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# A Triumvirate of Macro Mega-forces

## Demographics, Climate Change and Deglobalisation

Deglobalization, a shrinking working-age population and climate change are set to define the strategic investment outlook. Much is written on these topics individually, but their economic impact is most clear when they act in concert to imply the same directional outcome for macro variables. The implication: investors should expect a higher equilibrium level of inflation, lower real growth and lower margins—reversing some trends from recent decades and implying a new investment regime. That might sound like a bearish conclusion, but there is still a plausible path for major asset classes to produce positive real returns. The key conclusion for strategic asset allocation is the need to balance risk to the purchasing power of long-term savings and risk as measured by volatility. Our central case assumes a strategic allocation to equities and a range of other real assets to generate the required positive real returns.

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## Introduction

We have been struck by the number of clients who want to engage in a debate about strategic return forecasts. These discussions go beyond merely questioning return assumptions, frequently touching on changes needed to the *methodology* of forming those assumptions. We assert that the post-pandemic world constitutes a new economic and investment regime, implying that the structure of strategic forecasts should change. Huge macro changes at work are likely to determine the investment landscape in coming decades: deglobalization, a shrinking global workforce and climate change. This note attempts to sketch out a provisional language for the combined effect these forces will have on capital markets, return streams and strategic asset allocation.

Return forecasts have changed over the last 18 months. That is not controversial: after a 200 basis point increase in real interest rates and a 15% fall in equities, forecasts *should* have changed. But the intriguing (and more intellectually interesting) observation is that many investors recognize the need to change the structure of the underlying models.

Adjustments to model structure should always be done with caution,<sup>1</sup> but we think there is good evidence that the economic and financial regime has changed. We spelled out this case in our recent black books, [Are We Human or Are We Dancer?](#) and [A Painful Epiphany](#). If that case holds true, it demands a rethinking of underlying assumptions for capital market forecasts and the resulting strategic asset allocation decisions.

In this note, we focus specifically on the triumvirate of macro mega-forces: climate change, demographics and deglobalization. Each is significant in its own right and subject to varying degrees of controversy in terms of their impact on capital markets. However, where they are likely to interact in a directionally similar way, their power to shape financial outcomes is sizable. We think this is particularly the case for inflation, growth, macro volatility and margins.

None of these forces were caused by the COVID-19 pandemic—they were set in motion before that. Nevertheless, we suspect that history may well treat the pandemic as the marker for a regime break. The after-effects of the pandemic have had significant implications for many of the macro transmission mechanisms we identify that relate to these macro forces, including shocks to supply chains and labor participation. However, the excess liquidity and its subsequent withdrawal—features of the pandemic response—have so far masked the longer-term implications for these variables.

Here's a brief overview of the mega-forces we will discuss in this note:

**Demographics:** The global population of working-age people has peaked, excluding Africa and South East Asia (although the latter is forecast to peak later). The number of workers is set to decline in the coming decades, and to do so even faster in China than in the West. A decline in the number of workers implies a decline in real growth, unless there is a sustained increase in productivity. This mega-force also shifts the balance of power between labor and capital (subject to the level of automation that can be achieved), which will be inflationary.

**Climate Change:** Climate change, in addition to its other effects, also plausibly reduces growth rates. However, its more tangible impact will be increasing the heterogeneity of growth outcomes among regions, which has implications for migration and other second-order effects through its impact on politics. It will also likely be a significant force in directing capital investment. The cost of the energy transition will likely be inflationary in the medium term, though in the long run could plausibly be deflationary. Government spending on the energy transition could boost growth and offer one of the few offsets to the downward growth forces we will highlight in this note.

**Deglobalization:** This mega-force will likely continue, because two mutually reinforcing pressures point in the same direction: 1) dissatisfaction with globalization in the internal politics of developed economies and 2) hardening relations between the US and China. This process is likely to be inflationary, fragmenting the global labor supply and forcing a rethinking of supply chains. Deglobalization also puts downward pressure on growth rates and margins, and plausibly puts upward pressure on risk premia.

All this implies that long-term equilibrium assumptions for inflation, growth and margins should change, which in turn implies a need to change strategic asset allocation. The nature of that change depends very much on the nature of liabilities, but for investors who must maintain purchasing power and generate a real return, it demands higher risk levels. What makes this task

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<sup>1</sup> Inigo Fraser Jenkins et al., [Global Quantitative Strategy: Can there be scientific method in finance?](#), Bernstein Research, February 2017

even trickier is that the macro forces we describe here imply an elevated equilibrium level of macro uncertainty and a dampened ability for bonds to diversify equity risk. This logically sets up an inevitable clash between risk defined as the volatility of a portfolio and a definition of risk rooted in the possibility of a hardship outcome for beneficiaries, such as individuals saving to meet the cost of retirement—a cost set in the real economy.

The strategic asset allocation implications are that inflation protection will remain important, not merely a cyclical need. Despite falling growth rates and margins, there is still evidence that equities can deliver positive real returns and be a key anchor for many portfolios. Accompanying that equity position should be a selection of assets that deliver an attractive trade-off between real return and diversification, including private assets and factor strategies.

The net effect of these mega-forces on real yields is ambiguous. At the very least, we do not expect real yields to be higher over strategic horizons, making inflation-protected bonds a part of this allocation. A possible exception: if sovereign risk starts to be repriced significantly.

Beyond the issue of portfolio allocation, these forces raise profound questions around the nature of retirement and the best way to try and preserve it in a very different economic regime. There are also questions about the nature of capitalism. The so-called “late-stage capitalism” of recent decades has been typified by three characteristics: high returns on financial assets versus real assets, a preponderance of capital over labor when it comes to bargaining power, and an unprecedented gain in the power of corporations versus governments. Whatever we call the next regime, we think all three of these defining characteristics will be overturned by the triumvirate of macro forces laid out in this note.

## A Declining Working-Age Population and the Extension of Working Lives

Demographics will likely be a huge force affecting aggregate growth rates. Without a material increase in productivity (which is hard to forecast), a decline in the working-age population implies a decline in economic growth rates. To what extent can the total size of the working-age population be augmented by increasing overall labor participation?

The largest moving part in increasing participation is the ability to extend the working age of people. We see much written about the relative ease of making a case for people wanting to work longer in a predominately service economy where citizens are healthier for longer. We’re not so sure about that—in our view, that case applies to a small group of knowledge workers in a highly privileged position. One only has to look at the current backlash in France and similar recent debates in other European countries to see how hard it is to even propose small increases in retirement age.

In addition to a declining total working age population, there is evidence that declining health outcomes, which are undoing a multi-decade trend of rising health, are putting downward pressure on the labor participation rate in countries such as the US and UK. In the 12 months leading up to August 2022 alone, more than 101,000 people in the US (or 0.06% of the adult work force) had died from a drug overdose.<sup>2</sup> Meanwhile, the US obesity rate has surged in the past 20 years to nearly 42%.<sup>3</sup> In the long run, this trend will likely be a significant drag on labor productivity and require higher public and private healthcare expenditures.

In *Displays 1 and 2*, we take the United Nations forecasts for the size of the working-age population in the developed world and China, using a traditional cutoff at age 65. How significant could an increase in older workers’ participation be? The participation rate for those older than 65 is already non-zero, and our baseline scenario assumes that this older worker participation remains constant. The US labor participation rate of those older than 65 is already 24%. If the labor participation rate for ages 65–79 rises to 50% (though this might be hard to achieve), it would meaningfully hold off the decline in the working population for developed markets. On this basis, the work force would decline by only 2.6% from 2025 to 2040, as opposed to a 4.3% decline if everyone retired at 65.

The problem is far more acute in China, as illustrated in *Display 2*. The labor force participation rate for the 65–79 year-old cohort is already above 20%; if it stays there, this baseline scenario still shows a severe decline in the working-age population in the coming decades. Even more than doubling the participation rate of the older cohort to 50% would imply a work force decline of nearly 4% from 2025 to 2040. If everyone retired at 65, the decline would be nearly 10% over the same period.

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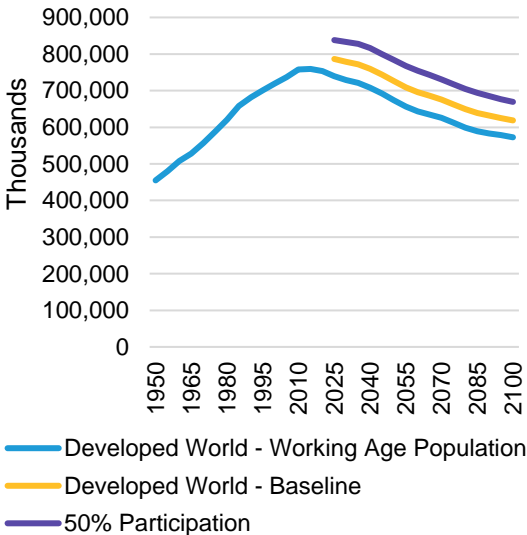
<sup>2</sup> <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>

<sup>3</sup> <https://www.cdc.gov/obesity/data/adult.html>

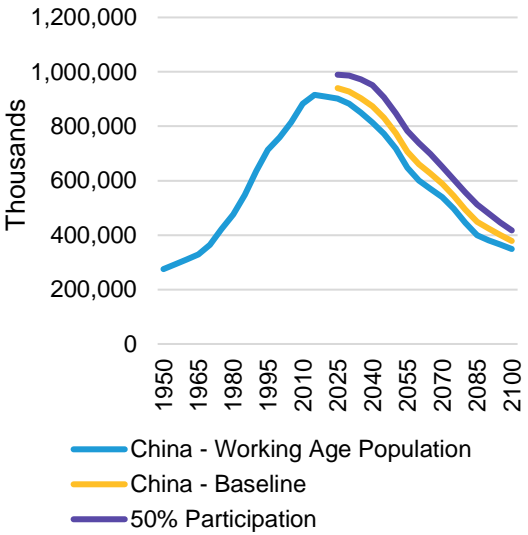
Whether a significant increase in the participation of this older cohort is feasible will be a key policy and investment question in coming years. There has been much focus on the decline in the participation rate for older workers after the pandemic. While the participation rate of the over-55 US population recovered slightly from the pandemic low, it is still 1.5 percentage points below the January 2020 level—the largest gap of all age groups. Meanwhile, the very significant level of protests in France over a proposed increase in the pensionable age shows how difficult this shift might be in practice.

If we assume no change in productivity (more on this below), the baseline projected shrinkage in working-age population would reduce the real equilibrium growth rate in developed economies by 0.23 percentage points per year through 2040. If the participation rate were to increase by 50%, the demographic drag on the growth rate would “only” be 0.17 percentage points per year.

**DISPLAY 1: DEVELOPED WORLD POPULATION PROJECTIONS WITH DIFFERENT LEVELS OF PARTICIPATION OF 65–79 YEAR OLD COHORT**



**DISPLAY 2: CHINA POPULATION PROJECTIONS WITH DIFFERENT LEVELS OF PARTICIPATION OF 65–79 YEAR OLD COHORT**



**Historical analysis and current estimates do not guarantee future results.**

Note: The baseline scenario assumes that current participation rate of 65-79 age cohort remains unchanged in future. The 50% participation scenario assumes that it will increase to 50% starting in 2025.

As of January 31, 2023  
Source: United Nations and AB

**Historical analysis and current estimates do not guarantee future results.**

Note: The baseline scenario assumes that current participation rate of 65-79 age cohort remains unchanged in future. The 50% participation scenario assumes that it will increase to 50% starting in 2025.

As of January 31, 2023  
Source: United Nations and AB

Our analysis focused mostly on the participation rates of the older population. However, it’s important to note that many countries with the most problematic demographic profiles, such as China and European countries including Spain, Greece and Italy, also have very high numbers of youth unemployment. In China, the rate is more than 16%, and nearly 37% in Spain and Greece. This has been a structural problem in Southern Europe and a difficult one to solve, but if unemployed youth could be re-skilled and integrated into the job market, it could go a long way toward alleviating the problem of retiring older workers.

**Productivity and the Need for Long-Term Care**

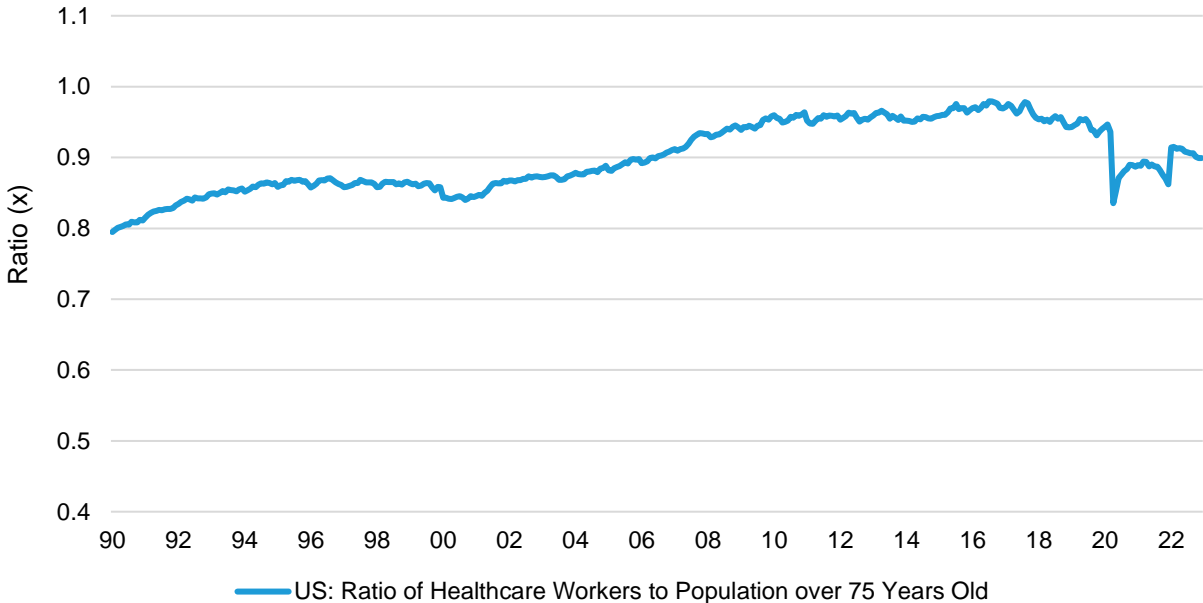
The demographic transition and its impact on growth are not only about the headline change in the number of working-age people; other forces could magnify the effect. The large expected increase in the population of older people implies a growing

need for long-term care. There are two routes for this to impact productivity. First, an increase in the need for care has a crowding-out effect, diverting expenditure to healthcare from R&D or infrastructure. The second route is through the impact on the number of people needed to work in the care sector. Amid the debate about jobs being automated out of existence, care provision is especially hard to automate. Other things equal, demographic projections imply an increasing share of the population either engaged formally in the care sector or falling informally out of the work force (or becoming less productive) to care for relatives.

