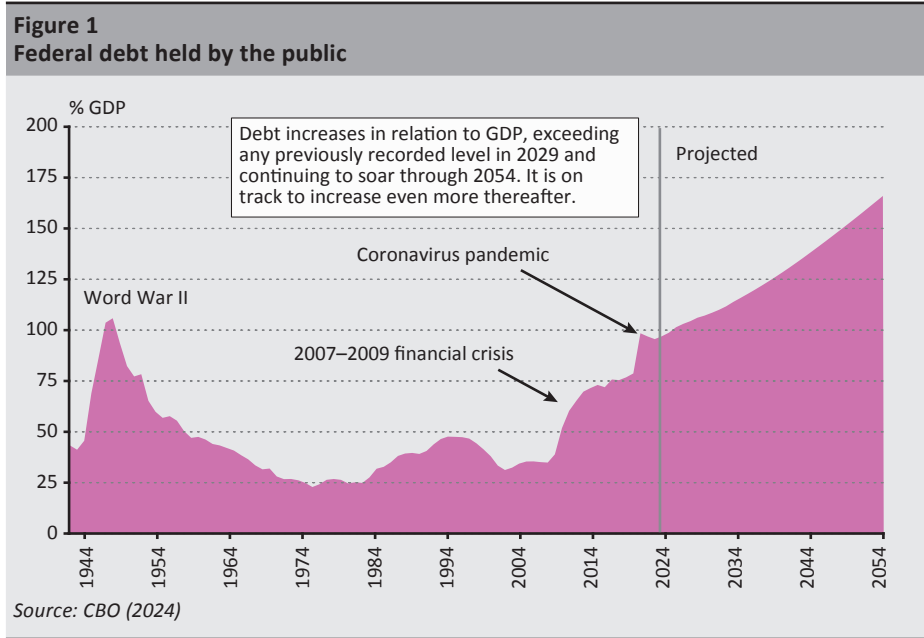
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ageing society as we argue in our 2020 book “The Great Demographic Reversal” (Goodhart – Pradhan 2020). Alongside these deficits, rising interest expenses are predicated on financing costs of around 3.5 per cent (similar to the levels seen in the US bond market in 2024).



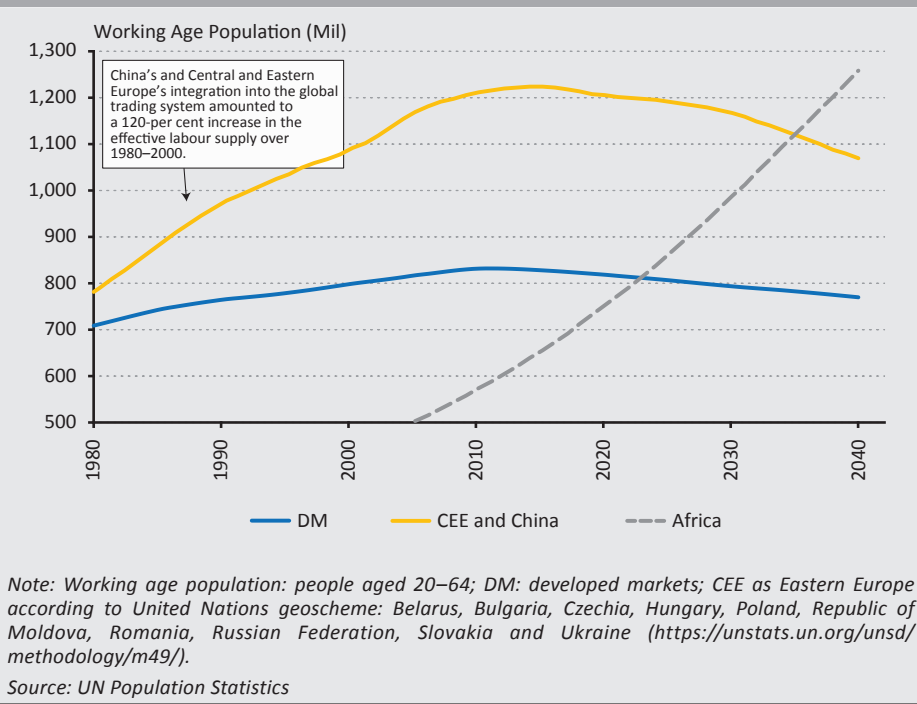
Both components may be underestimated. Even if deficits and debt develop exactly as the CBO forecasts, the implications of such a sharp increase in the debt-to-GDP ratio has major implications for monetary policy, interest rates and debt sustainability in the US economy and around the world.

