

INVESCO RETIREMENT SERIES - PART 6

# Spotlight on Demographics: A growing challenge for retirement planning



# A growing problem

The world is ageing faster than previously forecast such that a growing number of countries now face greater demographic challenges.



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Director of Macro Research

An ageing population is likely to introduce inflationary forces to the global economy, and government policies are likely to become less generous meaning individuals need to rethink how they plan for a comfortable retirement.

In this paper we lay out the broad demographic changes facing the world today and the possible economic implications of those changes.

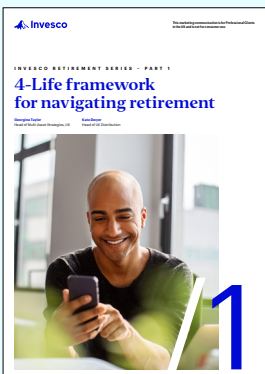
**An ageing population is likely to introduce inflationary forces to the global economy.**

## Please see our Retirement Series

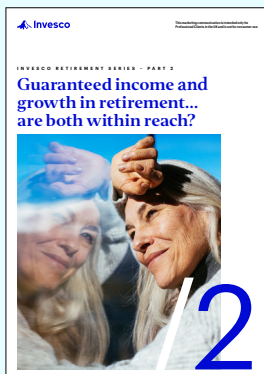
In the previous papers in our Retirement Series we: introduce the 4-Life decision making framework, explore the opportunities for combining a guaranteed income with investment growth, provide an analysis of both the Retirement Advice Review and Labour's Pensions Schemes Bill and take a closer look at the Value for Money framework for DC workplace pensions.

You can read the papers here:

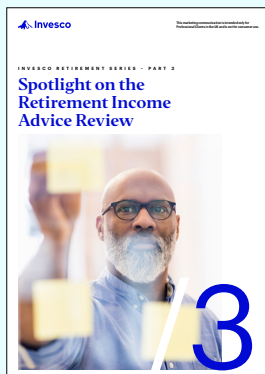
### Part 1



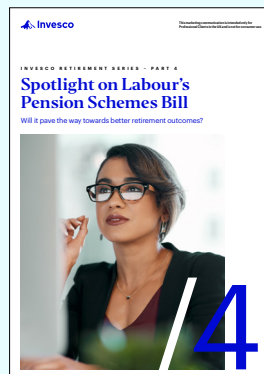
### Part 2



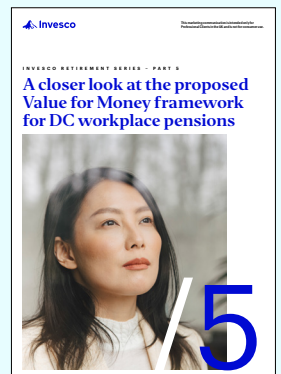
### Part 3



### Part 4



### Part 5



# The world is getting older

The share of the global population aged over 65 has increased from 6% in 1993 to 10% in 2023 and, according to United Nations (UN) forecasts, will reach 17% by 2053.

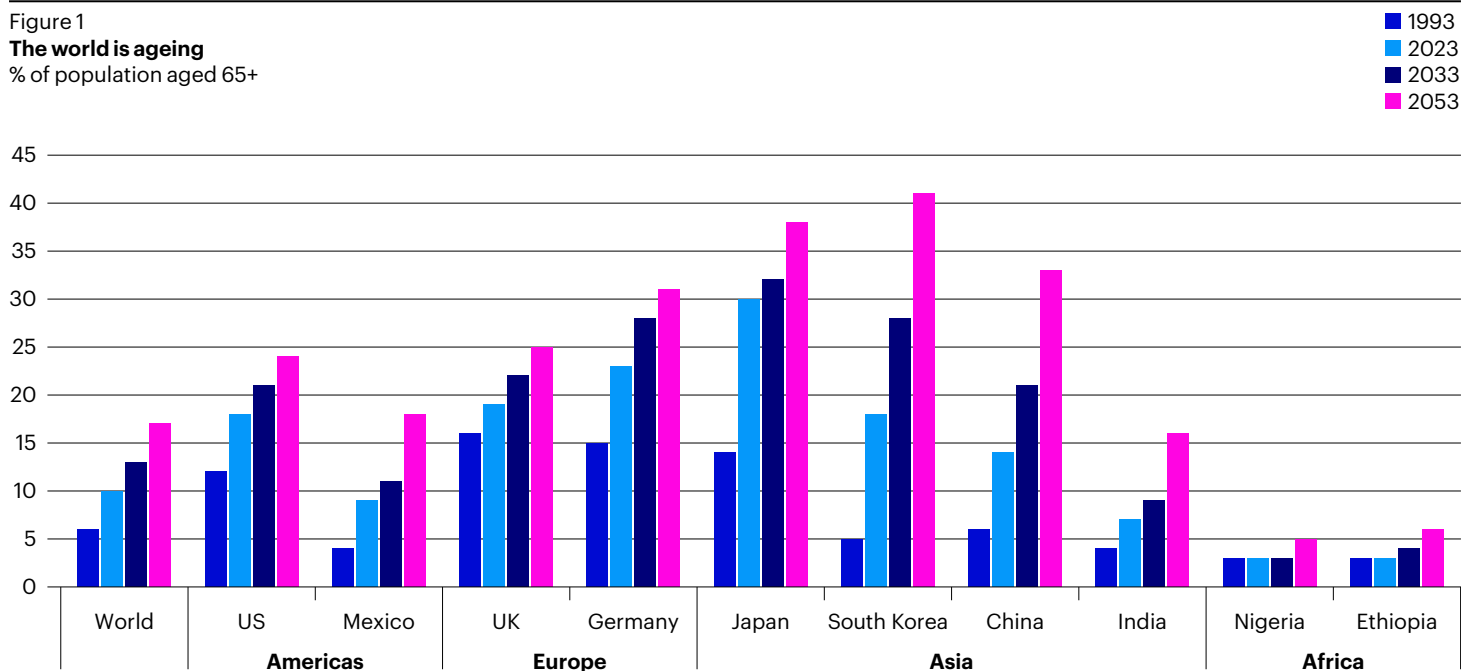
Most countries are seeing their populations age, but the pace of ageing is highly variable across countries. Japan has led the way with nearly a third of its population aged 65+ in 2023. Other countries are catching up. South Korea will soon have a proportionately larger population over 65 than Japan while China is ageing more rapidly than European and American nations.

Ageing will be a problem for the Americas, but the scale of the problem is smaller than in Asia and Europe, partly because of higher immigration rates.

India's population is ageing too, but from a lower base and at a slower pace. Comparatively, India is in the midst of a demographic dividend that other nations must envy.

Africa's still high fertility rates and lower life expectancy mean ageing populations are not likely to be a problem for many years. Even by 2053 the proportion of the population aged of 65 is forecast to be lower in most African nations than it is in developed nations today.

If 65 is considered an age by which many people have left the workforce the structure of global economies will change significantly over the coming decades. The percentage of people working will fall and more people will be dependent on the state, savings, and family. That has significant macro and policy implications.



