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Investment perspectives

March 2024

Decoding demographic divergence

How countries navigate shifting demographics is key to future growth, inflation and government debt levels. We explore the investment opportunities and risks presented by diverging trends – and diverging responses.

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Summary

- Life expectancy is increasing and birth rates are declining around the globe. In many developed markets (DM) and in China, the balance of the two means their populations are getting older and **the number of people of working age (ages 15–64) is shrinking – and set to shrink further over the next 20 years**. This poses an economic challenge. All else equal, a shrinking workforce means an economy cannot grow as fast.
- Does that mean lower growth is inevitable? That’s a topic of much debate – as is aging’s impact on inflation and government debt. We see broad trends across countries with aging populations, but also expect individual outcomes to vary widely across countries and sectors, depending on the speed and size of the demographic change and how the country responds. **That divergence creates potential investment opportunities and risks, in our view.**
- The working-age population is a key determinant of, but not the same as, the employed labor force. **Aging’s impact on growth depends on whether the affected country finds ways to offset the fall in the working-age population** – for example, by attracting workers from other countries, or seeking to increase the share of women and other underrepresented groups in the labor force.
- Various combinations of these have boosted the workforce, and thus economic growth, in G7 economies over the last 20 years. **Extrapolating recent trends, the number of migrants, women and over 60s in the workforce over the next 20 years is unlikely to fully offset the fall in the workforce due to aging.** That implies lower economic growth on average across the G7. Some countries may aim to boost the productivity of a smaller workforce, for example by investing in automation and artificial intelligence (AI), another [mega force](#) we track.
- Is aging inflationary? Retirees stop producing economic output but don’t typically spend less, historical data show. In aging economies, firms tend to rein in investment, but we expect only a mild pullback given ongoing investment in automation, AI and the low-carbon transition. With governments likely to spend more on healthcare, we think supply at the broad economy level will likely fall, on average, across DMs – but demand will not. **The resulting inflationary pressure is one reason why we think central banks may need to keep interest rates above pre-pandemic levels.**
- Higher rates mean higher debt servicing costs for governments.** Slower growth will drag on tax revenues, while pension and healthcare spending is set to rise across the G7. Stabilizing government debt relative to the size of the economy would require spending cuts or tax rises. Rising debt could make it more difficult for central banks to raise policy rates to combat inflation shocks in future – a further reason why we expect inflation to typically be higher in future than it was before the pandemic.
- Demographic changes – and their effects – will vary across countries. We think that dispersion of outcomes will create plentiful investment opportunities. **We believe the key for investors is to be selective and assess what markets have priced in.** Research finds they can be slow to price in the impact of even predictable demographic shifts. That looks to be the case now in the U.S. and Europe – and is why we like the healthcare sector in both regions.
- In many emerging markets, the working-age population is still growing, giving them an economic advantage. We see opportunities in those that can best capitalize on it – for example, by improving workforce participation and investing in infrastructure – and outperform what markets have already priced. **We think higher returns could be on offer in countries with greater demand for investment – like India, Indonesia, Mexico and Saudi Arabia.**

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Aging economies, fewer workers

Life expectancy is increasing and birth rates are declining around the globe. In many developed markets (DM) and in China, the balance of the two means their populations are getting older – with ever more people beyond retirement age and fewer people of working age, typically defined in economic literature as 15 to 64 years old.

The working-age population is set to start shrinking – or shrink further – in several major economies over the next 20 years. We know that because most of those who will reach working age in that time have already been born. See the chart below. We see migration as the only thing that can materially change the outlook. More on that on page 4.

In Japan and Europe, the domestic working-age population has been shrinking for many years already. They have been joined more recently by the United Kingdom, Canada, China – and now in the last couple of years also the U.S., according to UN population data. China’s working-age population, for example, began to shrink in 2016 and the number of people of working age in China is set to fall by more than 10%, or 140 million people, in the next 20 years. See the chart below. That’s about the combined size of Germany and Italy.

This poses an economic challenge. All else equal, a shrinking workforce means an economy cannot grow as fast as before. That’s because expanding what a country produces relies on expanding the number of workers and/or expanding how much each worker produces. Across the G7 in the past 20 years, growth in the labor force accounted for 0.3 percentage points of the 1.7% average growth rate, according to the OECD. That boost is now disappearing – and turning negative. So, unless worker productivity rises more rapidly, we estimate that average economic growth will slow to 1.2%. G7 growth rates have previously only been below 1.3% around U.S. recessions.