For the last few decades, financing rising debt has never really been a problem. Will that really change in the future? We think so. Demography and the integration of China played a strong role in driving interest rates lower in the decades leading up to the pandemic. In turn, lower interest rates raised the willingness and ability to borrow and kept debt financing costs low. Demography and China are now implying a less disinflationary path, and that means the dynamics of debt, its sustainability and the cost of financing debt are all going to change.

China's integration into the global manufacturing system also resulted in the integration of its massive, well-trained labour force into the global supply of labour. Along with Central and Eastern Europe (CEE), the rapid increase in the effective labour supply for the global economy amounted to a huge positive supply shock – a 120-per cent increase in the supply of labour over the period 1980–2000 (*Figure 3*). The only other comparable shock of this magnitude is probably the tragic events during the Black Death in which a huge number of fatalities reduced global labour supply by one third. Along with the rise of the Baby Boomers, this increase in labour supply naturally put downward pressure on wage growth in the advanced economies. In his Jackson Hole paper, *Güvenen (2021)* argues that the increase in inequality within the US was driven by the underperformance of real wages of the lower 50 per cent of the labour force (sorted by wages), rather than the outperformance of relatively high wages. China's rise as a manufacturing giant helped to explain the underperformance of mid/lower-skilled workers.

Effectively, the global equilibrium wage was set by China, and other economies in the world gravitated towards that wage level over the decades following China's integration. *Autor et al. (2013)* measure the response of local US labour markets to increasing exposure to imports from China. They find "Rising exposure increases unemployment, lowers labor force participation, and reduces wages in local labor markets. Conservatively, it explains one-quarter of the contemporaneous aggregate decline in U.S. manufacturing employment." Economies where real labour costs were higher than China's would lose market share to China and see their real wage growth falling – this was true for the advanced economies. Emerging market economies that connected with China as input providers were able to piggyback on China's rapid rise and provide higher real wages for their own labour force. This evolution is consistent with *Milanovic's (2016)* observation that global inequality fell even though inequality within the advanced economies rose.

Figure 3
Main trends in the effective labour supply (1980–2040)