Source: Invesco, Macrobond, United Nations, as of 20 August 2024.

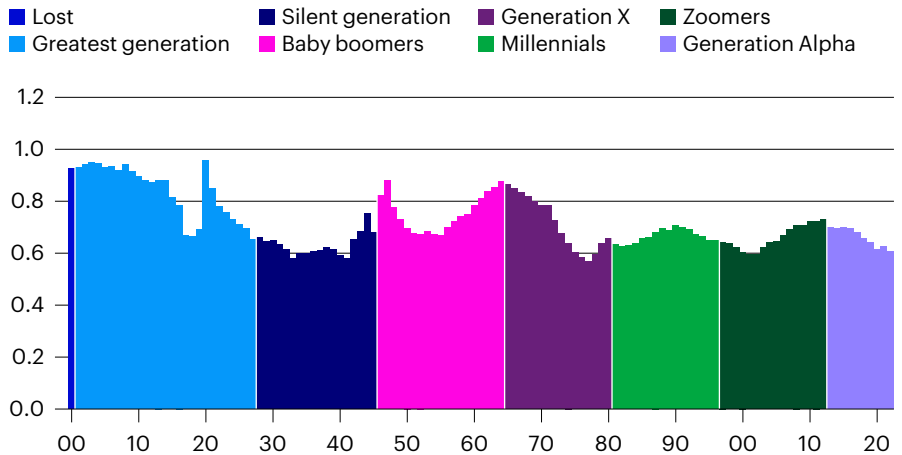
## Baby Boomers are retiring

That there is a growing percentage of people aged over 65 now is a function of high birth rates in the post war period and improved life expectancy. Longer lives should be celebrated despite the economic challenges an older population may present.

Baby boomers, those born between the end of the second world war and 1964, are labelled boomers for a good reason. The end of the baby boomer generation and start of generation X (born between 1965 and 1980) saw some of the highest birth rates since the turn of the 20<sup>th</sup> century. Tail end boomers and early generation X are now hitting traditional retirement age.

Birth rates since 1980, covering Millennials, Zoomers, and now Generation Alpha have been lower meaning that working age populations, as a proportion of the total population, will start to shrink across many countries as boomers retire.

Figure 2  
**UK Boomer and Gen X are now hitting retirement age**  
UK births per year by generation (mn)



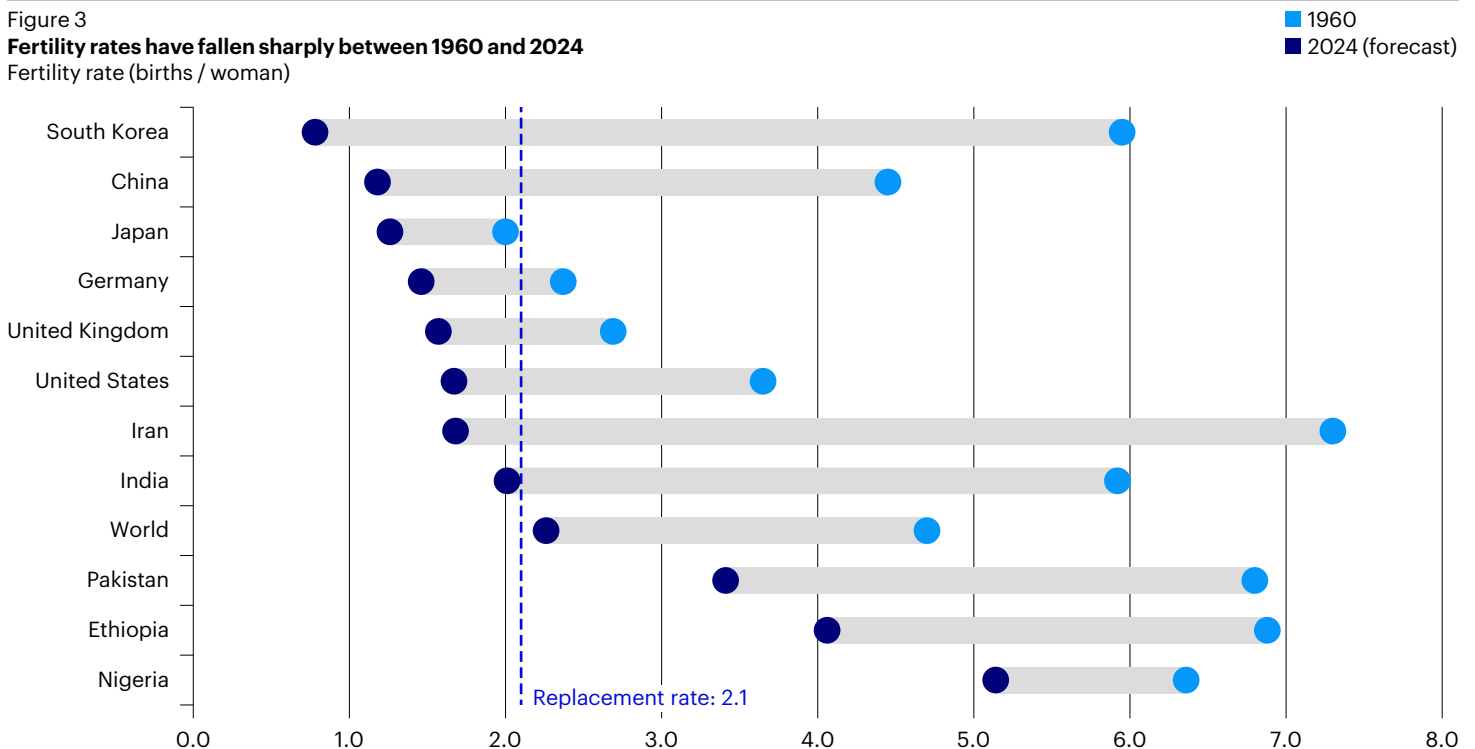
Source: Invesco, Macrobond, as of 14 August 2024.

## Falling fertility rates

Fertility rates across the world are at historical lows and are falling. The global fertility rate in 2024 according to the World Bank is estimated to be just 2.3 births per woman. Only marginally above the 2.1 births per woman needed to maintain population size, commonly known as 'the replacement rate'. Demographers at the UN forecast the world birth rate will continue to decline, albeit at a slower pace in the coming years.

The tone of the following paragraphs implies that we see low fertility rates as a negative. Very low fertility rates do present problems from a purely economic perspective, but there are many upsides too. For the most part, fertility rates have fallen because women's health, education, and access to birth control, have improved while mortality rates have fallen. Those are unambiguous positives we must not lose sight of in this discussion.

Figure 3  
**Fertility rates have fallen sharply between 1960 and 2024**  
Fertility rate (births / woman)



Source: Invesco, Macrobond, World Bank, as of 20 August 24.

The decline in fertility rate has been most dramatic in Asia. In 1960 women in South Korea could be expected to birth six children in her lifetime. The latest estimates suggest that today a South Korean woman will birth just 0.8 children. This is despite [generous government policies](#) designed to encourage starting a family in South Korea. [Similar efforts have failed in Hungary](#). Japan's demographic issues have been well documented in recent decades, but the chart below shows that today a Chinese woman is likely to birth fewer children than a Japanese woman.