Goodhart and Pradhan<sup>4</sup> cite the specific example of dementia as a driver of increased long-term-care needs. They point out that, in cases of cancer and heart disease, mortality occurs relatively early and few patients with either disease require care for years or decades. However, dementia is different, implying a longer-term need for care. The risk of dementia rises rapidly after age 80, so the increased share of people beyond this age should be expected to drive an increased need for care.

Empirically, the ratio of the number of health and social care workers to the size of the population older than 75 has been relatively stable over the past 30 years in the US (*Display 3*).

**DISPLAY 3: RATIO OF HEALTHCARE AND SOCIAL ASSISTANCE WORKERS TO SIZE OF US POPULATION >75 HAS BEEN STABLE, SO THE NUMBER EMPLOYED IN THE CARE SECTOR IS LIKELY TO INCREASE**



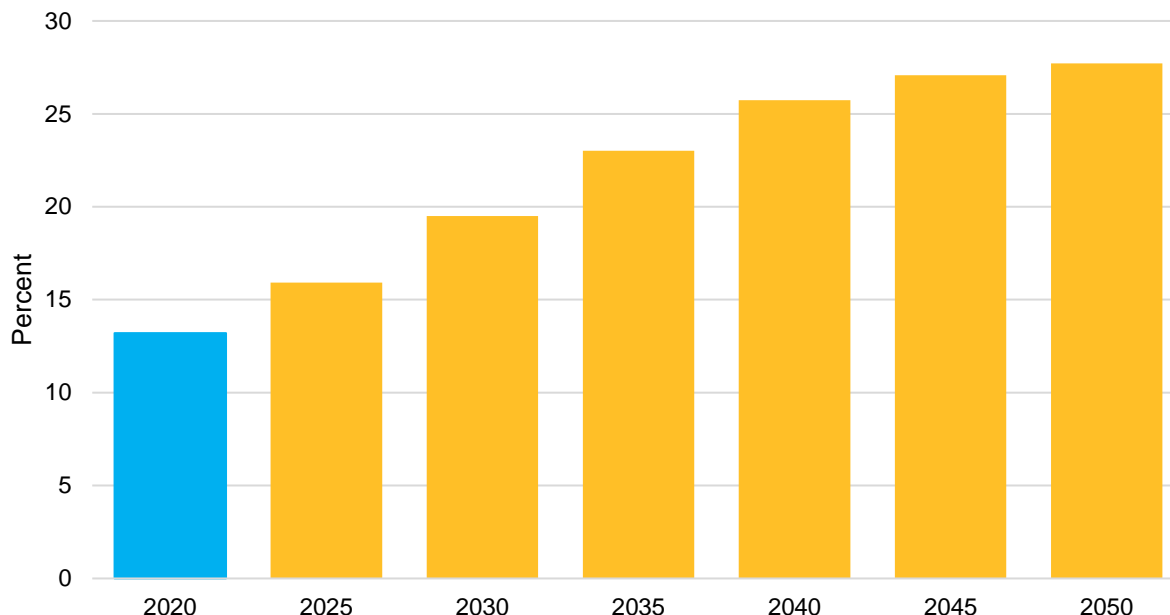
**Historical analysis and current estimates do not guarantee future results.**

As of January 30, 2023  
 Source: Datastream and AB

If this ratio remains constant, the aging of the population implies a sustained, significant increase in the share of the work force needed for care work. On this basis, the current 13% share of the work force engaged in healthcare and social-assistance work would more than double by 2045, assuming that the current labor participation rates for the 15–65 years and 65–79 years cohorts stay the same as today (*Display 4*).

<sup>4</sup> Goodhart and Pradhan (2020): *The Great Demographic Reversal: Ageing Societies, Waning Inequality, and an Inflation Revival*, Palgrave MacMillan

#### DISPLAY 4: PROJECTED US HEALTHCARE & SOCIAL-ASSISTANCE WORKERS AS % OF TOTAL



#### Historical analysis and current estimates do not guarantee future results.

Note: The chart uses UN projections for population growth of different age cohorts in the US and uses current labour force participation rates to calculate the total number of workers.

As of January 30, 2023

Source: BLS, Datastream and AB

Barring some dystopian future in which the elderly are looked after by robots—or not looked after at all—the growing need for care workers has implications for productivity. A substantial portion of care today is provided informally, including by family members, a pattern that will presumably continue. A recent report from the Organization for Economic Cooperation and Development (OECD) found that in OECD member countries, on average, about 14% of people older than 50 years provide informal care daily or weekly. A study funded by the European Commission estimated that the value of the total hours of informal care for older people and disabled adults ranged from 1.4% to 5.2% of total European Union (EU) gross domestic product (GDP), depending on methodology and assumptions. The cost of public expenditure on long-term care is estimated at 1.7% of 2019 EU GDP.<sup>5</sup>

We can extend our earlier analysis of the demographic impact on the working population to include the effect of a rising need for healthcare and social assistance. Assuming that the ratio of healthcare and social-assistance workers to the total population aged 75 and over is the same in the developed world as in the US, and using the United Nations (UN) population forecasts, we can project a need for nearly 48 million additional care workers. Assuming that people providing care do not contribute to measurable GDP, and holding productivity constant for the rest of society, the implication is another 0.4% decline in total GDP per year versus the baseline scenario we highlighted earlier.

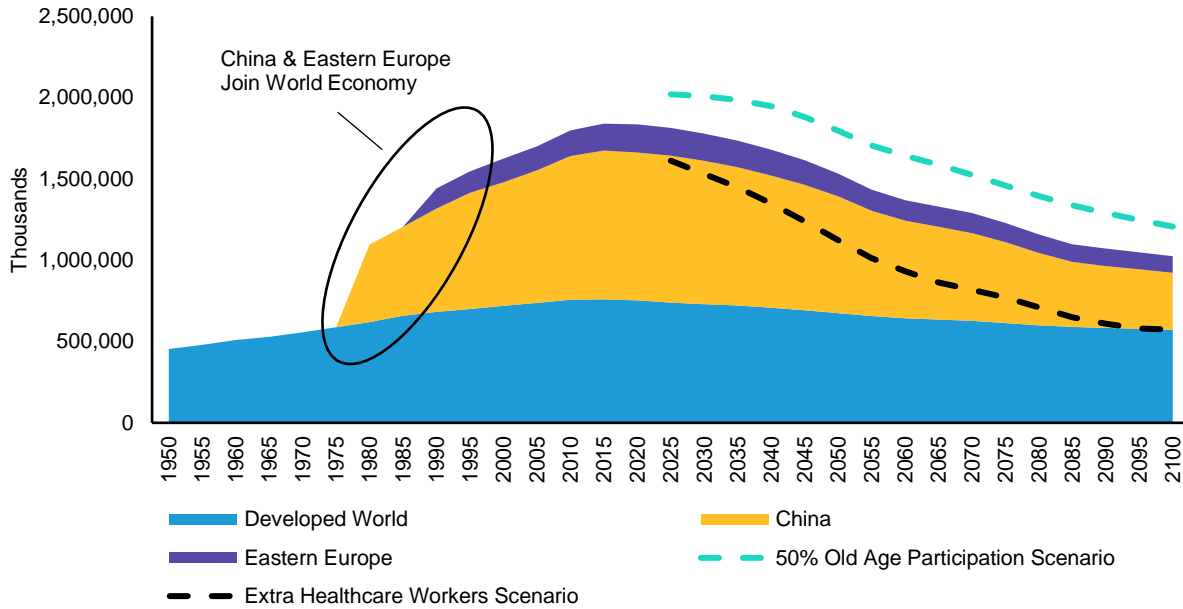
This all begs a bigger question about how to measure value in economic statistics. The value of informal care, in particular, is not captured in GDP measures. Our society has devalued key areas of work, such as care for the elderly and young. This issue has long been a pillar of a feminist critique of capitalism, and raises questions about whether capitalism, as currently defined, and feminism are in the end compatible. We think the massive increase in the need for informal care resulting from current demographic trends will be an engine to force a rethinking of how to value different kinds of work and contributions to society.

We can bring all this together to give some sense of upper and lower bounds to the growth in working-age population. In *Display 5* we proxy the global working-age population, showing the historical impact of globalization on growing the labor force and how demographic change whittles this growth away. The upper dotted line is the larger-sized work force if society were to achieve a 50% participation rate for the ages 65–80 cohort; the lower dotted line shows the impact if the number of people

<sup>5</sup> For more details please see Llena-Nozal, A., Rocard, E., & Sillitti, P. (2022)

employed formally or informally in care stayed at a constant function of the number of people over age 80 (but with no improvement in participation rates).

**DISPLAY 5: A SHRINKING LABOR FORCE**



**Historical analysis and current estimates do not guarantee future results.**

Note: The shaded areas represent the population of the regions shown aged 20–65. The black dotted line represents a scenario where 50% of those from ages 65 to 79 continue to participate in the labor force. The red dotted line represents a scenario where 0.9 extra healthcare and social assistance workers are needed for each person aged 75 and older.

As of March 10, 2023

Source: Thomson Reuters Datastream, UN Population Division and AB

## Growth

In this section we identify the impact of the global mega-trends on growth, as summarized in *Display 6*.

### DISPLAY 6: MEGA-TRENDS' IMPACT ON GROWTH

Upward Forces	Downward Forces
<ul style="list-style-type: none"><li>• Expenditure on the energy transition provides fiscal spending boost</li><li>• Potential increased productivity from technology and artificial intelligence</li></ul>	<ul style="list-style-type: none"><li>• Deglobalization reduces growth via reduction in trade and addressable markets</li><li>• Declining working age population</li><li>• Climate change direct impact in terms of land use and extreme events</li><li>• Increased political uncertainty (migration, geopolitical tension, competition for resources)</li></ul>

#### Historical analysis and current estimates do not guarantee future results.

As of April 28, 2023

Source: AB

#### *Climate and Growth*

To say that the effect of climate change, and of humanity more broadly on the planet, on economic growth is complicated and not well understood would be an understatement. Estimating the impact of the triumvirate of macro mega-forces in this note on growth is very hard—and climate change is probably the hardest.

There are multiple possible pathways that could define this linkage, including but not limited to:

- Rising temperature
- More extreme weather and sea-level change
- Pressure on migration
- Political instability
- Conflict over resources
- Broader impact beyond temperature per se, such as loss of habitats and of biodiversity

One attempt to model the impact of temperature is the paper by Burke et al (2015).<sup>6</sup> It uses an empirical approach to model the impact of temperature changes on economic production, with data for 166 countries from 1960–2010. The authors find a non-linear relationship between temperature and national output. Productivity is concave with respect to temperature: productivity peaks at an annual average temperature of 13 degrees Centigrade.

Notably, the analysis finds that both rich and poor countries display this characteristic, which has not changed since the 1960s. But when this work is overlaid with projected temperature increases, developed nations suffer markedly less under lower baseline temperatures. The paper shows with striking clarity the historical clustering of global production in locations with

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<sup>6</sup> Burke, M., Hsiang, S. & Miguel, E. (2015): *Global non-linear effect of temperature on economic production*. Nature 527, 235–239 (2015). Available at: <https://doi.org/10.1038/nature15725>



temperatures close to the annual average of 13 degrees Centigrade. As a result, production in Europe would actually be expected to increase along with forecast temperature increases, while North America shows only a moderately negative impact. The impact is much more severe in poor countries.

With only a mild projected impact for North America and an outright increase for Europe, the impact on total global GDP is, on this basis, muted (East Asia, while impaired more than North America, is the third least affected region). If this analysis is correct, the real economic story around the implications of climate change is not aggregate growth but inequality, albeit inter-country rather than intra-country, therefore with less political impact.<sup>7</sup>

In a similar vein, an International Monetary Fund (IMF) paper on this topic from Kahn et al (2019)<sup>8</sup> shows that an increase in temperature reduces real growth rates, but successfully abiding by the Paris Agreement by limiting temperature rises would limit the aggregate net impact on growth to a level well below business-cycle effects. However, the main conclusion yet again is that the impact on growth will likely be very uneven—with a materially worse outcome for poor countries.

This paper focuses very much on the effect of average temperature alone, not broader climate issues such as extreme weather, nor second-order effects such as migration. For Europe, migration could materially change economic inferences drawn from the direct impact of climate alone. The economic impact and dependency ratios of rapidly aging European populations that we discuss elsewhere in this research would, on paper, be helped enormously by an increase in net migration. However, in the wake of the migrant crisis of 2015, we could also see a destabilizing political reaction.