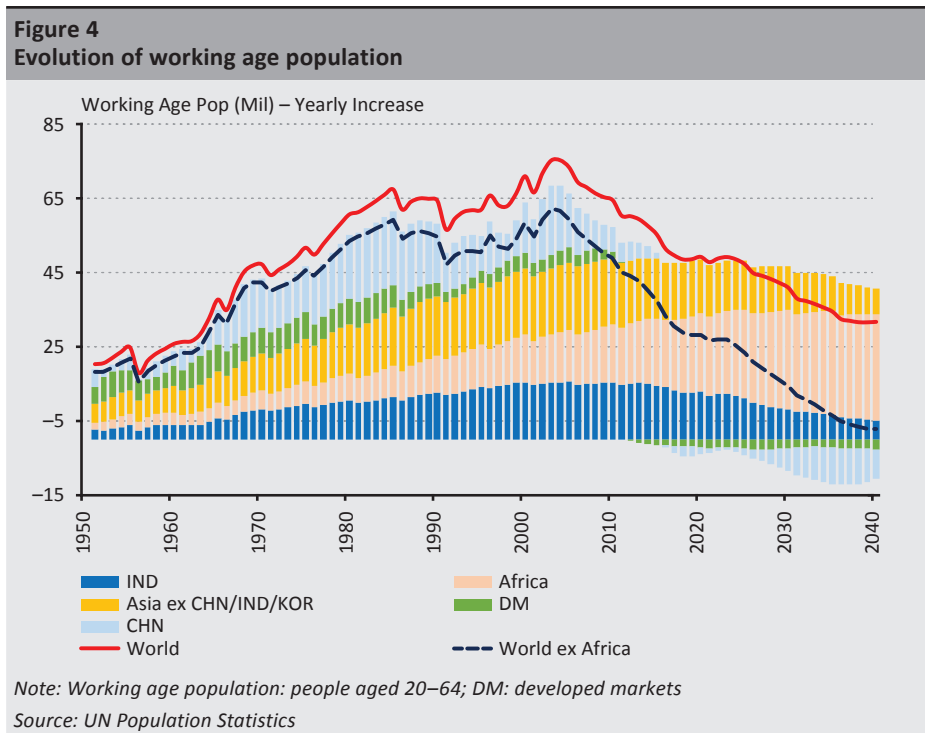


China’s introduction into the world’s trading system also resulted in major changes in investment and real interest rate dynamics. Faced with the “Impossible Trinity” – i.e. that an economy cannot simultaneously have a fixed exchange rate, free capital movement and independent monetary policy – China’s policymakers chose to restrict capital flows in order to retain control over the exchange rate and domestic monetary policy. This choice had the added advantage of incentivising physical investment within China for those who wished to tap the massive potential available on its shores. As physical capital flowed to the Pearl River Delta and other destinations in China, incremental investment within the advanced economies slowed. Relative to local savings, the advanced economies consequently faced a deficit in investment. Since global interest rates have always been determined within the advanced economies, the shortfall of investment relative to savings lowered the real interest rate for the global economy.

Together, lower wage growth, a fall in the price of goods now manufactured in China and a decline in the real interest rate led to falling interest rates, which in turn created a bull market for bonds that lasted for decades. Borrowing and lending were relatively low-risk activities since the cost of servicing debt continued to fall year after year. A sustained fall in the cost of leverage then fed into a rise in the price of assets, particularly the one asset which always needs a lot of leverage... housing. The consequences of that exuberance are very well known.

That's history. As the Hollywood film title goes, let's get 'back to the future'.

Most agree that China and demography had a role, probably an important role, to play in the decline in the nominal and real cost of borrowing in the decades leading up to the Global Financial Crisis (GFC) in 2008–2009 and the Covid-19 pandemic. Despite accepting that causation, there is resistance to accepting a *reversal* in the direction of inflation, real interest rates and wages, even though it is very well understood that demography and China are already reversing the path they have followed over the last few decades and thus a great demographic reversal is underway (Figure 4).