Is lower growth inevitable? That’s a topic of much debate. It will depend on whether countries find ways to offset the fall in the working-age population. We look at this on the next page. This structural shift in the labor force also changes how we should consider economic data. A low unemployment rate usually indicates a strong, healthy economy. In the future, a shortage of workers as populations age could mean we see low unemployment and weaker growth at the same time. That’s why we think cyclical indicators like unemployment will be a less reliable guide to economic health.

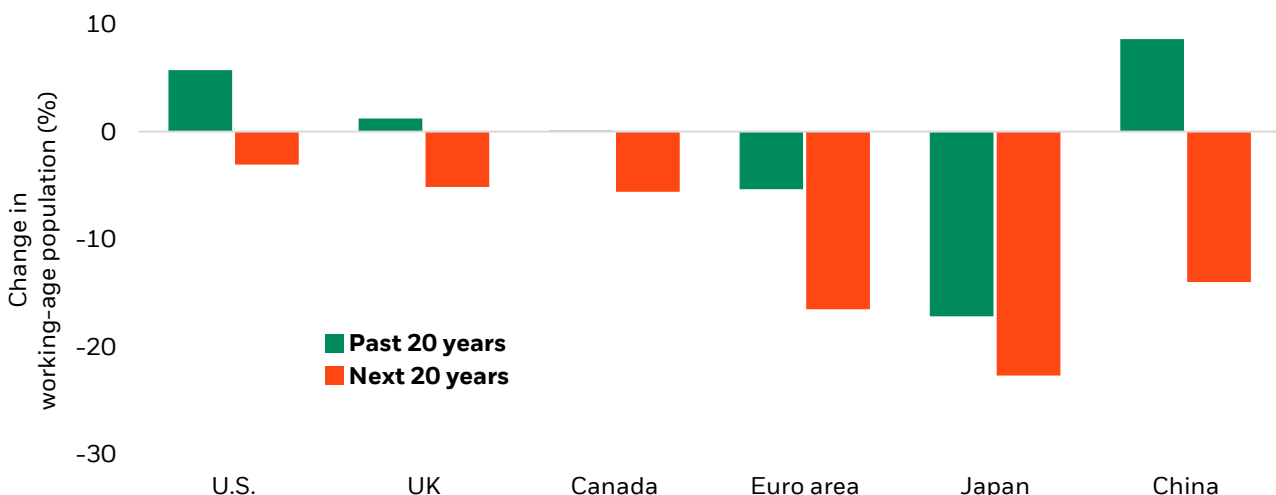
We then delve into two further debates. On page 5, we consider the impact of aging on inflation – and by extension on interest rates. Page 6 explores the debate on the implications for government spending and debt – aging leaves fewer people of working age to support a larger non-working population.

Why do these debates matter for investors? We believe these demographic trends and their impact on growth, inflation, interest rates and government debt could create significant investment opportunities – and risks to manage. We outline the broad overall impact we expect to see across countries with shrinking working-age populations, but also note the potential for outcomes to vary widely across countries and sectors depending on the speed and size of the demographic change and how the government reacts. Investors can capitalize on that wide range of outcomes by being selective and dynamic, in our view. See page 7 for our investment conclusions.

The opportunities – and risks – are not limited to countries with shrinking working-age populations. Elsewhere, younger populations are still boosting the workforce, like in India, Indonesia and Mexico. On page 8, we look at the investment implications of these opposite dynamics.

Shrinking workforces

Actual and estimated change in domestic working-age populations, 2003-2044



Forward-looking estimates may not come to pass. Source: BlackRock Investment Institute, United Nations, with data from Haver Analytics, March 2024. Notes: The chart shows the percentage change in the domestic working-age population, defined in economic literature as those aged 15-64. The domestic working-age population is calculated by subtracting the UN’s migration projections from the UN’s population projections that include migration, assuming that migration does not change the overall age structure. The next 20 years refers to 2024-2044 and previous 20 years to 2003-2023.

Debate 1: Does aging slow growth?

The working-age population is set to shrink over the next 20 years across many DMs and China – per the orange bars on the previous page’s chart and the one below. Yet it is possible to mitigate the hit to growth from aging: the working-age population is a key determinant of, but not the same as, the employed labor force. Countries may seek to offset the impact of a shrinking working-age population by increasing the participation – or share – of women, other underrepresented groups and those nearing or beyond retirement age in the labor force. Or they might seek to attract workers from other countries.

Various combinations of these strategies have boosted the employed workforce, and consequently economic growth, in G7 economies over the last 20 years. See the chart below. In Canada, the U.S. and the UK, the boost to the workforce from migration (yellow bars) and – excluding the U.S. – from participation (pink bars) came on top of the boost from a still-growing working-age population (orange bars) and a small rise in the employment rate, or more people looking for a job being able to find one (green bars). In Europe, the boost from migration and participation was enough to offset a shrinking working-age population. But not in Japan – despite a relatively large rise in participation.

