



Demographics

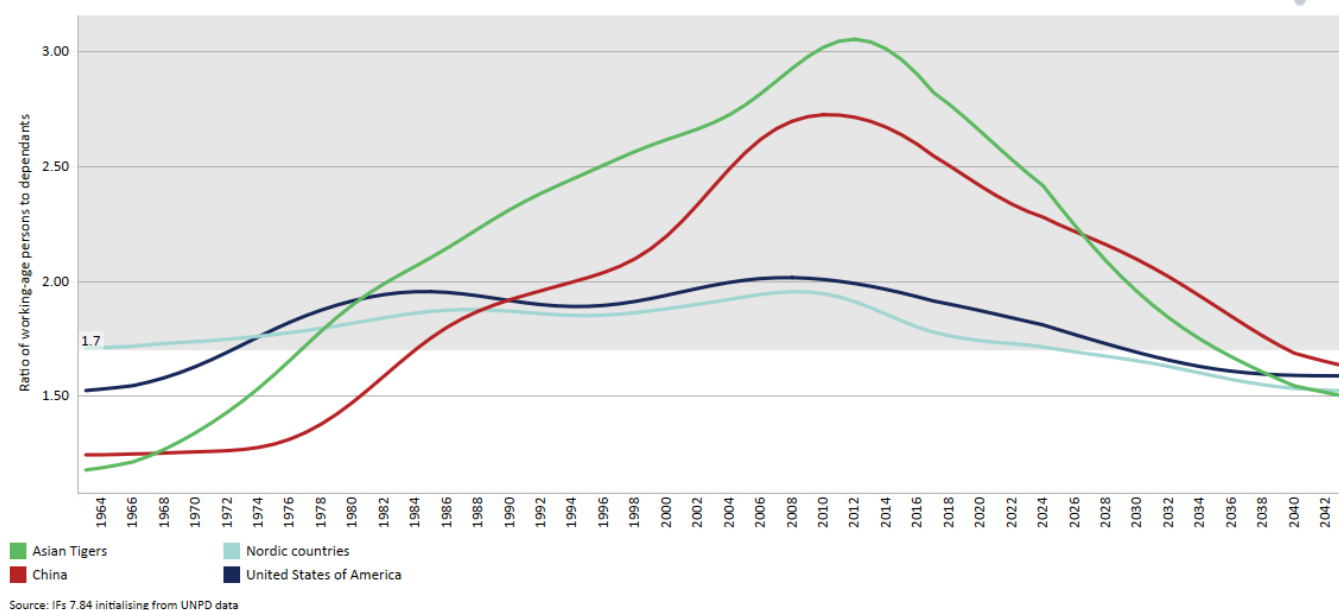
Peak and length of the demographic dividend

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The level at which countries achieve their peak demographic dividend—and how long they stay there—can have a significant impact on prosperity over long time horizons. The longer a country remains within this positive demographic dividend window, the better—although it is important to consider that the contribution of labour to growth declines over time owing to the effect of labour-saving technology and the increased importance of capital as a source of growth.

A lengthy demographic dividend is an important explanation for the dynamism and growth of the US economy over an extended period: it entered its demographic dividend shortly before 1930 and will exit it only around 2026. The US attained high-income levels in this period, as did Sweden. However, these numbers are now in a steep decline, partly owing to the clampdown on inward migration and reductions in the fertility of the average American family.

Chart 3: Demographic dividend for China, Asian Tigers, US and Nordic countries, 1963–2043



The ratio of working-age people to dependants has markedly contributed to the prosperity of Japan, China and the so-called Asian Tigers (Hong Kong, Singapore, South Korea and Taiwan) since the 1960s. China and the Asian Tigers peaked at an extraordinarily high ratio of 2.8:1 in 2010 and 2013, respectively. The benefit of a continually growing pool of working-age people is also seen in the economies of the US and Nordic countries, where the ratio did not peak as swiftly and as high as the levels of China and the Asian Tigers but increased gradually and then remained in modest positive territory (i.e. above 1.7:1) for an extended period. This has led to steady economic growth and improvements in productivity, which eventually earned these countries high-income status.