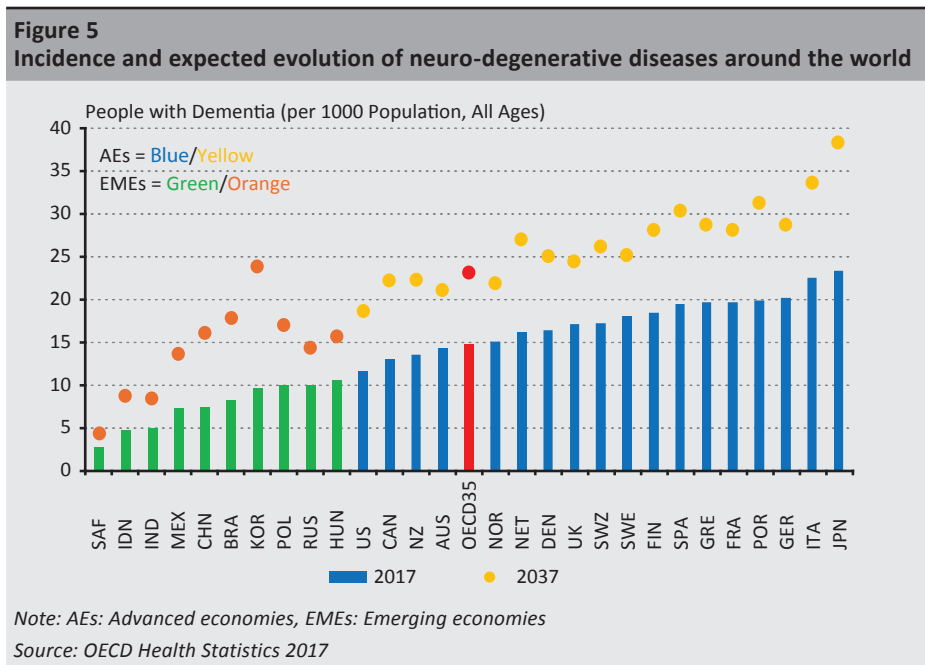


2. What does this mean for future monetary policy?

Are deficits and debt being underestimated? Three arguments suggest that the fiscal position of the US economy may worsen faster than the CBO forecasts. At the outset, it must be stated that the CBO's remit is to project deficits and debt based on existing policy. That remit does not allow for a probabilistic assessment of future policies. We are not constrained in this manner and hence can assess the future on a much wider range of possible outcomes (see *Balogh et al. 2024* for a recent perspective on the challenges facing monetary policy).

2.1. Ageing

First, the medico-fiscal needs of an ageing society are likely being underestimated. The fastest growing cohort of the population in almost every economy is the oldest-old. As individuals go past their 60s and into their 70s, 80s and 90s, the risk of suffering from a neuro-degenerative disease (henceforth NDG) rises sharply everywhere around the ageing world (*Figure 5*). This is a medical development that the global economy has never experienced as an issue of macroeconomic proportions.



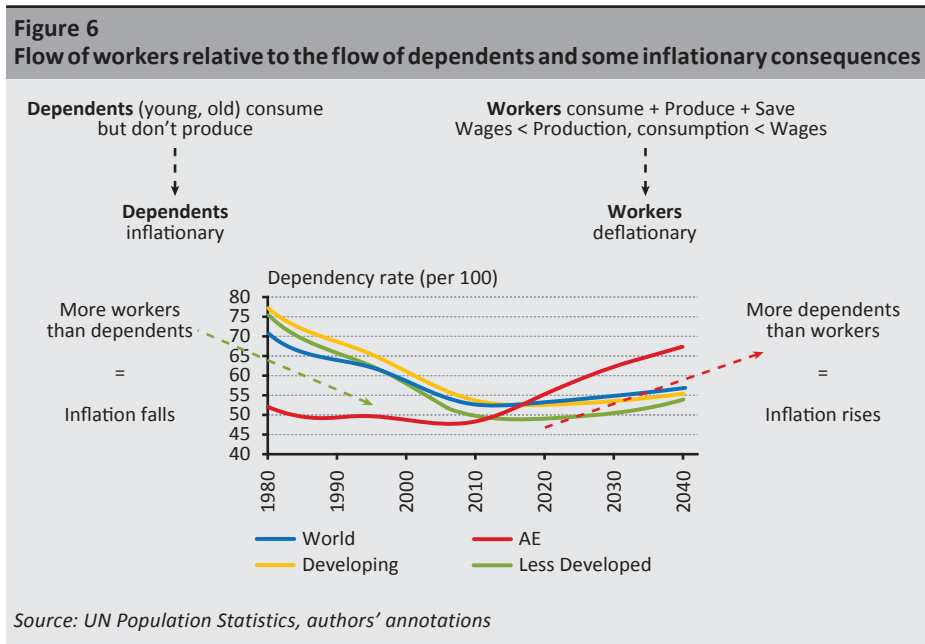
NDGs are different from the more familiar afflictions of our time, such as cancer and heart disease, in three important ways. First, the ailments that we are more familiar with tend to preserve the quality of life for large periods except for relatively short periods of the disease, but particularly the very last stage, when patients tend to suffer. Severe cases of the current ailments of old age tend to lower life expectancy once the disease sets in. NDGs, on the other hand, lower the quality of life slowly and markedly, but they allow the patient to live for a very long time. Second, as a result, most patients suffering from diseases such as cancer and heart disease are able to perform the activities of daily life fairly effectively except in critical times. Patients suffering from NDGs are increasingly unlikely to perform daily activities. As the mental condition deteriorates, every patient requires help to complete even simple tasks. Third, patients suffering from today's ailments have an ability to re-join the labour force upon successful completion of treatments that allow (sometimes) for a full recovery. There is no coming back from NDGs. There is no possibility of a patient suffering from any version of such diseases to go back into the labour force. This is particularly important because it means that people afflicted with NDGs cannot finance their treatment and caring expenses with new earnings. Everything must be financed by savings from the past, intergenerational transfers within the family, or fiscal support.