The picture looks quite different for the next 20 years. We look at the potential contribution from both participation and migration to labor force growth in the future. For participation, we assume countries keep closing the gender gap at the current rate (there are fewer women than men in the workforce across DMs). And we assume that the average age at which people retire moves closer to the official retirement age laid down in the respective country’s legislation. For the U.S., UK and Canada, that increase in participation would be enough to broadly offset what will now be a negative contribution to overall workforce growth from the domestic working-age population (pink bars bigger than the orange bars). But it’s not big enough for Europe or Japan.

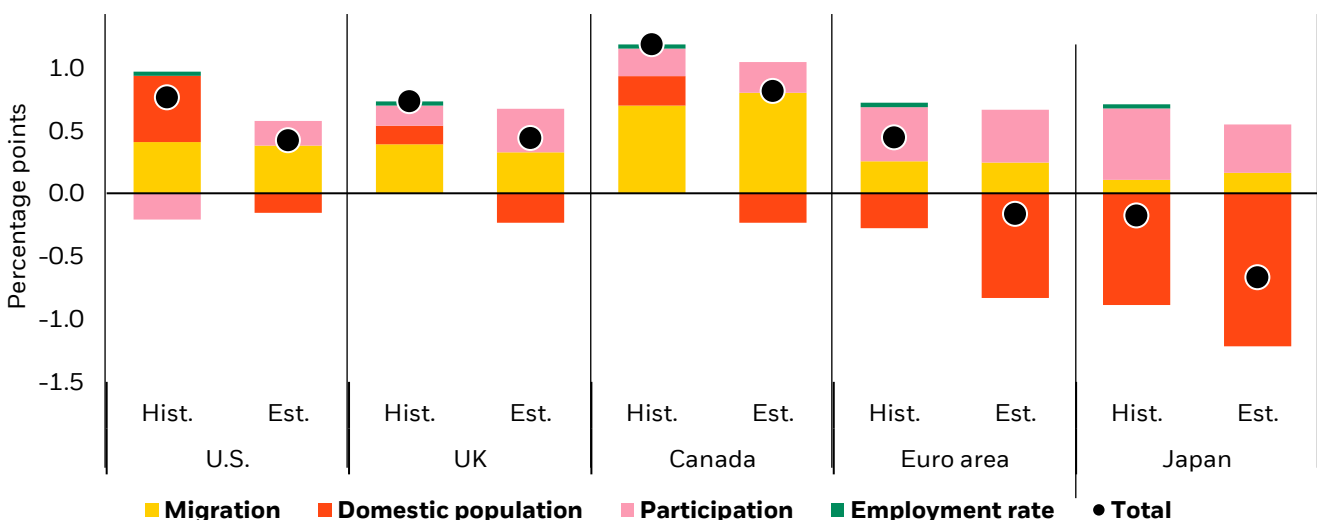
For migration, we assume pre-pandemic migration trends reassert themselves – noting that immigration rates have risen significantly in Canada and the UK in the last three years, national statistics show. Assuming they slow back to pre-pandemic levels, migration is set to provide a material boost to the workforce in Canada, the UK and the U.S. over the next 20 years, while the boost is smaller in Europe and Japan. If current levels persist in Canada and UK, the boost would be big enough to almost entirely compensate for the fall in the working-age population. We recognize it is difficult to accurately predict migration trends, especially given the politically sensitive nature of this topic in many countries.

Yet, as the black dots show – and based on the above assumptions – the estimated rise in the number of migrants, women and over 60s in the workforce is unlikely to be enough to keep the workforce growing as quickly as it was before, or – in the case of Europe and Japan – prevent it from shrinking.

Some countries may pursue strategies aimed at boosting the productivity of a smaller workforce – for example, by investing in automation. Broadly speaking, over the past three decades, the more a country’s population has aged, the more that country has invested in robotics, according to research by Acemoglu and Restrepo (2021). They find that greater automation should raise productivity. Robotics have typically been deployed mainly in manufacturing. It’s possible that advances in AI will allow for further productivity gains, including in services industries, potentially benefitting more services-oriented countries. This is something we are monitoring closely.

Adaptation not enough to fully offset impact of aging

Contributions to growth in the employed labor force, last 20 years vs. next 20



Forward-looking estimates may not come to pass. Source: BlackRock Investment Institute, OECD, United Nations, with data from Haver, March 2024. Notes: The black dots show the average annual contribution to growth in the employed labor force from migration, domestic population growth, working-age participation and the employment rate over the last 20 years and projected over the next 20 years. In projections, we assume that pre-pandemic (2017-2019) trends in migration flows continue, female working-age participation rates keep increasing at their 2015-2019 trend, and the effective retirement age reaches the currently legislated retirement age. The latter two combine to form the projection for the contribution from participation. Euro area data are the weighted average of Italy, Germany and France.

