ISS | AFRICAN FUTURES

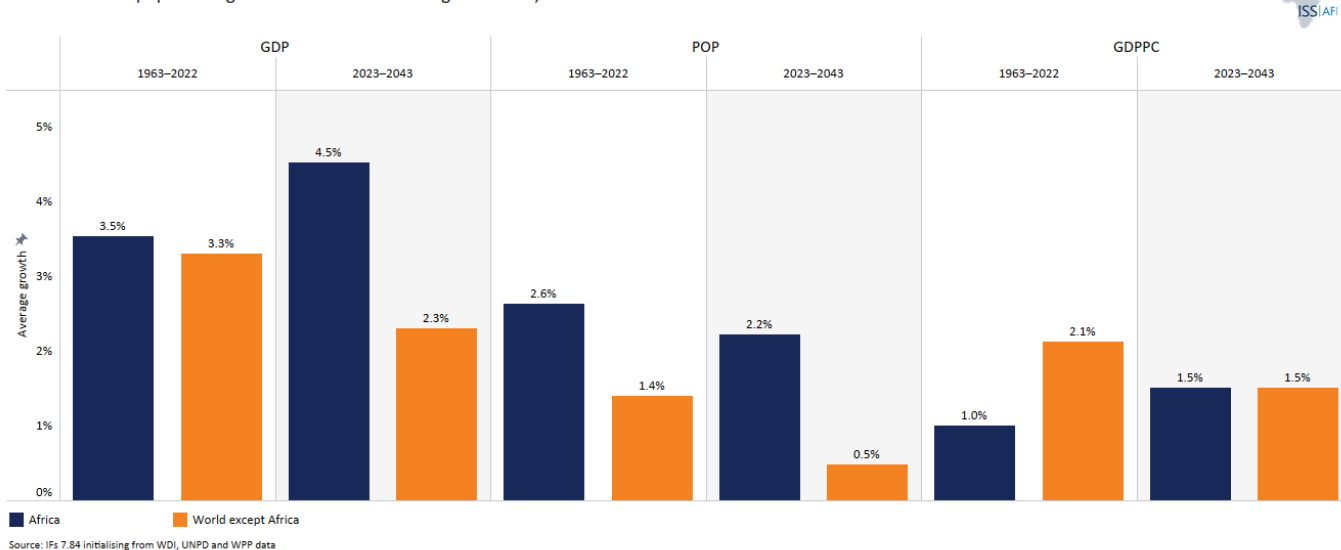# Demographics
Introduction

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Introduction

Population growth and age structure are critical determinants of economic growth. A larger population translates into a larger economy, but not necessarily higher incomes, less poverty or better living conditions. Given the importance of labour to fuel growth (as opposed to capital and technology), in low- and middle-income economies, the size of the labour force must increase more rapidly than the total population and steadily improve productivity, implying changes to fertility, more and better education and health, among other considerations.

The average annual rate at which the African economy expanded from 1963 to 2022 is 3.5% (see Chart 1). Because Africa has a young and rapidly expanding population, the 3.5% translated into less than 1% average improvement in gross domestic product (GDP) per capita. Meanwhile average economic growth rates in the rest of the world over the same period was slighly lower, at 3.3%, but because populations there expanded more slowly, GDP per capita grew more than twice as rapidly.

The Current Path forecast is for the African economy to expand by a healthy 4.5% from 2023 to 2043 compared to 2.3% average for the rest of the world. Because of rapid population growth 4.5% will translate into GDP per capita growth of only about 1.5% per annum in Africa and about the same in the rest of the world. However, **for Africa to close the gap in GDP per capita with the average for the rest of the world by 2043, growth rates in Africa would need to average almost 15% from 2023 to 2043.** The main reason for the large difference is that while Africa's population will expand by 2.2% annually, in the rest of the world population growth will be only 0.5%.

Chart 1: Annual population growth rate vs annual GDP growth rate, 1963–2022 and 2024–2043

Source: IFs 7.84 initialising from WDI, UNPD and WPP data

This website models several scenarios including the impact of more and better education, a manufacturing transition and a revolution in agriculture to unlock Africa's growth potential. A more rapid demographic transition to lower fertility rates will play an important facilitating role across all sectors.