Forecasters have not fully incorporated the additional threat of NDGs into the medico-fiscal estimates. The CBO's estimates of age-related expenditures almost certainly underestimate the fiscal expenses that would need to be incurred when NDGs spread through an ageing population. If we are right, primary deficits in the future will worsen as societies age.

The second reason that deficits and debt might be underestimated is that an ageing workforce, in which the proportion of elderly dependents rises relative to the working age population, is likely to result in both higher inflation and a higher real interest rate. If one or both are correct, interest rates are likely to remain higher than they have been in over the last 2 to 3 decades on average. Towards the late stages of business cycles, interest rates may rise further above these averages. In the CBO's projections, it is the interest expense (rather than the steady primary deficit in its projections) that accounts for the bulk of the rise in successive fiscal deficits.

Why would inflation and real interest rates rise? Inflation is likely to rise for two reasons.

Dependents and workers have a different effect on inflation. Dependents consume without adding to supply in the economy. In other words, dependents create excess demand and tend to be inflationary. Workers, on the other hand, tend to be disinflationary if not outright deflationary. Workers are paid a wage that is less than the value of their marginal product – that means the firm captures the wedge between revenues and wages. Out of their wages, workers will save for the future. Thus, the revenue stream that a worker creates exceeds the spending by that worker because of two wedges, profits and savings. The excess of supply produced by workers relative to the demand they create is disinflationary. In the period when China, CEE and domestic labour forces in the advanced economies dominated flows in the labour market, the flow of workers joining the world’s labour force far exceeded the flow of dependents. The dynamics we describe help explain why we saw a sustained period of disinflation. As flows of older dependents outstrip in the inflow of workers, it is the inflationary effect of dependents that will be the dominant factor (Figure 6).



Debt dynamics will tend to be inflationary as well. If financing the fiscal position is a daunting task, inflation targeting can be difficult. Central banks lower inflation by tempering demand. However, weak growth in an era of rising fiscal risks could raise questions about the sustainability of the debt profile. To put it differently, central banks can pursue disinflation, but only to the extent that their disinflationary policies do not create fiscal/financial instability by hurting growth. If modest growth

is important for convincing financial markets about the sustainability of debt, the ability and willingness of central banks to control inflation will be lower.

Real interest rates are likely to rise if the build-up in debt outstrips growth and productivity in the economy. During wars and even during the pandemic, debt and GDP tended to move in the same direction. During these difficult times, government expenditures rose and growth improved. As the need for fiscal support abated, deficits fell and debt/GDP ratios stabilised or even fell. *Figure 1* suggests that debt/GDP could rise and then fall after a major event like WWII. That will not be the case when it comes to ageing – note that the debt/GDP continues to rise after the pandemic... that's because of ageing.