Debate 2: Is aging inflationary?

Slower growth is normally considered to be deflationary because it's a sign that demand is weak. But that's not the case here, in our view. We think countries with aging populations are set to grow more slowly not because demand is weak, but because fewer workers mean companies cannot produce as much, regardless of how much demand there is.

In fact, we think aging could – on average – be inflationary. Why? Older members of the population are typically retired and so, from an economic perspective, produce less. The yellow swathe in the chart below left shows income from employment tails off later in life. But spending typically does not. As the orange swathe shows, total lifetime consumption is fairly evenly spread across each year of a person's adult life – even if what the money is spent on may change, with a larger share on healthcare in later life. That spending is funded out of savings, including pensions, built up during a person's working years. See the gap between the yellow and orange swathes.

All else equal, that means that at the overall economy level less will be produced, but demand for goods and services will remain the same – pushing up on inflation. The debate centers on whether all else is indeed equal.

First, it is possible that in countries where life expectancy is increasing, for example as healthcare advances, people may choose to spend less and save more to fund what is likely to be a longer retirement. But as [Goodhart and Pradhan \(2020\)](#) point out, that may seem logical but it's not what people do in practice. That's why the older a population, the lower the overall savings rate tends to be – see the downward-sloping yellow line on the chart below right. The wide dispersion of the dots around the line indicates that aging affects the saving rate in some countries much more than others.

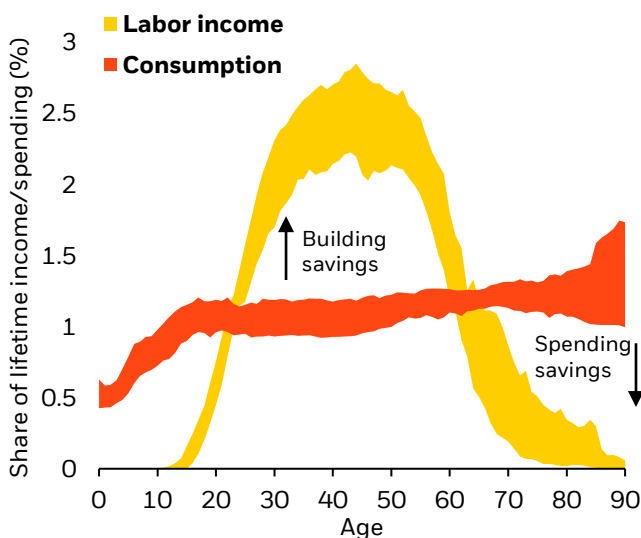
Second, other parts of demand in the economy could fall – for example, historical data show that investment spending by companies does typically make up a smaller share of GDP as a population ages. We expect that to remain the case, but we do think it can hold up better than some assume as companies invest more in automation, AI, the low-carbon transition and healthcare. See page 8. Plus, government spending – especially on healthcare – is very likely to increase and help offset any decline in company investment spending.

Put all this together and we think countries with aging populations will typically see greater inflation pressures. Over the longer term, those pressures could abate as governments and consumers adjust their spending and saving plans. But in the meantime, the pressure of unchanged demands on reduced supply capacity will likely mean central banks have to set higher policy rates to keep their economies in balance.

How much higher might rates need to be? We estimate that neutral interest rates – that neither restrict nor stimulate the economy – could average about 0.5 percentage points higher than before the pandemic across developed markets. That's based on our view of the future evolution of the investment and savings rate due to aging and on sensitivities of interest rates to changes in spending presented in research by Rachel and Summers (2019). But it's likely to vary across countries depending on how quickly they are aging, whether they can employ any of the measures discussed on page 4 to offset the decline in the working-age population, and the extent to which savings and investment spending change.

Saving, and then spending

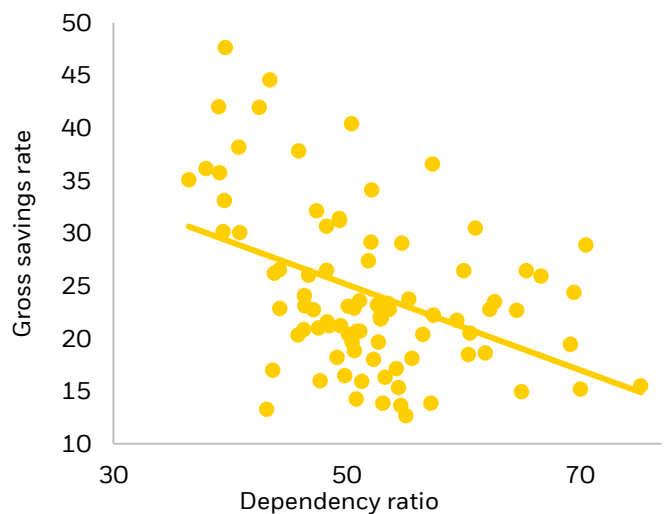
Age distribution of labor income and consumption in G20



Source: BlackRock Investment Institute, National Transfer Accounts, March 2024. The chart shows the interquartile range (gap between 25th and 75th percentile) for the distribution of income from labor and consumption spending across different age groups. The sample includes G20 sovereign countries with the available data from 2000 to 2019.