In 2019 Africa's total population was estimated at 1.3 billion with average total fertility rate (TFR) of 4.4 births per fertile woman, more than double the average for the rest of the world. By 2043, Africa's total population will have increased to 2.2 billion and fertility will decline to 3.2 births, and it is on course to reach 3 billion by 2063 at which point TFR will be at just below 2.3 births. There is some dispute as to exactly how rapidly fertility rates in Africa are declining, but it comes from a very high level. As a result the continent has a significant population momentum compared to other regions. For example, in 2019. 43.3 million children were born in Africa compared to 99.3 million in the entire rest of the world. But while total births in the rest of the world decline to 89.1 million in 2043 and 80 million in 2063, births in Africa will increase to 55.3 million in 2043 before modestly starting to decrease to 52.8 million in 2063.

Generally, economic growth is determined by contributions from labour, capital and technology. At low levels of development, labour contributes most to economic growth; at high levels, technology is the biggest contributor. Therefore, especially in developing regions, the larger the labour pool relative to dependants (children and elderly people), and the more productive it is, the faster the economy can grow.

Changed fertility rates can unlock a first demographic dividend, a period during which the labour force grows more rapidly than the population dependent on it, translating into more rapid increases in income. A second dividend may follow when an older working-age population accumulates assets for retirement. The ageing of populations in high-income societies has also allowed for a possible third demographic dividend if people arrive at old age healthy and if the large, unrealised social capital of older adults can be activated.

Given Africa's youthful population structure, with a median age below 20 years of age, the focus of this theme is on getting to Africa's first demographic dividend. Different conceptualisations of this dividend are reflected in Chart 2:

- The measure used extensively in this theme is the *ratio of working-age people aged 15 to 64 to dependants, children and elderly people*. When the ratio of working-age people to dependants reaches 1.7 working-age persons to every dependant, countries generally enter the first demographic dividend. The ratio is similar to calculating the working-age population as a per cent of the total population.

- Dependency ratios are similarly low if the share of children below 15 years of age is less than 30% and those 65 years and older is below 15%. For all practical purposes, the dependency ratio is the inverse of the demographic dividend.

- The *median age* divides a population into two equal groups. A country where the median age is above 25.5 years but below 41 years typically has a large enough working-age population to grow incomes and look after its dependants, children and elderly people. The only African countries with a median age above 25.5 years in 2019 were Mauritius, Seychelles, Tunisia, Morocco, Libya, Algeria and South Africa. In 2019, the median age in Africa was 19.7 years and is set to increase to 23.8 years by 2043.

A *fertility rate* of between 2.1 and 2.8 children per female of reproductive age eventually ensures an optimal relationship between the potential labour force and dependants. If the ratio drops below 2.1 children per woman, it reduces the potential labour force, as is the case in Japan. In 2019, Niger had a fertility rate of almost seven children for every fertile woman, and it is one of 46 countries in Africa that exceeds the rate of 2.8.