2.2. Productivity

Demography is one of a small number of factors that can push debt and GDP in different directions – another one is productivity. From our discussion above, it is clear that ageing societies will continue to be naturally associated with rising debt. However, a shrinking workforce implies lower growth unless productivity rises. In an ageing society where debt is rising at a steady rate while growth is slowing, productivity has to be strong enough to not just compensate for a smaller workforce, but go beyond that to assure us of the sustainability of rising debt.

Unsurprisingly, the rise of AI has created a serious discussion whether we are on the cusp of exactly this kind of a surge in productivity. We are not technology experts, but we would make three points. First, technology revolutions tend to create new sectors and new jobs – that means running out of jobs is not consistent with a technology revolution. Second, adoption of productivity-enhancing technologies tends to create rising household incomes – that means credit growth and demand will also be boosted by the adoption of AI. Finally, a destruction of repetitive jobs is a necessary evil. There are so many jobs in the pipeline of an ageing society that jobs in other sectors must be destroyed in order to reallocate labour to sectors that cater to the elderly.

2.3. Misaligned fiscal and monetary policy objectives

A third possible reason that the fiscal position could worsen more than projected is that the objectives of monetary and fiscal policy may no longer be as well aligned as they have been in the past, leading to larger deficits and a more cyclically-active fiscal policy. In the decades leading up to the pandemic, the introduction of China's labour force and the rise of the Baby Boomers led to falling inflation, wages and real interest rates. The result was a strong willingness and ability of borrowers and lenders to transact. Credit growth was strong and house prices rose. Inflation targeting by central banks aided this process. Incumbent administrations could hardly have asked for a better macroeconomic backdrop.

In the inflation surge in the post-pandemic recovery, we saw some increasing friction between central banks and governments. The US continues to run very large fiscal deficits, despite several warnings from prominent economists that expansive fiscal policy during a strong economic recovery could make disinflation very difficult. Such political realities need not be a permanent feature of the future, but it would be naïve to think we have seen the last of such frictions between central banks and governments. *Schnabel (2024)* raises concerns about the future independence of monetary policy in the event that future fiscal policy in the euro area deviates persistently from the new European fiscal rules. *Leeper (2023)* urges “a fundamental rethink of how America conducts its fiscal policy”. Specifically, he urges “fiscal behaviour that is compatible with an inflation-targeting monetary policy”.

3. Conclusion

In summary, fiscal positions in ageing societies might deteriorate more than expected because of (i) an underestimation of the medical complications of an ageing society which inevitably means higher healthcare and pension spending; (ii) a rise in inflation and real interest rates because of demography, and hence a rise in interest expenses on existing debt; and (iii) a misalignment of fiscal and monetary policy incentives at the cyclical frequency in an inflationary environment, which prompts governments to be more active in countercyclical policies, particularly when elections approach.

Two other implications of demography and fiscal policy need to be outlined: the *cost of decarbonisation*; and the *global effects of US fiscal policy*. Any estimate of the cost of decarbonisation is daunting. How will governments allocate fiscal funds to the needs of reducing global warming if an increasing share of future expenditures is allocated to the needs of an ageing society? Moreover, the global effects of fiscal policy and sustainability in major economies will impinge upon the rest of the world. Even if an economy pursues very responsible fiscal policy, the cost of financing its national debt is likely to rise if the cost of financing US sovereign debt rises.

The implications of these fiscal risks are deep and widespread. Will central banks be able to maintain their inflation targeting mandates if both debt/GDP and interest rates are higher in the future compared to the benign conditions over the last three decades? Can financial markets absorb the vast sums of fiscal issuance that are inevitable? Can global debt financing remain resilient if even one of two of the gigantic issuers of government bonds, the US and the euro area, faces increasing questions about sustainability? Or will there simply be a new disinflationary force in the form of AI that will solve all our problems?

We hope the discussion above provides a sense of how deep and complicated the relationships among demography, fiscal policy and monetary policy will become. One thing we are sure of, the sequel to “Back to the Future” won’t be anything like the first movie.

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