Aging populations save less

Saving rates in G20, 1995-2019



Source: BlackRock Investment Institute, World Bank, with data from Haver, March 2024. Notes: The chart shows the gross savings rate as a share of GDP for countries in the G20 group. The colors show observations at five-year gaps in the period from 1995 to 2019.

Debate 3: Will aging increase debt?

If an economy is growing more slowly, it means tax revenues will grow more slowly too, as they are typically proportional to the size of the economy. Higher interest rates leave the government paying more to service outstanding debts. Together these developments mean, without other changes, government debt will increase relative to the size of economies.

Over recent decades, the reverse has been true in many DM economies: interest rates were falling relative to growth, leading to falling interest costs relative to tax revenue. When an economy is growing at a faster rate than the interest payments on its debt – where the red line is below zero on the chart below left – that gives some room for the government to spend more or cut taxes without debt levels rising relative to the size of the economy.

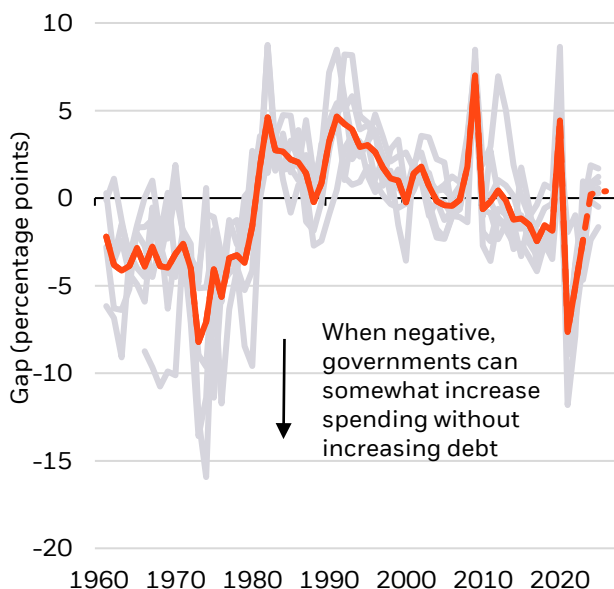
Now, aging populations mean many governments will be in the opposite position. Stabilizing debt levels could require reducing spending and/or raising taxes. By how much? We estimate that lower growth could lead to a net reduction in tax revenue equivalent to 0.6% of GDP on average in the G7 economies. See the orange bars in the chart below right. And higher interest rates mean an increase in interest costs amounting to 0.8%, on average, across the G7. See the yellow bars in the chart. The Congressional Budget Office (CBO) [projects](#) that, over the next 20 years, the U.S. federal government will spend about the same on interest payments on its debt as on Medicare spending. It already allocates a similar amount of its budget to interest payments as it does to defense.

Yet it will be difficult to cut spending. Aging populations typically put upward pressure on government spending. Spending on pensions and healthcare – both politically challenging to cut – will likely rise as the proportion of older people in the population grows. The green bars in the chart below right show our estimate of the aging-related increase in healthcare and pension spending in various economies over the next 20 years, calculated by extrapolating historical spending patterns and how they have typically responded to changing demographics.

In our view, the significant tax and spending adjustments that would be needed to stabilize debt levels are unlikely to occur. So, we expect to see government debt rising relative to GDP, on average, across the G7. This may not be an immediate problem. But it could complicate central banks' response to future inflation shocks. Higher policy rates mean governments have to spend more on interest on their (larger) debt. That could result in pressure on central banks to react less aggressively to inflation – meaning it takes longer to return inflation to their targets. We think these dynamics will lead investors to increasingly demand more compensation to hold long-dated government debt – or term premium. But the effect is unlikely to be the same across countries as some face more challenging fiscal arithmetic than others. See the next page.