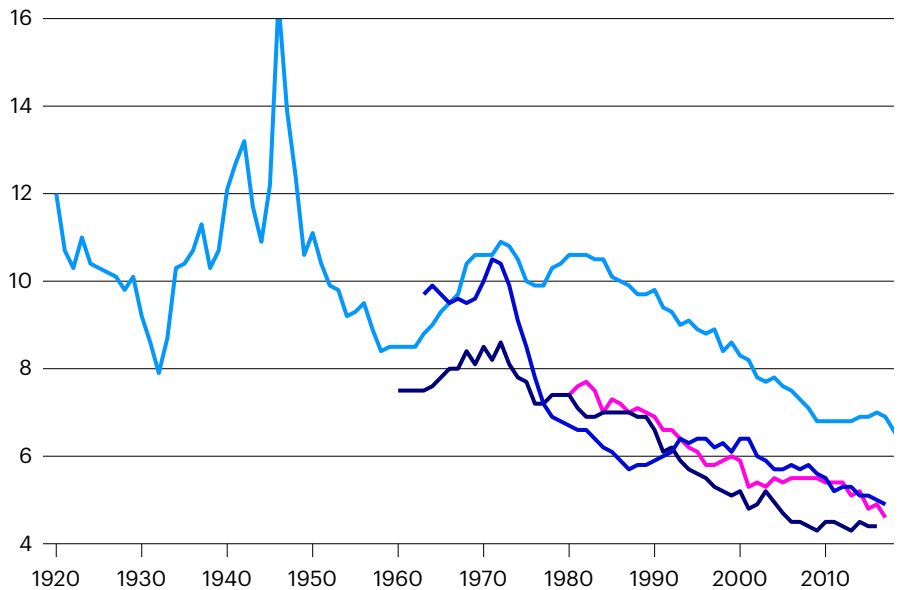
Western nations had lower fertility rates in the mid-20<sup>th</sup> century, but the decline has been meaningful since then. Germany, the UK, and the US all now have fertility rates well-below the replacement rate of 2.1 births per woman. By a small margin, the US is in a marginally better position than European nations.

Fertility rates today are highest in Africa but are much lower than they were in the 1960s. Nigeria and Ethiopia are forecast to see their populations grow rapidly in the coming decades as birth rates there are still above five and four respectively. There is every reason to think though their fertility rate will follow a similar path lower that western and Asian nations have taken in prior decades.

Even in countries where fertility rates are at historical lows it is unlikely the decline will be arrested. While one does not need to be married to have children, nor of course be in a relationship, it is true that most children are born to heterosexual couples. Fewer people are getting married today and that bodes ill for future birth rates.

A country's total population will continue to grow even with a fertility rate below the 2.1 replacement rate because of prior life expectancy gains and/or if there is net immigration to that country.

Figure 4  
**Fewer marriages likely mean fewer babies**  
 Marriages per 1,000 people



Source: Invesco, OECD, as of 14 August 2024.

**Today a South Korean woman will birth just 0.8 children.**



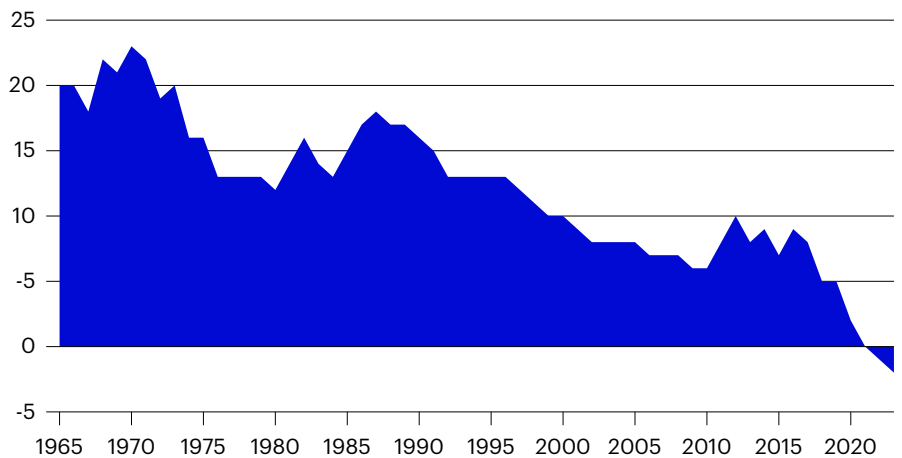
## Shrinking populations

Japan has a comparatively low immigration rate. A little over 2% of the population is foreign born compared to more than 13% in the US. Thus, Japan's population has been shrinking since 2011.

China is another nation with notoriously low immigration rates. Internally though there has been strong migration from the countryside to cities and China saw an explosion in manufacturing workers. When China joined the WTO in the early 21<sup>st</sup> century it became the major exporter to the world largely because it mobilised that large pool of cheap labour from rural areas.

That tailwind has now largely run its course and not only is the Chinese working age population falling today, so is the total population. The shrinking population is a direct result of the one-child policy which operated from 1979 to 2015 that China has in recent years been trying, and largely failing, to reverse.

Figure 5  
**China's population is shrinking**  
YoY change in China's total population (mn)

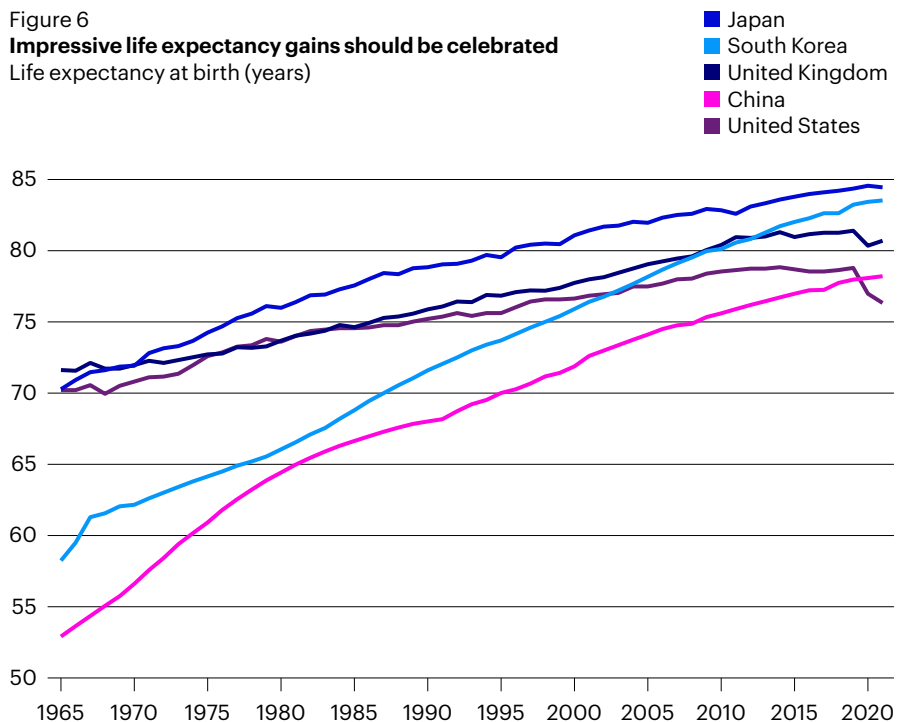


Source: Invesco, Bloomberg, as of 14 August 2024.

