



INVESTMENT UPDATE

By this point, long-time readers of our *Investment Update* are used to our occasional wanderings into subjects that aren't strictly Bond Market Related. One topic we tend to return to is the impact on economic activity from changing global demographics—particularly population demographics. As discussed previously, we know that populations around the globe are aging, due to longer lifespans and slowing birth rates. This trend has been in place since the 1970s, first showing up in places like Japan and Western Europe; more recently, especially when considering birth and fertility rates, we're seeing the same pattern spreading to less-developed and emerging economies. Perhaps nowhere has population demographics changed more over the past few decades than in China, which was already seeing slowing birth rates when it implemented its "one child" policy in the early 1980s,

and now has a decidedly older (and among the younger cohorts), male-dominated population mix. But even in places like South Asia and Latin America, where birth rates have been traditionally elevated, we are seeing slowdowns in births that are beginning to rival "Western" economies.

The reason why fertility rates are dropping is simple. People want smaller families. Children are expensive, childcare can be problematic, extended family support systems are geographically spread out, many women have work responsibilities or life goals that make raising a family difficult. In short, having children is a massive commitment, and for many, life has enough struggles and challenges even without kids; it's simple human nature to arrange one's life to have fewer demands placed on us. A century ago, world economies were tilted towards agrarianism, which was conducive to raising large families. Today, even the poorest countries are moving away from that societal model.

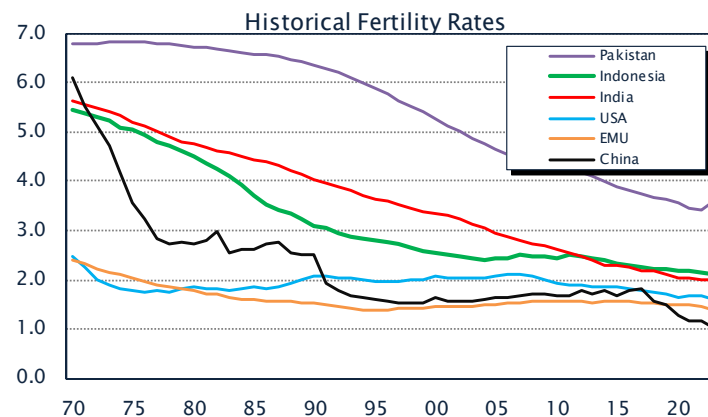
Now, a word about fertility rates. A woman who has two children during her life will be replacing both her and her partner's lives, which, statistically speaking, would lead to a stable population over time. But because some children—especially in countries with poor sanitation and healthcare—may not survive to reach their own child-making years, the average fertility rate has to be closer to 2.1 in order to ensure that the human population doesn't shrink. The most recent United Nations world

population survey was published earlier this year, and it showed that the global population should continue to grow for another few decades, as global fertility rates are still running at a rate of 2.4. But with birth rates continuing to slow, the UN predicts that the worldwide population will peak at around 10.1 billion people (it's a little over 8 billion today) in 2085, when the average global fertility rate falls below "replacement" level.

Recent data, however, are making the UN estimates appear overly optimistic. The current, post-COVID reality is that births have practically collapsed in the past two or three years, and the general consensus is that those rates are not likely to reverse course and begin rising again. After dropping by 3% from

2021–22, global births dropped 4% from 2022–23. As a result, not only are we already seeing some major countries' populations begin to shrink, but some highly regarded forecasts now show world population peaking not in 50 or 60 years, but in 15 to 20 years.

Again, this isn't simply due to changes in developed economies. The chart on



this page shows fertility rates for the five largest population countries (plus the European Union, for comparison). We see that while low-income economies have, on average, higher fertility rates than high-income countries, many of those developing economies are seeing more rapid declines in birth rates than in high-income countries. China's fertility rate, now at 1.0, is so low that its total population is already shrinking. China's total births in 2023 were less than 10 million (in a population of 1.4 billion); as recently as 2016, more than 20 million babies were born in China. India's population is roughly the same as China's, and even though they are behind China in transitioning to a "developed" economy, India is experiencing a steep decline in fertility rates, having fallen from 3.4 in 2000 to 2.0 in 2023.