Less favorable debt dynamics

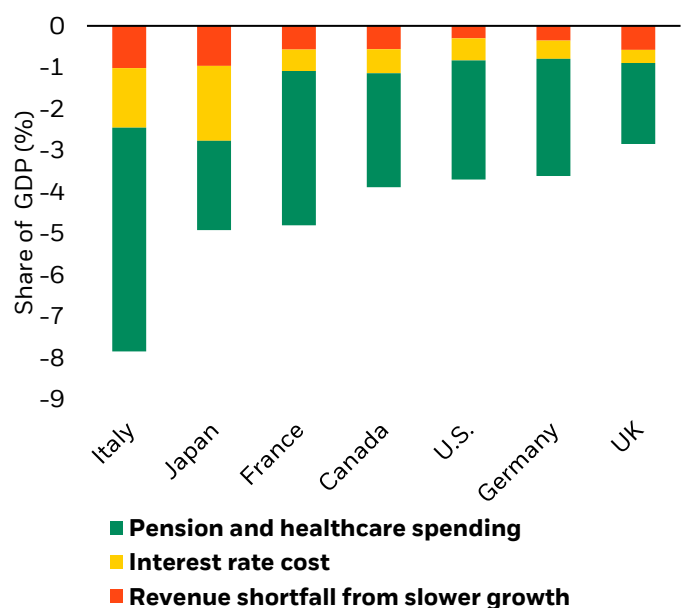
Gap between real interest rates and growth, 1960-2023



Source: BlackRock Investment Institute, OECD, IMF, with data from Haver, March 2024. Notes: The chart shows the difference between cost of debt as measured by a 10-year bond yield and nominal GDP growth for G7 economies. Grey lines show the time-series for individual countries, and the orange line shows the average across all countries. A negative spread of bond yields over growth means that GDP growth exceeds the interest cost of debt, meaning that a country is able to run a deficit (up to a certain amount) without increasing its debt levels relative to GDP.

More difficult to balance the books

Aging's impact on government spending and revenues



Forward-looking estimates may not come to pass. Source: BlackRock Investment Institute, UN, OECD, with data from Haver, March 2024. Notes: The chart shows the projected aging-related increase in pension and healthcare spending (green bars), interest rate expense (yellow bars) and the shortfall in revenues from slower growth (orange bars) over the next 20 years as a share of GDP. Healthcare and pension spending is derived by extrapolating historical spending patterns and their relationship with demographic variables (dependency ratio and share of retirees). Interest costs are based on how a change in saving and investment rates – due to aging – affects interest rates, and the impact of slower growth is based on the impact of changes in working-age population in the UN projections.

Plentiful investment opportunities

Lower growth and higher interest rates may, at first glance, paint a gloomy picture for equities. But we think demographic changes – and their effects – herald plentiful investment opportunities within and across countries and sectors, as do other mega forces we track, like the low-carbon transition and digital disruption. The key is being selective.

Why? Because of the differences across countries in the impact of aging that we discussed on earlier pages. Some countries are aging faster than others and some will be better able to adapt to a shrinking domestic working-age population, as we discussed on page 4. That means the impact on growth, inflation, interest rates and government debt will also vary, even if we see a broad trend. What matters for investors when seeking out selective opportunities across countries is whether asset prices adequately reflect the effects specific to a given country or sector.

Historical data reveals that there is typically a positive relationship between a country’s working-age population growth and average price-to-earnings (PE) ratios – a measure of equity valuations. See the yellow line on the chart below left. That’s consistent with faster working-age population growth typically translating into higher future earnings growth. But the spread of dots around the yellow line shows that, while the broad trend holds, it’s not a given that countries whose working-age populations are growing more slowly will have lower equity multiples. That’s because countries can adapt to aging – through migration, greater labor force participation and/or automation, as discussed on page 4. The key is to find the ones that could buck the trend – with potential rewards on offer for investors that are able to identify them. That’s why we think it is so important to take a view on the debates outlined on the previous pages.