## Living longer

As mentioned above it is not just low fertility rates that are causing the number of older people to grow relative to the number of younger people. Impressive gains in life expectancy across much of the world means people can now expect to live well past the age of 65. For example, a South Korean born today can expect to live to around 84 years old up from 71 for a South Korean born in 1990. South Korea has nearly closed the gap with Japan on life expectancy. This is clearly something to celebrate.

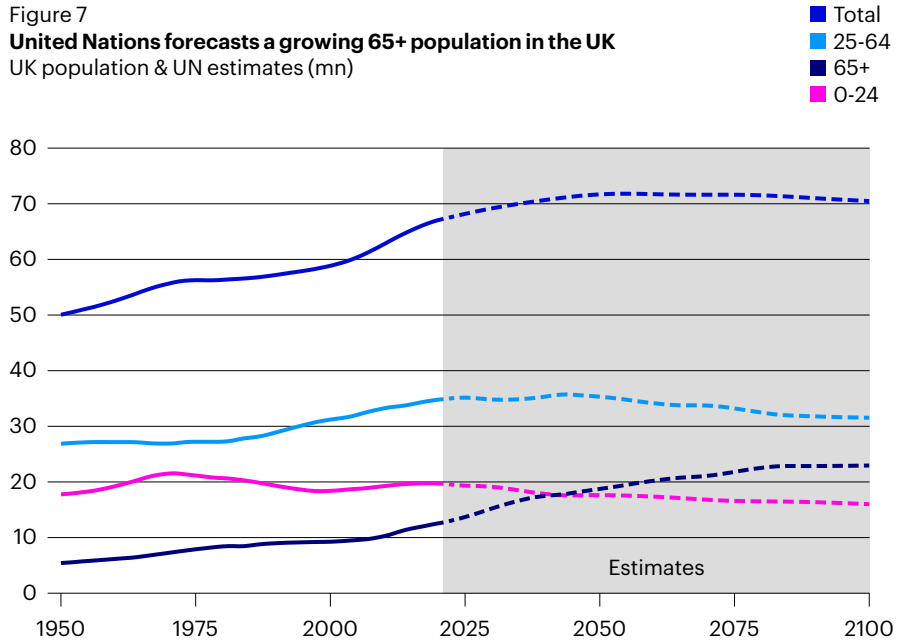
Figure 6  
**Impressive life expectancy gains should be celebrated**  
Life expectancy at birth (years)



Source: Invesco, Macrobond, UN, as of 20 August 2024.

US life expectancy gains have stalled in recent years and fallen very recently. Sadly, this is due to an increase in deaths of despair in mid-life. Opioid deaths, gun deaths, obesity, and deaths by suicide have all been on the rise in the US. This is outside of the scope of this document, but we note there is a large disparity of life expectancy when split by geography, income, and education level in the US. Covid, of course, has affected the most recent figures too. UK life expectancy has dipped in the last couple of years. That said, an average 65-year-old UK male today can expect to live to 88, while a 65-year-old UK woman can expect to live past 90. That compares to just 77 and 80 in 1960.

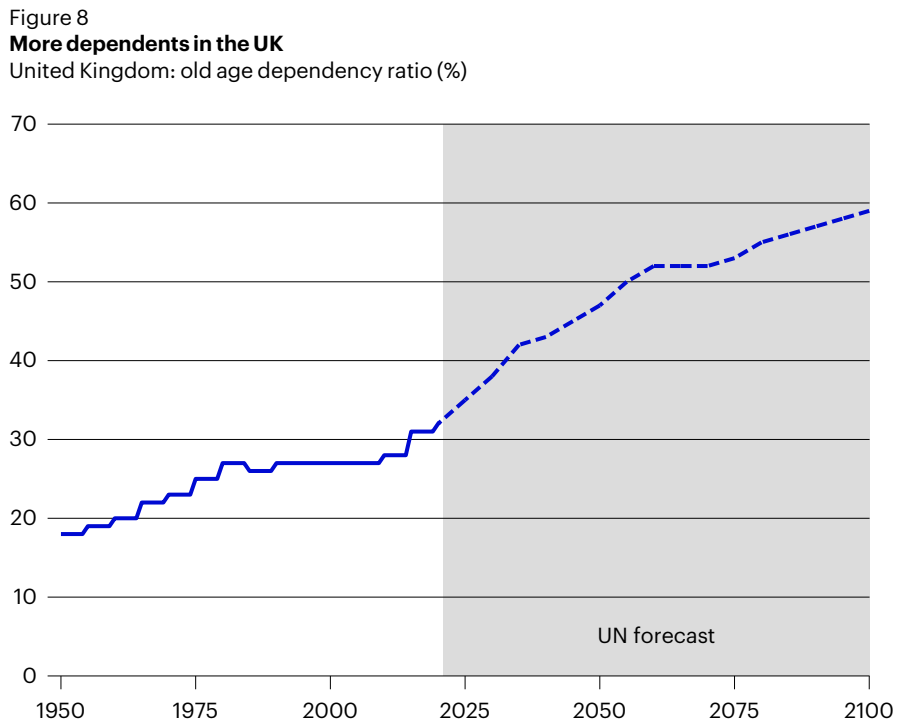
Pulling together the above statistics for the UK the United Nations forecasts that the UK total population will continue to grow into the 2050s but it is growth in the over 65 group that will grow fastest. The proportion of the population under the age of 25 will fall, as will those of traditional working age.



Source: Invesco, Macrobond, UN, as of 20 August 2024.

## Greater dependency

Most workers retire around the age of 65 and then become dependent on the state, their savings, or their family. The term, old age dependency ratio, is defined by the UN as the number of persons aged over 65 relative to the number of people aged 20-64. According to the UN the UK old-age dependency ratio today is around 33%. The UN forecasts that ratio will hit 50% by 2050 and nearly 60% by the turn of the century. The trend is very similar for many other countries around the world. What that means for the economy is the topic we will address next.



Source: Invesco, Macrobond, UN, as of 20 August 2024.

## The Macroeconomic Implications

From a macroeconomic perspective the core debate around demographic changes is whether these changes will result in inflationary or deflationary pressures. Some people point to the experience of Japan, given it has led the way in recent decades, and conclude that an ageing population will be disinflationary. Others, such as [Charles Goodhart and Manoj Pradhan in their book the Great Demographic Reversal](#) argue that an ageing population is inflationary.

There are good arguments on both sides, but as we will explain below, we sit in the inflationary camp with Goodhart and Pradhan.

Before we delve into our core arguments, we should say that using Japan as a template is flawed because those arguments tend to consider Japan in isolation, essentially treating it as a highly closed economy, and do not consider the global trends in place over the last thirty years or so. While Japan's working population was shrinking the global working population was increasing rapidly. For the last few decades globalisation and baby boomers in their prime working age has meant an abundance of labour. The global picture is very different today.