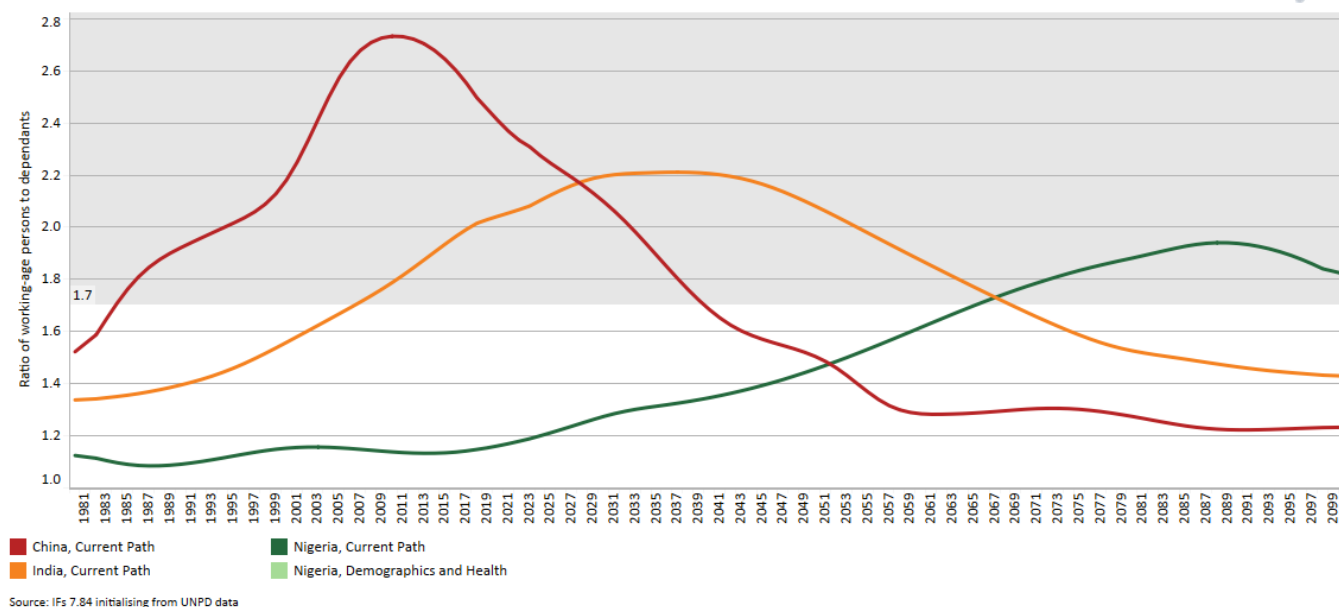
In contrast, China will spend only around 50 years in this fortunate window (from about 1984 to 2037)—roughly half that of the US. This partly explains why China is unlikely ever to approximate the income levels of the US, reflected in the oft-repeated mantra that China will grow old before it gets rich.

Development takes time. Eventually, India will spend around 60 years in the demographic high-growth range, having only recently attained a ratio of 1.7 working-age persons to every dependant. However, while China experienced a peak demographic dividend ratio of 2.8:1, India will likely peak at about 2.2:1 by around 2037. By this metric, India could experience a modest income growth catch-up with China but only in the second half of the 21st century.

By around 2040, the size of Nigeria's population will overtake that of the US to become the country with the third largest

population globally, after India and China. But Nigeria is only set to progress to the 1.7:1 ratio by about 2060 in the Current Path forecast. It is expected to peak within 30 years at a ratio of 1.9:1 and to exit the favourable demographic window early in the next century. Given this long-term horizon, it is virtually impossible to speculate responsibly on Nigeria's long-term future growth prospects, also because the region is expected to experience significant impacts from climate change at a time of rapid technological advances. But what is sure is that current demographic forecasts condemn Nigeria to only moderate income growth and, even then, only over extended time horizons.

Chart 4: Demographic dividend in China, India and Nigeria, 1980–2100



Source: IFS 7.84 initialising from UNPD data

Currently, 56% of Africa's population falls in the standard working-age bracket (15–64 years), translating to a ratio of 1.3 working-age persons to every dependant. The portion in sub-Saharan Africa is 55% and 63% in North Africa. Compared to the ratio in the rest of the world, where 67% of the total population is of working age (equivalent to two working-age persons to every dependant), the 0.7 difference between the ratios is significant, given the large numbers involved.