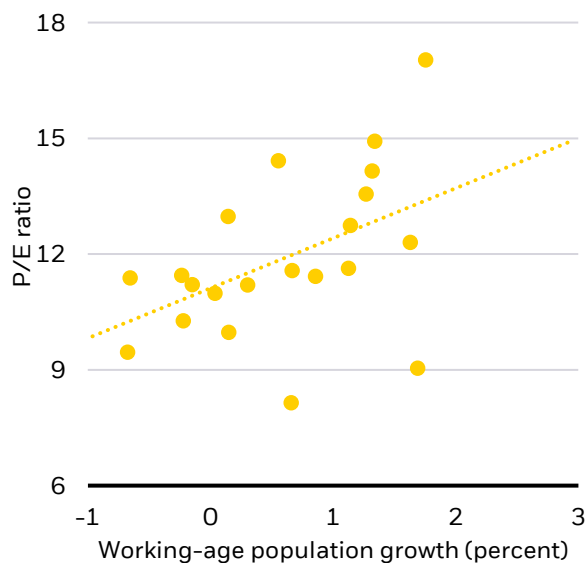
And even in countries that are set for slower growth and higher rates, we believe there will still be investment opportunities. It will just be important to assess valuations and prospective returns, taking that macroeconomic picture into account. Plus, we expect plentiful opportunities at sector level. We expect demographic shifts to materially alter patterns of spending and production. One example: real estate demand could change since older people typically move less frequently, while most house purchases are done by those aged 30-60, according to research by Gong and Yao (2022). We also think healthcare needs will rise as a population ages. And these types of demographic-driven spending shifts are not always priced by markets, even if they can be anticipated years in advance. Take Japan as an example. Over the last three decades, the value of Japan’s healthcare stocks – relative to the broader market – have risen broadly in step with the growth of its retired population, as measured by the dependency ratio. That’s despite the growth in retirees being well documented years in advance. See the chart below right.

This chimes with academic research which finds that markets may be slow to price in the impact of even predictable demographic changes. That appears to be the case now in the U.S. and Europe – and is one of the reasons why we like the healthcare sector in both regions.

One critical additional opportunity set we flagged at the very beginning lies in countries whose working-age populations are still growing. We delve into these on the next page.

Growing population, higher returns?

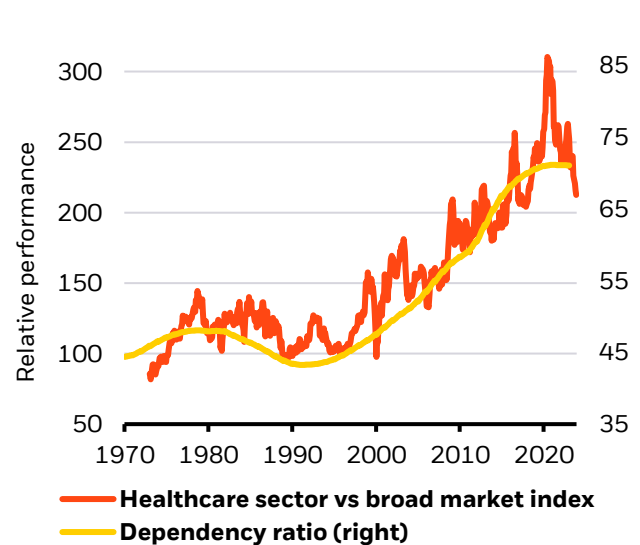
Working-age pop. growth vs. price/earnings ratio in 2019



Source: BlackRock Investment Institute, United Nations, Reuters, with data from LSEG Datastream, March 2024. Notes: The chart shows the contemporaneous relationship between the average working-age population growth and the average PE ratio over 2009-2019, for OECD economies with available data. The dotted line shows the fitted linear relationship between these PE ratios and working-age population growth.

Slow to price in aging

Japan healthcare outperformance vs. dependency ratio



Past performance is not a reliable indicator of current or future results. Indexes are unmanaged and do not account for fees. It is not possible to invest directly in an index. Source: BlackRock Investment Institute, United Nations, Reuters, with data from LSEG Datastream, March 2024. Notes: The red line shows the ratio of the performance of Japan’s healthcare equity sector vs. the overall market index, indexed to 1990. We use total market indices provided by Datastream.

Opportunities in younger countries

We have so far mainly focused on countries whose working-age populations are shrinking – predominantly developed markets and China. But that is not the case everywhere. In some places, the population is younger and the working-age population is still growing at a relatively healthy clip. For example, South Africa, Saudi Arabia, India, Indonesia and Mexico are expected to have the fastest-growing working-age populations among the G20 economies, according to the UN – and as such offer different investment opportunities. India’s working-age population is projected to swell by 120 million over the next 20 years – a stark contrast to China’s anticipated decline of 140 million. See the chart below left.

We believe countries with growing working-age populations have an economic advantage. But, again, what matters from an investment perspective is what’s already reflected in asset prices. We saw on the previous page that average price-to-earnings ratios at broad economy level tend to rise to reflect faster population growth. We think opportunities lie in the countries that can better capitalize on their economic advantage and outperform the rise in P/E ratios already priced in.

We focus on two key factors to identify those countries. First, how many of those of working age are actually working. In India, for instance, the working-age population is growing and so is the share of women in the workforce, albeit gradually. In 2022, about 58% of women aged 15-24 were either in employment or were training or studying, compared with 52% five years ago, World Bank data from December 2023 show. But that’s still low – Indonesia’s equivalent statistic is about 73%, having risen sharply from 59% in 2004. If India is able to bring more people into the workforce, especially women, that would significantly boost its growth trajectory, in our view.

