





# POPULATION 2020

*Demographics can be a potent driver of the pace and  
process of economic development*

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“Demography is destiny” is an oft-cited phrase that suggests the size, growth, and structure of a nation’s population determines its long-term social, economic, and political fabric. The phrase highlights the role of demographics in shaping many complex challenges and opportunities societies face, including several pertinent to economic growth and development.

Nevertheless, it is an overstatement to say that demography determines all, as it downplays the fact that both demographic trajectories and their development implications are responsive to economic incentives; to policy and institutional reforms; and to changes in technology, cultural norms, and behavior.

The world is undergoing a major demographic upheaval with three key components: population growth, changes in fertility and mortality, and associated changes in population age structure.

### Population growth

It took more than 50,000 years for world population to reach 1 billion people. Since 1960, we have added successive billions every one to two decades. The world population was 3 billion in 1960; it reached 6 billion around 2000, and the United Nations projects it will surpass 9 billion by 2037. The population growth rate has been slowing, however, from peak annual rates in excess of 2 percent in the late 1960s, to about 1 percent currently, to half that by 2050.

Although global income per capita more than doubled, life expectancy increased by 16 years, and primary school enrollment became nearly universal among children during 1960–2000, rapid population growth poses myriad challenges that are both privately and publicly daunting. These challenges include the need for more food, clothing, housing, education, and infrastructure; the absorption of sizable numbers into productive employment; and more strenuous environmental protection. Although the explosive nature of global population growth is abating in relative terms, decade-on-decade increases remain sizable and are taking place from ever more populated starting points.

Earlier concerns about a global population explosion have, to some extent, yielded to concerns about rapid population growth in particular countries and regions (see “Coming of Age” in this issue of *F&D*). Indeed, the overall slowdown in the rate of world population growth masks significant shifts in the distribution of world population by development status and geographic region.

Countries the United Nations classifies as less developed encompassed 68 percent of world population in 1950; today they represent 84 percent. That share will continue to rise, because virtually all of the nearly 2 billion net additions to world population projected over the next three decades will occur in less developed regions. This is a major concern, because less developed regions tend to be more fragile—politically, socially, economically, and ecologically—than their more developed counterparts.

With 1.44 billion people, China currently has the largest national population in the world, followed by India, with 1.38 billion. But by the end of this decade, India will be the most populous country, with a projected 1.50 billion people, compared with China’s peak population of 1.46 billion. Between 2020 and 2050, Nigeria (projected to overtake the United States to become the world’s third-most-populous nation) and Pakistan—already among the 10 most populous—will surge forward. Asia will continue to be home to a dominant but declining share of the world’s population (60 percent today and 54 percent in 2050).

Finally, notwithstanding continued global population growth, in 61 countries and territories that are currently home to 29 percent of the world’s people, population growth in 2020–50 is projected to be negative, with the sharpest decline (–23 percent) projected for Bulgaria (see “Eastern Europe’s Exodus” in this issue of *F&D*).

### Mortality, fertility, and migration

Population size and growth reflect the underlying forces of mortality, fertility, and international migration. These forces vary considerably across countries and can help account for key differences in economic activity and performance, such as physical capital, labor, and human capital accumulation; economic well-being and growth; and poverty and inequality.

These forces generally respond to economic shocks; they may also respond to political developments such as the beginning and ending of wars and governance crises. In many developing economies, population growth has been associated with a phenomenon known as the “demographic transition”—the movement from high to low death rates followed by a corresponding movement in birth rates.

For most of human history, the average person lived about 30 years. But between 1950 and 2020, life expectancy increased from 46 to 73 years, and

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it is projected to increase by another four years by 2050. Moreover, by 2050, life expectancy is projected to exceed 80 years in at least 91 countries and territories that will then be home to 39 percent of the world's population. Increased longevity is a colossal human achievement that reflects improvements in survival prospects throughout the life cycle, but especially among infants and children.

Cross-country convergence in life expectancy continues to be strong. For example, the life expectancy gap between Africa and North America was 32 years in 1950 and 24 years in 2000; it is 16 years today. Historic and anticipated reductions in cross-country health disparities reflect gains in income and nutrition among low- and middle-income countries, the diffusion of innovations in health technologies and institutions, and the distribution of international aid.

In the 1950s and 1960s, the average woman had roughly five children over the course of her childbearing years. Today, the average woman has somewhat fewer than 2.5 children. This presumably reflects the growing cost of child-rearing (including opportunity cost, as reflected mainly in women's wages), increased access to effective contraception, and perhaps also growing income insecurity.