If the current research is correct that the world's population may be close to hitting an inflection point, and that fertility rates will continue to drop, the global population would not peak at 10 billion late in the century as the UN has predicted, but will stall out at 8.3 billion before the midpoint of this cen-

tury. If those trends continue, the population of developed economies (currently 1.3 billion) would be cut in half by the end of the 21st century. Yes, short-term trends don't always hold, but if they even come close, the demographic changes we have been expecting to occur in 100 years will be happening in the next 25.

Researchers, as noted above, believe that current population trends will not reverse; that fertility rates will remain well below replacement level among developed economies, and will continue to fall among emerging economies, as urbanization and associated social, educational, and lifestyle changes provide more opportunities for women, even in low-income economies. The forces that are leading to global depopulation are essentially "baked in" for at least the next few decades. Nobody knows at what level average fertility rates will finally settle across the globe, but there's no reason to believe they will turn back around and begin rising just because they've fallen below 2.1.

The immediate concern is how policymakers prepare for declines in population. A shrinking population caused by low birth rates leaves a country top-heavy, with an increasingly smaller and older work force and a ballooning population of retirees. Without a growing labor force, it's a challenge to create real GDP growth. A slowing economy means less aggregate income, and a shrinking pool to be shared among the population. Aging populations place a greater burden on vital social services and retirement benefits, and result in ballooning deficits for central governments (and ultimately, taxpayers).

Even in the US, where the population is still expected to grow for another couple of decades, fiscal conditions are deteriorating as a result of our aging population. Looking at the chart on this page (courtesy of the Congressional Budget Office), for more than a decade, revenues from Social Security taxes have been insufficient to cover benefits paid out, but the System has managed to pay full benefits to retirees because of an accumulated surplus in the System's Trust Fund. However, the annual gap between payments and revenues is set to widen dramatically, which will completely drain the surplus over the next decade, according to the CBO. Without changes to the provisions of the Social Security Act, benefit payments to retirees will have to be cut by approximately 25% starting in 2034, impacting those born in the late 1960s and later.

This is just one isolated instance (and in a country where the demographic outlook is comparatively good) where demo-

graphic changes will challenge policymakers in the coming decades. Will Social Security benefits be cut in order to extend the life of the system? Will taxes have to be raised instead? Will there be "needs testing" to determine the level of benefits each retiree should receive? We don't have the answers, but these are the kinds of questions that will need to be asked, and addressed, in the coming years.

Meanwhile, the costs of defense, medical care, and other social safety nets continue to climb, while tax revenues fall further and further behind. Increases in borrowing costs have spiked post-COVID, adding to the US's fiscal burden. And as deficits rise, so does the size of the US Treasury's borrowing needs. Marketable US Treasury securities outstanding now exceed \$27 trillion, compared to \$12 trillion ten years ago. Will there come a point that investors begin to choke on all the new supply of Treasuries that are auctioned practically every week?

Again, the US has a more positive demographic outlook than most of our peers. Despite a fertility rate of just 1.6, our population is still growing, due mostly to the additive impact of im-

migration. We recognize that immigration is a topic that divides opinion, but from a pure economic standpoint, it makes sense for a country to have a somewhat liberal immigration policy in a world with scarce labor resources. Without a growing labor pool, countries must rely on increases in productivity to generate real economic growth—and productivity increases in countries like the US are far more difficult than in less-developed economies.

Does technology hold the key to increased productivity in the years ahead? Clearly, policymakers are aware of technology's promise—it's why we see all the major economic powers making huge commitments to advanced technologies. Can human robotics and AI accelerate productivity, even in highly productive, service-oriented economies like ours? Governments won't wait to find out, and we should expect to see a continued battle to attract capital and talent to keep ahead of the global competition.

But at the same time, we cannot simply rely on technology to save the day. The world is changing rapidly and we will need to make some difficult policy decisions in order to keep our economy ticking while meeting the many commitments we've made to retirees and other folks who are most in need of vital social services. Kicking the can down the road isn't the answer.

Social Security Outlays and Revenues, With Scheduled and Payable Benefits (Percentage of GDP)

