The baby-bust economy

Global fertility has collapsed, with profound economic consequences

In the roughly 250 years since the Industrial Revolution the world's population, like its wealth, has exploded. Before the end of this century, however, the number of people on the planet could shrink for the first time since the Black Death. The root cause is not a surge in deaths, but a slump in births. Across much of the world the fertility rate, the average number of births per woman, is collapsing. Although the trend may be familiar, its extent and its consequences are not. Even as artificial intelligence (AI) leads to surging optimism in some quarters (see Leader), the baby bust hangs over the future of the world economy.

In 2000 the world's fertility rate was 2.7 births per woman, comfortably above the "replacement rate" of 2.1, at which a population is stable. Today it is 2.3 and falling. The largest 15 countries by GDP all have a fertility rate below the replacement rate. That includes America and much of the rich world, but also China and India, neither of which is rich but which together account for more than a third of the global population.

The result is that in much of the world the patter of tiny feet is being drowned out by the clatter of walking sticks. The prime examples of ageing countries are no longer just Japan and Italy but also include Brazil, Mexico and Thailand. By 2030 more than half the inhabitants of East and South-East Asia will be over 40. As the old die and are not fully replaced, populations are likely to shrink. Outside Africa, the world's population is forecast to peak in the 2050s and end the century smaller than it is today. Even in Africa, the fertility rate is falling fast.

Whatever some environmentalists say, a shrinking population creates problems. The world is not close to full and the economic difficulties resulting from fewer young people are many. The obvious one is that it is getting harder to support the world's pensioners. Retired folk draw on the output of the working-aged, either through the state, which levies taxes on workers to pay public pensions, or by cashing in savings to buy goods and services or because relatives provide care unpaid. But whereas the rich world currently has around three people between 20 and 64 years old for everyone over 65, by 2050 it will have less than two. The implications are higher taxes, later retirements, lower real returns for savers and, possibly, government budget crises.

Low ratios of workers to pensioners are only one problem stemming from collapsing fertility. As we explain this week, younger people have more of what psychologists call "fluid intelligence", the ability to think creatively so as to solve problems in entirely new ways (see Briefing).

This youthful dynamism complements the accumulated knowledge of older workers. It also brings change. Patents filed by the youngest inventors are much more likely to cover breakthrough innovations. Older countries—and, it turns out, their young people—are less enterprising and less comfortable taking risks. Elderly electorates ossify politics, too. Because the old benefit less than the young when economies grow, they have proved less keen on pro-growth policies, especially housebuilding. Creative destruction is likely to be rarer in ageing societies, suppressing productivity growth in ways that compound into an enormous missed opportunity.

All things considered, it is tempting to cast low fertility rates as a crisis to be solved. Many of its underlying causes, though, are in themselves welcome. As people have become richer they have tended to have fewer children. Today they face different trade-offs between work and family, and these are mostly better ones. The populist conservatives who claim low fertility is a sign of society's failure and call for a return to traditional family values are wrong. More choice is a good thing, and no one owes it to others to bring up children.

Liberals' impulse to encourage more immigration is more noble. But it, too, is a misdiagnosis. Immigration in the rich world today is at a record high, helping individual countries tackle worker shortages (see Finance & economics section). But the global nature of the fertility slump means that, by the middle of the century, the world is likely to face a dearth of young educated workers unless something changes.

What might that be? People often tell pollsters they want more children than they have. This gap between aspiration and reality could be in part because would-be parents—who, in effect, subsidise future childless pensioners—cannot afford to have more children, or because of other policy failures, such as housing shortages or inadequate fertility treatment. Yet even if these are fixed, economic development is still likely to lead to a fall in fertility below the replacement rate. Pro-family policies have a disappointing record. Singapore offers lavish grants, tax rebates and child-care subsidies—but has a fertility rate of 1.0.

Unleashing the potential of the world's poor would ease the shortage of educated young workers without more births. Two-thirds of Chinese children live in the countryside and attend mostly dreadful schools; the same fraction of 25- to 34-year-olds in India have not completed upper secondary education. Africa's pool of young people will continue to grow for decades. Boosting their skills is desirable in itself, and might also cast more young migrants as innovators in otherwise-stagnant economies. Yet encouraging development is hard—and the sooner places get rich, the sooner they get old.

Eventually, therefore, the world will have to make do with fewer youngsters—and perhaps with a shrinking population. With that in mind, recent advances in AI could not have come at a better time. An über-productive AI-infused economy might find it easy to support a greater number of retired people. Eventually AI may be able to generate ideas by itself, reducing the need for human intelligence. Combined with robotics, AI may also make caring for the elderly less labour-intensive. Such innovations will certainly be in high demand.

If technology does allow humanity to overcome the baby bust, it will fit the historical pattern. Unexpected productivity advances meant that demographic time-bombs, such as the mass starvation predicted by Thomas Malthus in the 18th century, failed to detonate. Fewer babies means less human genius. But that might be a problem human genius can fix. ■