The social and economic implications of this fertility decline are hard to overstate. Among other things, lower fertility has helped relieve many women of the burden of childbearing and child-rearing. It has also contributed to the empowerment of women in their households, communities, and societies and has allowed them to participate more actively in paid labor markets. All these factors reinforce the preference for low fertility.

Between 1970 and 2020, the fertility rate declined in every country in the world. Fertility tended to decrease more in countries with high initial fertility, another facet of demographic convergence. Among geographic regions, Africa and Europe are currently homes to the highest (4.3) and lowest (1.6) fertility rates, respectively.

If the population's age structure is sufficiently weighted toward those in prime childbearing years, even a fertility rate of 2.1 can translate into positive

population growth in the short and medium term, because low fertility per woman is more than offset by the number of women having children. This feature of population dynamics is known as population momentum and helps explain (along with migration) why the populations of 69 countries and territories are currently growing even though their fertility rates are below 2.1.

Cross-country migration is also relevant to population growth. The effects are quite important in some countries, such as Guyana, Samoa, and Tonga, where net emigration in the past 30 years has been appreciable. Bahrain, Qatar, and the United Arab Emirates have had the highest rates of net immigration. Among the world's 10 population super powers, migrants have the largest relative presence in the United States (15 percent in 2019). For most countries, though, international migration has not been a dominant demographic force, because more than 96 percent of the world's population currently live in their countries of birth (see "Immigrant Swan Song" in this issue of *F&D*).

### Age structure dynamics

The age structure of a population reflects mainly its fertility and mortality history. In high-mortality populations, improved survival tends to occur disproportionately among children. This effectively creates a baby boom. Eventually, the boom ends when fertility abates in response to perceptions of improved child survival and as desired fertility declines with economic development. But as the relatively large baby-boom cohorts proceed through adolescence and into their adult years, the population share at the peak ages for work and saving swells.

This enhances the productive capacity of the economy on a per capita basis and opens a window of opportunity for rapid income growth and poverty reduction. Events of the past decade, ranging from the Arab uprisings to more recent mass protests in Chile and Sudan, also show that countries that fail to generate sufficient jobs for large cohorts of young adults are prone to social, political, and economic instability.

The "demographic dividend" refers to the process through which a changing age structure can

spur economic growth. It depends, of course, on several complex factors, including the nature and pace of demographic change, the operation of labor and capital markets, macroeconomic management and trade policies, governance, and human capital accumulation. Nonetheless, the demographic dividend model can account for much variation in past economic performance among different countries and regions (e.g., East Asia vs. Latin America vs. sub-Saharan Africa) and helps identify more- and less-promising country settings for future economic growth. For example, from 2020 to 2030, Nepal, Jordan, Bhutan, and Eswatini are projected to experience the largest gains among countries in the ratios of their working-age to non-working-age populations.

The dependency ratio—the inverse of the working age to non-working-age ratio—measures the economic pressure working-age individuals face to support, in addition to themselves, those who are not of working age. In 1990, the ratio in more developed regions was appreciably lower than in less developed regions (0.68 versus 1.04).

But by 2020, as a result of different patterns of fertility decline and population aging, the ratio had increased to 0.70 in more developed regions and decreased to 0.75 in less developed regions. And by 2050, the dependency ratio is projected to be greater in more developed regions (0.89) than in those that are less developed (0.77). This switch suggests that in the coming decades, demographics will be more favorable to economic well-being in less developed regions than in more developed regions. This will be especially true in Africa, the only region in which this ratio is projected to decline by 2050.

For countries that have yet to experience appreciable demographic transitions (like Chad, the Central African Republic, Somalia, and Sierra Leone), policies are appropriately oriented toward catalyzing those transitions. Such policies include investment that promotes infant and child survival, such as expanded vaccine coverage as well as wider access to well-provisioned and appropriately staffed primary health care systems.

For populations that have experienced health and survival gains, countries could benefit from policies to enable a decline in fertility, such as promoting girls' education and access to reproductive health and family planning services.

And countries with relatively sizable portions of the population concentrated in the high-work and

high-savings part of the life cycle need policies to realize the potential benefits of favorable demographics. Such policies include support for the operation of competitive labor and capital markets, equipping workers with human capital, building infrastructure, sound macroeconomic management, carefully designed trade policies, and good governance. Such policies are always desirable, but a large working-age population share raises the stakes.