Ratio of working-age to dependants is > 1.7

ELDERLY
65+

WORKING AGE
15–64
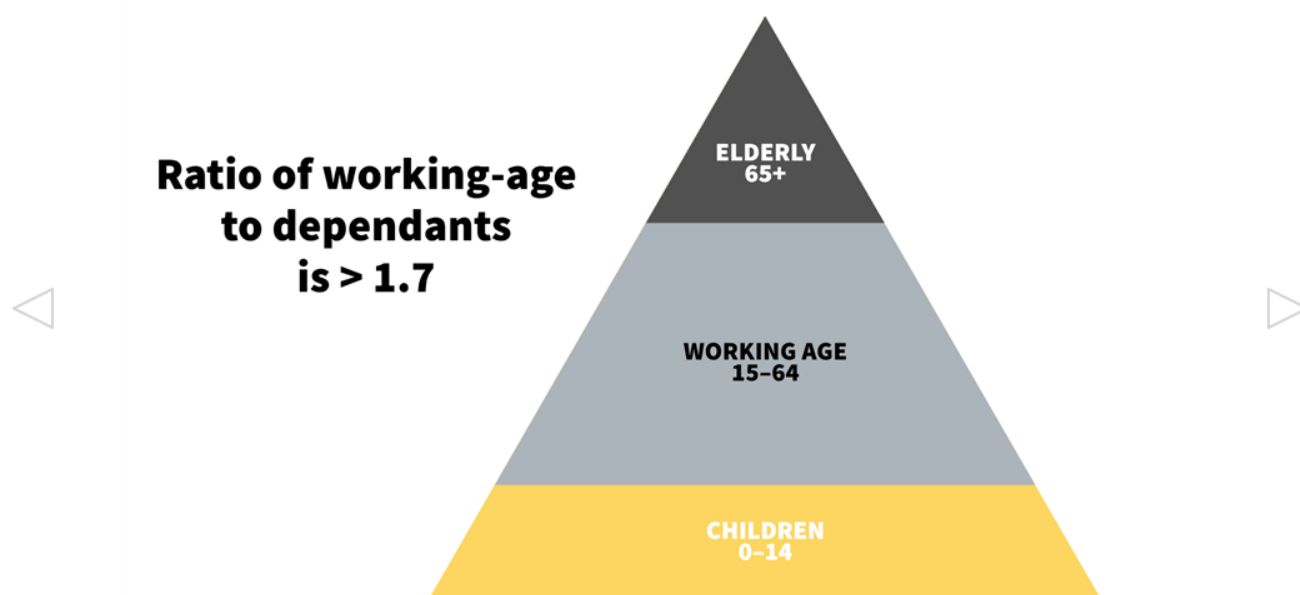
CHILDREN
0–14

Countries with high child mortality rates also tend to have high fertility rates, and a reduction in child mortality supports a virtuous cycle that is key to reducing fertility rates. As children's health and survival improve, family demand for more children slowly declines. A smaller family size improves maternal and child education in a positive, reinforcing manner. As female education improves and child mortality declines, women have fewer children, allowing for healthier and better-educated children. The level of female education has a particularly strong impact on reducing the average number of births per woman.

Modernisation and economic prosperity are closely correlated. The average fertility rate in high-income countries is 1.6 children per fertile woman, 1.8 in upper-middle-income countries, 2.7 in low-middle-income countries and 4.6 in low-income countries. No country has modernised socially and economically while fertility rates have remained high and its population dominantly rural. Geographically speaking, fertility rates in capital cities such as Accra and Addis Ababa are close to replacement levels, whereas those in rural parts of the Democratic Republic of the Congo (DR Congo) are close to seven children per woman. In Ethiopia, for example, the fertility rate based on 2016 data was 6.4 children for poor women and 2.6 for wealthy women. The corresponding numbers in Tanzania for the same year were 7.5 and 3.1.

Life expectancy in many African countries is also low. Whereas life expectancy in North Africa was estimated at almost 75 years in 2019(roughly a year longer than the global average),it was 64 years in sub-Saharan Africa—nine years less than the global average, partly owing to the impact of HIV/AIDS and the continent's high disease burden. In 2019, 24 African countries had a life expectancy below 64 years, which isthe final year at which people are typically assumed to still be of working age.

Having a large working-age population alone is, of course, insufficient. Better productivity requires potential workers to be well-fed, healthy, literate and sufficiently educated, and that they have a job. Also, measures of dependency based on age alone can be misleading since 'cultural questions such as an acceptable age of retirement, delaying work for education, and the role of women in the labour force varies greatly by country and time. Average teenagers in rural Sudan, who end their education after seven years to work on the family farm, contribute much earlier and differently over the life course than average urban South Koreans who typically remain in formal education into their mid-twenties.'

For labour to contribute to growth requires a facilitating job environment, such as the opportunity to open a business. If that does not exist, working-age people turn to the informal, and often illicit, sector to survive.

Fast growth in the working-age population as a proportion of the total population, therefore, does not automatically translate to rapid economic growth as facilitators such as food sufficiency, literacy and access to quality education, an export orientation and a governing elite committed to growth also need to be present. Yet, it still has some important benefits as the size of the working-age population displaces children as dependants. Smaller families mean fewer additional schools are needed, and the ratio of teachers to pupils can improve more readily. As a result, parents and the state can invest more resources to improve the quality of education of their smaller number of children.

Later, once population growth drops below replacement levels, economies struggle to grow. Although Japan is often mentioned in this regard because it has the highest median age (close to 48 years), almost two dozen countries have lower fertility rates, including the Republic of Korea, Hong Kong, Singapore and Taiwan. However, steady improvements in income per capita are possible if countries compensate for their smaller labour forces by investing more in capital and technology. This is evident in Germany, which has the third highest median age globally but consistently experiences more rapid economic growth than other high-age countries.

Of course, the size of the labour force does not fully correlate with the number of people in the working-age bracket (15–64 years), as many would still be getting an education or would not have a job . But the essential relationship holds even after accounting for these differences. However, the reality is that for many Africans, having a 'job' is all about surviving in the large informal sector where there is no job security, benefits or, indeed, decent work.

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Dr Jakkie Cilliers is the ISS's founder and former executive director. He currently serves as chair of the ISS Board of Trustees, head of the African Futures and Innovation (AFI) programme at the Pretoria oce of the Institute, and is an extraodinary professor at the University of Pretoria. 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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