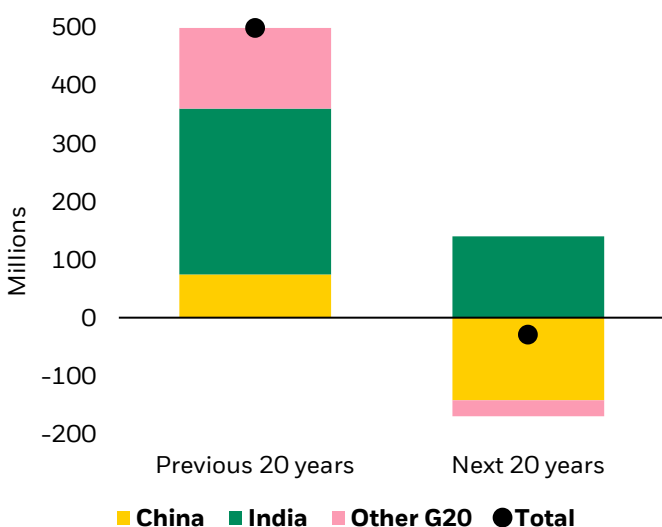
A second factor is whether a country’s investment in productive capital – like machinery, transport infrastructure, housing, schools and hospitals – keeps pace with population growth. Energy investment will be a key component. Energy demand is expected to rise substantially in countries with rapid population growth, such as India and Indonesia – by over 60% and nearly 40% respectively in the next 20 years, according to our internal modeling of energy systems. See BII’s July 2023 paper *Tracking the low-carbon transition* (for professional investors only).

Historical data show investment does tend to rise in line with population growth, but with a lot of dispersion around that broad trend. See the chart below right. Indonesia and India, for example, have invested heavily in infrastructure relative to population growth. Some of that has likely been driven by urbanization – yet at 36%, the share of India’s population living in urban areas is still well below the 80% average in DMs, per World Bank data, so we expect further investment in urban infrastructure in coming years. Investment in Mexico, on the other hand, has grown more slowly than might be expected given how quickly its population is growing. We think that could change as government spending plays catch up and the country potentially benefits from greater private investment as U.S. companies move manufacturing nearer to home. We also expect investment spending to rise rapidly in Saudi Arabia. Its 2021 *National Investment Strategy* – a US\$3.3 trillion initiative – aims to spur economic growth by attracting private investment in various strategic sectors.

In general, countries with higher demand for investment are likely to offer investors higher returns – that’s why recognizing where that will be the case is important. It also matters because countries that are better able to capitalize on their population growth are likely to see stronger economic growth and higher returns on a broader range of assets.

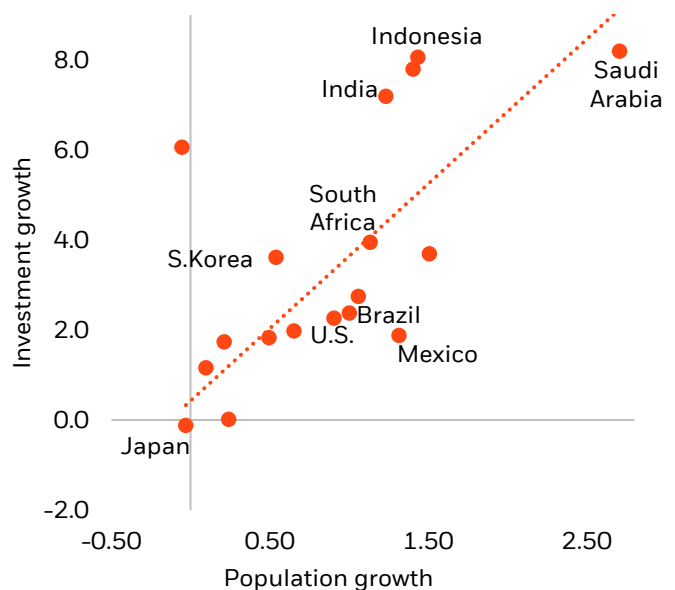
India bucks the trend

Change in working-age populations, past vs. forecast



Growing population and investment

G20 population and investment growth, 2000-2019



Forward-looking estimates may not come to pass. Source: BlackRock Investment Institute, United Nations, with data from Haver, March 2024. Notes: The chart shows the past change in working-age population (15-64 years old), and the UN’s forecast change over the next 20 years.

Source: BlackRock Investment Institute, World Bank Development Indicators, UN, with data from Haver, March 2024. Note: The chart shows the relationship between average population growth and average real investment growth, as measured by the gross fixed capital formation component of GDP, between 2000 and 2019.

BlackRock Investment Institute

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