## The case for disinflation

When thinking about whether ageing populations are inflationary or disinflationary it is helpful to distil the story down to economics 101 and simple supply and demand curves.

All things being equal a shrinking workforce will mean that aggregate supply will shift to the left. In a stylised example below  $S_1$  moves left to  $S_2$ . Ignoring productivity gains this is a reasonable assumption to make.

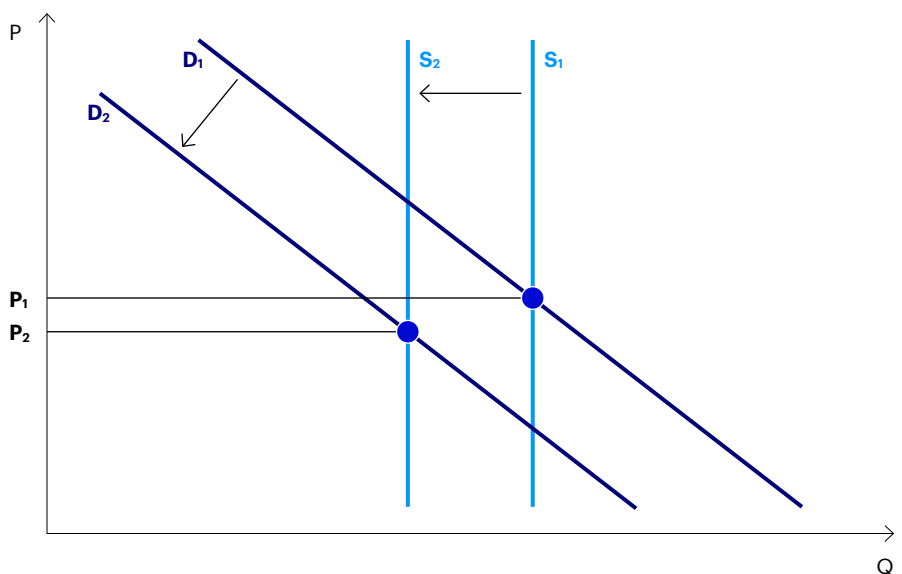
Our next assumption might be that workers consume more than retirees.

This is reasonable when we think about our own spending patterns. We buy homes, cars, and all manner of junk for our kids during our working lives. In retirement, we have largely accumulated these goods and therefore consume less.

We can therefore reasonably assume that our aggregate demand curve too shifts to the left;  $D_1$  to  $D_2$ .

In this case equilibrium price, or inflation, falls,  $P_1$  to  $P_2$ .

Figure 9  
If supply AND demand fall inflation could be lower



Source: Invesco. For illustrative purposes only.



## Questioning those assumptions

Is that assumption about demand falling in older age, correct?

Data from the US National Transfer Accounts detail total lifecycle spending across the private and public sector. This is shown in the chart below.

The dark blue area is what most of us think of when we consider our spending patterns. This shows private spending on everything except health care and education – think cars, homes, holidays, and all those Amazon packages. This follows a pattern that would support our assumption above, though perhaps not as strongly as we might have expected. Spending peaks late in our working life, when earnings are peaking, before falling in retirement.

The light blue section shows government spending on all items excluding health care and education – think social security and national defence for example. As this is generally spread evenly across the population it does not vary much with age.

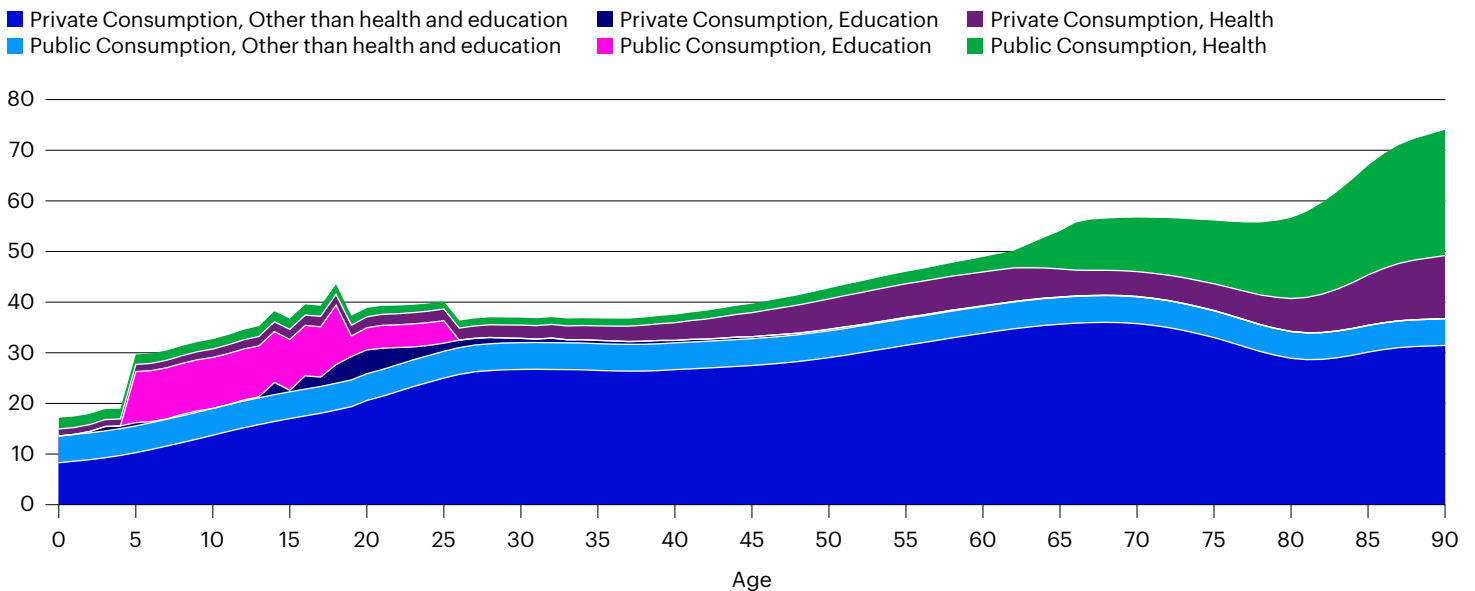
Most of us enter education around the age of five and leave in our early twenties and the cost of our education is mostly funded by the state. This is the pink area in the chart below. There is a small element of privately paid for education which tends to peak around university age.

So far, our assumption appears to hold.

Figure 10

### Total spending is highest in old age

2011 US consumption per capita (\$000's)



Source: Invesco, National Transfer Accounts, as of 14 August 2024.