In some countries, making investments in these various sets of policies could be challenging, as per capita income is currently lower in real terms than it was in some of today's advanced economies when they were at a comparable demographic stage.

### Global graying

Population aging is the dominant demographic trend of the twenty-first century—a reflection of increasing longevity, declining fertility, and the progression of large cohorts to older ages. Never before have such large numbers of people reached ages 65+ (the conventional old-age threshold). We expect to add 1 billion older individuals in the next three to four decades, atop the more than 700 million older people we have today. Among the older population, the group aged 85+ is growing especially fast and is projected to surpass half a billion in the next 80 years. This trend is significant because the needs and capacities of the 85+ crowd tend to differ significantly from those of 65-to-84-year-olds.

Although every country in the world will experience population aging, differences in the progression of this phenomenon will be considerable. Japan is currently the world leader, with 28 percent of its population 65 and over, triple the world average. By 2050, 29 countries and territories will have larger elder shares than Japan has today. In fact, the Republic of Korea's elder share will eventually overtake Japan's, reaching the historically unprecedented level of 38.1 percent. Japan's median age (48.4) is also currently the highest of any country and more than twice that of Africa (19.7). But by 2050, Korea (median age 56.5 in 2050) is also expected to overtake Japan on that metric (54.7).

Three decades ago, the world was populated by more than three times as many adolescents and young adults (15- to 24-year-olds) as older people. Three decades from now, those age groups will be roughly on par.

By income group, the sharpest growth in the numbers of older people will occur in countries currently



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classified as middle income. This is unsurprising, as these countries make up 74 percent of the world population. What may be surprising is that the older-population share in middle-income countries is increasing at a much faster rate than in their low- and high-income counterparts. Moreover, in comparison with high-income countries, today's middle-income countries are projected to have appreciably greater real incomes when their older-population shares reach comparably elevated levels. This contradicts the common claim that developing economies are getting old before they get rich.

The challenge middle-income countries face is not predominantly insufficient income to take care of their older people. Rather, it is how well institutions and policies can promote economic and social security among older people in a financially sustainable way.

Population aging is sounding alarms worldwide. Whether increased longevity is associated with more or less of a person's life lived in frailty is among the most salient unresolved questions public and private policymakers throughout the world face (see "The Long, Good Life" in this issue of *F&D*).

Economists continue to express concerns. These relate to downward pressure on economic growth due to labor and capital shortages and falling asset prices in the future as a growing and more aged cohort of older people seeks to support itself by liquidating investments. Another major issue has to do with fiscal stress. Government coffers will be strained by rising pension liabilities and the cost of health and long-term care associated with the expected growth in the incidence and prevalence of chronic diseases such as cancer, among others. These challenges will, however, be partially offset by the increasing, but typically neglected, value older people create through productive nonmarket activities like volunteer work and caregiving.

Without historical lessons from a world with such large numbers of older people, there is even more uncertainty about our collective future. However, adopting a business-as-usual approach to the challenges of population aging would be irresponsible.

Various responses could cushion the economic burden of population aging. These include policy

reforms to promote the financial sustainability and intergenerational equity of health and pension financing. Raising the legal age of retirement, which has been relatively stable in nearly all countries for the past several decades (see "Getting Older but Not Poorer" in this issue of *F&D*) would also ease the burden. Pronatalist tax incentives are also a policy option for the long term, but their effect on fertility is thus far unproven.

Additional approaches include efforts to increase health systems' emphasis on early detection and on prevention of disease through, for example, better awareness of the benefits of physical activity and subsidization of such activity. Relaxing the institutional and economic barriers to international immigration from regions with relatively large working-age populations could alleviate labor shortages.

Finally, technological innovations are likely to ameliorate the effects of population aging. New drugs to slow the process of aging and add healthy years to people's lives and the invention and deployment of assistive devices such as robots are two among many such improvements. Institutional innovations like new models of home health care, public transportation systems, the design of urban layouts, and financial instruments are also on the horizon.

### The bottom line

Global, regional, and country demographic indicators have changed dramatically since the early 1950s and are poised for equally dramatic changes in the coming decades. Population aging continues to displace population growth as the focal point of interest among global demographic phenomena. Nonetheless, both phenomena and their underlying drivers have had, and will continue to have, profound repercussions for myriad indicators and determinants of economic well-being and progress. Demographics are not, however, set in stone. Nor are their implications for individual and collective well-being. **FD**

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