A peak demographic dividend ratio of 2.8:1 (as seen in China in 2010) delivers more rapid economic growth than a peak of 2.2:1 (as expected for India by 2036) or a peak of 1.9:1 (forecast for Nigeria by 2088). This is because the size of the potential labour force relative to dependants is larger, implying a more productive population structure. China's peak of 2.8:1 contributed significantly to its economic growth rate of almost 11% in 2010. In the Current Path forecast, India is projected to grow at 4.8% between 2030 and 2040 and Nigeria at less than half that in the 2090s, partly explained by its low peak of 1.9:1.

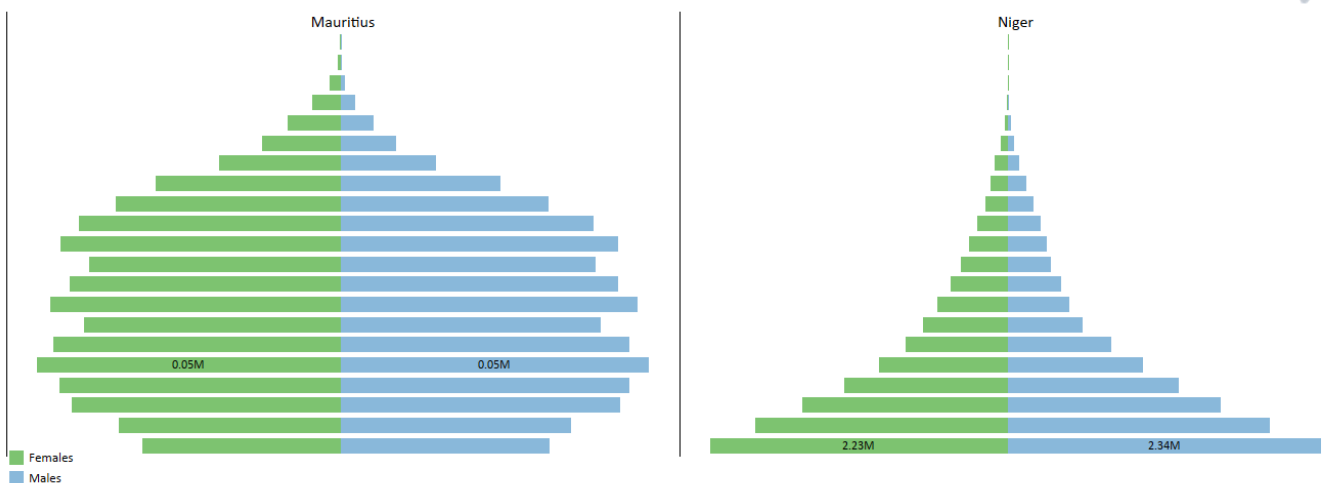
Looking to the end of this century, the ratio of working-age people to dependants is set to contract in all regions except in sub-Saharan Africa, where it will peak at a ratio slightly below 2 by around 2075. At that point, Africa will have a population of 3.5 billion people (of whom 3.1 billion will live in sub-Saharan Africa).

A different way to express this metric is that 67% of the population of sub-Saharan Africa will be of working age by 2075, whereas the average for the rest of the world is expected to be 60%. The difference of seven percentage points suggests that sub-Saharan Africa will grow faster than global averages but not by much. Also, because Africa will achieve a relatively low worker-to-dependant ratio, it will likely grow at quite modest rates along the Current Path forecast. None of this is good news for a continent that aspires to catch up with global income averages.

The impact of the well-known youthful structure of the African population, with a median age just shy of 20 years (i.e. half

the African population is younger than 20), is a population pyramid with a very broad base that quickly narrows with each age group. This is well illustrated by comparing the 2019 population pyramid of Niger with Mauritius (Chart 5) —the African countries with the lowest and highest median age, respectively.