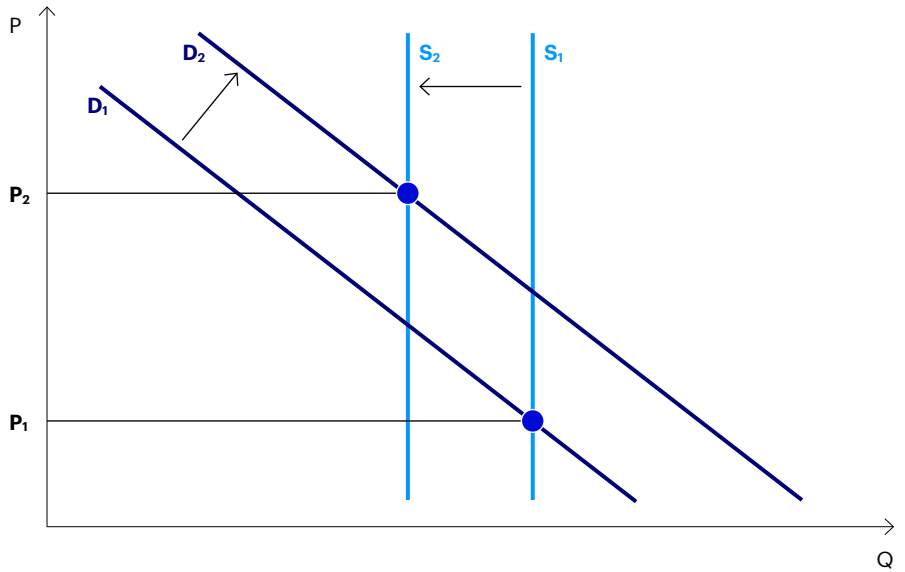
But then we come to health care. Early in life most of us are healthy and rarely use health care services so spending on this category is low but it steadily increases as we age and rapidly increases in retirement. Most health care is funded by the state in the US, but some is covered by insurance. In the UK we can expect the purple area to be even larger relative to the light green area. Bear in mind too that health care tends to be particularly labour intensive.

Summing up these elements we find that total spending is greatest late in life, well into retirement. Thus, our earlier assumption that total spending peaks during our working life is wrong.

Replacing this assumption means it is more likely that demand curves shift to the right;  $D_1$  to  $D_2$  as the population ages. The resulting equilibrium is higher prices  $P_1$  to  $P_2$ . We conclude therefore that the demographic trends we will experience over the coming years, all other things being equal, will exert inflationary pressures.

Before the pandemic the global economy was generally blessed with low and stable levels of inflation which allowed monetary policy makers the flexibility to keep policy very easy. The coming decades are likely to be quite different from an inflation perspective.

Figure 11  
It is more likely demand shifts to the right and thus is inflationary



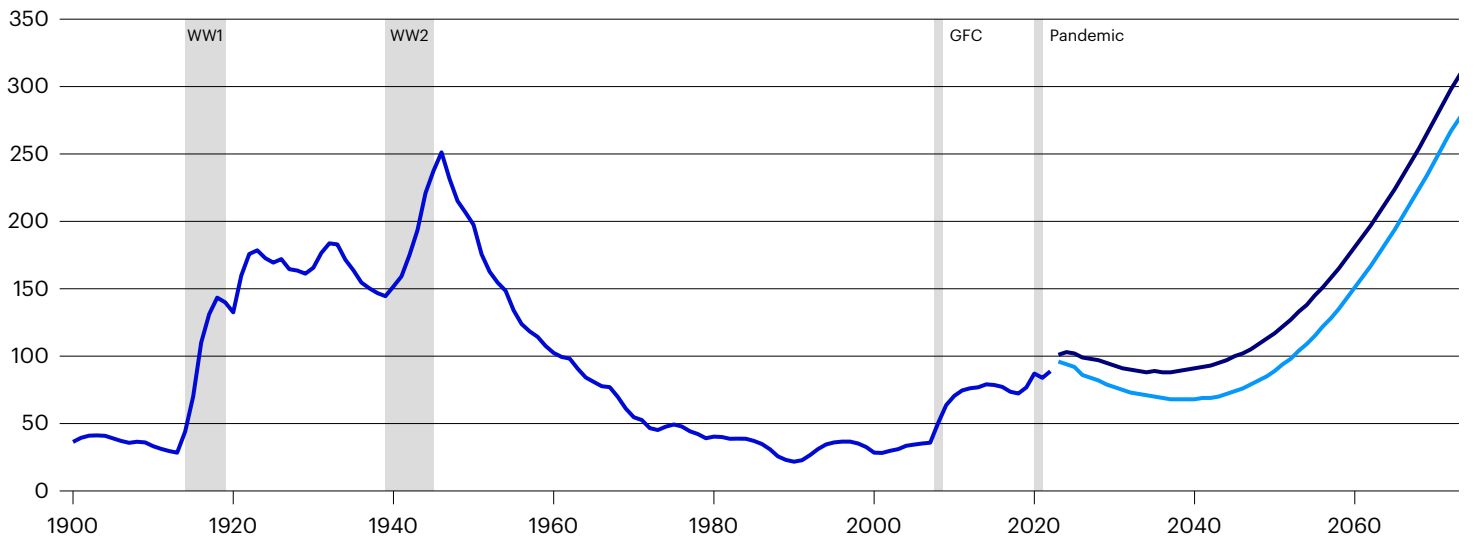
Source: Invesco. For illustrative purposes only.

## Individual responsibility

As shown above, and consistent with common sense, an ageing population means more government spending on health care and other old age entitlements. At the same time tax receipts will come under pressure as retirees tend to pay lower taxes when they stop earning a salary and start drawing down on savings. That will put greater pressure on government finances in the coming years.

High government debts are already causing some market commentators to fret. We are less concerned about debt levels today but note that according to the Office for Budget Responsibility (OBR) the UK government debt to GDP ratio is forecast to rise above 300% in the next 50 years. If this is to be avoided governments must make some serious changes to the generosity of support, they provide pensioners.

Figure 12  
UK government debt is set to break previous records in the coming 50 years  
Underlying debt-to-GDP ratio (%)

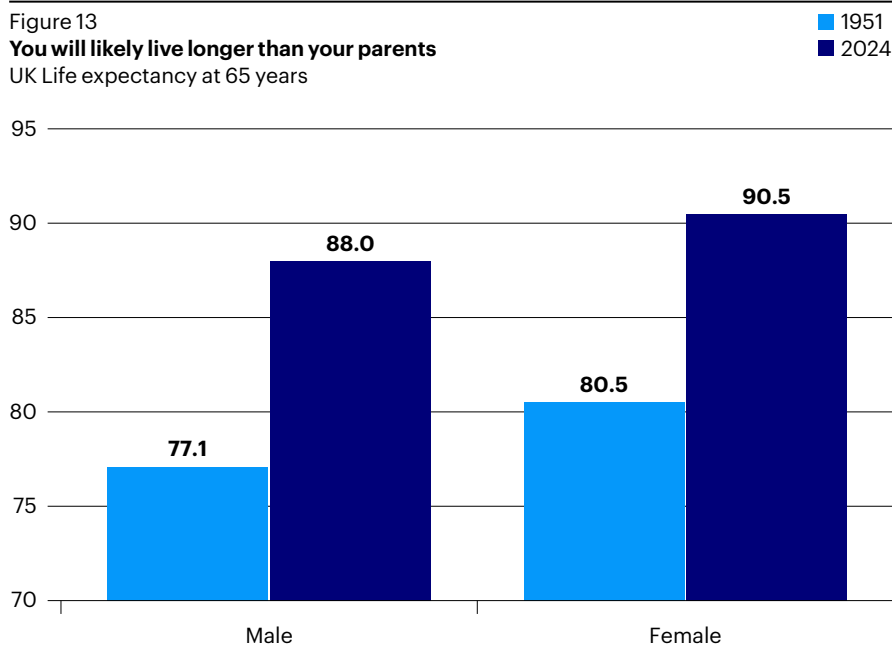


Source: Invesco, [Office for Budget Responsibility, Fiscal Risks and Sustainability Report 2023](#).