Could the response to climate change also be helpful for growth? One possible conduit is the ability of investment in the energy transition to boost growth, potentially offsetting some of the negative forces we describe elsewhere in this note.

*Display 7* shows the International Energy Agency's estimates for the required annual spending on renewables under different energy-transition scenarios. Global GDP at the end of 2021 was \$96.51 trillion, according to the World Bank.<sup>9</sup> Under the Sustainable Development scenario, the required investment from 2021 through 2030 would be \$677 billion USD per year, or 0.7% of 2021 GDP. The requirement would increase to 0.84% of GDP per year for the decade after that. For the Net Zero scenario, 1.04% of 2021 GDP would be required per year through 2030, and 1.17% per year thereafter.

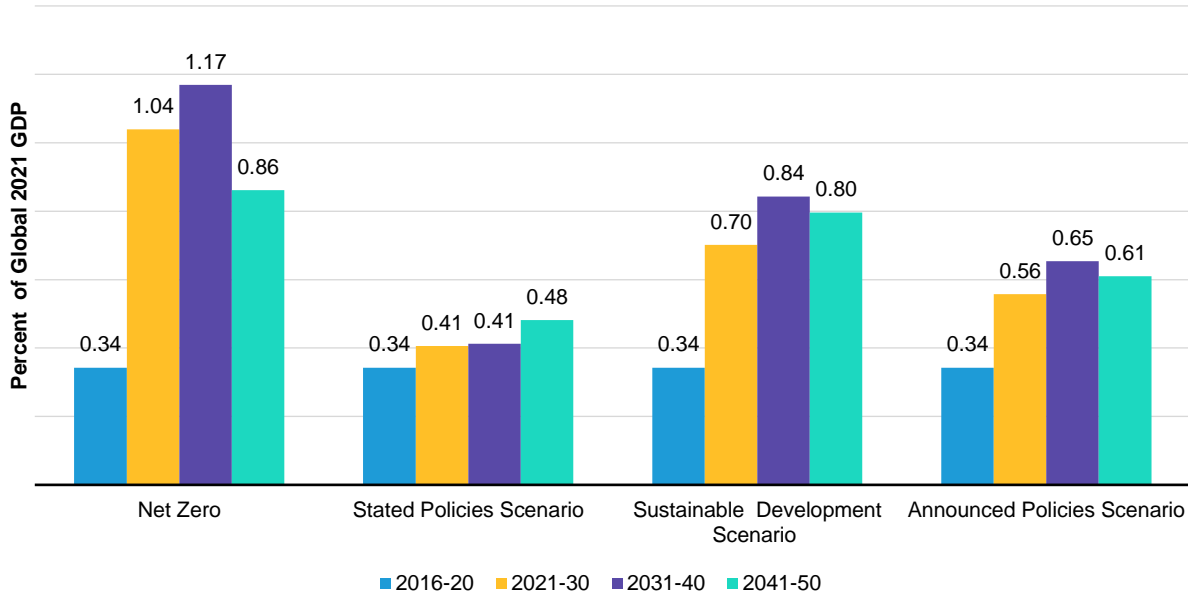
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<sup>7</sup> See our discussion on inter- vs intra-country inequality in the section “*The Reasons for Deglobalization Now*” in [Investing in a Post-Global World](#)

<sup>8</sup> Kahn, M. E., Mohaddes, K., Ng, R. N. C., Pesaran, M. H., Raissi, M., & Yang, J. C. (2019): *Long-Term Macroeconomic Effects of Climate Change: A Cross-Country Analysis*. International Monetary Fund working paper. Available at: <https://www.imf.org/en/Publications/WP/Issues/2019/10/11/Long-Term-Macroeconomic-Effects-of-Climate-Change-A-Cross-Country-Analysis-48691>

<sup>9</sup> <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD>

**DISPLAY 7: GLOBAL ANNUAL RENEWABLES SPEND AS % OF 2021 GLOBAL GDP**



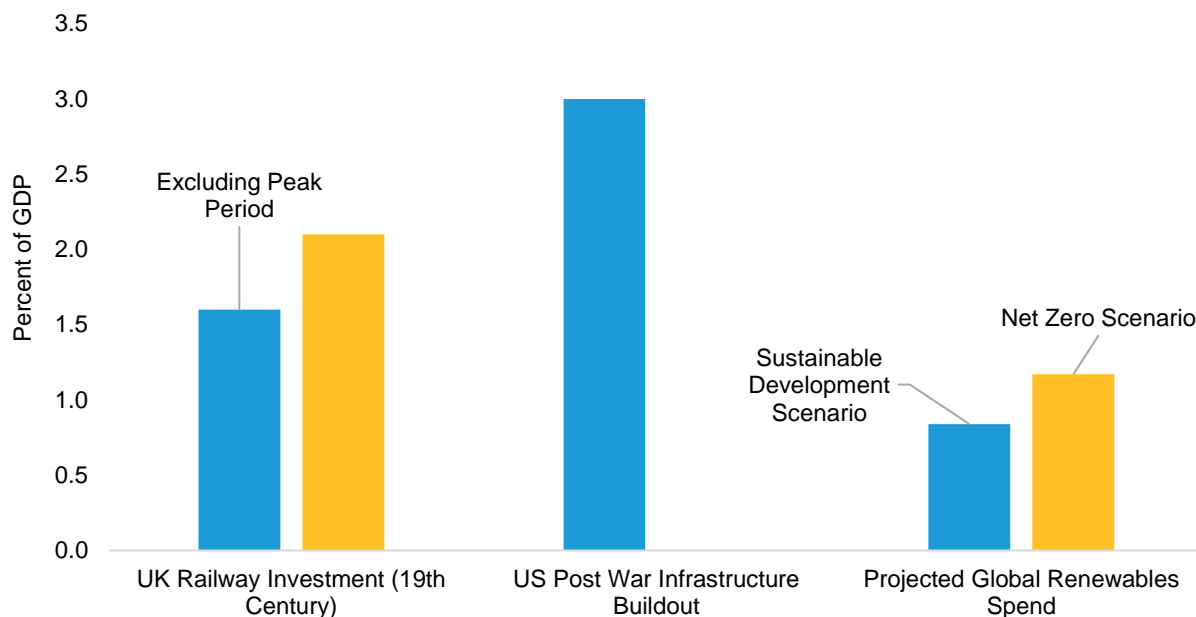
**Historical analysis and current estimates do not guarantee future results.**

Note: Stated Policies Scenario (STEPS) reflects existing stated climate policies. Sustainable Development Scenario (SDS) represents spending required as a path to implementing the Paris Agreement, with countries reaching net zero between 2050 and 2070. Net Zero by 2050 (NZE) represents a more aggressive path to net zero, consistent with limiting the global temperature rise to 1.5 °C without a temperature overshoot (with a 50% probability). The Announced Pledges Scenario, introduced in 2021, aims to show the extent to which the announced ambitions and targets, including the most recent ones, are on the path to deliver the emissions reductions required to achieve net zero emissions by 2050. As of April 3, 2022

Source: Bernstein European Utilities & Renewables research team, International Energy Agency (IEA) and AB

These numbers are relatively modest compared with prior investment booms, which saw changing technology cause huge, society-altering investment in infrastructure. One historical comparison that seems relevant is the capital investment in UK railways from the mid-1830s to 1860. Railway investment averaged 2.1% of GDP, or 1.6% if we exclude the peak “railway mania” years of the mid-1840s. Similarly, at the peak buildout of the US interstate highway system in the late 1950s and early 1960s, the US was spending around 3% of GDP on transport and water infrastructure. The implication is that these spending levels are theoretically very much achievable, though there are differences in funding sources. Railway investment was largely funded privately, while the energy transition is likely to be more publicly funded.

**DISPLAY 8: PROJECTED SPENDING ON ENERGY TRANSITION IS STILL LESS THAN NINETEENTH-CENTURY SPENDING ON RAILWAYS AND POST-WWII INFRASTRUCTURE**



**Historical analysis and current estimates do not guarantee future results.**

As of April 24, 2023  
 Source: IEA, World Bank and AB

Estimating the impact of this extra spending on GDP growth requires an estimated fiscal multiplier. A recent study by the IMF<sup>10</sup> found a fiscal multiplier for green-energy investments of 1.11x over a five-year horizon. This estimate of the fiscal multiplier, in the context of a fiscal expenditure on the order of 1% of global GDP, suggests a possible meaningful uplift to growth. While this is smaller than some of the downward forces outlined elsewhere in this note, it could at least be a significant offset

However, such a conclusion depends heavily on sustained capital expenditure to fund the energy transition. This seems plausible in Europe, where there is a reasonable level of consensus on the topic across the political spectrum. However, this outcome seems much less certain in the US today, given the difficulty of finding the political consensus needed to maintain spending across administrations.

The principal conclusion from this section on the impact of climate change on growth is that one should expect large regional differences in growth outcomes from climate change. Since 1980, globalization has decreased inter-country inequality, while intra-country inequality has increased. Climate change has the potential to reverse some of the reduction in inter-country inequality. A secondary conclusion is that we should expect somewhat depressed growth rates overall, but with huge uncertainty—especially with second-order effects (such as politics) and the non-temperature-related human impact on the planet, including the loss of biodiversity. Spending on the energy transition could be an offsetting fiscal boost as long as the spending is maintained.

*Demographics and Growth*

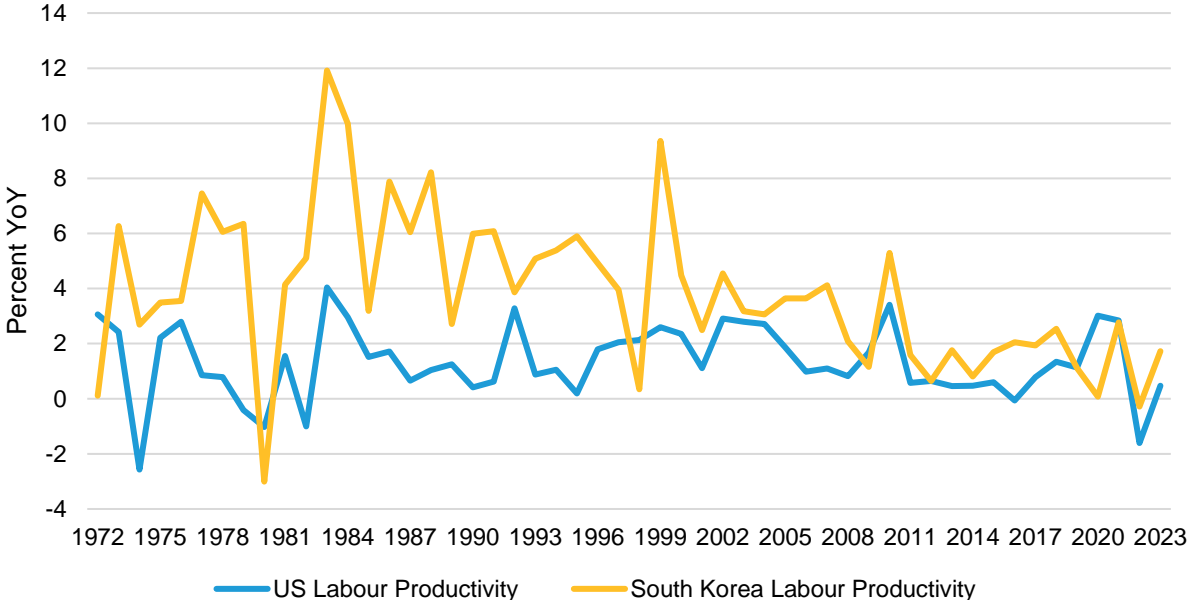
Unlike the impact of climate and deglobalization, the implications of demographics for growth are better understood. Earlier in this note, we showed projections for the decline in the working-age population ex-Africa. Barring a significant increase in

<sup>10</sup> Batini N, Di Serio M, Fragetta M, Melina G and Waldron A, (2021): Building back better: how big are green spending multipliers? IMF Working Papers, 2021

productivity, fewer workers implies lower growth. Forecasting changes in productivity has been one of those things that turns out to be really hard to do.

For all the virtues extolled for technological advances such as artificial intelligence (AI), the Internet of things and other apparent breakthroughs, it's surprisingly hard to point to a quantitative and permanent change in productivity; such arguments remain statements of hope not experience. The pandemic caused huge volatility in productivity data given the constraints it imposed on work, but if we abstract from that effect, there has been no noticeable productivity increase in recent years, even with growing technology adoption. This is also true in countries like South Korea, where tech adoption is arguably more ingrained (*Display 9*). It could be argued that the big step forward in technologies such as AI are simply too recent to show up in aggregate statistics. Maybe. One needs to keep an open mind, but at present there is no evidence of an upswing in productivity.