Chart 5: Population distribution for each African country, 2019, 2043 and 2063
Maximum value per gender shown



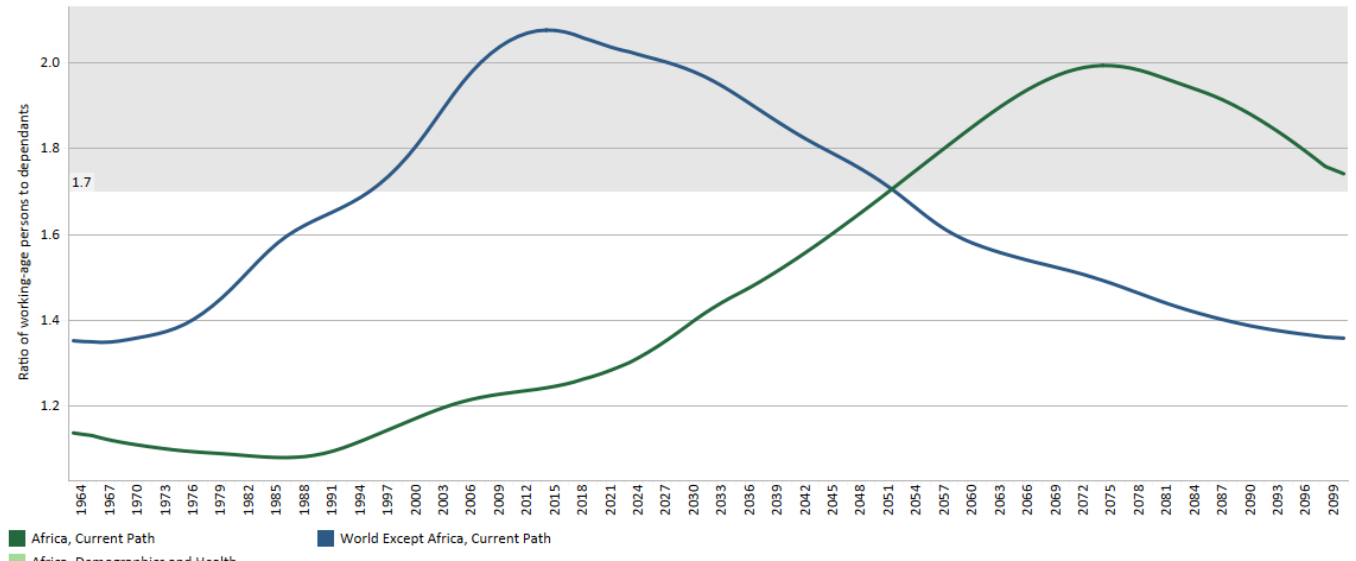
Source: IFS 7.84 initialising from UNPD data

It is no coincidence that the levels of education attained are so much higher in Mauritius than in Niger. With fewer schools to build and teachers to train every year, Mauritius can spend its scarce resources on better education of the children already in the schooling system, making sure that the quality of education improves with each passing year. In contrast, the large cohort of children below 15 years of age in Niger means that the country cannot educate, feed and provide opportunities for them all. The country will likely remain poor unless it manages to reduce the rate at which its population grows. Achieving that amidst an onslaught of violent Islam that particularly attacks female education is a daunting challenge.

How well countries capitalise on the demographic dividend window has a lot to do with appropriate policy and the strength of institutions. Literacy and quality basic education are obvious additional requirements. The effects are observed first in maternal and child health (largely household managed), then in education (needing both parental and government investment), then in the economy (needing government policy) and then in governance (needing leadership). Each phase implies more determined government effort as a country progresses along this value chain.^[1]

Africa enters its potential demographic dividend almost exactly at the point when the rest of the world falls below the ratio of 1.7:1, presenting the continent with an opportunity to offer its large labour force as a replacement to compensate for the dwindling supply of labour elsewhere. Leaving issues of populism and xenophobia aside for the moment, the problem that the continent will confront is that the rest of the world is investing in labour-saving technology and that Africa's labour is generally poorly educated and in bad health without the interventions modelled in the associated themes elsewhere on this website.

Chart 6: Demographic dividend in Africa and the world except Africa, 1963–2100



Source: IFs 7.84 initialising from UNPD data

Endnotes

1. E-mail communication with Richard Cincotta, 19 May 2021.

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About the authors

Dr Jakkie Cilliers is the ISS's founder and former executive director. He currently serves as chair of the ISS Board of Trustees and head of the African Futures and Innovation (AFI) programme at the Pretoria office of the Institute. His 2017 best-seller *Fate of the Nation* addresses South Africa's futures from political, economic and social perspectives. His three most recent books, *Africa First! Igniting a Growth Revolution* (March 2020), *The Future of Africa: Challenges and Opportunities* (April 2021), and *Africa Tomorrow: Pathways to Prosperity* (June 2022) take a rigorous look at the continent as a whole.

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