The first pensions, or old age social insurance programs, [were introduced in Germany by Otto von Bismark in 1889 and set the retirement age at 70](#), when life expectancy was considerably lower than it is today. In the UK in 1946 the National Insurance Act established a pension for everyone. From 1948 men over 65, and women over 60, were eligible for this pension. In 1951 a UK male aged 65 could expect to live a further 12.1 years based on [Cohort estimates](#). In 2024 a similarly aged male can expect to live another 23 years. A 65-year-old woman is expected to live nearly 26 years.

In recent years private pension schemes have moved from generous defined benefit pension schemes where individuals did not need to concern themselves with running out of money before death, to defined contribution schemes where the burden of building suitable retirement savings falls squarely on the shoulders of individuals. Government changes will not happen overnight, but individuals must consider the prospect that what they expect to receive from the state in old age could be much lower than it is today.

60 years ago, running out of money in retirement was something few people needed to worry about as retirement lifespans were quite short. Today they are much longer [which introduces much greater longevity risk to retirement planning](#).



Source: Invesco, [Department for Work and Pensions Cohort Estimates of Life Expectancy at Age 65](#).


For all age cohorts this means the savings, investing, and retirement outlook must change. This is a point made strongly in [Andrew Scott's book, The Longevity Imperative](#). Investors must therefore pay much more attention to longevity risk – the risk that a retiree runs out of money before death.

**What they expect to receive  
from the state in old age could  
be much lower than it is today.**

# Can anything be done?

The demographic trends highlighted here cannot be changed but the impact on economies, governments, and individuals can be partially mitigated.

Albeit only if difficult decisions are taken. There are three main areas that could ease the burden on the working population. Put simply, policies must aim to increase the size and effectiveness of the working population. That can be done by:

<ol style="list-style-type: none"><li><b>1. Increasing the size of the total population via:</b><ul style="list-style-type: none"><li>• Increases birth rates</li><li>• Encouraging immigration</li></ul></li><li><b>2. Raise the retirement age</b></li><li><b>3. Increase the total participation rate across all age groups</b> E.g. increasing female participation</li></ol>	<p>A fourth change could help:</p>  <p><b>Increase labour force productivity</b></p>
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Increasing productivity is a huge challenge and while we might look at the advent of AI and other technology advancements as reasons to be optimistic those are highly uncertain and outside of the scope of this report.

Increasing the population through higher birth rates and greater immigration is unlikely to happen any time soon. Policies aimed at encouraging people to have more children are being trialled across the world but with very limited success. South Korea for example has some of the most generous policies towards families but still fertility rates are falling. Having children is financial and emotionally expensive and it appears attitudes towards having more children are difficult to change.

While immigration does not work at a global level movement of labour around the world to where it is needed most could alleviate many of the issues we have discussed here. Unfortunately, immigration is a very politically sensitive topic and many nations around the world are seeking to limit rather than encourage immigration. It is difficult to see attitudes changing rapidly.

Immigration is something that Japan has not embraced, with recent Gallup data showing Japan is an unpopular migrant destination, with the number of potential migrants wishing to migrate to Japan 12 times less than those who wished to migrate to the US. Since 2022 there have been some increases in immigration in response to policy changes in reaction to labour shortages, particularly in retail and hospitality industries.

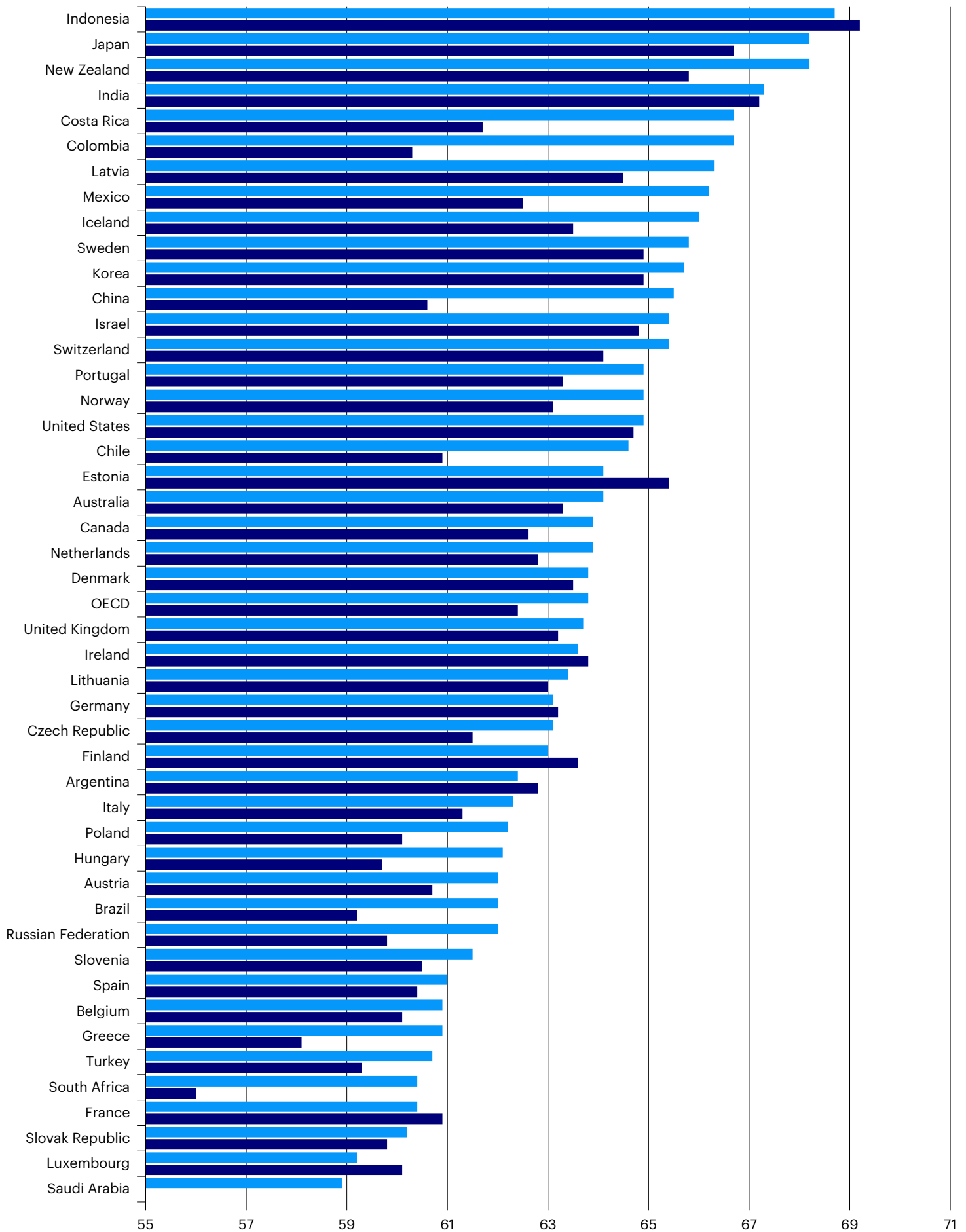
We might have more luck by asking people to work later in life. Retirement ages across the world were often established when life expectancies were much lower than they are today. Across the world there is a wide span of effective retirement ages. The OECD average for men is 64 years.