**DISPLAY 9: US AND SOUTH KOREA LABOR PRODUCTIVITY**



**Historical analysis and current estimates do not guarantee future results.**

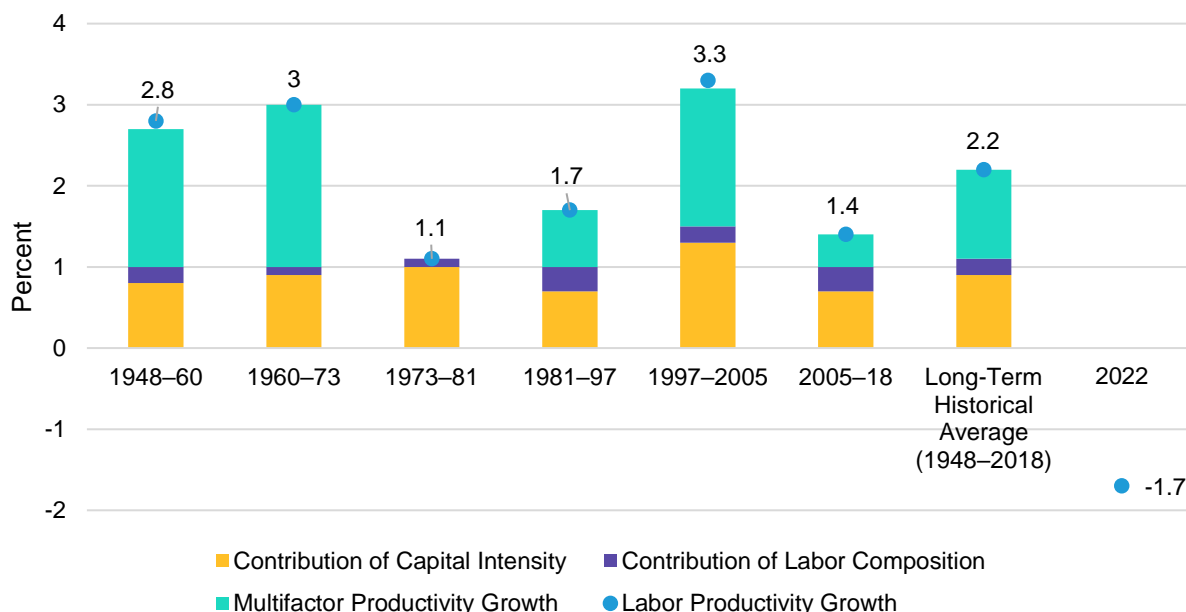
As of April 24, 2023  
 Source: Datastream, OECD and AB

If we cannot predict productivity changes, an alternative approach is to reverse engineer the problem and ask: What magnitude of productivity increase is required to offset the expected decline in the number of workers?

The expected decline in the developed world's working-age population, even when offset by a significant increase to 50% participation among ages 65–79, is 0.17% annualized from now until 2040. The increase in need for care workers (either formally employed or informal) is another 0.4% annualized at that time. This situation implies a growth-rate decline of –0.57% in the developed world by 2040. If the increase in older workers' participation is not achievable, the required balancing increase in productivity is 0.67% annualized. There are regional differences: the US gets off lightly in this context compared with China and Europe, given their demographic profiles.

If the declining working-age population has to be offset by a change in productivity, how achievable is that gain? *Display 10* shows the range of US productivity growth in different environments since the war, with low productivity in the 1970s and high productivity of the "New Economy" era of the TMT bubble. The range between high and low productivity periods is two percentage points of growth. Thus, the required productivity increase is within the range of historical experience but still significant in the context of that range. The required productivity changes would have to be large compared with the amplitude of recent decades.

**DISPLAY 10: ANY BENEFIT FROM TECH OR AI WOULD HAVE TO BE ON THE SAME MAGNITUDE AS THE FULL RANGE OF PRODUCTIVITY CHANGE IN RECENT DECADES**



**Historical analysis and current estimates do not guarantee future results.**

As of April 24, 2023

Source: Bureau of Labor Statistics and AB

*Deglobalization and Growth*

The specific routes for deglobalization to impact growth are declining trade, reduced migration (with a knock-on effect on the labor force) and reduced capital mobility.<sup>11</sup> Trade is probably the key variable here; there's agreement that it's important for growth but disagreement as to the scale of this link. In addition to these direct forces acting on growth are a multitude of possible secondary forces in terms of potential political instability and the question of whether a reduction in trade makes conflict—and therefore tail events—more likely.

In [a recent note](#), we outlined why we think some sort of deglobalization is the most likely outlook, albeit tempered by a partial partitioning into trade blocs rather than every country going it alone. We made the point that this path depresses the growth outlook relative to a scenario of continued globalization. But how can one scale this effect?

One attempt to quantify an answer is from Hillebrand (2010). This paper, which models relationships between countries, suggests a decline in world trade growth of 2% per year, significantly reduces migration and would place a 1% per-year reduction in the growth rate of world GDP, with a bigger impact in non-OECD countries than in developed economies. For the US, this suggests a decline in real GDP per capita of around 0.3% per year, and a much larger impact in Europe of around 0.8% per year. This model assumes a one-third increase in tariff levels in all countries. This outlook might end up being slightly harsh if the world moves toward blocs rather than individual countries, but it's nevertheless helpful as a scaling exercise.

Another attempt to quantify this effect comes from a recent IMF study<sup>12</sup> that analyzed four papers, each using different assumptions and methodologies to quantify the global and regional effects of increasing economic fragmentation. Even though

<sup>11</sup> The impact of globalization on volatility and risk premia are in addition to this.

<sup>12</sup> Aiyar, S. et al. (2023). Geo-Economic Fragmentation and the Future of Multilateralism. International Monetary Fund. Available at: <https://www.elibrary.imf.org/view/journals/006/2023/001/article-A001-en.xml?>

the papers are not directly comparable, they all suggest that deglobalization will impose a significant cost to the world economy. The two studies that attempted to measure costs to the global economy estimated a long-run GDP decline ranging from around 0.2% to 1.2% for the base case and from 1.5% to 6.9% for the upper bound in the adverse scenario.

**Inflation**

We would argue that all three of the major forces discussed in this note have direct implications for inflation, but we also point out that both inflationary and deflationary forces are at work over strategic horizons (*Display 11*).

**DISPLAY 11: DEFLATIONARY AND INFLATIONARY FORCES ARE AT WORK OVER STRATEGIC HORIZONS**

Deflationary Forces	Inflationary Forces
<ul style="list-style-type: none"> <li>• Technology and automation have been deflationary for years and remain that way</li> <li>• Customers’ realization, once pent-up spending ebbs, that nominal savings returns are down and inflation is up, which implies the need to save more and lowers money’s long-term velocity</li> <li>• Potential increased productivity from technology and AI</li> </ul>	<ul style="list-style-type: none"> <li>• Driven by three forces over strategic horizons:               <ul style="list-style-type: none"> <li>• Deglobalization (supply/labor cost impact)</li> <li>• Demographics (shrinking labor force)</li> <li>• The “S” in ESG shifting power from capital to labor</li> </ul> </li> <li>• Energy prices and the cost of the energy transition high near-term; over longer horizons inflationary impetus moves from “E” to “S”</li> <li>• Monetize debt? With debt/GDP at its highest since WWII, governments will prefer elevated inflation in order to keep debt under control.</li> </ul>

**Historical analysis and current estimates do not guarantee future results.**

As of April 28, 2023  
 Source: AllianceBernstein (AB)

Deglobalization increases inflation by reducing companies’ ability to engage in labor cost arbitrage. It also unwinds aspects of the supply-chain infrastructure developed in recent decades, which increases input costs.

Climate change also has a route to inflation: the implied increase in the input cost of energy and the need to fund the energy transition both point to a higher price path in coming years. However, unlike some of the other forces we describe in this note, this impact may wane with time. Once the required infrastructure for renewable power generation has been installed, economies could be somewhat de-linked from commodity prices, so this could be an issue for the next decade but possibly less so beyond that.

While the impact of demographics on growth is relatively clear, the impact of an aging population on inflation is hotly debated. Japan is often cited as an example of the first country to see a rapid and sustained population, and its deflationary reality over much of the past three decades is also often cited as a reason to believe that an older population implies less inflation. We are less sure. Japan has been a relatively isolated example until now, whereas the prognosis for coming decades is that nearly all regions will see significant demographic change. The impact on labor’s bargaining power is also directionally aligned with the fragmenting of labor supply implied by deglobalization and the social element of ESG, also implying a higher path of wages.

We sympathize with the argument of Goodhart and Pradhan (2020) that the coming demographic change is likely to be inflationary because it increases the bargaining power of labor. Their claim is that the demographic-driven increase in the labor

supply and resulting decline in labor bargaining power was instrumental in bringing down inflation in recent years. In their view, this shift did more to tame inflation than the implementation of monetary policy.<sup>13</sup>

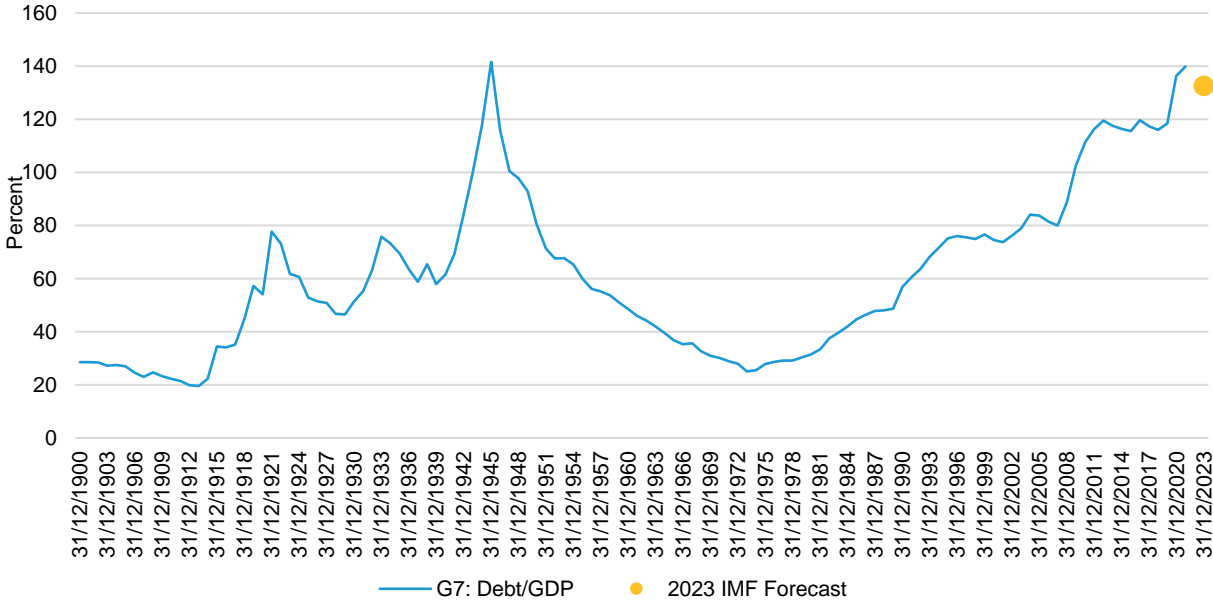
Juselius and Takats (2018) also showed that when there are more dependents (the young and old), there is a propensity for more inflation, whereas inflation subsides when there is a higher share of working-age population.

In addition to the forces we've referenced, there is also the question of whether governments attempt to monetize debt. Because this is a question of future policy decisions, we see it as somewhat apart from the other forces acting on inflation. Debt monetization might not sound like it has anything to do with the three mega-forces outlined in this note, per se. But we think there is a link. The aging of the voter base in advanced economies implies it will be hard to cut state-backed retirement benefits. However, the intergenerational impact of climate change married to the decline in wealth among younger age cohorts implies that it would be very contentious to raise taxes on younger workers to pay benefits to the old. So, inflating away the debt problem might be the more attractive path out of this impasse.

The debt topic is also linked to the mega-forces discussed in this note, because so far the massive build up of public-sector debt in developed economies hasn't mattered. The largest portion of the increase in debt levels has occurred at the same time that the combined forces of demographics and deglobalization have helped drive down the cost of debt. The sustainability of this debt could become a major issue now that its cost has risen.

The debt/GDP ratio for developed economies is the same today as it was at the end of WWII. However, there was a need to rebuild the capital stock in that earlier era and the population in these economies was much younger, so there was a way to grow out of the burden. That feat would seem much harder to pull off now, given the constraints on growth we have discussed. So, it would be very helpful to maintain a nominal growth rate above the cost of debt. This notion is controversial, of course, given that it implies a weakening of central-bank independence.

**DISPLAY 12: G7 DEBT/GDP RATIO IS STILL NEAR LEVELS AT THE END OF WWII**



**Historical analysis and current estimates do not guarantee future results.**

Data from 1900–2021 is from Global Financial Data. 2023 forecast is from IMF. Debt to GDP is weighted by the total share of GDP of each country.

As of May 8, 2023

Source: Global Financial Data, IMF and AB

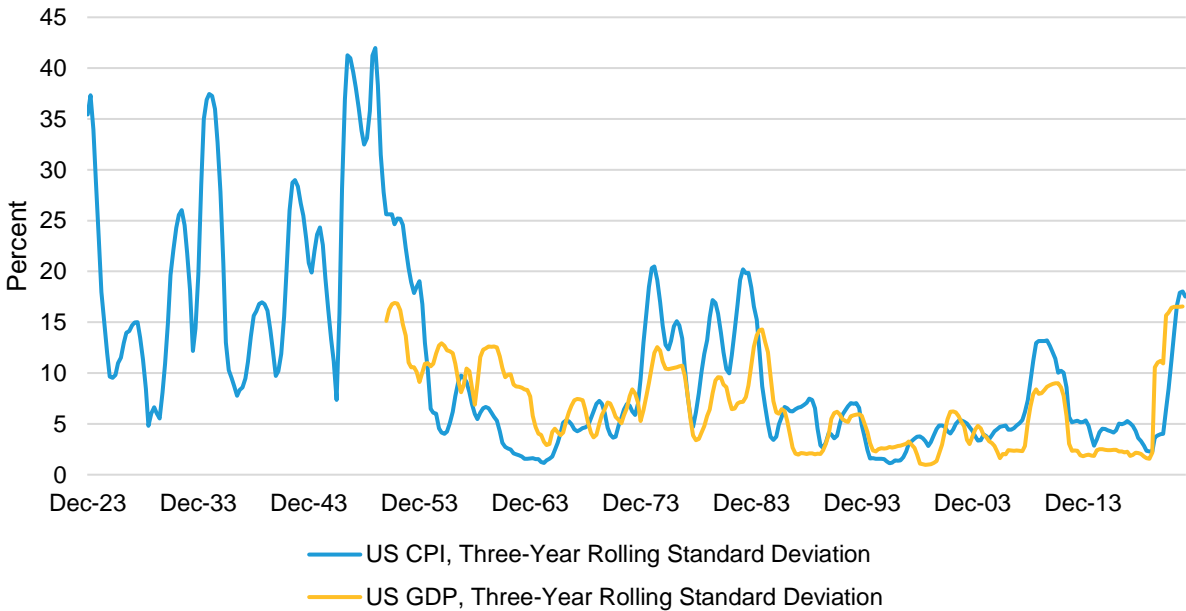
<sup>13</sup> See our review of their book, *The Great Demographic Reversal: Ageing Societies, Waning Equality and an Inflation Revival* (2020) in [Inflation and the Shape of Portfolios](#), Chapter: Inflation, Demographics, Wages and the Shape of Investment Portfolios.