As life expectancy increases there is a strong case for working lives to lengthen. Japan is a good example of how policies can change as demographics change. In 2013 the retirement age in Japan was 60, it has since increased to 65 and there are plans to increase that to 70 by 2025. The effective retirement age of both men and women in Japan is at the upper end of the spectrum compared to other nations today.

**Policies must aim to increase the size and effectiveness of the working population.**

Figure 14  
**People could work later in life**  
 Effective retirement age (years)

■ Male  
 ■ Female

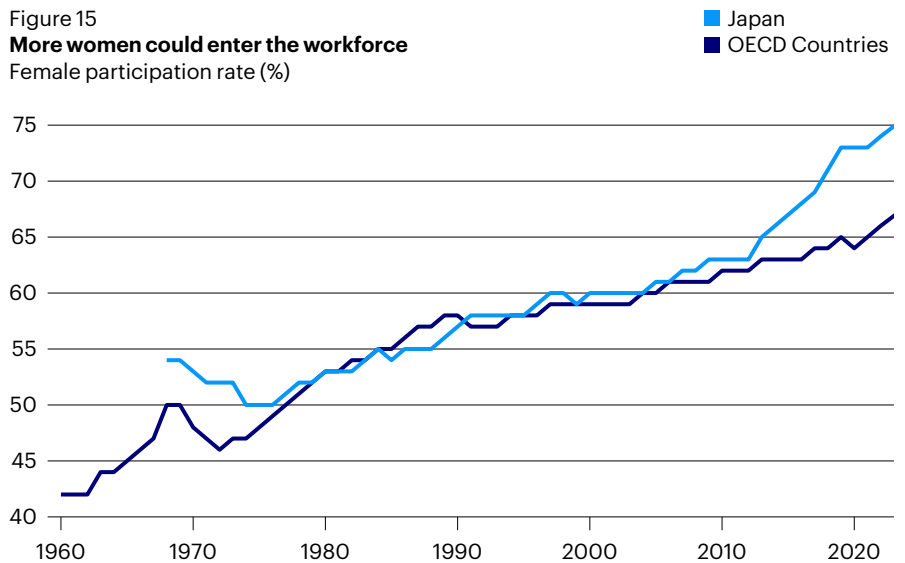


Source: Invesco, [OECD Pensions at a Glance 2021](#).

The final means of increasing the share of the population working is to increase the participation rate among those of working age. This might mean targeting economically inactive individuals and making it easier for them to return to the workforce. Or it might mean targeting the female population which tends to be less economically active than the male populations since caring for children and the elderly disproportionately falls on women.

Lower fertility rates will naturally remove one reason for a member of a household to exit the workforce or reduce the hours worked. Japan has had much success with policies encouraging greater female participation in the workforce.

Encouraging greater female participation in the workforce and removing barriers to entry should be commended. The downside of such efforts is that historically, higher female participation has tended to correlate with lower birth rates, which exacerbate demographic issues. But further progress on flexible working practices and shared parental leave could support greater parental participation in the formal workforce. If the worst of the demographic issues are to be avoided this is exactly the behaviour that should be encouraged.



Source: Invesco, Macrobond, as of 20 August 2024.

**Japan has had much success  
with policies encouraging greater female  
participation in the workforce.**





## Summary

The baby boomer generation and earlier Gen Xers are now retiring in their droves and women around the world are birthing fewer children than ever. Thus, the number of older people around the world is growing and will grow faster over the coming decades.

Progress in health care, life expectancy, and women's ability to control the number of children they have should be celebrated but at the same time there are significant economic considerations to think about and changes that governments and individuals will need to make around how they think about living in old age.

Our view is that an ageing population will exert upward pressure on inflation in the coming years resulting in quite a different macroeconomic backdrop to the one most have become used to in recent decades.

Pressures on governments to support an ageing population will increase and tough choices will need to be made around what is funded and how it is funded by the state. It is likely a greater burden will fall on the working age population to support the aged.

Individuals must consider how they will fund a longer period of old age compared to previous generations. This does not just mean funding health care costs for longer but hopefully funding a better lifestyle for longer than earlier generations too. Retirement is something to be enjoyed, not endured.

Demographic challenges abound but remember these are good problems to have. The reason we have a growing population over the age of 65 is because society has made so much progress in recent decades.

In our other retirement pieces, we discuss how and why we must rethink the approach to retirement saving to meet an ever-greater variety of goals among those in or looking forward to retirement.

## Further Reading

This document has tried to layout the key points and debates around the demographic changes facing the world in the coming years. Realistically, this only scratches the surface on a fascinating and multifaceted topic. For those that want to delve into these topics in greater detail we recommend the following books and papers.

### [The Great Demographic Reversal, by Charles Goodhart and Manoj Pradham](#)

Summarises this as the tide of demography and globalization are in decline and these changes should result in higher debt and inflation but more worker equality.

### [No One Left: Why the World Needs More Children, Paul Morland](#)

Paul discusses in detail the labour shortages, pension crises and rising debt that will stem from a world failing to have enough children. In sum he expands on the points we make in this report.

### [The 100-Year Life: Living and Working in an Age of Longevity eBook:](#)

#### [Lynda Gratton and Andrew J Scott](#)

An analysis of how individuals and societies must adapt to an ageing population where many of us can now expect to live to triple figures.

### [Longevity Imperative: Building a better Society for Healthier, Longer Lives:](#)

#### [Andrew J Scott](#)

Following on from The 100-Year Life, Andrew discusses how we can and should live better, not just longer.

### [The enduring link between demography and inflation](#)

This paper by the Bank for International Settlements details how a changing age structure impacts inflation concluding that higher dependency ratios, be they young or old age, mean greater inflationary pressures.

### [No One Left: Why the World Needs More Children](#)

Paul Morland argues that the world is facing a critical demographic crisis due to falling fertility rates, which will lead to severe labour shortages, pension crises, and ballooning government debt. Morland documents the global demographic trends and points out a couple of exceptions, most notably Israel where birth rates have risen in recent decades and are above replacement rates. That's highly unusual for a wealthy developed nation.

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## Investment risks

The value of investments and any income will fluctuate (this may partly be the result of exchange rate fluctuations) and you may not get back the full amount invested. Over time, inflation may erode the value of investments.

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