## Macro Volatility and Risk Premia

Along with directional forecasts for key macro variables and assets, we also think there is a case for higher macro volatility.

The reason for this view is that the pre-pandemic period witnessed an unusually large decline in the volatility of macro variables, especially inflation (*Display 13*). If some of this was from globalization providing an ability to cushion inflation shocks, we would expect a retracing to a somewhat higher level of inflation volatility. GDP volatility has been more episodic but was still low compared to the average before the pandemic. The forces discussed in this note imply generally higher macro volatility, given that governments will likely play a larger role in economies post-pandemic, that migration can magnify political uncertainty and that the risk of more extreme weather events has risen. In the background, the end of the post-WWII US-led order implies more economic risk.<sup>14</sup>

**DISPLAY 13: VOLATILITY OF GDP AND INFLATION IN THE US**



**Historical analysis and current estimates do not guarantee future results.**

As of April 24, 2023

Source: Datastream, Robert Shiller’s database and AB

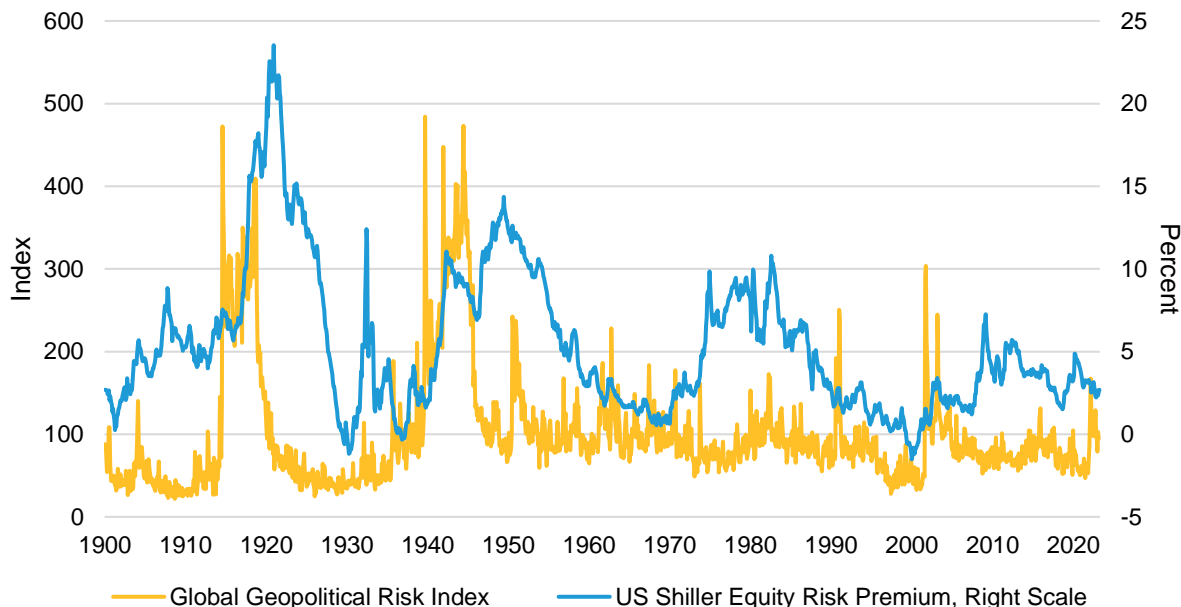
More macro volatility will likely impact the pricing of risk premia. We show the link between geopolitical risk and the equity risk premium in *Display 14*. To proxy geopolitical risk, we use the Geopolitical Risk Index developed by Dario Caldara and Matteo Iacoviello of the Federal Reserve Board.<sup>15</sup> The index searches archives of the Chicago Tribune, New York Times and Washington Post to count the share of media articles discussing adverse geopolitical events and associated threats. It can be a helpful tool in analyzing how markets are pricing geopolitical risk.

<sup>14</sup> Inigo Fraser Jenkins et al., [The end of Pax Americana and what it means for the market](#), Bernstein Research, January 2019

<sup>15</sup> Please see: Caldara, Dario and Matteo Iacoviello (2022), “Measuring Geopolitical Risk,” *American Economic Review*, April, 112(4), pp.1194-1225.



#### DISPLAY 14: GEOPOLITICAL RISK AND THE EQUITY RISK PREMIUM



#### Historical analysis and current estimates do not guarantee future results.

As of April 24, 2023

Source: Datastream, Robert Shiller's database, <https://www.matteoiacoviello.com/gpr.htm> and AB

The two time series we're comparing have different properties, but increases in general geopolitical risk have often sparked upward shifts in the risk premium. For instance, the spike in the Geopolitical Risk Index in the 1950s when the Korean War broke out coincided with a sharp rise in the US equity risk premium. Similarly, both indices saw sharp spikes around other key geopolitical shocks, such as the Yom Kippur War in 1973 and the Iraq War in 2003. The ongoing war in Ukraine as well as rising tensions between the US and China are likely to keep geopolitical risk elevated in the coming years.

How far could the equity risk premium rise? The current level of US premium is 2.68% (*Display 14*), near the 2.8% average since 1985 but below the level of 3.3% since 1980, which seems like a more plausible level. A sustained reversion to the post 1950 average of 4.1% would present a very significant headwind for the US equity outlook. We quantify the impact of this range of outcomes on the equity forecast later in this note.

The equity risk premium is not the only likely re-pricing of risk. Higher debt/GDP ratios, the risk of a soft default by inflation, and heightened geopolitical risk imply that sovereign risk should be priced, too. Our conclusion: there is no such thing as a risk-free asset.<sup>16</sup>

<sup>16</sup> Inigo Fraser Jenkins et al., [The end of Pax Americana and what it means for the market](#), Bernstein Research, January 2019

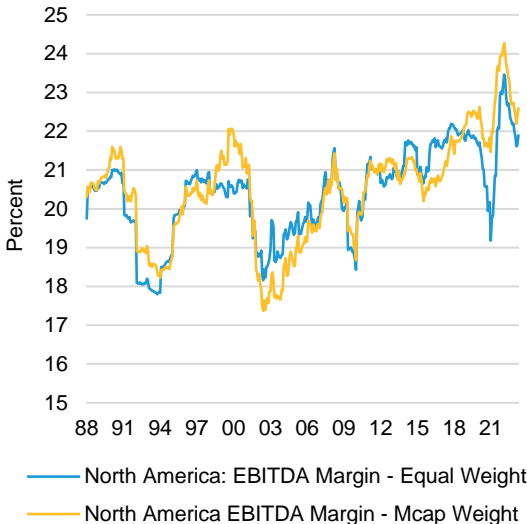
## Case for Mean Reversion of Margins

Corporate profitability has been very high, especially in the US. There is a cyclical element to this trend, but also a likely structural component. The bottom line is that, in the long run, we see no good societal reason why the higher margins of recent years should be maintained.

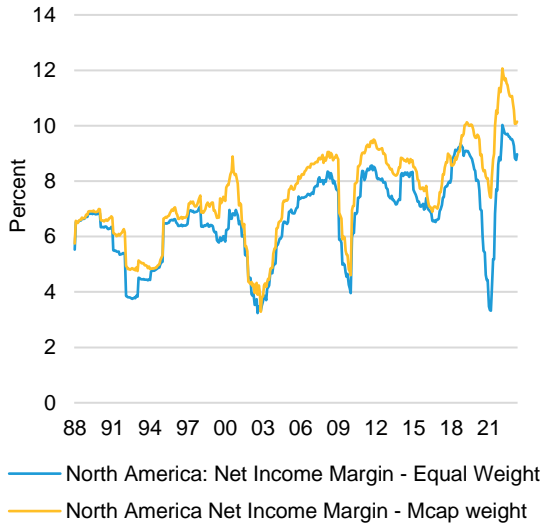
As *Displays 15 and 16* show, both EBITDA and net income margins in the US have been moderating since March 2022. In the coming years, we expect margins to decline further because of structural issues including:

- Greater bargaining power for labor versus capital
- Rising effective corporate tax rates
- Need for higher inventory levels and investment in robust supply chains
- Loss of efficiency and knowledge transfer due to declining global trade
- A fading of the flattening effect of mega-cap efficiency on cap-weighted corporate margins

**DISPLAY 15: US EBITDA MARGIN**



**DISPLAY 16: US NET INCOME MARGIN**



**Historical analysis and current estimates do not guarantee future results.**

As of April 30, 2023  
Source: Factset, IBES and AB

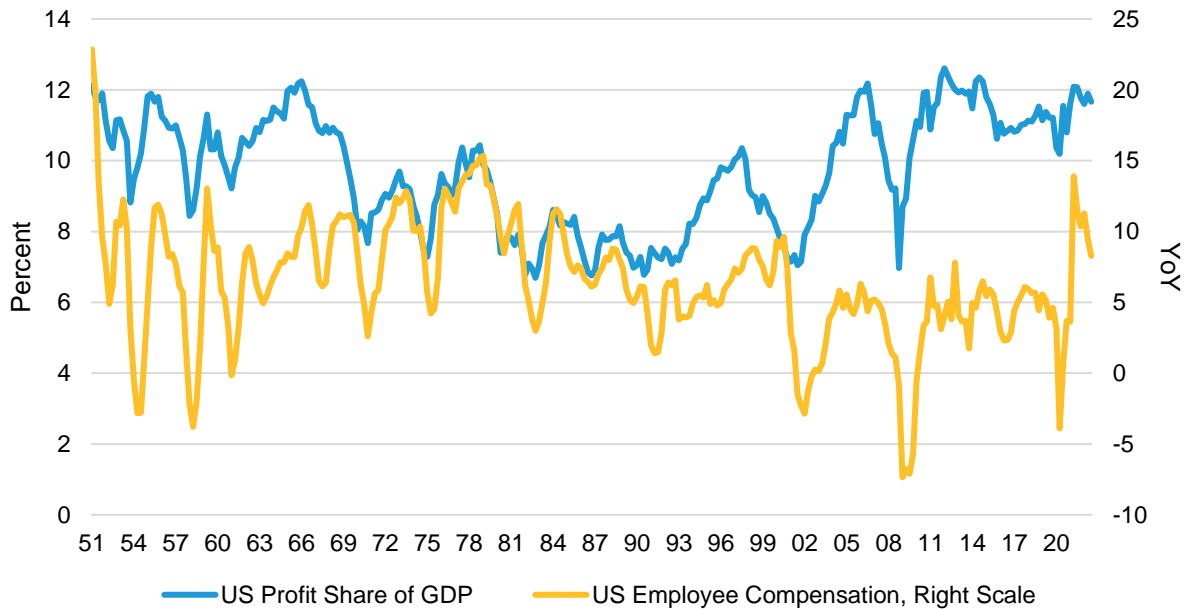
**Historical analysis and current estimates do not guarantee future results.**

As of April 30, 2023  
Source: Factset, IBES and AB

*Display 17* shows the long-run evolution of the US corporate profit margin, proxied by the profit share of GDP, and its relationship with employee wages. Since the mid-1980s, there has been a sharp disconnect between the two: the profit share of GDP rose from 7% to nearly 12% while US employee compensation stayed below its historical average.

As we outlined earlier in this report, we expect structural demographic changes to help workers achieve greater wage-bargaining power and negotiate for higher wages. So, we believe that structurally higher labor costs will be a permanent feature of the economy in the coming years, putting downward pressure on corporate margins.

**DISPLAY 17: US PROFIT SHARE OF GDP AND EMPLOYEE COMPENSATION**



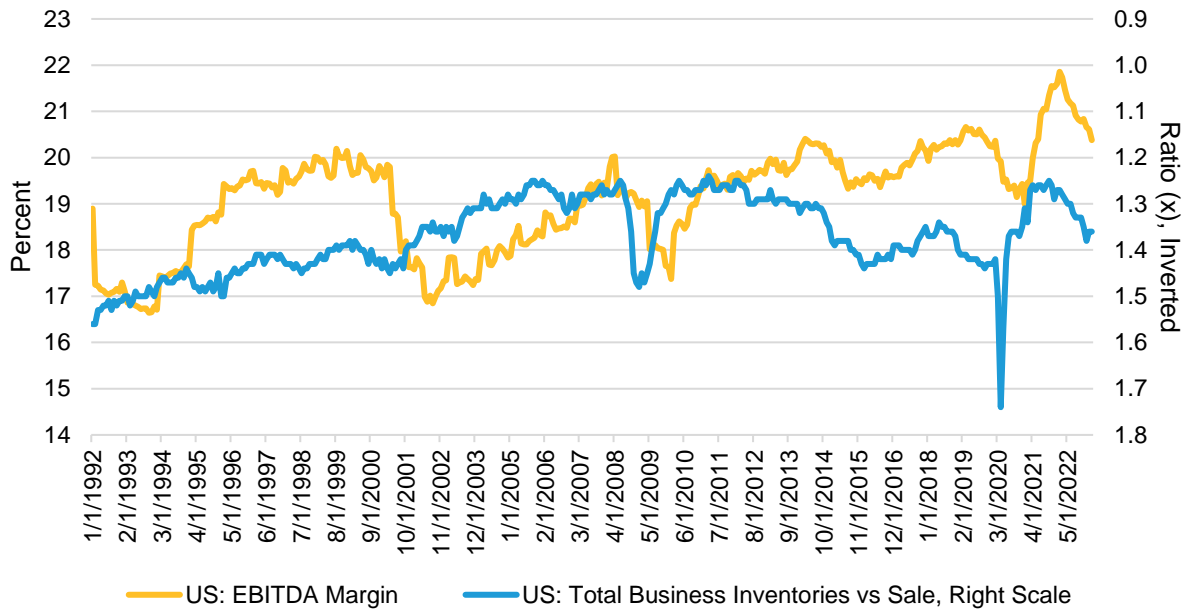
**Historical analysis and current estimates do not guarantee future results.**

As of February 13, 2023

Source: Datastream, Z1 Financial Accounts and AB

Deglobalization implies that “just in time” supply chains, with their light inventory levels, will be replaced with higher “just in case” inventory levels. The exact consequences will vary by sector, and automation can help to an extent, but we generally see inventory levels as likely closer to what they were 20 years ago. There is a negative relationship between inventory levels and corporate profit margins (*Display 18*), and companies will have to spend more than in the past decade to ensure robust, diversified supply chains.

**DISPLAY 18: THE INVERSE RELATIONSHIP BETWEEN US MARGINS AND INVENTORIES**

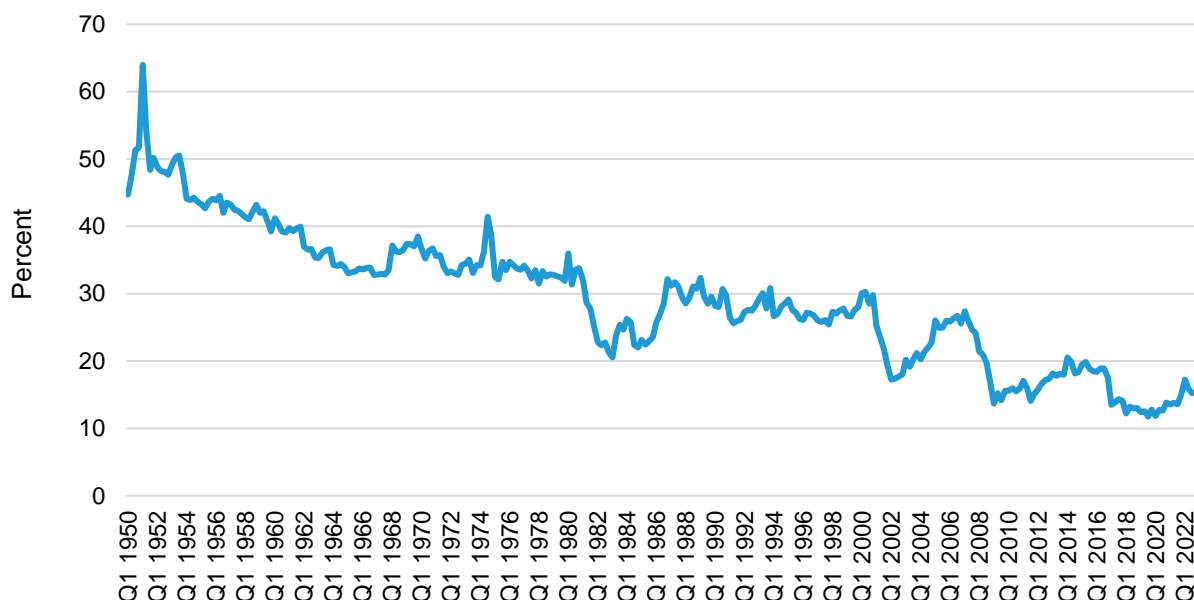


**Historical analysis and current estimates do not guarantee future results.**

As of April 24, 2023  
 Source: FRED, Factset and AB

Finally, the effective corporate tax rate in the US has been on a downward trend since the 1950s (*Display 19*). We believe that a shift to a less-globalized world and multilateral discussions on minimum corporate tax rates to address questions of social fairness imply a coming climb in effective tax rates. After falling to an all-time low of 11.8% at the start of 2020, the rate has already climbed to nearly 16%. We expect this trend to continue, rising toward the 20-year average of 19%.

## DISPLAY 19: US EFFECTIVE CORPORATE TAX RATE IS STARTING TO RISE



### Historical analysis and current estimates do not guarantee future results.

As of February 14, 2023

Source: Datastream and AB

Bringing this all together, we think that the US after-tax profit share will return to its long-run average of 6.9% from the current 9.9%. Other regions and countries, such as Europe and Japan, have not seen the sustained increase in profit share during recent decades, so there is less of a case for downward mean reversion. Non-US markets face other headwinds, including exposure to geopolitical risks and energy security, but profit share is one area where the US has more to lose.

## The Savings Riddle: Older Cohorts Dis-Save While Younger Cohorts Save More

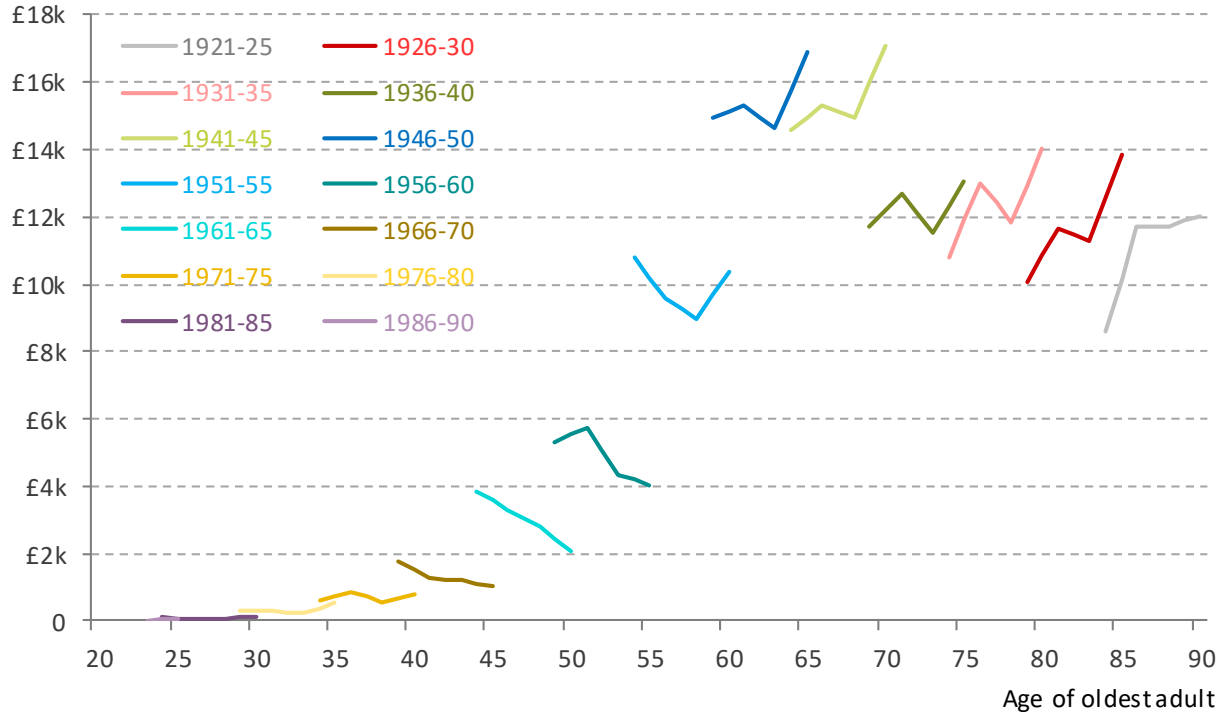
What do the mega-forces we discuss in this note imply for savings rates? The immediate focus of this kind of question is often on the intentions of the (now-retired) Baby Boomer generation, a cohort of individuals in developed economies that has been unusually large and unusually wealthy.

Today's wisdom holds that this cohort has largely retired, entering a period of "dis-saving" to run their accumulated assets down to zero. To the extent that their buildup of savings assets has suppressed yields in recent decades, this would be expected, *ceteris paribus*, to put upward pressure on real yields. Taking the UK as a representative example, we can show that every age cohort younger than those currently retiring is less well off than the cohort preceding it was at the same age.

In *Display 20* we show data on how five-year age cohorts have fared over a decade. If we focus on the break points in the chart, it shows us the net wealth of adjoining age cohorts for any given age. Each cohort born up until 1951 had more net wealth at a given age than the cohort before. However, that hasn't been the case since the 1951–55 cohort. For example, at age 60, the 1951–55 cohort had 30% less wealth than the 1946–50 cohort did at the same age.

**DISPLAY 20: UK MEDIAN FAMILY NET FINANCIAL WEALTH BY COHORT**

Median family net financial wealth per adult, by cohort: CPIH-adjusted to 2017 prices, 2006-08–2012-14, GB



**Historical analysis and current estimates do not guarantee future results.**

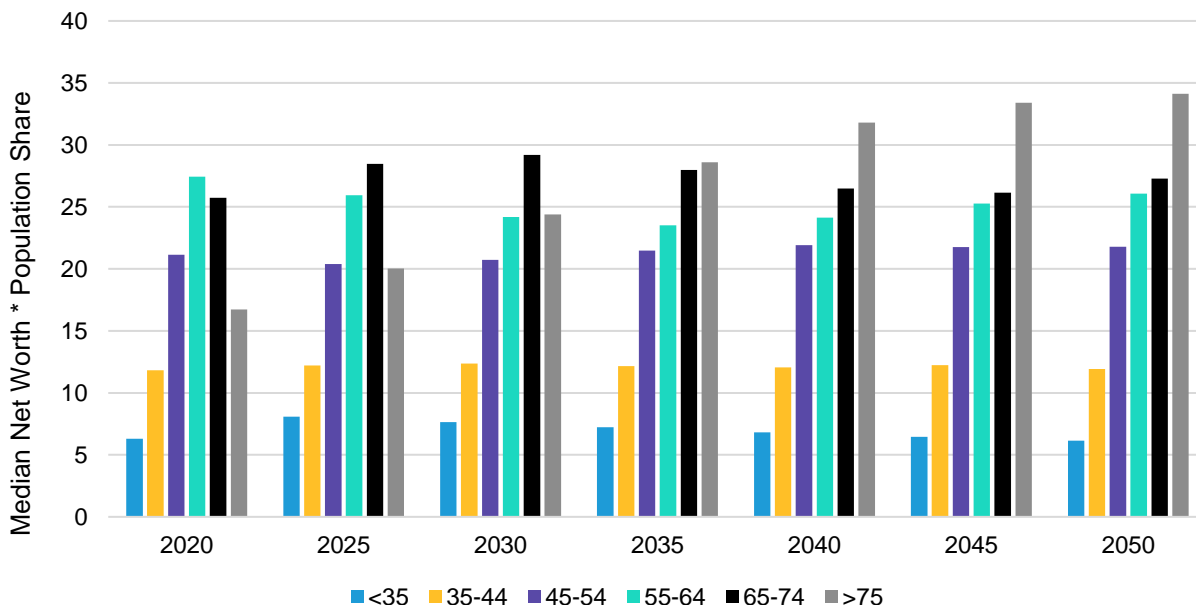
As of June 2017

Display compares median net financial wealth across 14 five-year birth cohorts over the period 2006–08 to 2012–14, with the horizontal axis indicating the median age of that cohort at each point in time.

Source: Resolution Foundation, <http://www.resolutionfoundation.org/app/uploads/2017/06/Wealth.pdf>

A crude illustration of the effects of the dis-savings of older cohorts (*Display 21*) shows the median net worth at the end of 2019 (based on the Fed’s Survey of Consumer Finances) multiplied by the population share of each cohort. We use the UN population-growth projections for each cohort to project this wealth share into the future. The analysis shows that the growing population share of those 65 and older—and their higher net worth—makes their dis-saving a larger overall force in dollar impact, which should be an important source of upward pressure on real yields.

## DISPLAY 21: INCREASING WEALTH SHARE OF OLDER COHORTS



### Historical analysis and current estimates do not guarantee future results.

The median net worth by age cohort comes from the 2019 Survey of Consumer Finances by the US Federal Reserve Board. The population growth projections beyond 2020 come from UN estimates.

As of January 30, 2023

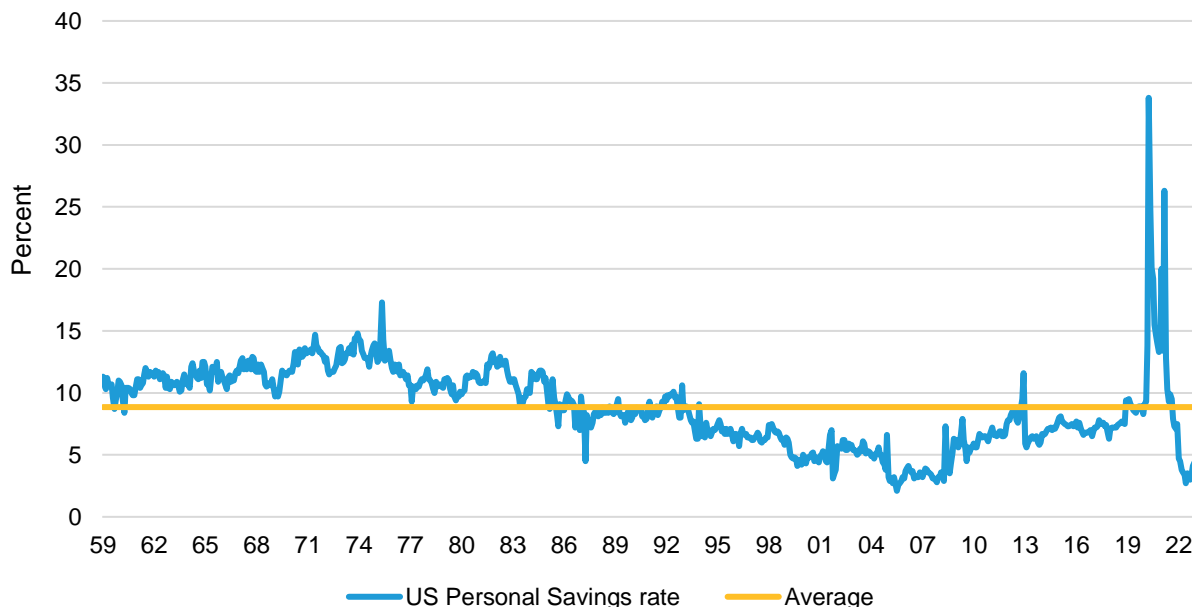
Source: Fed and AB

However, leaning against this view of impending dis-saving, it is unlikely that Baby Boomers intend to dispose of their savings entirely. There is evidence that gifting to the next generation is an important goal, implying a less precipitous downward path of savings assets.

Moreover, we think discussions on this point often miss the inherent endogeneity of savings needs and the end result of analysis like this—investment returns. Cohorts at an earlier stage in their working lives are less well off, but may still need to save more even if their ability to save is muted. The main reason for the need to save more is the likelihood of lower real returns on retirement savings. A second reason is the decline in the prevalence of defined benefit pensions amid the ongoing shift toward DC. We showed in [Age of the aged: Demographics - destiny for the market, doom-mongering or a path to a better benchmark?](#) that contributions might have to rise to 14% of annual salary to offset likely lower returns. Of course, even if younger workers should save more, they are not likely to unless compelled, so the savings issue is deeply linked to policy questions.

*Display 22* shows the evolution of US savings rates over time. US government stimulus checks and limited opportunities to spend money during COVID-19 lockdowns fueled an unprecedented jump in the savings rate in 2020 and early 2021. Since then, however, a significant proportion of those excess savings have been drawn down—the current savings rate of 4.1% is close to historic lows. We have laid out the case why savings rates should rise but, as we have discussed, there are challenges, and coming from such a low level it is hard to envision them rising back to historical average levels anytime soon.

## DISPLAY 22: US SAVINGS RATE OVER THE YEARS



### Historical analysis and current estimates do not guarantee future results.

As of April 28, 2023

Source: FRED, Datastream and AB

## Real Interest Rates

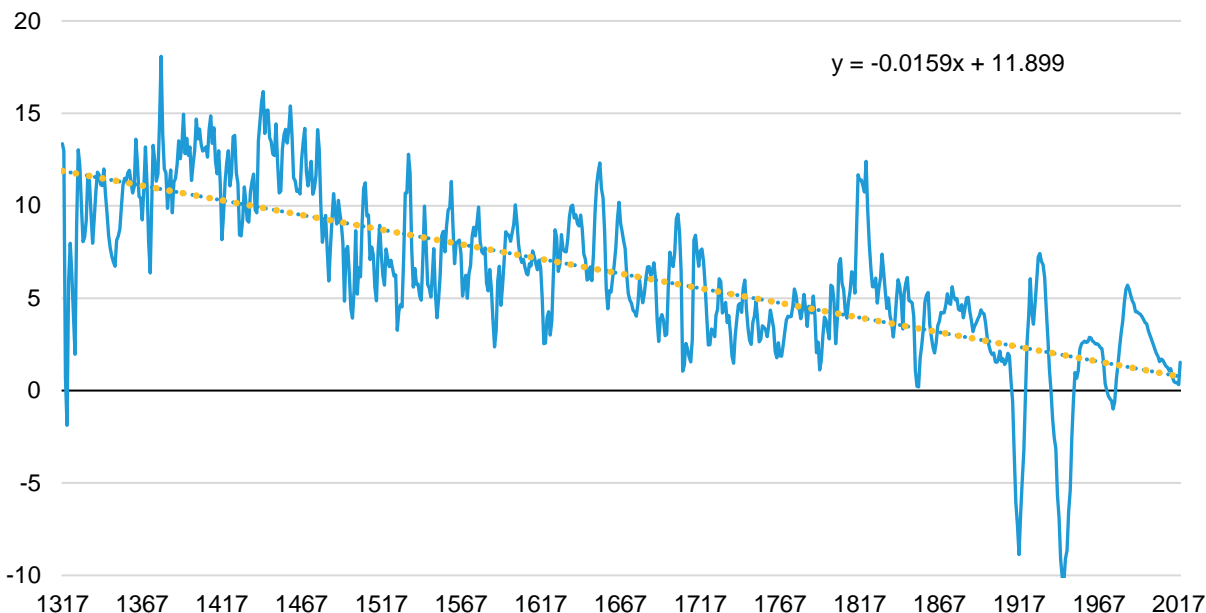
There is a lively debate about which long-term forces are relevant for real interest rates. These discussions tie into many of the key strategic themes discussed in this note. Suggested hypotheses have included real rates being a predictor of future real growth, reflecting savings levels or linked to shifts in productivity or population growth.

If real rates reflect expectations of future growth, our lower growth outlook implies that real rates are set to remain low. But if changes in savings have a role in setting real yields, it could link demographic changes to real rates. The size and relative wealth of Baby Boomers, with their resulting sizable capacity to save, is oft-cited as a possible contribution to the real yield decline in recent decades. Does the retirement and dis-saving of Baby Boomers therefore imply an upward path to rates? Our earlier section on savings rates showed that the upward pressure may well be somewhat offset by younger cohorts' greater need to save. A broader interpretation also points to the wealth creation in Asia over the past four decades and the opening up of China's economy. These economies have shown a very high propensity to save, which has plausibly pushed down yields. Lundvall (2020) puts this into context alongside other forces, concluding that it is highly significant in the context of overall determinants of real rates.

Another interesting angle to the real-yield debate is the recent emergence of papers analyzing data on interest rates over many centuries, casting new light on what might determine real rates. Rogoff et al (2022) find strong evidence that long-maturity real rates have trended persistently downward since the Renaissance (the paper discusses at length whether real rates are trended or exhibit a unit root, and also what counts as a structural break in the downward trend). The authors reject possible explanations for this trend based on either productivity or demographics. Among the possible suggestions they offer: the decline in the probability of outright sovereign default over time as the modern state has evolved, and an increase in liquidity.



## DISPLAY 23: 700 YEARS OF GLOBAL REAL INTEREST RATES



### Historical analysis and current estimates do not guarantee future results.

As of February 13, 2023

Source: Schmelzing, P. (2020), <https://www.bankofengland.co.uk/working-paper/2020/eight-centuries-of-global-real-interest-rates-r-g-and-the-suprasecular-decline-1311-2018> and AB

Schmelzing (2020) also finds evidence of a secular decline in real rates since the fourteenth century, concluding that real rates are permanently heading into negative territory, regardless of the fiscal or monetary regime, and that the current era of low rates should not be regarded as anything unusual, given this trend. The paper suggests that trends in long-maturity real rates are not impacted by the role of central banks, fiat versus non-fiat currencies, or the destructiveness of wars.

The paper also analyzes broader returns on capital, such as private debt and land, concluding that they've also trended downward. The paper suggests that this may have started in the late fifteenth century, a period with rising capital accumulation and savings rates, given banking innovations in Northern Italy. This assessment again links real rates strategically to savings across society. There are interesting implications for the future of capitalism if real yields and returns on capital are trending toward negative territory. What does it mean to be "capitalist" in such an environment? We will leave that topic for a future essay.

There can clearly be very large cyclical fluctuations in real rates, with 2022 a case in point, but this note is about a strategic outlook—not tactical. For the possible forces at work on real rates that we've reviewed here, the implications is that—at the very least—investors should not expect a secular rise in real yields. On balance, our view is that real rates remain very low.

A re-pricing of sovereign risk is one possible counter-trend, but then that implies an even bigger debate about the existence, or not, of risk-free assets. Rapid population aging and rising dependency ratios is also going to put significant strain on global sovereign debt. According to a recent study by the S&P Global<sup>17</sup> if no policy action is taken to cut age-related spending, more than half of the largest 81 sovereigns to have credit metrics associated with speculative grade credit ratings by 2060.

## Stock-Bond Correlation Redux

The ability of stocks and bonds to diversify each other is a key factor determining overall portfolio risk. After all, they are the two largest liquid asset classes in capital markets. For many people, the shock of 2022 was that they did not diversify. We have written about this before, explaining [why this diversification can no longer be relied upon](#). We won't revisit that whole debate here, but we do want to draw out the elements that are germane to the three macro mega-forces that are our main subject here.

<sup>17</sup> <https://www.spglobal.com/ratings/en/research/articles/230118-executive-summary-global-aging-2023-12586530>

A key conclusion from the intersection of these mega-forces is that we should expect the level and volatility of inflation to increase, implying a higher stock-bond correlation—at zero or even moving into positive territory. It is worth examining the potential theoretical underpinnings to this relationship in the context of this note.

More uncertainty about future inflation leads to an increase in the equity risk premium:<sup>18</sup> it's harder to forecast cash flows in such an environment, and there's a nonlinear relationship between equity returns and inflation. Higher inflation uncertainty also increases the term premium, pushing the correlation of stock and bond returns up. An increase in growth uncertainty, in contrast, still boosts the equity risk premium, but it likely reduces the term premium, with investors more willing to hold an instrument not linked to growth.

What about changes in the level of these variables? An increase in growth rates raises dividends but, as we discussed in the previous section, the link between growth rates and *real* yields is unclear—there are also savings and demographics effects. A more likely linkage between real rates and growth in recent decades is via inflation. In the recent past, an increase in growth rates has led to an increase in bond yields, because inflation rises and the assumed central bank response is tighter policy.

The net result is that in such a regime, an increase in growth rates increases equity returns but decreases bond returns, resulting in more negative correlations of stock and bond returns. However, in this note we are suggesting that the mega-forces at work introduce inflationary forces that are not linked to growth, such as an increased wage share. This means that in this new regime it is the role of inflation on raising both the equity and term premium that is likely to be the dominant force at work that increases stock-bond correlation.<sup>19</sup>, not the more tenuous force that assumes that growth shocks lead to inflation shocks, thereby raising equity prices and reducing bond prices inducing negative correlation. That is to say, if inflation is rising for non-growth reasons then this likely puts upward pressure on stock-bond correlations.

**DISPLAY 24: THE FORCES AT WORK ON STOCK-BOND CORRELATION**

	<u>Uncertainty</u>				<u>Level</u>		<u>Combined Level</u>	
	Inflation Uncertainty ↑		Growth Uncertainty ↑		Growth Level ↓	Inflation Level ↑	Growth & Inflation ↑	Inflation & Growth ↓
Equity Return	ERP ↑ ⇒ Equity Return ↓		ERP ↑ ⇒ Equity Return ↓		Dividends ↓ ⇒ Equity Return ↓	Non Linear	Dividends ↑ ⇒ Equity Return ↑	Dividends ↓ ⇒ Equity Return ↓
Bond Return	Term Premium ↑ ⇒ Bond Return ↓		Term Premium ↓ ⇒ Bond Return ↑		Unclear	Bond Return ↓	Bond Return ↓	Bond Return ↓
Equity Bond Return Correlation		↑		↓	?	?	↓ [1990-2020] 2020	↑ [New Regime]

**Historical analysis and current estimates do not guarantee future results.**

As of May 16, 2023  
Source: AB

**Return Expectations and Strategic Asset Allocation Implications**

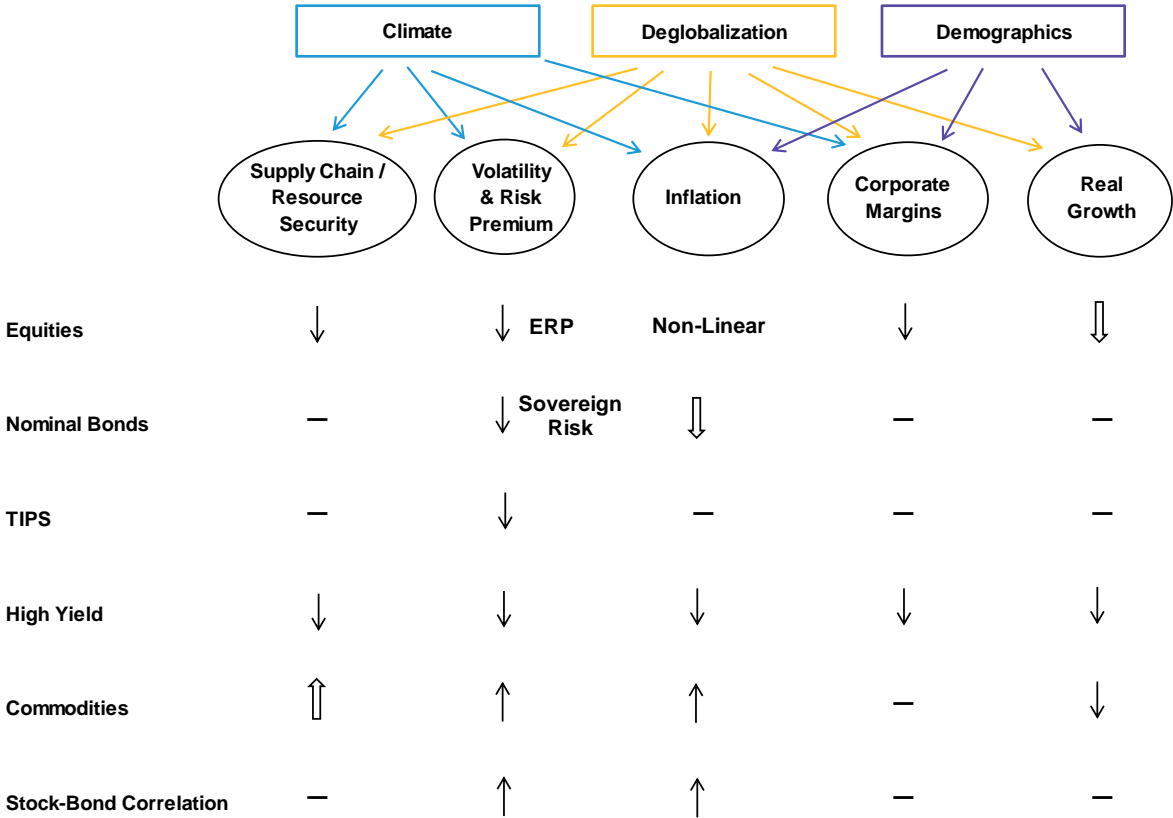
We try to bring all these trends together to make directional and quantitative statements about the cumulative impact of these forces on asset classes. The big picture is a combined directional effect that raises inflation and lowers real growth. At the same time, we expect the background level of volatility to rise along with the stock-bond correlation.

There are different levels of certainty about these components. The impact of demographics can be relatively well-modeled, with upper and lower bounds given the possible flex in participation rates and needs for long term care. The impact on growth is relatively clear, barring any outsized productivity shifts. The impact of deglobalization is somewhat less certain, but we suggest

<sup>18</sup> See Rankin et al (2014) for a good discussion on this point  
<sup>19</sup> See Brixton et al (2023) for an empirical discussion of this point

the directional impact on growth, inflation and risk premia can at least be postulated. Climate's impact is the least certain force discussed in this note. To the extent that we model the impact of growth, it is derived from academic research that attempts to assess the impact of temperature. This impact is uncertain in itself, but also does not really attempt to model any impact of biodiversity and broader human impact on the planet, or the second-order effects of how this will continue to change government and consumer behavior. In *Display 25*, we lay out the directional linkages between the mega-forces and the more mainstream macro variables within economic analysis and, in turn, that impact on asset classes.

**DISPLAY 25: DIRECTIONAL IMPACT OF MEGA-FORCES ON MACRO VARIABLES AND MARKETS**



**Historical analysis and current estimates do not guarantee future results.**

Thicker arrows denote stronger relationships.  
 As of May 16, 2023  
 Source: AB

From this base we can attempt to assess the relative scale of these various effects on equity markets. We lay this out in *Display 26*, starting with a fundamental model for the return on equity markets. As the focus on this paper is the change in working age population, we have cast it in terms of change in working-age population and real growth per worker (as opposed to overall per-capital growth).

$$Real\ equity\ return = dividend\ yield + buyback\ yield + real\ growth\ per\ worker + change\ in\ working\ age\ population + change\ in\ profit\ share\ of\ GDP + multiple\ expansion/contraction$$

From this starting point, we provisionally sketch out the change in variables that are key for determining equity returns. The baseline represents our view of how long-term assumptions should be adapted to the forces we have discussed. We view this whole process as something of a scaling exercise, not a process of forming exact forecasts, given the scale of uncertainty for many inputs. The good/bad outcomes attempt to capture a likely range of outcomes (*Display 26*) given the degree of uncertainties involved.

## DISPLAY 26: IMPACT OF MEGA-FORCES ON CONTRIBUTIONS TO EQUITY RETURNS

Base Model	US	World
Dividend Yield	1.5	2.0
Buybacks	1.7	1.2
Real Growth per Worker	1.4	1.3

Adjustments (Percentage Point Changes)	Baseline	Bad	Good	Comments
<b>Impact on GDP growth</b>				
Trade impact	-0.1	-0.5	0.0	
Climate impact	0.0	-0.1	0.1	<i>Bad outcome assumes IMF bad scenario annualized over 30 years. Good scenario assumes a one-off 1.17% GDP boost from green-energy investment, amortized over 10 years</i>
<b>Demographics</b>				
US working age population growth	0.3	-0.3	0.3	
World working age population growth	-0.2	-0.7	-0.2	
<b>Profitability impact</b>				
US Profit Share change	-0.3	-0.4	0.0	<i>Baseline outcome assumes return to historic average. Bad outcome assumes decline below historic average</i>
World Profit Share change	-0.2	-0.3	0.0	<i>We expect a lower profit share decline for World vs US</i>
<b>Valuation impact</b>				
US, impact of ERP change, % pa	-1.1	-4.5	0.0	
World, impact of ERP change, % pa	0.1	-4.3	1.0	
<b>Overall Returns</b>				
<b>US</b>	<b>3.4</b>	<b>-1.1</b>	<b>5.0</b>	
<b>World</b>	<b>4.1</b>	<b>-1.3</b>	<b>5.4</b>	

### Historical analysis and current estimates do not guarantee future results.

As of June 9, 2023

Source: Datastream, Factset, Global Financial Data, IMF and AB

This modeling leads to an expectation that, in an adverse scenario, US equities will slightly outperform the rest of the developed world. This reflects the likelihood that the US will be relatively less sensitive to the downside risks of deglobalization and climate change. This expectation ends up being directionally similar to the thesis laid out by Zeihan (2016). In the baseline scenario, the

expectation is that US and developed markets ex-US have a very similar level of return. The main balancing forces: the US has a much superior prognosis for the size of the working-age population, but this is traded off against higher current multiples.

There is an inevitable debate in forming these kinds of forecasts over what level of multiple to assume that the market gravitates to in these different equilibria. Here, we assume in the baseline situation that the equity risk premium (ERP, defined as the Shiller earnings yield minus the real yield on government bonds) is mean reverting and tends towards the post-1970 average. In the US we assume a baseline ERP 30bp below the 1970s average reflecting a downward move in the risk premium there for many years. In the “bad” scenario, the ERP is based on the experience of 1973–1980. This also requires a view on real yields: in the baseline, we assume a small decline, but in the bad scenario we assume a shift back into negative territory of –0.5%.

One relative disadvantage for the US is the likelihood that its profit share of GDP falls. The growth of this profit share, which reflects the extraordinary degree to which corporations have grabbed a larger part of growth benefits, has been one aspect of superior US corporate profit growth in recent decades. In this note, we have described why we expect the share to revert to a lower level.

The good-to-bad outcome range for changes in the working-age population still leaves equities delivering a positive real return. However, the bad end of the range for deglobalization and climate involves negative equity outcomes. This seems intuitively correct: changes in possible working-age population outcomes imply a change in growth rates, whereas the outcome ranges of both deglobalization and climate change involve shifts to both growth rates and the equity risk premium. Also, we note that the range of outcomes on the latter two forces is much wider, given that it is so hard to forecast.

**What does this mean for strategic asset allocation?** The mega forces described in this note have significant implications for asset class returns and the relationship between them. These, in turn, will influence strategic asset allocation, but the precise implications will depend on an investor's liability or benchmark. We made the point in [our recent black book](#) that the most important development for investors with known nominal liabilities is the increase in yields over the last year, which represents an opportunity to de-risk. However, for investors with a need to protect the purchasing power of liabilities, the forecasts laid out here imply a need to take on more risk.

In the baseline outcome, equities still deliver a positive real return despite lower real growth and crimped margins. There is still a window for equities to deliver positive real returns, even faced with a harsher environment. Higher inflation implies an elevated need for other real assets compared with a traditional 60:40 approach, including inflation-protected bonds and physical real assets such as commodities, infrastructure and real estate. Thus, for investors who need to protect the purchasing power of their portfolio, equities should be an anchor position. Diversifiers and other return sources can be added around that position, such as private assets, as we've discussed in recent research.

The hardest outcome for investors is the bad scenario where inflation rises, real growth falls and risk premia rise. This is essentially a stagflationary outcome where neither equities nor nominal bonds are additive to portfolio returns. The implication is the need for a more extreme strategic allocation shift into physical real assets, gold and inflation-protected bonds. We would also suggest that factor strategies—such as free-cash-flow yield—are required additions to portfolios in such an environment. The good outcome represents something of a dampened return experience versus the pre-pandemic environment, albeit with somewhat lower growth combined with constraints on how much more risk premia can compress.

## Conclusions

It seems likely that the three mega-trends discussed in this note—demographics, climate change and deglobalization—will dominate the investment landscape for at least the next decade, if not longer. In many ways, they represent either a reversal or at least a change from the investment paradigm that has dominated since the early 1980s. It is one thing to identify the trends—and quite another to link them to changes in expected returns and therefore asset allocation. Throughout this note, we've stressed that it should be viewed as a provisional attempt to sketch such linkages, given the uncertainties involved.

While each mega-force has been addressed in many publications, we think it's crucial to consider how they act in concert when thinking about their impact on strategic asset allocation. None of these forces acts in isolation, and when they have directionally consistent implications, we're able to draw the strongest conclusions. We have outlined an environment of higher (but not unanchored) inflation, lower growth and lower margins. It is not a bearish conclusion for investors, but it certainly demands a

response in terms of strategic asset allocation. It also requires questioning what the appropriate benchmark should be (real versus financial assets).

This topic is bound up with a range of more fundamental—almost philosophical—issues that we intend to cover in future essays. They include the nature of growth and who owns it as well as the nature of work. These are all important inputs, ultimately, in developing a new methodology for deriving return forecasts for macroeconomic and financial-market variables.

Progress has been made in understanding the impact of climate change on economies even though, as we point out here, there is huge uncertainty in such projections. We argue that the investment industry has focused too narrowly on temperature and therefore carbon—probably because it can at least be measured. Does this focus need to evolve to include broader planetary goals such as biodiversity? The emerging degrowth agenda, for example, calls for reducing consumption to facilitate sustainability. An example is the work of Hickel (2020) calling for an outright target for negative growth in a rejection of capitalist norms of the last two centuries. This would imply a very different outlook for “sustainability” than the benign one sketched out by the investment industry. Concerns about the overall planetary impact potentially conflict with some of the core tenets of “late stage capitalism” and, by extension, the whole edifice of belief in an ability to save for retirement. However, as Martin Wolf notes<sup>20</sup>, eliminating the growth in output since the Industrial Revolution as a path to solving the climate problem would be morally unacceptable given its impact on individual well-being and political and social stability. In a rejection of Hickel he calls for “de-emissioning” growth rather than de-growth.

The reduction in what has been traditionally defined as working-age population, the need for a significant increase in either formal or informal care roles, and the way AI and automation are poised to disrupt many areas of established employment will likely lead to a re-evaluation of what we mean by “work.” The feminist critique of capitalism has long attacked the somewhat arbitrary and wide dispersion in the way value is assigned to different career paths. The change in the nature of work in coming years will likely force a rethinking of this point, especially in the context of the potential call for some form of universal basic income. After all, there is a growing chorus from the left, such as from Srnicek and Williams (2016), that demands automation of work as a route to reduce the *need* for work.

The three mega-forces we identify also have implications for the functioning of democracies and how it shapes the political backdrop within which financial markets operate. No matter how much investment professionals may recoil from the idea, strategic asset allocation can never be divorced from politics. There are difficult issues to be addressed here such as who will pay for the energy transition, (we believe that consumers will refuse to pay). There will likely be a sustained increase in the cost of energy at the same time growth declines for demographic and geopolitical reasons, but what does this imply for election cycles?

Older voters (given their greater voting participation) will likely soon out-vote the young in many developed economies, but this is happening at the same time as the wealth gap between them has never been greater. This landscape will likely make it hard to cut social spending even if growth slows, prompting profound questions of intergenerational fairness. The need for workers and the very diverse regional economic implications of rising temperature imply greater pressure for migration, but that issue has also shown itself to be politically intractable.

This description is not intended to simply iterate big political or macro problems; it goes to the heart of what the bulk of investment is ultimately intended *for*. When designing the strategic asset allocation for pension plans, these macro issues are not exogenous inputs. Instead, in the most strategic sense, pension systems and how they are funded are endogenous to the whole outlook. As we have pointed out in prior research, the concept of retirement took on its current form in the mid 20th century. With hindsight, the economic and social milieu was particularly conducive to such an arrangement. Globalization, growth and the lack of pricing of climate externalities enabled a shift in retirement risk from corporations to individuals via the ongoing switch from DB to DC. The macro forces outlined in this note imply that, if such retirement systems are to remain valid they will need to evolve how they allocate capital, integrating different capital-market assumptions and an involvement in the energy transition. Inherent in this evolution will be a need to ask the question: What is meant by “risk”?

The forces outlined in this note imply that hard choices may be needed between risk measured as portfolio volatility and risk defined by hardship outcomes for beneficiaries. The topics covered here also show how important it is to think of pension provision in an overall sense including state provisions, safety nets and the political decisions around retirement age.

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<sup>20</sup> Wolf, M. (2023): *The Crisis of Democratic Capitalism*, Penguin

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